

ANNUAL REPORT

1998-99



KERALA AGRICULTURAL UNIVERSITY

English

ANNUAL REPORT
1998-'99

March 2000

Copies: 350

Compiled and Edited by:

Publication Unit
Directorate of Extension
Kerala Agricultural University

Published by:

Dr. A. I. Jose
Director of Extension
Kerala Agricultural University
Mannuthy - 680 651, Thrissur, Kerala

Printed at:

Kerala Agricultural University Press,
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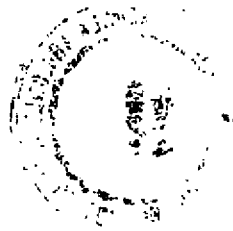


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EXECUTIVE SUMMARY

Office of the Pro-Vice Chancellor was created and Dr. R. Gopinathan assumed charge as the first Pro-Vice Chancellor of KAU.

February 1, 1999 was observed as the KAU Foundation Day for the first time.

The educational institutions performed their mandatory functions.

The second College of Veterinary and Animal Sciences (at Pookode in Wayanad) became functional.

KAU students bagged prizes at the national and zonal level elocution and debate competitions.

The following varieties were recommended for release.

Rice	
Pavithra, Panjami, Uma, Karishma, Krishnanjana	Tolerant to gallmidge Biotype 5
Remanika	Short duration variety
Revathi	Medium duration
Karishma, Krishnanjana	For kari soils in Kuttanad
Karuna	Widely adaptable photo sensitive variety
Deepti	For high ranges of Kerala
Makarom, Kumbham	For eastern lateritic belts during mundakan
Sesame	
Thilathara	Average yield 582 kg/ha
Bittergourd	
Priyanka	Selection
Snakegourd	
Kannudi	Selection
Cowpea	
Vyjayanthi	High yielding, red podded
Cucumber	
Soubhagya	Small to medium size, high yielding
Brinjal	
Neehima	First brinjal hybrid of KAU, resistant to bacterial wilt
Haritha	High yielding, bacterial wilt resistant, long duration variety
Sugarcane	
Madhumathi	High yielding, mid late maturing, high jaggery quality and recovery
Cocoa	
CCRPI, IV, V, VI and VII	Hybrids
Greater yam	
Indu	High yielding

Carpropamide was found effective against rice blast disease.

Ocimum trap plus malathion 0.1% spray at monthly intervals proved effective against mango fruit flies.

Farm yard manure was found superior to vermicompost for guinea grass yield.

Fusarium pallidroseum, the fungal pathogen against pea aphid was distributed.

Thamaravenda was better than Pusa Sawani in acceptability trials.

The shelf life of cashew apples increased by two weeks when stored in polythene lined containers at 15° C.

Polypropylene bags (150 gauge) without ventilation was the best packaging material for oyster mushroom

Tender coconut punch, tender coconut cutter, black pepper thresher, fruit plucker and papaya plucker were designed.

A nucleus stock of 117 Vechur and other dwarf cattle was maintained.

A new technique of external pinning and immobilisation under closed reduction was developed in surgery.

Ivermectin @ 0.3mg/kg s/c followed by karangi oil was effective against Psoroptic and *Notoedrus cati* in rabbits.

Chaff grain meal can be a cost effective substitute for yellow maize in swine rations.

Carcass meal is shown to be a suitable component in pig diets.

Blood is an economic feed supplement for desi pigs.

Swill was proved to be a substitute for concentrate pig feed.

Cassava exhibited better binding properties in prawn feed.

Ectoparasitoid *suratensis* seeds could be produced in large numbers by providing egg attaching materials in *pokkali* ponds during the breeding season of October-February.

Silver carp was proved suitable for *pokkali* ponds during the low saline phase from June-October.

TOT activities were effectively co-ordinated by the Directorate of Extension.

KAU School bagged individual and aggregate prizes in science and maths exhibitions.

GENERAL REPORT

The Executive Committee of the Kerala Agricultural University presents to the General Council, its annual administration report for the year 1998-99 (1 April 1998 to 31 March 1999).

The report pertains to the general administration, education, research, extension, library, works, students welfare, estate, finance and accounts. The lists of members of the statutory authorities, sub-committees, staff at various campuses, publications, projects financed by outside agencies, works executed etc. are appended.

Officers of the University

Designation	Name	Period	
		From	To
Vice-Chancellor	Dr. K. N. Syamasundaram Nair	01.04.98	31.03.99
Pro-Vice Chancellor	Dr. R. Gopinathan	22.02.99	31.03.99
Registrar	Sri. A. K. Dharni, IFS	01.04.98	09.05.98
	Dr. U. Mohammed Kunju (i/c)	09.05.98	15.06.98
	Sri. A. K. Dharni, IFS	15.06.98	07.08.98
	Dr. U. Mohammed Kunju (i/c)	07.08.98	24.08.98
	Sri. P. B. Sidharthan, IAS	24.08.98	31.03.99
Comptroller	Sri. A. Basil (i/c)	01.04.98	01.03.99
	Sri. P. Raveendran	01.03.99	31.03.99
Director of Research	Dr. N. Mohanakumaran	01.04.98	31.03.99
Director of Extension	K. Rajmohan (i/c)	12.08.96	22.08.98
	Dr. P. S. Pushkaran (i/c)	22.08.98	31.03.99
Director of Physical Plant	P.O. Thomas (i/c)	01.04.98	31.05.98
	Dr. K. John Thomas (i/c)	01.06.98	10.11.98
	P. Sreekumaran	10.11.98	31.03.99
Dean, College of Agri., Vellayani	Dr. P. Balakrishna Pillai (i/c)	01.04.98	31.03.99
Dean, CV & AS, Mannuthy	Dr. S. Sulochana (i/c)	01.04.98	31.03.99
Dean, KCAE & T, Tavanur	Dr. John Thomas	01.04.98	31.03.99
Dean, Fisheries	Dr. D. Manikandan Thampi (i/c)	01.04.98	31.03.99
Director, (Acad. & PGS)	Dr. U. Mohammed Kunju	01.04.98	17.12.98
	Dr. C. K. Thomas (i/c)	17.12.98	31.03.99
Director of Students Welfare	Dr. U. Mohammed Kunju (i/c)	01.04.98	17.12.98
	Dr. N. Rajan Nair (i/c)	17.12.98	31.03.98
Assoc. Dean, College of Hort., Vellanikkara	Dr. A. I. Jose	01.04.98	31.03.99
Assoc. Dean, College of Agri., Padannakkad	Dr. P. A. Wahid	01.04.98	31.03.99
Assoc. Dean, College of CB & M, Vellanikkara	Dr. M. Mohandas	01.04.98	31.03.99
Assoc. Dean, College of Forestry, Vellanikkara	Dr. Luckin C. Babu	01.04.98	31.03.99
Special Officer, College of Veterinary & Animal Sciences, Pookode, Wayanad	Dr. K. M. Ramachandran	01.04.98	31.03.99
Special Officer, College of Dairy Science & Technology, Idukki	Dr. V. Prasad	01.04.98	31.03.99
Librarian, University Library	Sri. R. Raman Nair	01.04.98	31.03.99

Education

The following ten educational institutions functioned under the university during the period. Various courses offered in these institutions are given below.

Name of the College	Courses offered
College of Agriculture, Vellayani	B.Sc. (Ag.), M.Sc.(Ag.), M.Sc.(Hort.) and Ph.D., M.Sc.(Home Sci.)
College of Horticulture, Vellanikkara	B.Sc.(Ag.), M.Sc. (Ag.), M.Sc.(Hort.) and Ph.D., M.Sc.(Home Sci.), M.Sc.(Ag. Stat.)
College of Agriculture, Padannakkad	B.Sc.(Ag.)
College of Veterinary & Animal Sciences, Mannuthy	B.V.Sc. & A.H., M.V.Sc. and Ph.D.
College of Fisheries, Panangad	B.V.Sc. and M.F.Sc.
Kelappaji College of Agrl. Engineering & Technology, Tavanur	B.Tech.(Agrl.Engg.) and M.Tech.(Agrl. Engg.)
College of Co-operation, Banking and Management, Vellanikkara	B.Sc. (C&B), M.Sc. (C&B), Ph.D.
College of Forestry, Vellanikkara	B.Sc. (Forestry) and M.Sc. (Forestry)
College of Dairy Science and Technology*, Idukki	B.Tech.(D.Sc. & Tech.)
College of Veterinary & Animal Sci., Pookode, Wayanad **	B.V.Sc. & A.H.

* Presently functions at DOE Campus, Mannuthy

** Presently functions at CV&AS, Mannuthy

Admission

Students are admitted to the U.G courses of the university on the basis of the ranks obtained in the common entrance examination conducted by the Government of Kerala. For the PG courses, selections are made by the committee constituted for the purpose. Semester system of instruction continued in all the colleges.

The number of students on the rolls of the university at the end of the year is as follows

Name of the College	No. of students as on 31.3.1999	
	UG	PG
College of Agriculture, Vellayani	292	120
College of Horticulture, Vellanikkara	253	56
College of Agriculture, Padannakkad	127	-
College of Veterinary & Animal Sciences, Mannuthy	527	49
College of Fisheries, Panangad	165	2
Kelappaji College of Agrl. Engineering & Technology, Tavanur	111	11
College of Co-operation, Banking and Management, Vellanikkara	121	8
College of Forestry, Vellanikkara	44	18
College of Dairy Science and Technology, Idukki	96	-

The number of students admitted for the different courses and the number passed out from the University during the period under report are furnished below.

Degree	No. of students admitted	No. of students passed out
B.Sc. (Ag.)	185	115
B.V.Sc. & A.H.	112	97
B.F.Sc.	53	32
B.Sc.(C & B)	42	25
B. Tech. (Agrl. Engg.)	25	25
B.Sc. (Forestry)	17	11
B.Sc. (D.Sc. & Tech.)	30	20

M.Sc. (Ag.)	55	39
M.Sc. (Hort.)	25	14
M.Sc. (Ag. Stat.)	3	-
M.Sc. (Forestry)	8	1
M.Sc. (C & B)	4	2
M.Sc. (FS & N)	8	14
M.Tech. (Agrl. Engg.)	5	4
M.V.Sc.	43	32
M.F. Sc.	6	8
Ph.D. (Ag.)	15	16
Ph. D. (Vety.)	3	4
Ph. D. (Home Sci.)	2	-
Ph. D. (C & B.)	1	-
Total	631	459

Extra-curricular activities of the students and co-curricular activities were co-ordinated by the Director of Students' Welfare through physical education teachers and other teachers of the various colleges. The Director of Students' Welfare organised intercollegiate tournaments for various games and sports during the year.

The Kerala Agricultural University continued to be a member of the Association of Indian Universities and the Indian Agrl. Universities Association.

The research programmes of the university have been drawn out with emphasis on solving location-specific, field-oriented problems faced by the farmers of the State. In addition to the State funds, the university received assistance from ICAR, World Bank, Department of Electronics, FERRO, USDA, Hindustan Cocoa Products Ltd., Coffee Board, Department of Biotechnology, Department of Agriculture and Co-operation, Department of Science and Technology, Department of Soil Conservation, Department of Atomic Energy, Directorate of Cashew Development, EC, FACT, FAO, ICSSR, IFFCO and various other agencies.

Under the KAU, five Regional Agricultural Research Stations continued to function at Vellayani (Southern Region), Kumarakom (Special Region of Problem Areas), Pattambi (Central Region), Pilicode (Northern Region) and Ambalavayal (High Range Region). The technical and administrative control of these stations was vested with the respective Associate Directors under the overall control of the Director of Research.

The 22 project co-ordination groups in the Faculty of Agriculture, eight in the Faculty of Animal Sciences and one each in the Faculties of Agricultural Engineering and Fisheries continued to function. The Faculty Research Committee of Agriculture met on 8th December 1998 at the College of Agriculture, Vellayani on 5th and 6th of March 1999 at the College of Co-operation, Banking and Management, Vellanikkara and on 16th and 17th March 1999 at the College of Agriculture, Vellayani. The FRC of Veterinary and Animal Sciences met thrice on 15.6.1998, 23.6.1998 and 21.12.98 at the College of Veterinary and Animal Sciences, Mannuthy. The FRC of the Faculty of Fisheries met once on 25.6.1998 at the College of Fisheries, Panangad and that of Agricultural Engineering met on 31.8.1998 at the KCAET, Tavanur.

Dr. N. Mohanakumaran, Director of Research attended important meetings/workshops which included those on Technology Mission on Cashew at Trivandrum, Technology Mission on Pepper at the office of the Agricultural Production Commissioner, the meeting chaired by the Secretary (Agriculture) on Coconut Problems of Ernakulam District, the KHDP R & D Management Committee and Steering Committee, Subject Committee (Agriculture) of the State Legislature, the State Seed Sub-Committee, the function to release tuber crop varieties evolved by CTCRI, the discussion on high-tech agriculture in the chamber of the APC, the seminar on mite control in coconut, the discussions on Itty Achuthan Memorial Chair and Botanical garden at Shertallai Municipal Hall, the Subject Committee I (Agriculture) of the State Legislature to discuss rice problems in the eastern Taluks of Palakkad, the Haritha Sangamam organised jointly by the KAU and the Department of

Agriculture at Vellanikkara, the Agri-business Seminar organised by the Consultancy Development Centre, Delhi, the Workshop on Energy Requirement in Agricultural Sector organised by the KAU at Tavanur, the Silver Jubilee Symposium of the Indian Society of Vegetable Science held at Varanasi, the IASLIC Conference organised by the KAU, the meeting of the Executive Committee of the State Committee on Science & Technology, the meeting of the Agro Climatic Regional Planning Team (Zone No. 12) of which Dr. Mohanakumaran is the Member-Secretary, the NATP Launching Workshop conducted by the ICAR and a brain storming session on coconut root (wilt) disease organised by the ICAR which was chaired by Dr. R.S. Paroda, Director General of the ICAR.

Several dignitaries visited the university / various research stations of the university which included Amal K. Roy, Principal Technical Officer, Minnionite Central Committee, Shaha, Bangla Desh, Dr. S.V. Singh, Joint Director (Application Dn.), NCMRWF, New Delhi, Dr. S.V. Singh, Joint Director, CRIDA, Hyderabad, M. A. Zubair, Joint Director, JWRDM, Palakkad, Dr. S. L. Mehta, DDG (Edn.), ICAR, Dr. Kushalappa, ICFRE, Sri. Parameswaran Pillai, Chairman of the Commission on Primary Agrl. Credit Societies, Dr. M.N.V. Nair, Management Consultant, Prof. Balaji, Official, Dr.M. S Swaminathan Foundation, Dr. Bhattacharya, Professor (VPH), Vet. College, Pondicherry, Dr. Madan, DDG, ICAR, Dr. N. Natarajan, Rtd. Joint Director, IVRI, Bangalore, Dr. Lal Krishna, ADG (Animal Husbandry), Dr. Arun Varma, ADG (Animal Nutrition & Physiology), Sri. K.K. Somasundara Panicker, Mayor, Cochin Corporation, Sri. K.B. Pillai, I.A.S., Chairman, MPEDA, Sri. Mohanan & Sri. Prasanth Menon, A.G. Managers, Canara Bank, Dr. Sebastian Paul, M.L.A., Ernakulam, Dr. Carlos, FAO Expert on the HACCP, Dr. C.R. Soman, Professor (Retd.), Medical College, Thiruvananthapuram, Dr. Ahmed Bavappa, Former Director, CPCRI, Kasaragod, Sri. C. Madhavan, Retired Central Water Commission Member, Dr. Dipaker De, Project Co-ordinator, AICRP on ERAS, CIAE, Bhopal, Dr. Anwar Alam, Dy. Director General (Engg.), ICAR, Dr. N.S.L. Srivastava, ADG (Engg.), Dr. S.K. Tandon, Senior Scientist (Engg.), Dr. Yadav and Dr. Sinha, ADGs, ICAR, the Quinquennial Review Team of the AICRP on Pigs, Dr. R.D. Srivastava, ADG (Agrl. Engg.), Dr. Edmond DeLanghe, Consultant, World Bank, the QRT for AICRP (Weed Control), Dr. Rajan Gupta, ADG (Animal Science), Dr. Anand Swarup, Co-ordinator, LTFE, Dr. S.V. Subbiah, Co-ordinator, Agronomy, DRR, Hyderabad, Dr.V. Balasubramonian, Co-ordinator, CREMNET, IRRI, Philippines, Dr. T.M. Thiyagarajan, Professor of Soil Science, TNAU, Coimbatore, Dr. N.V. Krishniah and Dr. C.S. Reddy, Senior Scientists, DRR, Hyderabad, Dr. Krishnaswamy, TNAU, Coimbatore, Dr. Dharam Singh, Principal Scientist, Karnal, Dr. M. Sekhara Gowda, UAS, Dharwad, Dr. D.N. Venkata Reddy, Sr. Seed Research Officer and Dr. U.S. Ujinaiah, Seed Research Officer, UAS, Bangalore, Dr. V.E. Sabarathnam, Principal Scientist, (Extn), NAARM, Hyderabad, Sri. A.K. Upadhyay, CPCRI, Kasargode, Dr. B.M.C. Reddy, Project Co-ordinator, IHR, Bangalore, Dr. K.K.N. Kurup, Vice-Chancellor, Calicut University, Sri.P. Govinda Pillai, Chairman, KSFDC, Dr. L.V. Subba Rao and Dr. K.N. Rao, Sr. Scientists, Pl. Br. & Soil Science, DRR, Hyderabad, Dr. B.Gangavar, All India Co-ordinator (ECF), Dr. Painuli, Project Co-ordinator, AICRP on Soil Tillage, Dr. R.K. Singh, Rice Breeder, CSSRI, Karnal, Dr. T.V. Sreenivasan, Principal Investigator (Pl. Br.), AICRP on Sugarcane and Director, SBI, Coimbatore, Dr. Ramesh S. Hapase, Vasantdada Sugar Institute, Manjari, Pune, Dr. Usha Abroal, Regl. Director, Nat. Inst. of Public Co-operation and Child Development, Bangalore, Dr. R.K. Samanta, Zonal Co-ordinator, TOT Projects, ICAR, Bangalore and Mr. P.P. Balasubramanian, Director of Cashew Development, Cochin.

RESEARCH HIGHLIGHTS

Rice and rice-based cropping system

The 19th State Seed Sub Committee, which met on 16th May, 1998, approved seven rice varieties developed by the Rice Research Station, Moncompu for release in the State. The varieties are Mo 13 (Pavithra), Mo 14 (Panchami), Mo 15 (Remanika), Mo 16 (Uma), Mo 17 (Revathy), Mo 18 (Karishma) and Mo 19 (Krishnanjana). Mo 13, Mo 14, Mo 16, Mo 18 and Mo 19 are tolerant to gallmidge Biotype 5. Mo 15 is a short duration variety having 100 days duration and Mo 17 is a medium duration variety having 110 days duration. Mo 16 and Mo 17 possess a dormancy period of three weeks. Mo 18 and Mo 19 are suitable for *kari* soils in *Kuttanad*.

The XX ZREAC meeting held at the College of Agriculture, Vellayani on 6 June 98 recommended for release the Culture 4003-3-1 which recorded a mean yield of 3910 kg/ha in the farm trials.

Thirty dwarf and semi-tall high yielding selections suited to *pokkali* farming system were selected for further evaluation. A semi-tall mutant culture (Culture 1001) was found performing well under *pokkali* farming system. Modifying the land preparation methods and plant stand establishment technique of conventional *pokkali* rice

cultivation revealed that ridges taken 60 cm apart are as good as the conventional method of mound taking. Tidal action had positive influence on grain yield than the controlled condition of water in *pokkali* fields.

A germplasm collection of 480 rice genotypes including traditional varieties, improved varieties and elite cultivars developed within and outside the State was maintained at the RARS, Pattambi during 1998. Seeds were collected from 400 accessions grown during *kharif* 1997.

Seeds from ninety traditional photoinensitive varieties were collected from the crop raised in the main field during *kharif* 1998. Sixty photosensitive traditional rice varieties were collected from various parts of Kerala and planted in the field during the month of October 1998. Characterisation of the rice germplasm including traditional varieties was carried out as per IRRI standards. Documentation work progressed.

Four semitall mutants viz., 90-02, 90-04, 90-05 and 210-25 were evaluated in a comparative yield trial with Jyothi, Kairali and Kanchana as the checks. The crop was harvested during October 1998 and the yield data analysed. Cul. 90-04 recorded the highest yield, followed by Culture 90-05.

Based on superior yield performance and resistance to blast, two cultures viz., A4-4-2 and C3-2, which yielded 4835 kg/ha and 4115 kg/ha, respectively against the check varieties Jyothi (3360 kg/ha) and Matta Triveni (3892 kg/ha), were promoted for farm trials in Palakkad and Thrissur districts. Seed production of these cultures was taken up during *rabi* 1998.

In the hybrid rice programme, four farm trials with KAU RH2 were conducted in Palakkad district. KAU RH2 recorded a grain yield of 7.7 to 8.5 t/ha against 4.9 to 5.6 t/ha of Aiswarya.

Cul. 87117, a high yielding as well as widely adaptable photosensitive variety, was recommended for release as "Karuna" by the State Seed Sub-Committee.

Advanced varietal trial (irrigated mid-early) was carried out with 30 entries. The highest yield was recorded by IET 101015 followed by IET 101014. In the advanced varietal trial (Basmathi), the highest yield was recorded by IET 1402 followed by 1401.

The herbicides "rice guard" @ 1500 g/ha 10 DAS, Butachlor + Safener @ 1.0 kg ai/ha 0-3 DAS and "Aniloguard plus" @ 0.93 kg ai/ha 10 DAS were found promising for dry sown rice. In transplanted rice, the treatments with oxadiargyl @ 0.1-kg ai/ha 3-7 DAS, ethoxysulfuron 15-wsg @ 0.015 kg ai/ha 15 DAS and Anilophos+Triclopyr @ 1.25 kg ai/ha 3-5 DAT recorded the lowest weed population. However, grain yield differences were not statistically significant.

Studies on the effect of nutrient ratios and micronutrient Zn in the rice variety, Jyothi revealed that higher grain and straw yields are realisable by increasing fertiliser dose to 150% of the current recommendation of 70:35:35 kg NPK ha⁻¹. Addition of green manure was effective in improving the yield. The effect of addition of zinc was not conspicuous.

Continuous application of either cattle manure alone @ 18 t ha⁻¹ or cattle manure along with green leaves each at 9 t ha⁻¹ was found to be beneficial with respect to grain yield of dwarf and tall *indica* rice series. Application of green leaves alone or inorganic fertilisers alone showed adverse effects on the growth and yield of rice on long term basis.

Observations on the percentage neck blast revealed that among the new fungicides, carpropamide was promising in controlling blast incidence.

Among the commercial biopesticides tested, Achook-EC (5ml/L) continued to show its superiority in checking sheath blight incidence effectively. While evaluating the efficacy of different biocides, 10% leaf extracts of *Ocimum tenuiflorum*, *Eupatorium odoratum*, *Datura stramonium*, *Aegle marmelos* and *Azadirachta indica* were found to inhibit the mycelial growth of blast, sheath blight and sheath rot pathogens effectively. Seed treatment with 10% leaf extracts of botanicals was carried out. The seeds treated with leaf extracts of *Ocimum tenuiflorum*, *Catharanthus roseus* and *Datura stramonium* protected the resultant plants from seedling blast and brown spot infection with a minimum score of less than 2.0.

cultivation revealed that ridges taken 60 cm apart are as good as the conventional method of mound taking. Tidal action had positive influence on grain yield than the controlled condition of water in *pokkali* fields.

A germplasm collection of 480 rice genotypes including traditional varieties, improved varieties and elite cultivars developed within and outside the State was maintained at the RARS, Pattambi during 1998. Seeds were collected from 400 accessions grown during *kharif* 1997.

Seeds from ninety traditional photoinensitive varieties were collected from the crop raised in the main field during *kharif* 1998. Sixty photosensitive traditional rice varieties were collected from various parts of Kerala and planted in the field during the month of October 1998. Characterisation of the rice germplasm including traditional varieties was carried out as per IRRI standards. Documentation work progressed.

Four semitall mutants viz., 90-02, 90-04, 90-05 and 210-25 were evaluated in a comparative yield trial with Jyothi, Kairali and Kanchana as the checks. The crop was harvested during October 1998 and the yield data analysed. Cul. 90-04 recorded the highest yield, followed by Culture 90-05.

Based on superior yield performance and resistance to blast, two cultures viz., A4-4-2 and C3-2, which yielded 4835 kg/ha and 4115 kg/ha, respectively against the check varieties Jyothi (3360 kg/ha) and Matta Triveni (3892 kg/ha), were promoted for farm trials in Palakkad and Thrissur districts. Seed production of these cultures was taken up during *rabi* 1998.

In the hybrid rice programme, four farm trials with KAU RH2 were conducted in Palakkad district. KAU RH2 recorded a grain yield of 7.7 to 8.5 t/ha against 4.9 to 5.6 t/ha of Aiswarya.

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Agriculture at Vellanikkara, the Agri-business Seminar organised by the Consultancy Development Centre, Delhi, the Workshop on Energy Requirement in Agricultural Sector organised by the KAU at Tavanur, the Silver Jubilee Symposium of the Indian Society of Vegetable Science held at Varanasi, the IASLIC Conference organised by the KAU, the meeting of the Executive Committee of the State Committee on Science & Technology, the meeting of the Agro Climatic Regional Planning Team (Zone No. 12) of which Dr. Mohanakumaran is the Member-Secretary, the NATP Launching Workshop conducted by the ICAR and a brain storming session on coconut root (wilt) disease organised by the ICAR which was chaired by Dr. R.S. Paroda, Director General of the ICAR.

Several dignitaries visited the university / various research stations of the university which included Amal K. Roy, Principal Technical Officer, Minnonite Central Committee, Shaha, Bangla Desh, Dr. S.V. Singh, Joint Director (Application Dn.), NCMRWF, New Delhi, Dr. S.V. Singh, Joint Director, CRIDA, Hyderabad, M. A. Zubair, Joint Director, JWRDM, Palakkad, Dr. S. L. Mehta, DDG (Edn.), ICAR, Dr. Kushalappa, ICFRE, Sri. Parameswaran Pillai, Chairman of the Commission on Primary Agril. Credit Societies, Dr. M.N.V. Nair, Management Consultant, Prof. Balaji, Official, Dr.M. S Swaminathan Foundation, Dr. Bhattacharya, Professor (VPH), Vet. College, Pondicherry, Dr. Madan, DDG, ICAR, Dr. N. Natarajan, Rtd. Joint Director, IVRI, Bangalore, Dr. Lal Krishna, ADG (Animal Husbandry), Dr. Arun Varma, ADG (Animal Nutrition & Physiology), Sri. K.K. Somasundara Panicker, Mayor, Cochin Corporation, Sri. K.B. Pillai, I.A.S., Chairman, MPEDA, Sri. Mohanan & Sri. Prasanth Menon, A.G. Managers, Canara Bank, Dr. Sebastian Paul, M.L.A., Ernakulam, Dr. Carlos, FAO Expert on the HACCP, Dr. C.R. Soman, Professor (Retd.), Medical College, Thiruvananthapuram, Dr. Ahmed Bavappa, Former Director, CPCRI, Kasaragod, Sri. C. Madhavan, Retired Central Water Commission Member, Dr. Dipaker De, Project Co-ordinator, AICRP on ERAS, CIAE, Bhopal, Dr. Anwar Alam, Dy. Director General (Engg.), ICAR, Dr. N.S.L. Srivastava, ADG (Engg.), Dr. S.K. Tandon, Senior Scientist (Engg.), Dr. Yadav and Dr. Sinha, ADGs, ICAR, the Quinquennial Review Team of the AICRP on Pigs, Dr. R.D. Srivastava, ADG (Agril. Engg.), Dr. Edmond DeLanghe, Consultant, World Bank, the QRT for AICRP (Weed Control), Dr. Rajan Gupta, ADG (Animal Science), Dr. Anand Swarup, Co-ordinator, LTFE, Dr. S.V. Subbiah, Co-ordinator, Agronomy, DRR, Hyderabad, Dr.V. Balasubramonian, Co-ordinator, CREMNET, IRRI, Philippines, Dr. T.M. Thiyagarajan, Professor of Soil Science, TNAU, Coimbatore, Dr. N.V. Krishniah and Dr. C.S. Reddy, Senior Scientists, DRR, Hyderabad, Dr. Krishnaswamy, TNAU, Coimbatore, Dr. Dharam Singh, Principal Scientist, Kamal, Dr. M. Sekhara Gowda, UAS, Dharwad, Dr. D.N. Venkata Reddy, Sr. Seed Research Officer and Dr. U.S. Ujinaiah, Seed Research Officer, UAS, Bangalore, Dr. V.E. Sabarathnam, Principal Scientist, (Extn), NAARM, Hyderabad, Sri. A.K. Upadhyay, CPCRI, Kasargode, Dr. B.M.C. Reddy, Project Co-ordinator, IIHR, Bangalore, Dr. K.K.N. Kurup, Vice-Chancellor, Calicut University, Sri.P. Govinda Pillai, Chairman, KSFD, Dr. L.V. Subba Rao and Dr. K.N. Rao, Sr. Scientists, Pl. Br. & Soil Science, DRR, Hyderabad, Dr. B.Gangavar, All India Co-ordinator (ECF), Dr. Painuli, Project Co-ordinator, AICRP on Soil Tillage, Dr. R.K. Singh, Rice Breeder, CSSRI, Kamal, Dr. T.V. Sreenivasan, Principal Investigator (Pl. Br.), AICRP on Sugarcane and Director, SBI, Coimbatore, Dr. Ramesh S. Hapase, Vasantdada Sugar Institute, Manjari, Pune, Dr. Usha Abroal, Regl. Director, Nat. Inst. of Public Co-operation and Child Development, Bangalore, Dr. R.K. Samanta, Zonal Co-ordinator, TOT Projects, ICAR, Bangalore and Mr. P.P. Balasubramanian, Director of Cashew Development, Cochin.

RESEARCH HIGHLIGHTS

Rice and rice-based cropping system

The 19th State Seed Sub Committee, which met on 16th May, 1998, approved seven rice varieties developed by the Rice Research Station, Moncompu for release in the State. The varieties are Mo 13 (Pavithra), Mo 14 (Panchami), Mo 15 (Remanika), Mo 16 (Uma), Mo 17 (Revathy), Mo 18 (Karishma) and Mo 19 (Krishnanjana). Mo 13, Mo 14, Mo 16, Mo 18 and Mo 19 are tolerant to gallmidge Biotype 5. Mo 15 is a short duration variety having 100 days duration and Mo 17 is a medium duration variety having 110 days duration. Mo 16 and Mo 17 possess a dormancy period of three weeks. Mo 18 and Mo 19 are suitable for *kari* soils in *Kuttanad*.

The XX ZREAC meeting held at the College of Agriculture, Vellayani on 6 June 98 recommended for release the Culture 4003-3-1 which recorded a mean yield of 3910 kg/ha in the farm trials.

Thirty dwarf and semi-tall high yielding selections suited to *pokkali* farming system were selected for further evaluation. A semi-tall mutant culture (Culture 1001) was found performing well under *pokkali* farming system. Modifying the land preparation methods and plant stand establishment technique of conventional *pokkali* rice

Thirty entries were field evaluated for their resistance to minor pests. Among these, MTU 1, Chemban and SLO 16 recorded minimum damage by whorl maggots.

A rice cultivar "Deepthi" has been approved for release in the high range regions of Kerala, by the 16th State Seed Sub-Committee. Among the 59 accessions maintained in the rice germplasm, Chomala recorded the highest grain yield of 6134 kg/ha followed by HP 5 (5917 kg/ha).

In an investigation to identify stable male sterile lines and better combiners for the exploitation of hybrid vigour in rice, seven lines were identified as stable for pollen and spikelet sterility. Jyothi, Aruna, Pavizham and Ptb.10 produced more number of sterile hybrids when crossed with CMS lines having WA cytoplasm and hence these varieties can be used as maintainers.

Pulses and Oilseeds

The sesame culture 10-3-2, which had an average yield of 582 kg/ha, was approved for release under the name Thilahara.

Pusa 8973, a high yielding green gram variety with an average yield of 1289 kg/ha, was recommended for inclusion in the Package of Practices Recommendations.

Vegetables and tuber crops

A high yielding greater yam variety 'Indu', with a mean yield of 33.44 t/ha under intercropping situation, was released. The selections, 1010 in bittergourd and 2009 in snakegourd, were accepted for release as Priyanka and Kaumudi, respectively by the State Seed Sub-Committee.

In the farm trials with the chinese potato lines CP 74 and CP 79 with Sreedhara (the only variety of Chinese potato released in Kerala) as the check, conducted at seven centres in the districts of Palakkad, Thrissur, Ernakulam and Malappuram, CP 74 and CP 79 recorded 113.2% and 117.1% more yield respectively than the check.

F₄ generations and third back cross generations (BC₃S) of the crosses between mosaic resistant chilli genotypes and susceptible but otherwise superior chilli varieties were developed.

Application of more organic manures and less inorganic fertilisers increased the shelf life of fruits and seed viability in cucumber and ash gourd.

Pooled analysis of the CYTs conducted for last three seasons showed that the mosaic tolerant ash gourd line, AG-23 was the highest yielder, followed by AG-1 and AG-5. Farm trials of these ash gourd lines progressed in nine locations in the districts of Palakkad, Thrissur and Ernakulam.

Application of bio-fertilisers *Azospirillum* and *Phosphobacter*, in addition to the recommended dose of organic manure and inorganic fertilisers, enhanced the fruit yield in okra.

The following vegetable varieties from KHDP R&D Unit have been recommended for release by the 19th State Seed Sub Committee meeting held on 16 May 1998.

Haritha (SM-141), a high yielding (62 t/ha) and bacterial wilt resistant long duration brinjal variety; *Neelima*, the first hybrid brinjal variety from KAU, having high productivity (up to 100 t/ha) and resistant to bacterial wilt; *Vyjayanthi*, a high yielding (12.5 t/ha), extra long (55-60 cm) and wine red poded vegetable cowpea variety and *Soubhagya*, a small to medium sized and high yielding oriental pickling melon (cucumber) variety.

High yielding, greenish white and long poded vegetable cowpea *VS-13-2* has been recommended for the central zone by the ZREAC meeting held at the RARS, Pattambi on 29 May 98.

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Cowpea: CWP-11 (mosaic resistant), CWP-16 (mosaic resistant), VS-15-3-1 (high yielding) and

VS-96 (high yielding)

Snake gourd: TA-23 (high yielding and small fruited) and TA-17 (high yielding and medium fruited)

Coccinia: CC-29 (tolerant to mosaic)

Fruits & Floriculture

Mother plants of 52 varieties of sympodial and 67 varieties of monopodial orchids, including wild varieties, were maintained in the shade house. Inter-generic hybridization of orchids was started. Fifteen crosses were successful and cultures of the hybrid seeds were made. Inter-specific crosses involving several orchids were produced. Vegetative multiplication by top cutting and sucker splitting of two selected hybrids progressed and about 50 plants each have been produced in these.

In a *Dendrobium* hybrid type, PLBs were produced with meristem as explant in MS medium supplemented with growth substances. Callus regeneration was successfully carried out in root explants in MS basal medium. In the studies aimed at standardising low cost tissue culture techniques, it was established that tap water/well water could replace distilled water.

Combined application of GA 250 ppm, BA 250 ppm or GA 1000 ppm alone at monthly interval in *Anthurium* cv. Hawaiian Red increased the number of suckers to four, from zero in the control. Application of fertilizers having a higher ratio of potassium increased the post-harvest longevity of flowers. Pulsing for eight hours with BA 150 ppm also extended the post harvest longevity of flowers.

Among the *Garcinia* collections of the RARS, Kumarakom, GC 64/90 gave the highest yield per tree (2.5 kg dry rind/year). Treating *Garcinia* seeds with 250 ppm GA enhanced their germination percentage. In an exhaustive survey undertaken in the districts of Kottayam, Alappuzha, Pathanamthitta and Idukki, 214 elite types of *Garcinia* types could be identified. Grafts prepared from these are being maintained at the station. Wide variation in tree characters, flowering and fruiting habits was recorded in *Garcinia* grown in Wayanad.

Feasibility trials have shown that strawberry comes up well in the high ranges of Wayanad. Growth, flowering, fruit set and fruit development were studied in lovi lovi. Soft wood grafting was standardized in mangosteen, karonda and bilimbi.

In pineapple, the agro-techniques standardized for Mauritius variety of pineapple have been recommended for farm trials in the central zone during the ZREAC meeting.

Banana

Under collection, conservation and evaluation of banana germplasm, 225 accessions were maintained. Two exotic Nendran varieties were evaluated and found to be of high yield potential.

Two hybrids H-1 and H-2 were recommended for release in the State as BRS-1 and BRS-2 during May 1998. The germplasm was enriched by new collections.

The spacing trial in banana var. Palayankodan showed the optimum spacing to be 1.2 x 1.5 x 2.0 m, accommodating a plant population of 4760 plants/ha. Application of N in both vegetative and reproductive phase was found beneficial for the banana var. Palayankodan rather than restricting to the vegetative phase alone. The optimum ratio of organic to inorganic N for Palayankodan was found to be 1: 3 and the best source of organic N, as a combination of FYM + green leaves or neemcake. Fertigation studies in the banana var. Nendran revealed the possibility of reducing N requirement by 25 per cent.

Studies on crop competition in banana conducted in the high ranges showed nutrient sharing between the mats. The study pointed out that nutrients given to one plant could be retrieved from the others in the mat.

Nematode population in both soil and root were found considerably reduced when paped banana suckers dipped in 0.5% monocrotophos were planted and when banana was intercropped with sunhemp.

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The hybrid H 1600 was found to be significantly superior in cumulative cashew nut yield, followed by H 1602. The nut yield from MDK-2 was the highest during 1998. The study on anthesis and anther dehiscence revealed that the staminate flowers open earlier than the bisexual flowers and that flower opening was associated with high relative humidity. Anthesis and anther dehiscence in hermaphrodite flowers overlapped which, in turn, correlated with the diurnal ambient air temperature and bright sunshine hours. The character association studies revealed that the important characters contributing to kernel weight in cashew are nut size, panicle length, and weight and length of the apples. Seventy three diverse types of cashew were identified of which 28 bold nut types were selected based on the kernel weight exceeding 2 g/nut.

Mango

One hundred and sixty five pickling types of mango were identified in northern Kerala and South and North Kanara districts of Karnataka, of which 58 types were found promising. Fortytwo types have been planted at the RARS, Pilicode.

For the control of mango fruit flies, *Ocimum* trap + bait spray with malathion 0.1 % at monthly interval was recommended in the 21st ZREAC meeting held at the RARS, Kumarakom on 2 June 1998.

Coconut and coconut- based cropping system

Among the 15 cultivars planted in 1976, Seychelles performed better in the number of nuts produced during 1998 and in the cumulative nut production. Preliminary observations revealed that the released hybrids are performing better than the elite cultivars planted in 1976. The hybrids Keraganga, Lakshaganga, Chandrasankara and Kerasankara were the better performers, in cumulative nut yield per palm. Kerasree recorded high copra out turn per palm and was significantly superior to Keraganga and Kerasankara.

Studies on the influence of high background radiation on coconut nutrition indicated that there was a wide variation in natural background radiation ranging from 200–8200 nGy h⁻¹ in Chavara and adjoining areas. ²³²Th was the major radionuclide contributing to high radiation and its content in the soil ranged from 144 to 3580 ppm.

A study on the different characters of nine varieties of coconuts showed that among the reproductive characters, female flower production has the maximum variation. Among the economic characters, only nut yield was correlated with both vegetative and reproductive characters.

Forage crops

Green fodder yield and dry fodder yield of *Flemingia cogesta* was the highest (30.43 t/ha/yr and 8.88 t/ha/yr) compared to those of *Desmanthes virgatus*. The closest spacing of 75 x 20 cm produced the highest green and dry fodder yield (25.03 t/ha/yr and 8.93 t/ha/yr, respectively).

The influence of vermicompost on hybrid napier was significant. Application of 50 % of the recommend fertilizer schedule + vermicompost @ 10 t/ha recorded a green fodder yield of 26.46 t/ha, which was on par with the yields of the treatments receiving 75% of the recommended fertilizer schedule + FYM @ 10 t/ha (32.26 t/ha), 100 % of the recommended schedule (30.38 t/ha) and 75% of the recommended fertilizer dose (27.29 t/ha).

For guinea grass, FYM was found to be superior to vermicompost with respect to green and dry fodder yields. Application of 75% of the fertilizer along with organic manure was on par with the application of 100% of the fertilizer recommendation.

Sugarcane

The State Seed Sub-Committee recommended the release of a new high yielding mid-late maturing sugarcane variety, Madhumathi (Co. 88017) with moderate resistance to red rot disease, and high jaggery quality and recovery.

Commercial crops

In standardizing selection criteria for cocoa hybrids, the influences of seedling height and girth on yield were found to be pronounced in the case of seedlings one year after sowing. With the seedling characters of hybrids taken one year after sowing, a multiple regression equation was fitted for wet bean yield that can be taken as a seedling selection criterion for cocoa hybrids. Five hybrids have been approved for release viz., CCRP I, CCRP IV, CCRP V, CCRP VI and CCRP VII.

Spices

Studies on the development of DRIS in relation to yield in black pepper revealed that very low yield levels of plants were due to a metabolic deficiency of zinc. With increasing yield levels, yield limiting factors were relative deficiencies of N, K, Ca and Mg in that order. The study also helped to evolve preliminary prototype model for progressive targeted yield improvement in pepper.

Medicinal and aromatic plants

Soft wood cuttings comprising terminal ends and young lateral shoots with leaves were found to be ideal propagules in *Gynema*. Intermittent mist significantly increased the rooting efficiency. Treatment with IAA 500 mg/l + mist was best for rooting, followed by NAA 500 mg/l and kept in mist.

Beneficial micro-organisms

Honey bees

Twenty-four Indian bee colonies free from TSBV disease have been procured and the colonies are observed regularly.

Vermicompost

Isolation of different micro-organisms in association with *Eudrillus eugeniae* (an exotic species) has been completed. Isolation of micro-organisms from the indigenous species of earthworm, *Periomyx sansibaricus* progressed.

Mushroom

Supply of mother spawn to farmers continued. Training on spawn production was conducted to the beneficiaries of the Peoples' Planning Programme of Athiyannur block.

Plant protection

The studies on bunchy top disease of banana revealed that the disease incidence was maximum during August-November. The virus was not found to be mechanically transmitted. Tissue culture plants were the most susceptible planting materials, for aphid transmission. In purification studies, among the different portions of banana used, midribs of younger leaves yielded higher concentration of virus and TC plants yielded more virus concentration than the other planting materials. Electron microscopy of purified BBTV preparation revealed isometric particles of 18-22 nm size. The nucleic acid of BBTV was confirmed as SS DNA. Among the different serological tests conducted, ELISA was found to be highly sensitive for the identification of the virus.

Thirteen pests were found to be associated with orchids in Kerala. The biology and management of these pests were studied.

Three distinct species of epilachna were identified in cucurbits, pulses and brinjal. They are *Henosepilachna vigintioctopunctata* on brinjal, *H. sepiæ* on cucurbits and *Afidenta misera* on pulses.

The bivoltine silkworm hybrids were found to be superior to the multi x bihybrids in their performance. The hybrids NB 4 D2 x NB 18 and NB 18 x NB 4 D2 were found to be suited for Kerala.

Commercial crops

In standardizing selection criteria for cocoa hybrids, the influences of seedling height and girth on yield were found to be pronounced in the case of seedlings one year after sowing. With the seedling characters of hybrids taken one year after sowing, a multiple regression equation was fitted for wet bean yield that can be taken as a seedling selection criterion for cocoa hybrids. Five hybrids have been approved for release viz., CCRP I, CCRP IV, CCRP V, CCRP VI and CCRP VII.

Spices

Studies on the development of DRIS in relation to yield in black pepper revealed that very low yield levels of plants were due to a metabolic deficiency of zinc. With increasing yield levels, yield limiting factors were relative deficiencies of N, K, Ca and Mg in that order. The study also helped to evolve preliminary prototype model for progressive targeted yield improvement in pepper.

Medicinal and aromatic plants

Soft wood cuttings comprising terminal ends and young lateral shoots with leaves were found to be ideal propagules in *Gynmema*. Intermittent mist significantly increased the rooting efficiency. Treatment with IAA 500 mg/l + mist was best for rooting, followed by NAA 500 mg/l and kept in mist.

Beneficial micro-organisms

Honey bees

Twenty-four Indian bee colonies free from TSBV disease have been procured and the colonies are observed regularly.

Vermicompost

Isolation of different micro-organisms in association with *Eudrillus eugeniae* (an exotic species) has been completed. Isolation of micro-organisms from the indigenous species of earthworm, *Periomyx sansibaricus* progressed.

Mushroom

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The hybrid H 1600 was found to be significantly superior in cumulative cashew nut yield, followed by H 1602. The nut yield from MDK-2 was the highest during 1998. The study on anthesis and anther dehiscence revealed that the staminate flowers open earlier than the bisexual flowers and that flower opening was associated with high relative humidity. Anthesis and anther dehiscence in hermaphrodite flowers overlapped which, in turn, correlated with the diurnal ambient air temperature and bright sunshine hours. The character association studies revealed that the important characters contributing to kernel weight in cashew are nut size, panicle length, and weight and length of the apples. Seventy three diverse types of cashew were identified of which 28 bold nut types were selected based on the kernel weight exceeding 2 g/nut.

Mango

One hundred and sixty five pickling types of mango were identified in northern Kerala and South and North Kanara districts of Karnataka, of which 58 types were found promising. Fortytwo types have been planted at the RARS, Pilicode.

For the control of mango fruit flies, *Ocimum* trap + bait spray with malathion 0.1 % at monthly interval was recommended in the 21st ZREAC meeting held at the RARS, Kumarakom on 2 June 1998.

Coconut and coconut- based cropping system

Among the 15 cultivars planted in 1976, Seychelles performed better in the number of nuts produced during 1998 and in the cumulative nut production. Preliminary observations revealed that the released hybrids are performing better than the elite cultivars planted in 1976. The hybrids Keraganga, Lakshaganga, Chandrasankara and Kerasankara were the better performers, in cumulative nut yield per palm. Kerasree recorded high copra out turn per palm and was significantly superior to Keraganga and Kerasankara.

Studies on the influence of high background radiation on coconut nutrition indicated that there was a wide variation in natural background radiation ranging from 200–8200 nGy h⁻¹ in Chavara and adjoining areas. ²³²Th was the major radionuclide contributing to high radiation and its content in the soil ranged from 144 to 3580 ppm.

A study on the different characters of nine varieties of coconuts showed that among the reproductive characters, female flower production has the maximum variation. Among the economic characters, only nut yield was correlated with both vegetative and reproductive characters.

Forage crops

Green fodder yield and dry fodder yield of *Flemingia cogesta* was the highest (30.43 t/ha/yr and 8.88 t/ha/yr) compared to those of *Desmanthes virgatus*. The closest spacing of 75 x 20 cm produced the highest green and dry fodder yield (25.03 t/ha/yr and 8.93 t/ha/yr, respectively).

The influence of vermicompost on hybrid napier was significant. Application of 50 % of the recommend fertilizer schedule + vermicompost @ 10 t/ha recorded a green fodder yield of 26.46 t/ha, which was on par with the yields of the treatments receiving 75% of the recommended fertilizer schedule + FYM @ 10 t/ha (32.26 t/ha), 100 % of the recommended schedule (30.38 t/ha) and 75% of the recommended fertilizer dose (27.29 t/ha).

For guinea grass, FYM was found to be superior to vermicompost with respect to green and dry fodder yields. Application of 75% of the fertilizer along with organic manure was on par with the application of 100% of the fertilizer recommendation.

Sugarcane

The State Seed Sub-Committee recommended the release of a new high yielding mid-late maturing sugarcane variety, Madhumathi (Co. 88017) with moderate resistance to red rot disease, and high jaggery quality and recovery.

Ferrolure, the aggregation pheromone, was tested under field conditions for its bioefficiency. A suitable bucket trap was devised, which gave maximum efficiency when installed at 1.5-2.0 m above the ground level with pineapple waste or sugarcane waste as the food attractant. The performance of the pheromone was optimum for 8-10 weeks. Performance improved when the food additives were changed every fifth day.

Pesticide residue

Monitoring of pesticide residues in 12 diet samples indicated the presence of alpha and gamma isomers of HCH. The level of alpha HCH ranged from 0.024 to 0.749 while gamma HCH ranged from 0.131 to 4.54 ppm. Analysis of drinking water (tap water and well water) samples indicated that none of the samples contained HCH or DDT residues.

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Mass production of the fungal pathogen *Fusarium pallidoroseum*, a potent pathogen of the pea aphid (*Aphis craccivora*) in rice bran, was started. Polypropylene bag was found to be ideal for sterilizing the media. The quantity of bran per bag was standardized. Polypropylene bags with 100 g of bran gave the maximum yield of the fungus per unit volume within a limited period. For easiness in inoculating the media with the fungus, the mouths of the polypropylene bags were plugged with cotton using a PVC tube. After growth of the fungus for 10 days, the cotton plug along with the PVC tube was removed and the bags sealed. Each bag was then kept in another polypropylene bag along with instructions for use and distributed to the farmers.

The culture of the predator, *Chrysoperla carnea*, was obtained from PDBC, Bangalore and mass multiplication of the predator on the eggs of *Concyra cephalonica* carried out. The stock culture of *C. cephalonica* was brought from the Tamil Nadu Agricultural University, Coimbatore. The insect is being mass multiplied in the laboratory, using wheat flour as the basal medium. A simple technique was perfected to collect eggs of *C. cephalonica*. In this method, adult moths were released into a chimney placed over a glass jar. The bottom of the chimney and the mouth of the glass jar were separated with a plastic mesh. The mouth of the chimney was covered with a muslin cloth. The eggs deposited on the cloth and plastic mesh were collected by swabbing with cotton and the eggs present in the jar, removed by inverting the glass jar.

Mycoherbicides

Fusarium equisetii, *Fusarium pallidoroseum* and *Colletotrichum gloeosporioides* were found to be effective in controlling water hyacinth. Guinea grass straw and rice bran were found to be the best substrates for mass multiplication and storage of the inoculum. Dusting of the inoculum or placing bits of inoculum along with the carrier materials was found to be the best method of application of the fungi.

Nematodes

Thirty samples (root + soil) were collected from ornamental and medicinal plants, and the nematode load in them estimated. The data revealed that root knot and burrowing nematodes were predominant. Among the ornamental plants, the highest population of root-knot nematode was found in anthurium, followed by jasmine. Random survey on medicinal plants revealed that Thippali, Adalodakom and Chethikoduveli were heavily infested with root-knot nematode.

Bacterial wilt isolates from tomato and chilli were identified as *Ralstonia solanacearum* race I bivar III. From brinjal, it was identified as *Ralstonia solanacearum* race I bivar V. Among the various biochemical, biological and nutritional factors, phenols and enzymes, rhizosphere population of *Ralstonia* and parasitic nematodes, and calcium content were found to be important in bacterial wilt resistance. The study revealed that it was not possible to arrive at a common base for resistance to bacterial wilt in tomato, brinjal and chilli. However, it was possible to outline the important parameters that condition resistance in individual crops.

Food Science and Nutrition

Acceptability trials with soya grits / chunks indicated that substituting green gram and soya grits in the proportion of 80:20 was the most acceptable combination. This combination was used in feeding trials in schools. Studies on nutritional status and intelligence of pre-school beneficiaries of ICDS and non-beneficiaries in Thrissur district revealed that nutrient uptake of ICDS group was significantly better.

Nutritive value and acceptability of winged bean genotypes indicated that among the different parts of winged beans, mature seeds contained higher percentage of protein, starch and energy. The leaves and flowers were rich in minerals. The anti-nutritional factor, namely, tannin present in seeds, decreased considerably after cooking. All the edible parts were found to be acceptable. Studies on nutritive value and organoleptic evaluation of twenty *Thamaravenda* genotypes showed that the genotypes were significantly different. Moisture, protein and phosphorus contents of *Pusa Sawani* were on par with those of the other types studied. The mean fat, iron, vitamin C and mucilage contents of *Pusa Sawani* were lower than the lowest levels obtained for *A. caillei* genotypes. *Thamaravenda* genotypes were found to be more acceptable than *Pusa Sawani*.

Post harvest technology

Storage of cashew apples at 15°C in polythene-lined containers could prolong the shelf life to two weeks. The superiority of the cashew variety Priyanka with respect to biochemical characteristics was established. Addition of sago and refrigeration, followed by siphoning, was effective in removing substantial amounts of tannin from cashew apple juice.

A technique for extraction of dietary fibre from the rind of jackfruit was perfected using modified Vansoest method. Trials with blended phulka and chappathi with 3, 6, and 9 per cent dietary fibre revealed that upto 3 per cent level, taste of phulka and chappathi was not significantly altered. Higher levels resulted in bitter taste of the product.

Polypropylene bags (150 gauge) without ventilation was observed to be the best packaging material for oyster mushroom which maintained freshness up to 30 hours under ambient conditions.

Basic research

Studies on the "Fate of applied and native potassium in a laterite soil as influenced by other major nutrients and organic matter, and uptake by an annual crop of banana" showed that fertilizers should be applied for the crop from two MAP and continued upto six MAP.

Assessment of the influence of some phosphate sources such as Maton rock phosphate, Mussori rock phosphate, Gafra rock phosphate, Rajasthan rock phosphate and single super phosphate for possible accumulation of heavy metals in chilli revealed that the phosphatic sources contained varying amounts of cadmium and lead. Least uptake of heavy metals was noted in the fruit portion, making the edible portion relatively more safe than the other plant parts.

Studies conducted on the suitability of Tunisia rock phosphate for direct application in acid rice soils of Kerala revealed that it is suitable for the acid soils of Kerala.

Agricultural meteorology and remote sensing

A multiple linear regression was developed for predicting the nut yield in coconut seven months ahead based on agrometeorological indices. It is being tested. The influence of altitude and latitude on cashew phenology across India was studied in detail.

The Agro Advisory Services Unit at Vellanikkara catered to the needs of the farmers of the five Panchayaths viz. Panancherry, Ollukkara, Cherpu, Madakkathara and Porathissery. Weekly Agro Advisory Bulletins were prepared based on the medium range weather forecast received from the Super Computer Centre, NCMRWF, New Delhi and distributed to the Krishi Bhavans.

Under the AICRP on Agrometeorology, an Automatic Weather Station was installed in the existing Agromet Observatory at the Main Campus of the Kerala Agricultural University. The data being collected regularly are processed and made available to the other scientists working in agriculture and related fields.

In Vellanikkara, the January 30 sown crop recorded the maximum yield for cucumber (30.8 t/ha) and water melon (36.3 t/ha), in the control treatment. In the case of pumpkin, the control treatment of the crop sown on December 31 recorded the maximum yield (22.9 t/ha) and for ash gourd the January 15 sown crop recorded the maximum yield (36.2 t/ha). In Ambalavayal, January 15 sown crop recorded the maximum yield for all the four

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It was seen that the weather conditions during December to March favourably influenced the performance of tomato, resulting in better yields as compared to the other six times of planting. Planting the crop in December resulted in superior yield-contributing characters also. From the experiment on crop weather relationship in rice, it was observed that June 15 planting recorded the highest yield (4.6 t/ha) followed by June 1 planting (3.9 t/ha).

Biotechnology

In *Dendrobium*, rooting of seedlings was better when 0.5-1 % activated carbon was incorporated into the medium. Maximum establishment of hybrid seedlings was obtained when planted in a medium containing brick and charcoal pieces.

The procedure for *in vitro* irradiation of ginger was standardized. Protocols for *in vitro* culture, callus induction and indirect organogenesis were perfected in ginger. In *Trichopus zeylanicum* also, protocols for direct and indirect embryogenesis were standardized.

Transfer of technology and rural development

Lack of adequate and effective linkages between the different extension agencies and research institutions in Thrissur district has led to the confinement of improved plant protection technologies of vegetable cultivation within the research institutions. High cost of PP chemicals, difficult procedures of application and non-availability of labour were pointed out as the major constraints in the adoption of proper PP measures in vegetable cultivation.

Agricultural Engineering & Technology

The following items of equipment and tools have been developed and popularised during the period under report.

Tender coconut punch

It is a hand-lever actuated tool for punching a small hole in the tender coconut to facilitate insertion of a straw for drawing out its water. The tender coconut punch is a simple and easy-to-operate tool that can be used by even women. The time needed in punching a hole is only 2-3 seconds compared to the 5-15 seconds needed in the traditional method.

Tender coconut cutter

It is a tool for splitting the tender coconut into two halves for taking out its meat. The coconut is placed on a platform below the knife. The long handle is actuated downwards to force the knife through the coconut. The operation is quite safe. This tool is intended for use along with the tender coconut punch.

Black Pepper Thresher

It is a machine for separating green berries from the spikes of black pepper. It is an improved version of the threshers developed at this university (by Sri. George Mathew), and at the Tamil Nadu Agricultural University respectively.

Fruit Plucker

It is an improved version of the common hook with the net attachment. In the common device, the fruit, upon separation from the stalk, is retained in the net surrounding the hook attached to a long pole. When the weight at the top is heavy, the whole pole is lowered and the fruits are taken out. This necessitates lowering of the pole frequently. In the improved system, the net is extended downwards like a chute to the lower end of the pole. The lower end of the chute is open but kept folded upwards as if its lower end is closed. The fruit, upon detachment, is conveyed downward through the chute and retained at its lower end.

Papaya plucker

It is a tool somewhat similar to the 'fruit plucker' with the chute arrangement. Instead of the hook, this tool is provided at its top end with a small blunt knife mounted on a long stem and turned upward.

'Jab' type dibbling mechanism

It is a paddy seed dibbling mechanism.

Food operated coconut dehusker

It is a foot-pedal actuated tool suitable for husking of coconuts easily.

VETERINARY AND ANIMAL SCIENCES

Cows and buffaloes

A total of 5000 cows were registered under the Progeny Testing Scheme in the different centres. Two sets of Holstein-Friesian crossbred bulls were tested. The average milk production of the crossbred cows was 1504 kg/305 days of lactation. An acceptable milk recording system had been developed and factors have been worked out to predict 305 days milk yield. The research results generated by the ICAR Progeny Testing Unit (low fat and SNF percentage of crossbred cows of the State) indicated the necessity to amend PFA stipulations on fat and SNF of milk. The results also pointed out the feasibility of enhancing the genetic potential of crossbred cows to the tune of 2500 litres per lactation in a single generation by the use of elite bull of high breeding value.

A nucleus stock of 117 Vechur and other dwarf cattle has been maintained at Mannuthy and Thumburmuzhi. The body weight of adult cow and bulls are 129 kg and 167 kg respectively, and the height, 87cm and 98 cm. The birth weight for calves is around 10.5 kg. The age at first heat, age at first calving, inter-calving period and daily milk yield were 19 months, 36 months, 14 months and 2.52 kg respectively. Studies on biochemical polymorphism, blood typing, cytogenetics, milk components and performance traits were continued. Work aimed at standardisation of freezing of Vechur bull semen continued.

Incidence of PEM was prevalent in the State. Animals below one year were found to be more susceptible. Experiments utilising various agents, supposed to be responsible for inducing PEM, like Amprolium, BHC, rice and chela leaves progressed.

Out of the seventy three traditional beliefs in dairy husbandry studied among the tribals of Attappady, one-fourth were found to be irrational. These irrational beliefs could act as techno-cultural obstacles in the adoption of scientific dairy husbandry practices.

Studies on the nutrient utilisation of agro-industrial byproducts for ruminants revealed that tapioca leaves and rubber seed cake combination could be incorporated at a rate of 30% in the ration without any deleterious effect.

A survey was conducted to assess the mineral status of cattle in Kerala. The survey revealed that animals in the surveyed area maintained a satisfactory mineral status for all the minerals except calcium, in spite of a generalised deficiency of copper and manganese, and a scattered deficiency of calcium, phosphorus and magnesium in the soil and local grasses.

Surgical treatment of experimentally induced coxofemoral luxation was studied in calves. Open reduction with immobilisation using wiring was compared with a new technique of external pinning and immobilisation, under closed reduction. Both the techniques were found satisfactory; but the new technique was simple to perform and least traumatic.

Metacarpal osteotomy, combined with mechanical distraction using a locally fabricated fixator, was tried for lengthening of limbs in calves and the newly fabricated mechanical device was found satisfactory and effective for the same.

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The procedure for *in vitro* irradiation of ginger was standardized. Protocols for *in vitro* culture, callus induction and indirect organogenesis were perfected in ginger. In *Trichopus zeylanicum* also, protocols for direct and indirect embryogenesis were standardized.

Transfer of technology and rural development

Lack of adequate and effective linkages between the different extension agencies and research institutions in Thrissur district has led to the confinement of improved plant protection technologies of vegetable cultivation within the research institutions. High cost of PP chemicals, difficult procedures of application and non-availability of labour were pointed out as the major constraints in the adoption of proper PP measures in vegetable cultivation.

Agricultural Engineering & Technology

The following items of equipment and tools have been developed and popularised during the period under report.

Tender coconut punch

It is a hand-lever actuated tool for punching a small hole in the tender coconut to facilitate insertion of a straw for drawing out its water. The tender coconut punch is a simple and easy-to-operate tool that can be used by even women. The time needed in punching a hole is only 2-3 seconds compared to the 5-15 seconds needed in the traditional method.

Tender coconut cutter

It is a tool for splitting the tender coconut into two halves for taking out its meat. The coconut is placed on a platform below the knife. The long handle is actuated downwards to force the knife through the coconut. The operation is quite safe. This tool is intended for use along with the tender coconut punch.

Black Pepper Thresher

It is a machine for separating green berries from the spikes of black pepper. It is an improved version of the threshers developed at this university (by Sri. George Mathew), and at the Tamil Nadu Agricultural University respectively.

Fruit Plucker

It is an improved version of the common hook with the net attachment. In the common device, the fruit, upon separation from the stalk, is retained in the net surrounding the hook attached to a long pole. When the weight at the top is heavy, the whole pole is lowered and the fruits are taken out. This necessitates lowering of the pole frequently. In the improved system, the net is extended downwards like a chute to the lower end of the pole. The lower end of the chute is open but kept folded upwards as if its lower end is closed. The fruit, upon detachment, is conveyed downward through the chute and retained at its lower end.

Poultry

Ten-day old duck embryos were inoculated with Aflatoxin B₁, at the rate of 0.22 micro gram per egg as a single dose through the air cell route, and incubated. Cross lesions included interdigital haemorrhage, bilateral intra-ocular congestion, oedematous head, malformations like fused digits, evisceration and beak deformities.

There was ameliorating effect of commercial yeast and *Phyllanthus niruri* on experimental aflatoxicosis in ducks and chicken, respectively.

One-month old Japanese quails were administered with purified Aflatoxin B₁ by oral incubation at the rate of 0.5 ppm on alternate days for two months and vaccinated with R2 B strain vaccine on the 42nd day. ESR, liver and spleen weights were significantly increased in the toxin-treated groups while bursal weights, RBC counts and leucocyte counts were significantly depressed.

Comparative histological response of the Harderian gland of chicken and duck was evaluated and the sequential cellular response following ocular antigenic stimulation was clarified. The development of the plasma cell response in duck was relatively at a low pace compared to that in chicken. Harderian gland is highly reactive, especially in chicken; but relatively less efficient in inducing antibody response in ducks.

A total of 750 samples of milk from five districts - Thiruvananthapuram, Ernakulam, Thrissur, Palakkad and Kozhikkode was studied. Both CMT positive samples and clinical samples were subjected to cultural and *in vitro* sensitivity test. Milk samples from Ernakulam and Kozhikkode showed that the major pathogens were Gram negative bacilli whereas from Palakkad and Thrissur, it was Gram positive. The *in vitro* sensitivity results of these isolates to various antibiotics showed that ciprofloxacin was most sensitive followed by gentamycin, chloramphenicol and oxytetracycline.

The glands had various stages of inflammatory reactions. Microscopical examination of these glands revealed infiltration of neutrophils. Mononuclears were observed in the interstitium and alveolar lumen of lactating glands. Galactophoritis, polypoid thickening of cisternal epithelium and cytoplasmic vacuolation of secretory epithelium were the other lesions.

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GnRH or PGF₂YX, administered on the fourteenth day of calving, helped early induction of oestrus and better conception and therefore, was cost effective.

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Rabbits

It is revealed that Ivermectin is the most effective drug (@ 0.3 mg/kg s/c) followed by Karangi oil in the treatment of psoroptes and notoedruscati in rabbits.

Pigs

Chaff grain meal, a by-product of modern rice mill industry, could be effectively and economically substituted for yellow maize, the conventional and costly energy supplement in the rations for swine. It can also be effectively and economically substituted for the polish in the rations for growing heifers and lactating cows. A concentrate mixture prepared for pigs (wherein 75 per cent of the total ration was substituted using unconventional ingredients viz. dried banana rhizome, dried swill and dried blood-rice polish mixture), although found to be economical, promoted the growth rate only to a lesser extent which was significantly lower when compared to the control farm ration containing conventional ingredients alone.

It was found that carcass meal could be effectively included in the diets of growing and finishing pigs without affecting either the growth performance or the carcass characteristics. Efficiency of feed utilisation in desi pigs, maintained on farm ration, was estimated.

The feasibility of using blood, a by-product of slaughter houses, as a feed supplement in growing desi pigs was assessed and found to be economic.

The effect of enrichment of environment and halothane sensitivity on the performance of LWY & desi pigs was studied and appropriate combinations of enrichment were recommended for various system of swine production.

Performance of exotic and desi pigs maintained on swill was studied and swill was recommended for full replacement of concentrate pig feed.

Goats

Supplementation of elemental sulphur in the ration of goats prevented the formation of calculi, possibly due to the increased excretion of sulphur ions through urine. Supplementation of ammonium chloride prevented calculi formation, possibly due to increased excretion of chloride ion through urine.

Supplemented horse gram extract did not prevent calculi formation when fed along with high magnesium calculogenic ration in goats; but exhibited a tendency to prevent the incidence of urinary calculi, perhaps due to its diuretic effect.

The pre-natal and post-natal development of the gland in crossbred goats was traced. Primodium of the gland was located at one month in foetal life. Influence of stress on the gland was also studied. Growth rate and the relation of the gland with age and body weight were also recorded.

Other animals

Chrome and gluteraldehyde processed aortic grafts were used to correct experimentally created esophageal defects in dogs. The efficacy of the graft was evaluated with and without pharyngostomy feeding. It was found that processed aortic grafts were satisfactory for esophagoplasty in dogs.

Extension

All extension education activities of the university are co-ordinated and implemented by the Directorate of Extension. The major programmes for the transfer of technology are being implemented through the Communication Centre, Central Training Institute, Information-cum-sales Centres, Krishi Vigyan Kendras, Village Adoption Programme and KAU Press. The extension activities are also implemented through the research and educational institutions of KAU.

The major activity of the Communication Centre is to provide information support to the State development departments, voluntary agencies, co-operative societies, farmers etc. on agricultural technologies through a variety of approaches. Its four sub-units viz., Farm Advisory Service, Publication Unit, Information Unit and Exhibition and Graphic Service Unit together perform the function of information communication and dissemination.

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IT Laboratories: An Information Technology Lab with facilities for customising library and information service packages, database development and for generating information products according to the requirement of users, functions under this unit. The unit can provide software support for DOS, UNIX, WINDOWS, WINDOWS NT, WORD PERFECT, MS OFFICE, CDS/ISIS, BASIS PLUS, TECHLIB PLUS, SPIRS, ILSMS etc. for various library and information management applications.

Electronic library: An electronic library has already been developed by the unit with support of various national and international institutions. Joining with IT solution providers, the unit has customized some search engines according to the systems requirement which will enable automatic pooling of resources in a subject group and instant retrieval of information. This is the first electronic library for agriculture envisaged in India under any SAU or ICAR research Institute.

College libraries: There are ten college libraries coming under the unit. All of them have required minimum infrastructure like building, equipment and collection of print and non print documents. The library at COA Vellayani was automated with a college library LAN and information resources in EM to serve the campus and nearby stations. Equipment for automation had already been acquired for College of Fisheries, Panangad, College of Agricultural Engineering, Tavanur etc. Library modernisation programs are on the anvil in other colleges.

Department libraries / RARS / Research station libraries: Information needs of the RARS as well as departments are catered by small libraries having collection of books on subjects specific to the requirements.

Library network development

With the technical support and information resource and software packages provided under various MOUs by *Information and Library Network Programme* of Government of India, *National Information System for Science and Technology* under Department of Scientific and Industrial Research, *National Information Centre* under Planning Commission, Government of India, *Informatics Division* of UNESCO at Paris and various other national and international agencies, the unit started the work of developing an electronic library with storage capacity of 5 crore printed pages equivalent to 120000 books at the headquarters. The unit has also continued the work for the library LAN through which students and scientists using central library can access the electronic library online. The work for developing the library website through which the resources of the library can be accessed online from all colleges and stations and for digitising our own information resources were also started.

Other services

The unit offers computerised information services using electronic documents apart from books and journals already existing in the library. A Centre for Library and Information Science (LIS) at the unit provides training programmes and consultancy services on information handling. At the headquarters the unit has established a farmers' division with reading materials specially prepared for the farmers, facility for offering video programmes interactive multimedia programmes and conducting exhibitions. A temporary E-mail using ERNET connectivity has been established for use till getting and depended V sat or leased line for the library. Various abstract and index databases are also available on computers. The KAU hosted the IASLIC Conference and National Seminar on right to Information from 21st to 24th December 1999 at Trichur. With regard to software development, the unit has customised various library packages by the research and development activities undertaken during the last three years. Standards for various library information processing activities have already been formed in consultation with INFLBNET, NISSAT and other Govt. of India institutions supporting such projects.

WORKS

The total expenditure incurred during the period under report was Rs.70,85,828.

KAU ESTATE

Out of the total area of 391.44 hectares of the estate 253.30 ha were allotted to other schemes. A total quantity of 26813.71kg latex was produced during the year. A total receipt and expenditure during the year were Rs.17,34,513 and Rs.31,89,062, respectively.

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KAU SCHOOL

A total number of 869 students was in the roll during the period. The strength of teaching staff was 17 and that of the non-teaching staff was 6. The school won first prize in District Science Congress and second prize in the science & Maths exhibitions and projects.

FINANCE

The university had adopted a budget estimate for Rs.8135.423 lakhs for 1998-99 in anticipation of a grant-in-aid of Rs.5553.65 lakhs from State Government (Rs.3828.65 lakhs under Non-plan and Rs.1725 lakhs under Plan), ICAR assistance of Rs.499.035 lakhs, specified scheme-tied assistance of Rs.153.547 lakhs, internal sources of Rs.635.425 lakhs and Rs.1292.766 lakhs from pension fund; loans, advances and income from investment, opening balances etc.

The total expenditure incurred during the period under report for various functions of the university was Rs. 8143.03451 lakhs against the receipt of the same.

CHAPTER 1 GENERAL ADMINISTRATION

The Kerala Agricultural University came into existence on 24th February 1971 under the KAU ACT 1971 (Act 33 of 1971).

The Main Campus of the University at Vellanikkara is 13km east of Thrissur town on the Thrissur-Palakkad Highway (NH-47). The College of Horticulture, College of Forestry and the College of Cooperation, Banking and Management are located at the Main Campus. The University has seven other teaching campuses, viz, College of Veterinary & Animal Sciences, Mannuthy, College of Fisheries, Panangad, College of Agriculture, Vellayani, Kelappaji College of Agrl Engg & Technology, Tavanur, College of Agriculture, Padannakkad, College of Dairy Science and Technology, Idukki (presently functioning at Mannuthy), College of Veterinary and Animal Sciences, Pookode (presently functioning at Mannuthy). Development works related to the two campuses, College of Veterinary and Animal sciences Pookode, Wayanad and College of Dairy sciences and Technology Idukki, are under progress. In addition to this, the University has 30 major research stations distributed throughout the State. Some of the stations are also recognised as centres for PG research of the University. When the NARP was implemented in the University five of these stations were recognised as Regional Agricultural Research Stations. They are located at Pilicode, Ambalavayal, Pattambi, Kumarakom and Vellayani.

The University received financial assistance mainly from the State Government and ICAR. Financial assistance was also received from outside agencies like the Department of Science & Technology, Department of Environment, Government of India, Department of Electronics, Government of India, FERRO, USDA, Coffee Board, ICSSR, Hindustan Cocoa Limited etc.

OFFICERS OF THE UNIVERSITY AND ADMINISTRATIVE SET UP

The officers of the University are the Chancellor (Governor of Kerala), the Pro-Chancellor (Minister of Agriculture), the Vice-Chancellor who is the Chief Executive and Academic Officer of the University and the Pro-Vice Chancellor.

The Vice-Chancellor is also the ex-officio Chairman of the General Council, Executive Committee and

Academic Council. The Vice-Chancellor is a full time officer of the University and has the immediate overall control of the University. During the period under report a post of Pro Vice-Chancellor was created in the University. The other officers of the University are the Director of Research, the Director of Extension, Deans of the different faculties, the Director of Physical Plant, the Registrar, the Comptroller and the Director of Students' Welfare.

The general administrative control is vested with the Registrar while the Comptroller is responsible for budgeting finance, statements of accounts and audit. The co-ordination, direction and administration of research activities in the University are vested with the Director of Research. The Director of Extension is responsible for the extension education and Public relations. The Deans and Associate Deans of the various colleges are in charge of resident teaching and instruction of the respective colleges. The Director of Physical Plant is in charge of the construction and maintenance of buildings, roads, vehicles and machinery.

AUTHORITIES OF THE UNIVERSITY

The statutory authorities of the University are the General Council, the Executive Committee, the Academic Council, the Faculties and the Board of Studies of each faculty. The lists of members of these bodies are appended.

General Council

The supreme authority of the University is the General Council. The Council is reconstituted every three years. The term of the General Council constituted on 31.1.1998 will continue upto 30.1.2001. (List of members appended).

Ordinarily the Council meets once in four months. The General Council met three times during the period under report.

The Executive Committee

The Executive Committee is the chief executive authority of the university. The committee consists of 13 members with Vice-Chancellor as the Chairman. During the report period, the Executive Committee met 9 times.

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OFFICERS OF THE UNIVERSITY AND ADMINISTRATIVE SET UP

The officers of the University are the Chancellor (Governor of Kerala), the Pro-Chancellor (Minister of Agriculture), the Vice-Chancellor who is the Chief Executive and Academic Officer of the University and the Pro-Vice Chancellor.

The Vice-Chancellor is also the ex-officio Chairman of the General Council, Executive Committee and

Academic Council. The Vice-Chancellor is a full time officer of the University and has the immediate overall control of the University. During the period under report a post of Pro Vice-Chancellor was created in the University. The other officers of the University are the Director of Research, the Director of Extension, Deans of the different faculties, the Director of Physical Plant, the Registrar, the Comptroller and the Director of Students' Welfare.

The general administrative control is vested with the Registrar while the Comptroller is responsible for budgeting finance, statements of accounts and audit. The co-ordination, direction and administration of research activities in the University are vested with the Director of Research. The Director of Extension is responsible for the extension education and Public relations. The Deans and Associate Deans of the various colleges are in charge of resident teaching and instruction of the respective colleges. The Director of Physical Plant is in charge of the construction and maintenance of buildings, roads, vehicles and machinery.

AUTHORITIES OF THE UNIVERSITY

The statutory authorities of the University are the General Council, the Executive Committee, the Academic Council, the Faculties and the Board of Studies of each faculty. The lists of members of these bodies are appended.

General Council

The supreme authority of the University is the General Council. The Council is reconstituted every three years. The term of the General Council constituted on 31.1.1998 will continue upto 30.1.2001. (List of members appended).

Ordinarily the Council meets once in four months. The General Council met three times during the period under report.

The Executive Committee

The Executive Committee is the chief executive authority of the university. The committee consists of 13 members with Vice-Chancellor as the Chairman. During the report period, the Executive Committee met 9 times.

KAU SCHOOL

A total number of 869 students was in the roll during the period. The strength of teaching staff was 17 and that of the non-teaching staff was 6. The school won first prize in District Science Congress and second prize in the science & Maths exhibitions and projects.

FINANCE

The university had adopted a budget estimate for Rs.8135.423 lakhs for 1998-99 in anticipation of a grant-in-aid of Rs.5553.65 lakhs from State Government (Rs.3828.65 lakhs under Non-plan and Rs.1725 lakhs under Plan), ICAR assistance of Rs.499.035 lakhs, specified scheme-tied assistance of Rs.153.547 lakhs, internal sources of Rs.635.425 lakhs and Rs.1292.766 lakhs from pension fund, loans, advances and income from investment, opening balances etc.

The total expenditure incurred during the period under report for various functions of the university was Rs. 8143.03451 lakhs against the receipt of the same.

CHAPTER 1 GENERAL ADMINISTRATION

The Kerala Agricultural University came into existence on 24th February 1971 under the KAU ACT 1971 (Act 33 of 1971).

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The Executive Committee

The Executive Committee is the chief executive authority of the university. The committee consists of 13 members with Vice-Chancellor as the Chairman. During the report period, the Executive Committee met 9 times.

Academic Council.

The Academic Council of Kerala Agricultural University was reconstituted for a period of 3 years from 28.12.96 (List of Academic Council Members appended).

The Academic Council is responsible for the maintenance of standards of teaching in different faculties of the University. The Academic Council shall exercise such other powers and perform such other functions as may be conferred or imposed upon it by statutes. During the year 1998-99 three meetings (75th, 76th & 77th) were held.

Major decisions taken by the Academic Council were the following.

75th meeting of the Academic council held on 12 May 1998.

Approved modification of the syllabus and the draft regulations for the new Diploma course in Natural Rubber Production.

Approved the Ph.D project proposals.

A committee was formed to prepare a draft proposal for the Institution of KAU Silver Jubilee Award for best thesis.

Academic Committee was constituted to examine the present external evaluation system for UG programme

Approved the KAU-Academic B.V.Sc. & A.H degree course (under VCI regulations) preparation of registers and proposed amendments to the Rules and Regulations of the B.V.Sc. & A.H degree programme.

76th meeting of the Academic council held on 8 October 1998.

Teachers of the Home Science Department, declared as PG teachers and studied nutrition at their Masters level are eligible to guide PG students in the Department.

Approved the Best Teacher award/outstanding teacher award scheme for implementation.

77th meeting of the Academic council held on 30 November 1998.

A committee was constituted to examine the integration of NCC with the academic curriculum in UG courses.

Authorised the Vice-chancellor to finalise the teaching course requirements based on norms for COA Padannakkad and COF Vellanikkara.

In addition to these the Council approved various Ph.D. projects.

Sub Committee

The Chairman and Convenor of the various Sub Committees of General Council and Executive Committee are given below. Names of the member of the committees are appended.

Sub-committees of the General Council

Assurance Committee

Chairman : Sri K.V.Vijayadas
Covenor : Registrar

Accounts Committee

Chairman : Sri.K.Govinda Pillai w.e.f
31.1.98
Convenor : Comptroller

Statute Sub Committee

Chairman : Sri.C.P.Balan Vaidyar, MLA
w.e.f 31.1.98
Convenor : Registrar

Sub Committees and Executive Committee

Establishment Committee

Chairman : Sri. K.P. Aravindakshan
Member-Convenor : Registrar

Research Review Committee

Chairman : Vice-Chancellor
Member-Convenor : Director of Research

Finance Committee

Chairman : Vice-Chancellor
Member-Convenor : Comptroller

Planning and Development Committee

Chairman : Sri E.K. Pillai
Member-Convenor : Director of Extension

Students Welfare Committee

Chariman : Sri C.K.P. Padmanabhan
Member-Convenor: Director of Students' Welfare

Works Committee
Chairman : C.N. Jayadevan
Member Convenor : Director of
Physical Plant

Research Council

The Research Council (Research Advisory Committee) reconstituted as per the decision of the Executive Committee held on 16.8.95 is continuing. The main responsibility of the Research Advisory Committee is to advise the University on formulation of the research programmes.

Extension Advisory Committee

The Extension Advisory Committee renders advice in extension education activities, which are organised through the Directorate of Extension.

Faculty Research Committee

The main duties of the Faculty Research Committee are to scrutinise the research proposal received from the different co-ordinators and to review the progress of research periodically.

Co-ordination Groups

The various project co-ordination groups organised are authorised to critically examine the research proposal received from Project Leaders, Principal Investigators and to review the progress in the concerned group.

Faculty Improvement

The members of the academic staff were provided with opportunities to acquire higher qualifications by granting deputation, study leave or leave for study purposes. They were also sent for short-term training courses, summer institutes etc in different specialised centres and for participating in seminars, symposia, workshops etc, organised by different scientific agencies/ICAR institutes/SAUs.

Students' Admission

Admission for undergraduate courses in the University was made on the basis of a common entrance examination conducted by the Government of Kerala. Admission to the various post-graduate courses was given on the basis of marks obtained in the qualifying examination, experience, number of research papers published and the performance at the interview.

Seats were reserved for ICAR nominees and SC/ST candidates.

Labour

Farm labourer constitutes a major category of personnel in the University. Two categories of workers, Casual and Permanent, exist in farms and research stations under the Kerala Agricultural University. In respect of service conditions and wages generally the University follows Government orders applicable to the labourers of the Department of Agriculture and Animal Husbandry.

Important Engagements of the Vice-Chancellor

The Vice-Chancellor chaired the meetings of the different Committees of the university including General Council, Executive Committee, Finance Committee, Academic Council, Officers' meeting, P.G. Committee, Research Review Committee, Faculty Research Committee and KHDP Review Meeting. He also chaired the Selection Committee meetings.

Dr.K.N. Shyamasundaran Nair attended the meeting on the Agrl-Commission and discussions on the Expert Committee on Paddy cultivation. He attended Wasteland Comprehensive Environmental Project, OECF assisted project meeting of the high power committee at Public hall.

The Vice-Chancellor served as the member of the Governing Body of the Kerala Forest Research Institute Peechi, Centre for Water Resources Development and Manangement, Kozhikode, Science & Technology and Environmental Committee, Trivandrum, Tropical Botanical Gardens & Research Institute, Palode, and State Institute of Languages, Trivandrum. The Vice-Chancellor also acted as a member of the State Planning Board. He is also a member of Attappady Hill Area Development society. He served, as the Chairman of the Expert Committee on Paddy.

Cultivation constituted by the Government of Kerala. He is a member of the General Body of the Kerala Institute of Labour and Employment.

Activities of the office of the Pro-Vice Chancellor

The Pro-Vice Chancellors' office was established and various steps were initiated to look into participatory administrative processes, office procedures and management, pending pension cases and the UGC pay package.

Chapter II
Education and Research
FACULTY OF AGRICULTURE

College of Agriculture, Vellayani

The College of Agriculture was established in the year 1955 at Vellayani about 12 kms south of Govt. Secretariat Thiruvananthapuram on the banks of Vellayani lake. The college campus has a total area of 243 ha. including 165 ha. of *kayal* land.

Dr. P Balakrishna Pillai continued as Dean of the Faculty of Agriculture and Head of the Institution. The college functions with 14 departments carrying out teaching, research and extension activities.

Staff position

a) Scientific

Dept. and Designation	No. of posts		
	Sanctioned	In position	Vacant
AGRONOMY			
Professor	2	2	-
Assoc. Professor	6	6	-
Asst. Professor	5	5	-
AGRL. CHEMISTRY			
Professor	4	4	-
Assoc. Professor	5	5	-
Asst. Professor	6	6	-
PL. BREEDING AND GENETICS			
Professor	2	2	-
Assoc. Professor	4	3	1
Asst. Professor	9	3	6
PL. PHYSIOLOGY			
Professor	2	-	2
Assoc. Professor	-	-	-
Asst. Professor	1	1	-
HORTICULTURE			
Professor	1	1	-
Assoc. Professor	7	7	-
Asst. Professor	2	2	-
AGRL. ENTOMOLOGY			
Professor	7	6	1
Assoc. Professor	9	9	-
Asst. Professor	6	5	1
PL. PATHOLOGY			
Professor	5	5	-
Assoc. Professor	6	6	-
Asst. Professor	5	5	-
AGRL. EXTENSION			
Professor	2	2	-
Assoc. Professor	4	4	-
Asst. Professor	2	1	1
AGR. ECONOMICS			
Professor	1	-	1
Assoc. Professor	1	-	1
Asst. Professor	3	3	-
AGRL. STATISTICS			
Professor	1	1	-
Assoc. Professor	3	1	2
Asst. Professor	7	2	5
ANIMAL HUSBANDRY			
Professor	1	1	-
Assoc. Professor	-	-	-
Asst. Professor	2	2	-

Vacant	Sanctioned	in position	
-	1	1	
-	1	1	
-	1	1	
-	1	1	
-	2	2	
1	7	6	
-	2	2	
-	1	1	
-	2	2	
1	3	2	

b) Technical

Name of post	Sanctioned	In position	Vacant
Farm supervisor	-	2	-
Farm Assistant	13	13	-
Lab Assistant	6	6	-
Technician	3	2	1
Electrician	1	-	1
Photographer	1	-	1
Artist	2	2	-

c) Administrative and Supporting

Name of post	Sanctioned	In position	Vacant
Admn. Officer Gr. I	1	1	-
Section Officer	8	8	-
Assistants	22	19	3
Sr. Office Superintendent	5	4	1
Office Superintendent	6	6	-
Typist	10	10	-
Duplicator Operator	2	2	-
Reference Assistant	3	3	-
Library Assistant	2	2	-
Assistant Librarian	2	2	-
Peon	11	11	-
Class IV	19	19	-
Drivers	7	7	-
Hostel Manager	1	1	-
Matron	1	1	-

College of Horticulture, Vellanikkara

Introduction:

The College of Horticulture was established in 1972 with the main objectives of starting graduate programme in Horticulture and strengthening research and extension activities in horticultural crops. B.Sc. (Hort.) degree programme was started with an intake of 20 students during 1972. The intake capacity was increased to 30 in 1976 and then to 40 from 1979. The B.Sc. (Ag) programme was also introduced from 1977 with an intake of 50 students, which was subsequently raised to 75 and then to 90. B.Sc. (Hort.) course was discontinued from 1980-81.

Post graduate programme was started in six disciplines from 1976 viz., M.Sc. (Hort.), M.Sc. (Ag) in Agronomy, Agricultural Botany, Soil Science & Agrl. Chemistry, Agrl. Entomology and Plant Pathology. From 1979, Ph.D. programmes in the above disciplines were commenced. Subsequently, M.Sc. programmes were also started in Agrl. Economics, Agrl. Extension, Agrl. Meteorology, Agrl. Statistics and Home Science (Food Science and Nutrition).

A new diploma course of two-year duration in Natural Rubber Production was started in 1998, for the sponsored candidates from Tripura with the financial assistance of the Rubber Board, Kottayam.

The college functions with sixteen departments

Staff position

a) Scientific Staff

Dept. and designation	Associate-Dean			Pro-fessor			Asso-ciate Professor			Assi-stant Professor			Total		
	S	IP	V	S	IP	V	S	IP	V	S	IP	V	S	IP	V
	1	1											1	1	
Agronomy				1	1		1	1		4	4		6	6	
Agrometeorology				1		1				2	1	1	3	1	2
Agrl. Extnsion							3	2	1	3	1	2	6	3	3
Agrl. Economis				2	1	1	1	1		4	3	1	7	4	3
Agrl. Statistics				1	1		1	1		6	5	1	8	7	1
Soil Science & Agrl. Chemistry				1		1	3	2	1	7	5	2	11	7	4
Plant Breeding & Genetics				1	1					5	5		6	6	
Plant Pathology				1	1		2	2		5	5		8	8	
Agrl. Entomology				3	1	2	1	1		3	3		7	5	2
Pomology & Floriculture				1	1	2	2			6	6		9	9	
Plant. Crops & Spices				1	1					6	6		7	7	
Olericulture				1	1					6	6		7	7	
Processing Technology				1	1					4	4		5	5	
Agrl. Engineering				1	1					2	2		3	3	

viz., Agronomy, Agricultural Meteorology, Soil Science and Agricultural Chemistry, Plant Breeding & Genetics, Agricultural Entomology, Plant Pathology, Agricultural Economics, Agricultural Extension, Agricultural Statistics, Pomology and Floriculture, Olericulture, Plantation crops and spices, Processing Technology, Agricultural Engineering, Home science and Physical Education. The Centre for Biotechnology & Molecular Biology, Radiotracer Laboratory and Instructional Farm are also functioning under the college.

The required infrastructure for imparting practicals has been established. In addition to the instructional farm having an area of 95.35 ha, the different departments have established farms of their own in a total area of about 72.24 ha. Most of the tropical annual, perennial and plantation crops are grown in these farms. The undergraduates are given training in the cultivation of various annual crops, maintenance of perennial crops and processing of agricultural and horticultural produces through various work experience courses.

Mandate of the institution

Teaching at UG level leading to BSc(Ag.); PG levels leading to MSc(Ag.), MSc(Hort.), Ph. D(Ag.) and Ph.D. (Hort.) degrees. At present Diploma in Rubber production is being offered to students from Thripura sponsored by The Rubber Board. The other mandates include undertaking research on all identified thrust areas in the faculty of Agriculture and conducting extension activities.

Home Science						2	2		2	2		4	4	
Physical Education									1	1		1	1	
Centre for Biotech & Pl. Mole. Biology						2	2		1	1		3	3	
Radio Tracer Lab						4	3	1	2	1	1	6	4	2
Instructional Farm			1	1								1	1	
Agroadvosoy unit									1	1		1	1	
DISC									1	1		1	1	
AICRP on Agrometeorology						1	1					1	1	
AICRP on weed control						1	1		2	2		3	3	
Veg. Seed production Complex									3	3		3	3	
AICRP on BCCP & W						2	2					2	2	
AICFIP						1	1		2	2		3	3	
Coc.Nutr.&Phy. Dis.						1	1					1	1	
AICRP on M& AP						1	1		2	2		3	3	
Cadbury's Cocoa Res. Project			1	1		1	1		1	1		3	3	
Dip in NRP						1	1					1	1	
AICRP on Ornithology						1	1					1	1	
AICVIP						2	2		1	1		3	3	
Instru-mentation centre						1	1					1	1	

b) Administrative and Supporting Staff

Name of post	Sanctioned	In position	Vacant
Administrative Officer	1	1	
Section Officer	5	5	
Assistant Sr. Gr. Assistant Gr.I Assistant Gr.II	16	16	
Senior Office Superintendent	2	2	
Office Superintendent	1	1	
Typist Sr. Gr. Typist Gr. I Typist Gr. II	11	11	
Lab Asst/ Clerical Asst.	1	1	
Peon	5	5	
Class IV	3	3	

c) Technical Staff

Name of post	Sanctioned	In position	Vacant
Farm Supervisor	7	7	
Farm Assistant	7	7	
Lab. Assistant Gr.I	2	2	
Lab Asst Gr.II	8	8	
Lab. Asst Gr.III	10	10	
Asst. Librarian	2	2	
Hostel Manager	1	1	
Matron	1	1	
Tech Supervisor	1	1	
Technician Gr. II	1	1	
Duplicator Operator	2	2	
HDV Driver	1	1	
LDV Driver	4	4	
Technical Asst.	2	2	

New posts sanctioned/ shifted :

One post of Associate Professor (Hort.) was created under the scheme for conducting diploma course in NRP. One post of Assistant Professor

(Hort.) was shifted from the Department of Plantation Crops to the Department of Processing Technology. One post of Associate Professor (Hort.) was created in the Cadbury- KAU Co-operative Cocoa Research Project.

Faculty Improvement Programme

Scholarships awarded to staff / deputation of staff for higher studies

Name of the scientist & designation	Details of deputation			Institute to which deputed
	Course	From	To	
Sri. V.K. Raju	Ph. D. (Hort.)	1.7.95	31.6.98	TNAU, Coimbatore
Smt. Subha Rani Kurien	Ph.D.	27.8.98	May 2001	AIT, Bangkok, Thailand
Sri. Satheesh Babu	Ph. D.	1995	1998	IARI, New Delhi

Dr. K.Pushkaran was enrolled as the Fellow of Indian Society of Genetics and Plant Breeding, IARI, New Delhi. Dr.M.R.Shylaja, Assistant Professor secured the Jawaharlal Nehru Award for outstanding

Ph.D thesis in Horticulture by the ICAR. Dr. C.R.Elsy, Assistant Professor, was selected as the best scientist in the 11th Kerala Science Congress.

Name of scientist	Seminar, symposium/ workshop / summer Institute to which deputed	Institute, period of deputation, name and duration of the course etc.
Dr. Ranjan S. Karippai	Training on SWOT analysis	NAARM, Hyderabad, 1998
Dr. P.S. Geethakutty	Course on participatory rural appraisal	NIRD, Hyderabad September 7-11-1998
Dr. R.M. Prasad	Course on Pedagogy	MANAGE, Hyderabad, 1998
Dr. R.M. Prasad	Senior level human resource development programme	NAARM, Hyderabad November 1998
Dr. K. Pushkaran	International Symposium on bananas and food security	CRBP & INIBAP, November 10-14, 1998
Dr. P.S. Geethakutty	Seminar on women participation in higher education	Karaikudy, Alagappa University November 26-27 1998
Dr. V.K. Raju , Dr. P.A. Valsala & Dr. E.V. Nybe	National Symposium on Spices, Medicinal & Aromatic Plants	IISR, Kozhikode 11.11.98 to 15.11.98
Dr. Sajan Kurien	National Seminar on new horizons in production and post harvest technology of tropical and subtropical fruits	IARI, New Delhi 8-9 December 1998
Dr. V.K. Raju & Dr. P.K. Rajeevan	VI th All India Nursery men Assoc. National Seminar at AGRIFEST' 98	Thiruvananthapuram 21.11.98 to 23. 11.98
Dr. D.Girija & Smt. S. Beena	Training on phosphate solubilizing and mobilizing micro organisms	TNAU, Coimbatore 21-31 December 1998
Dr. V.K. Raju, Dr. P.A. Nazeem, Dr.P.A. Valsala & Smt. Lissamma Joseph	PLACROSYM XIII	Coimbatore 16.12.98 to 18.12.98
Dr. P.K. Sushama	Training on Application of electronics in Agriculture	Central Institute of Fisheries Technology, Cochin. 18.5.98 to 25.5.98
Dr. C.T. Abraham & Smt. Mareen Abraham	Short course on Physiological analysis of yield on crop plants	IARI, New Delhi 15th to 24 th June 1998
Dr. V.K. Raju	National Conference on Spices & Medicinal Plants	Bose Institute, Calcutta 31.4.98 to 3.4.98
Dr. S. Rajan & Dr. P.G. Sadhan Kumar	Silver Jubilee Nat. Symp. on emerging Scenario in vegetable research and	PDVR, Varanasi 12-14 December 1998

	development	
Dr. P.K. Rajeevan & Dr. P.K. Valsala kumari	National Seminar on production technology of Anthurium	CHES, Chethalli 2 - 3 rd June 1998
Dr. Alice.Kurien & Dr. T.Radha	Computer Applications in Agriculture	NAARM, Hyderabad 28.4.98 to 1.5.98
Dr. Alice Kurien Smt. Lissamma Joseph; Smt. P.B. Pushpalatha & Omana Pavunny	Post harvest technology of Plantation Crops	CPCRI, Kasaragod 23 .7.98 to 12.8.98
Dr. P.C.Rajendran	National Seminar on Plant Biotechnology for sustainable hill agriculture	DARL, Pithoragarh, UP May 1998
Dr. V.S.Sujatha	Modern techniques in plant molecular biology and biochemistry	IARI, New Delhi 1.7.98 to 15.7.98
Dr. V.K.G.Unnithan	All India Conference of Agricultural Research Statistics	College of Agriculture, Rajasthan
Dr. Pathummal Beevi; Dr. K.R.Lyla & Smt. R.Usha Kumari	Emerging trends in biological control	TNAU, Coimbatore 2 -16 December 1998
Dr. R.Kesavachandran	Regional workshop on biotechnology	University of Paredeniya, Sri-lanka, 8-18 February 1999
Dr. D.Girija	Sensitisation of Young Scientists	GRA College , Coimbatore
Dr. E.K.Lalitha Bai	Short term training on Crop Modelling	College of Agriculture, Pune 14 Sep. - 12 Oct. 1998
Sri. K.P. Pradeep	National Seminar on Participatory approaches for horticultural development	KDDP, Cochin 8-9 January 1999
Dr. A.V.R. Kesava Rao	ARIS training	NIC, New Delhi 22-23 October 1998
Dr. A.V.R. Kesava Rao	IVth Group Meeting of the QRT on AICRP on Agrometeorology	UAS, Bangalore 12-13 October 1998
Dr. A.V.R. Kesava Rao Smt. T.K. Ajitha Sri. Jayapradeep	ITT Annual Meet	CLRI, Chennai 31 Aug. - 3 Sep. 1998
Dr. A.V.R. Kesava Rao	ARIS Co-ordinators meeting	NBPGR, New Delhi 17-18 August 1998
Dr. A.V.R. Kesava Rao Smt. P. Lency Davis	7th Annual Review Meeting on the AAS	TNAU, Coimbatore 13-15 May 1998
Dr. A.V.R. Kesava Rao	Training on Sun Solaris	SBI, Coimbatore 22-26 June 1998
Dr. C.R.Elsy	Workshop on research extension interface	Govt. Guest House, Thycaud, TVM, 6-7 April 1999
Dr. L.N. atarajan	International Seminar on IPM	IICT, Hyderabad 8-10 October 1998
Dr. C.R.Elsy	11th Kerala Science Congress	CPCRI, Kasaragod, 1 March 1999
Dr. Sally K.Mathew & Dr. Koshy Abraham	Training on bacterial wilt of solanaceous vegetables	IIHR, Bangalore 22.6.98 to 27.6.98
Dr. S. Rajan, Dr. P.G. Sadhan Kumar; Dr. S. Nirmala Devi, & Dr. K. Sally K.Mathew	XVII th group meeting in vegetables	MPKV, Pune, Maharashtra June 1998
Miss. P. Lincy Davis	Instrumentation Tech-niques in Agrometeorological Research	PAU, Ludhiana 8 -17 July 1998
Miss. P. Lincy Davis	Meteorological Weather Forecasting &	IARI, New Delhi

	Agromet Advisory Services	20 April - 2 May 1998
Dr. A. S. Anil Kumar	Short course on agroclimatic approaches for managing biotic and abiotic stresses	TNAU, Coimbatore 6-12 June 1998
Dr. K.Jessy Thomas	Short course on advances in Agri business management	UAS, Dharwad 8-18 June 1998
Dr. P.Indira Devi	Project development workshop for EERC projects	Indira Gandhi Inst. Of Dev. Res. 11-13 March 1999
Dr. P.Indira Devi	Hort India 1999	KHDP, Trivandrum 8-9 Jan 1999
Dr. A.S.Anil Kumar Dr. T. Presannakumari Dr. A.Augustin	AICRP biennial workshop	HAU, Hissar 26-29 October 1998
Smt. T. K. Ajitha	Training on Sun Solaris	SBI, Coimbatore, 22-26 June 1998
Dr. K.E. Savithri & Smt. K.M.Durga Devi	Summer Institute on advances in Soil and water management for sustainable Agriculture	MPKV, Rahuri, Maharashtra 9 - 29 June 1998
Dr. A.V.R.K.Rao	Inter disciplinary dialogue on climate, biotechnology, food and water scarcity	MSSRF, Chennai from 3.2.99 to 6.2.99
Dr. A.V.R.K.Rao	ARIS i/cs' workshop and seminar on LINUX	NBPGR, New Delhi from 5.3.99 to 7.3.99
Dr. P.K.Rajeevan	Workshop on production and trade of commercial flowers	Trivandrum from 13.1.99
Dr. P.K. Rajeevan	Work group meeting of AICFIP.	Pune from 7.1.99 to 10.1.99
Dr. P.K.Rajeevan, Dr. P.K.Valsalakumari Dr. C.K.Geetha Dr. A.Suma Dr. T.P.Murali Smt. A.Sobhana	Seminar on Kerala Floriculture 2020	Kerala Agricultural University, Vellanikkara from 11.2.99 to 13.2.99
Dr. P.K.Rajeevan	National Seminar on Floriculture in Kerala	SB College, Changanassery, from 18.3.99 to 20.3.99

Trainings/ Symposia/ Workshops conducted at the College

Title	Period	No. of participants
Kerala Floriculture 2020	11-13 Feb 1999	150

Academic Programmes Admission

Year of admission	M	F	Total	SC/ST			Foreign students		
				M	F	Total	M	F	Total
A(I) U.G Programme									
1998	28	52	80	2	4	6			
1997	18	47	65	3	6	9			
1996	23	32	55	7	7	14			
1995	32	26	58	4	4	8			
1994	20	25	55						
Prior to 1994	1		1						

Total	122	92	14	16	21	37			
B(ii) P.G. Programme									
MSc(Ag.)	18	17	35	2	1	3			
MSc(Hort.)	9	20	29						
MSc (HS)		8	8						
MSc (Ag.Stat.)	1	4	5						
C(iii) Ph.D Programme									
Ph.D(Ag.)	6	12	18		1	1	2		2
Ph.D (Hort.)	2	6	8						
Ph.D (HS)		1	1						
D(iv) Diploma in NRP									
1997 Admission	17		17	17		17	1		1

Students passed out during the Academic year 98-99

Course	M	F	Total
B.Sc. (Ag.)	33	32	65
M.Sc. (Ag.)	8	13	21
M.Sc. (Hort.)	5	10	15
M.Sc. (HS)	2	6	8
M.Sc. (Ag.Stat.)			
Ph.D. (Ag.)		5	5
Ph.D. (Hort.)			
Ph.D. (HS)	1		1
PG Dip NRP			

Study Tours

The students were taken on All India and South Indian study tour during the period. The UG students were taken on study tour to Nalumuri kolpadam, Purnanattukara, Thrissur as a part of the course under Agronomy.

Other Activities

Student's Union Activities

The election to the college union was conducted on 22.8.98. The college union started its activities by conducting Onam celebrations on 30.9.98. A friendly competition was held including the students, teachers and non-teaching staff.

The college union was formally inaugurated by Hon. Vice Chancellor, Dr. K.N.Shyamasundaran Nair. The Arts club and Magazine club were inaugurated by eminent writer Ashokan, Cheruvil. This was followed by variety entertainments. A talk on mite

attack in coconut was arranged on 20.10.98. On the World Food Day (16.10.98) an interclass competition was held. In order to help the students to face competitive examinations, an orientation course was held by Alert Academy, Chembukavu, Thrissur on 4 November 1998. The athletic club was reconstituted on 4 December 1998. The first edition of the College of Horticulture News Letter was released on 7 December 1998.

Extra Curricular activities

The students participated in the Inter University Arts Festival conducted by the Kerala University at Alleppey. The College team won the second place at the ALL Kerala Quiz competition conducted by KCAET, Tavanur. The quiz team of the college also secured second place in competition conducted by Population Education Cell. They also participated in the quiz competition conducted by St. Thomas College Union on October 12. The college won the first place in Tourofest. The students of the college won first prize in essay competition conducted by Costford in connection with EMS Smrithi. One student secured first place in elocution competition conducted by Desha Bhakthi Movement founded by former Election Commissioner of India, Sri. T.N. Sheshan.

NSS Activities

One day blood grouping campaign was conducted on 18 August 1998 and blood group cards were distributed. A lecture on importance of blood donation was given by Dr. P.S.Vasudevan, Assistant

Professor of Blood Bank for the students, staff and labourers of the college.

One day camp was conducted at Mental Hospital, Thrissur on 25 August 1998. Campus cleaning, preparation of vegetable garden, planting of seedlings etc were undertaken.

Two one-day camps were conducted at Ravi Varma Old Age Home, Thrissur during July and at Govt. Juvenile Home, Ramavarmapuram in August 1998. A cleaning campaign was organised at the college.

Two day seminar on AIDS awareness drive was conducted by Govt. AIDS Cell, Trivandrum. Classes were offered to women, public and NSS programme officers undergoing orientation courses of Universities in Kerala for technology transfer in the field of agriculture. Classes were arranged on fruit and vegetable preservation, bakery, tissue culture, mushroom production, orchid cultivation, kitchen gardening etc. to NSS volunteers of affiliated colleges of Kerala and also to the public. Demonstration classes were conducted by NSS volunteers in adopted villages. Six seminars were conducted in the field of agriculture. Regular blood donation services were carried out by the NSS volunteers.

Sports and games

The students won first prize in the basket ball event (Men & Women) and were second in ball badminton (men) and Shuttle badminton (women). They secured third place in table tennis and cricket. Three students from this college represented the university in the South Zone Inter University Foot ball.

Research Programmes

Major Research Achievements : Summary and highlights

Plant Breeding & Genetics

In an investigation to identify stable male sterile lines and better combiners for the exploitation of hybrid vigour in rice, seven lines were identified as stable for pollen and spikelet sterility. Jyothi, Aruna, Pavizham and Pt b 10 produced more number of sterile hybrids when crossed with CMS lines having WA cytoplasm and hence these varieties can be used as maintainers. More number of fertile hybrid combinations were produced by Annapurna, Mattathriveni, Kanchana, IR 36 and Aiswarya indicating the use of these varieties as restorers for WA cytoplasmic source. All the genotypes under study produced sterile hybrids when crossed with CMS lines having O. perennis cytoplasm and no restorers could be identified for this new source of cytoplasmic male sterility.

A study of different characters on nine varieties of coconut showed that among the reproductive characters, female flower production has the maximum variation.

In standardizing selection criteria for cocoa hybrids, the influence of seedling height and girth on yield was found to be pronounced in the case of seedlings one year after sowing. Heritability was high for pod width, seed length and seed width.

Agronomy

Studies on the influence of high background radiation on coconut nutrition indicated that there was a wide variation in natural background radiation ranging from 200 -8200 nGy h⁻¹ in Chavara and adjoining areas. 232 Th was the major radionuclide contributing to high radiation and its content in the soil ranged from 144 to 3580 ppm. There was considerable accumulation of 232 Th in roots and only a small fraction is translocated upto leaves and nuts. Application of organic matter, especially green leaf manure was found to be highly effective in reducing the 232 Th uptake by coconut seedlings growing in monozite rich soil.

Studies on development of DRIS in relation to yield in black pepper revealed that very low yield levels of plants was due to a metabolic deficiency of zinc. With increasing yield levels, yield limiting factors were relative deficiency of N, K, Ca and Mg in that order. The results of the study also showed that native elements like Fe and Mn were natural inhibitors to growth and yield of pepper. Oleoresin percentage and yield of berries were independent. The study also helped to evolve preliminary prototype model for progressive targeted yield improvement in pepper.

Olericulture

The following vegetable varieties were recommended for release in the State Seed Sub Committee meeting

Tomato	Mukthi
Pumpkin	Suvarna
Brinjal	Haritha & Neelima
Okra	Keerthi & Salkeerthi

The following new cultures were recommended by the central zonal workshop on 25. 6.98.

Ash gourd	BH 21
Cucumber	CS 26
Cow pea	VS 389

The cow pea culture VS 492 and ivy gourd CG 23 were recommended for farm trial in the central zone. Three vegetable varieties viz; Preethi (bitter gourd), Swetha (brinjal) and Mukthi (tomato) were notified by the central seed sub committee.

The okra varieties Arka Abhay, P-7, Pb - 57, Lorm - 1 and VRO - 4 were observed to be resistant to yellow vein mosaic.

Pomology & Floriculture

Genotypes of lovi lovi, karonda, Indian hog plum, bilimbi and mangosteen collected from different parts of Kerala are being maintained.

The medium containing brick pieces and charcoal was found to be the best medium transplanting dendrobium hybrid seedlings.

Flowering was earlier in plants applied with nutrient solution containing high concentration of K(NPK 20:20:40 at 0.25 per cent concentration at weekly interval). This treatment also increased the vase life of flowers. Application of GA 1000 ppm at monthly intervals produced maximum number of suckers.

Soft wood grafting was standardized in mangosteen, karondas and bilimbi.

Studies on crop competition in banana showed that there is nutrient sharing between plants and that nutrients given to one plant could be retrieved from other.

Combined application of GA 250 ppm, BA 250 ppm or GA 1000 ppm alone at monthly interval in anthurium cv. Hawaiian Red had increased the number of suckers to 4 from zero in the control. Application of fertilizers having a higher ratio of potassium increased the post harvest longevity of flowers. Pulsing for 8 hrs with BA 150 ppm also extended the post harvest longevity of flowers.

In Dendrobium, maximum establishment of hybrid seedlings was obtained when planted in a medium containing brick and charcoal pieces.

Plantation Crops & Spices

Soft wood cuttings comprising of terminal ends and young lateral shoots with leaves were ideal propagules in *Gymnema*. Intermittent mist significantly increased rooting efficiency. Treatment with growth regulators IAA 500mg / l + mist was best for rooting, followed by soft wood cuttings treated with NAA 500 mg / l and kept in mist.

Home Science and nutrition

Acceptability trials with soya grits / chunks substituting green gram and soya grits in the proportion of 80:20 was the most acceptable combination and this combination was used in the feeding trials in schools

Studies on nutritional status and intelligence of pre school beneficiaries of ICDS and non beneficiaries in Thrissur district revealed that nutrient uptake of ICDS group was significantly better.

Nutritive value and acceptability of winged bean genotypes indicated that among the different parts of winged beans, mature seeds contained higher percentage of protein, starch and energy. The leaves and flowers were rich in minerals. The antinutritional factor namely tannin present in seeds decreased considerably after cooking. All the edible parts were found to be acceptable.

Studies on nutritive value and organoleptic evaluation of twenty Thamaravenda genotypes showed that the genotypes were significantly different. Moisture, Protein and phosphorus contents of Pusa Sawani were on par with the different types. The mean fat, iron, Vitamin C and mucilage contents of Pusa Sawani was lower than the lowest obtained for *A. cailliei* genotypes. Thamaravenda genotypes were found to be more acceptable than Pusa Sawani.

Processing Technology

Storage of cashew apples under different regimes were tried. The results showed that storage at 15 oC in polythene lined containers could prolong the shelf life to two weeks.

The superiority of the cashew variety Priyanka with respect to biochemical characteristics was established. Addition of sago and refrigeration followed by siphoning were effective in removing substantial amounts of tannin from cashew apples.

Technique for extraction of dietary fibre from the rind of jack fruit was perfected using modified Vansoest method. Trials with blended phulka and chappathi with 3,6, and 9 per cent dietary fibre revealed that upto 3 per cent level, taste of phulka and chappathi was not significantly altered. Higher levels resulted in bitter taste of the product.

Poly propylene bags (150 gauge) without ventilation was observed to be the best packaging material for oyster mushroom which maintained freshness upto 30 hours under ambient condition.

Soil Science & Agrl. Chemistry

A study on the fate of applied and native potassium in a laterite soil as influenced by other major nutrients and organic matter and uptake in banana showed that fertilizers should be applied for the crop from two MAP and continued upto six MAP.

Studies conducted to assess the influence of some phosphate sources such as Maton rock phosphate, Mussori rock phosphate, Gafra rock phosphate, Rajasthan rock phosphate and single super phosphate for possible accumulation of heavy metals in chilli revealed that all the phosphatic sources contained varying amounts of cadmium and lead. The least uptake of heavy metals was noted in the fruit portion making edible portion relatively more safe than its other plant parts.

Studies conducted on the suitability of Tunisia rock phosphate for direct application in acid rice soils of Kerala revealed that it is suitable.

Plant Pathology

Bacterial wilt isolates from tomato and chilli were identified as *Ralstonia solanacearum* race I bivar III. From brinjal it was identified as *Ralstonia solanacearum* race I bivar V. Among the various biochemical, biological and nutritional factors, phenols and enzymes, rhizosphere population of *Pseudomonas* and parasitic nematodes and calcium content were found to be important in bacterial wilt resistance. The study revealed that it was not possible to arrive at a common base for resistance to bacterial wilt in tomato, brinjal and chilli. However, it was possible to outline the important parameters that condition resistance in individual crops.

The studies on bunchy top disease of banana revealed that the disease incidence was maximum during August - November. Virus was not mechanically transmitted and the tissue culture plants were the most susceptible planting materials for aphid transmission. In purification studies, among the different portions of banana used, midribs of younger leaves yielded higher concentration of virus and TC plants yielded more virus concentration than other planting materials. Electron microscopy of purified BBTV preparation revealed isometric particles of 18 - 22 nm size. The nucleic acid of BBTV was confirmed as SS DNA. Among the different serological tests conducted, ELISA was found to be highly sensitive for the identification of virus.

Agrl. Entomology

Three distinct species of epilachna were identified in cucurbits, pulses and brinjal. They are

Henosepilachna vigintioctopunctata, on brinjal, *H. sepioides* cucurbits and *Afidenta miscra* on pulses.

The bivoltine silkworm hybrids were found to be superior to the multi x bi hybrids in their performance. The hybrids NB 4 D2 X NB 18 and NB 18 X NB 4 D2 were found to be suited for Kerala.

Ferrolure, the aggregation pheromone was tested under field conditions for its bioefficiency. A suitable bucket trap was devised, which gave maximum efficiency when installed at 1.5 - 2 m above the ground level with pine apple waste or sugarcane waste as the food attractant. The performance of the pheromone was optimum for 8 - 10 weeks and was performing best when the food additives were changed every fifth day.

Centre for Biotechnology & Plant Molecular Biology

The procedure for *in vitro* irradiation of ginger was standardized. Protocol for *in vitro* culture, callus induction and indirect organogenesis were perfected in ginger. In *Trichopus zeylanicum* also the protocol for direct, indirect and embryogenesis was standardized.

Agrl. Economics

The cost of cultivation in paddy cum improved prawn culture was higher when compared to paddy cum traditional culture. A comparison of yield in both these situations showed a higher yield in the paddy cum improved prawn culture with a higher cost benefit ratio.

Agrl. Statistics

A procedure for clustering genotypes based on genotype-environment interaction was evolved.

Agrl. Extension

Lack of adequate and effective linkages between various extension agencies and research institutions in Thrissur district has led to the confinement of improved plant protection technologies of vegetable cultivation within the research institutions.

High cost of PP chemicals, difficult procedures in application and non-availability of labour were pointed as the major constraints in proper PP measures adoption in vegetable cultivation.

Seventy per cent of Krishibhavadans are in high level of work efficiency. The officers perceive their work environment as somewhat favourable. They have

identified non-availability of research findings as a major constraint.

Agrometeorology

A report on the severe weather conditions on 30th June 1998 was prepared based on the data recorded by the automatic weather station. The information was published in the local dailies, Mathrubhumi and Malayala Manorama.

In the DISC project, the VSAT is fully functional and is being used extensively by the staff and students of the University for E-mail and literature search. The INTERNET facility of the University was formally inaugurated by Dr. Anwar Alam, Deputy Director General (Engg.), ICAR, New Delhi on 18th November 1998 and has been widely used by the staff and students of the University for information search.

Application of nitrogen @125 kg/ha was in favour of earlier fruit set, number of fruits per plant, maximum duration of the crop and enhanced fruit yield in tomato. The study also revealed that weather conditions during the crop growth period should be

as follows : maximum temperature 30.6 - 33.7o C, minimum temperature - 22.1- 24.3o C, average

sunshine - 5.2 - 10.0 hours; morning relative humidity - 70 - 86 per cent, afternoon relative humidity - 45 - 59 per cent. The present investigation indicated that at Vellanikkara surroundings tomato can be successfully grown from the middle of December.

Experiment on crop weather relationship in rice showed that June 15th planting recorded the highest yield (4.6 t/ha) followed by June 1st planting (3.9 t/ha). June 15th planting showed superior yield contributing factors viz. no. of panicles per plant, no. of grains per panicle, grain/chaff ratio and harvest index.

The water balance study indicated almost similar pattern of PET at all the stations. Mavelikkara recorded the highest value of AET, particularly in summer season.

Farm revenue

Head of Account	Expenditure	Receipts
Non-plan	26918418	1085898
Plan	6582632	-
Revolving fund	918516	1419516

Visitors

Name and address	Date	Purpose of visit
Mr. Amal K. Roy Principal Technical Officer, Minnonite Central Committee, Shaha, Bangladesh	23.10.1998	Visit
Dr. S. V. Singh, Joint Director NCMRWF, New Delhi	16.05.1998	To review the work under Agromet Advisory Services (AMFU) of the DST
Dr. S. V. Singh Joint Director CRIDA, Hyderabad	29.06.1998 30.06.1998	To review the work under the AICRP on Agrometeorology
Mr. M. A. Zubair Joint Director JWRDM, Palakkad	4.07.1998	To discuss about satellite imageries of Parambikulam and Idukki areas
Dr. CGSN. Rao, Sr. Scientist, CRIDA, Hyderabad	30.06.1998	To review AICRP on Agrometeorology
Dr. Syamasundara Rao, Project Co-ordinator, AINPAO, APAU, Hyderabad	14.10.1998 15.10.1998	Project review
Dr. S.P. Singh, Project Director, PDBC, Bangalore	11.03.1998 12.03.1998	Review of project work
Dr. S. N. Puri, Director, CIPM, Delhi	04.01.1999	Visit
Dr. K. C. Dala, Director, NRC (M&AP), Anand	16.09.1998 17.09.1998	QRT
Dr. Man Singh Manohar, Director of Res. (Retd.), RAU, Bikaner	16.09.1998	QRT

	17.09.1998	
Dr. V.R. Gadwal, Mahyco foundations, Thane	16.09.1998 17.09.1998	QRT
Dr. V.N. Shroff, Dean (Retd.), College of Agriculture	16.09.1998 17.09.1998	QRT
Dr. Hussaini, Scientist, PDBC, Bangalore	11.03.1998 12.03.1998	Review of project work
Dr. S.L. Mehta, DDG, ICAR	27.11.1998	Review of academic programmes

College of Agriculture, Padannakkad Introduction

Twenty-two points, plus triple-word-score, plus fifty points for using all my letters. Game's over. I'm outta here. The College of Agriculture, Padannakkad started functioning on 2.6.1994 as the third College under agriculture faculty in the Kerala Agricultural University. This college fulfils the aspirations of not only the farming community but also the entire population of the Malabar region. Five batches of UG students with an intake capacity of 30 students per year have been admitted. The first batch of the college is undergoing their final semester. The construction of the Academic Block and Hostels was completed and the college started functioning in the new block in August, 1998. The buildings were formally dedicated to the nation by the Hon'ble Chief Minister of Kerala Sri.E. K. Nayanar on 27th, February, 1999.

Mandate of the institution

To undertake teaching, research and extension activities in agriculture.

Staff position

a) Scientific

Department / Designation	Sanc-Tioned	In position	Vacant
AGRONOMY Asst. Professor	03	01	02
HORTICULTURE Asst Professor	02	02	-
SOIL SCIENCE & AGRL. CHEMISTRY Asst. Professor	02	01	01
AGRICULTURAL ENTOMOLOGY Asst. Professor	03	02	01
PLANT PATHOLOGY Asst. Professor	01	01	-
PLANT BREEDING & GENETICS Professor	01	01	-
PLANT PHYSIOLOGY Professor	01	01	-

AGRICULTURAL ECONOMICS Assoc. Professor	02	02	-
AGRICULTURAL EXTENSION Asst. Professor	03	02	01
AGRICULTURAL STATISTICS Asst. Professor	01	-	01
AGRICULTURAL ENGINEERING Asst. Professor	01	01	-
HOME SCIENCE Asst. Professor	01	01	-
BIOTECHNOLOGY. Asst. Professor	01	01	-
COMPUTER SCIENCE Asst. Professor	01	-	01
PHYSICAL EDUCATION Assoc. Professor	01	01	-
AGRONOMY Assoc. Professor	02	-	02
HORTICULTURE Asst. Professor	01	-	01
PLANT BREEDING & GENETICS Asst. Professor	02	-	02

b) Administrative

Name of post	sanc-tioned	In position	Vacant
Admn. Officer	01	01	--
Section Officer	03	03	--
Assistants	06	05	01
Typists	04	03	01
Lab. Assistant	05	--	05
Class IV	10	10	--
LDV Driver	01	01	--
HDV Driver	01	01	--
Library Asst.	02	--	02
Farm Asst.	03	03	--
Farm Supervisor	01	01	--
Dup. Operator	01	01	--
Tech. Electrician	01	01	--

No new posts have been created, shifted or abolished during the period under report

Scholarship awarded to staff/deputation of staff for higher studies: Nil

Faculty Improvement Programme

Seminars/Summer Institutes/Symposia/Training

Name of Scientist	Seminars/Symposia/ Workshop/Summer Institute etc.	Institute, period of deputation and duration
Dr. M.H. Faizal.	Training on "Insect Ecology"	Haryana Agrl. University, Hissar from 16.3.98 to 31.3.98
Smt. Suma Divakar	Training on "Harvest and Post- Harvest Technology of Plantation Crops"	CPCRI, Kasaragode from 23.7.98 to 12.8.98.
Dr. T. Premanathan	Training on "Recent advances in cultivation technology of edible mushroom"	Himachal Pradesh University, Solan from 24.7.98 to 12.8.98.
Dr. Anil Kumar. A.	Summer Institute on "Broad based Agricultural Extension for Rural Development"	University of Agrl. Sciences, Bangalore from 9.8.1998 to 13.9.1998

Training/Symposia/Workshop etc. conducted at the College: Nil

Academic Programmes

Admission

Year of admission	M	F	Total	SC/ST			Foreign students		
				M	F	ot-al	M	F	ot-al
a (i) U.G. Programme									
1994	11	07	28	2	2	4	-	-	--
1995	07	14	21	1	4	5	-	-	--
1996	11	18	29	--	1	1	-	-	--
1997	13	17	30	1	1	2	-	-	--
1998	12	14	26	2	1	3	-	-	--
Total	64	70	134	6	9	5	-	-	

No P.G. programme is offered in the College.

Students passed out during the Academic year 98-99

Study Tours

The All India Study Tour programme of 1995 admission B.Sc.(Ag.) students was held from 6.2.1999 to 7.3.1999. The South India Study Tour of 1996 admission B.Sc.(Ag.) students was conducted from 1.2.1999 to 21.2.1999.

Other activities

The students of the college actively participated in various extra curricular activities. Students participated in inter collegiate sports and games and also in the inter collegiate arts festival competitions.

Major Research Achievements

One ICAR ad hoc research project entitled "Price policy models of coconut -- an econometric approach" was started in November, 1998. The work is in progress.

Seed & Nursery Production Programme

Item	Quantity/Number
Seedlings/Grafts	
Mango graft	2214
Cashew graft	6805
Banana suckers	3460
Coconut seedlings (Hybrid)	1723
Coconut seedlings (WCT/MYD)	1027
Seeds	
Bitter gourd	15.015 Kg.
Brinjal	7.375 Kg.
Snake gourd	11.500 Kg.
Ridge gourd	7.000 Kg.
Amaranthus	9.450 Kg.
Ash gourd	0.300 Kg.
Cowpea	2.870
Pumpkin	0.150 Kg.

Expenditure and revenue

Head of account	Expenditure (Rs.)	Receipts (Rs.)
Non-Plan	65,17,161	10,04,054
Plan	63,61,575	--

Receipts includes farm revenue also

Visitors: - Nil

College of Forestry, Vellanikkara

Introduction

Forestry education in Kerala Agricultural University was started in 1986, under a separate Faculty (Faculty of Forestry), but subsequently the status was reduced to a College headed by a Special Officer, under the Faculty of Agriculture.

Presently, the College of Forestry, Vellanikkara is under the Faculty of Agriculture and is headed by the associate Dean. The College is manned by the faculty members. The following five statutory departments are functioning in the College:

Cilviculture and Agroforestry, Tree Physiology and Breeding, Forest Management and Utilization, Dept. of Wood Science and Wild life Science.

Mandate of the Institution

The National forest Policy (1988) highlighted the need to recognise forestry both as a "scientific discipline as well as a profession". Further it states that "Agricultural universities and institutions dedicated to the development of forestry education should formulate curricula and courses for imparting academic education and promoting post-graduate research on professional excellence, keeping in view the manpower needs of the country"(Resolution no.3-1/86/FP dated December 7, 1988 of the Ministry of Environment and Forests, Govt. of India, on National Forest Policy).

Accordingly, imparting education in Forestry is the major mandate of the College of Forestry, Vellanikkara. Presently B.Sc.(Forestry) and M.Sc.(Forestry) are the two academic programmes offered in this College. In addition to teaching, the faculty members are involved in research and extension activities related to various disciplines of Forestry.

Staff Position

a) Scientific Staff

Dept. and Designation	No. of Posts		
	Sanctio- ned	In position	Vacant
DEPT. OF SILVICULTURE AND AGOFRESTRY			
Professor	Nil	Nil	Nil
Associate Professor	2	2	Nil
Assistant Professor	Nil	Nil	Nil
DEPT OF TREE PHYSIOLOGY AND BREEDING			
Professor	2	2	Nil
Associate Professor	1	1	Nil
Assistant Professor	Nil	Nil	Nil
DEPT. OF FOREST MANAGEMENT AND UTILIZATION			
Professor	Nil	Nil	Nil
Associate Professor	1	1	Nil
Assistant Professor	2	2	Nil
DEPT. OF WOOD SCIENCE			
Professor	Nil	Nil	Nil
Associate Professor	Nil	Nil	Nil
Assistant Professor	1	1	Nil
DEPT. OF WILD LIFE SCIENCE			
Professor	Nil	Nil	Nil
Associate Professor	Nil	Nil	Nil
Assistant Professor	3	3	Nil

b) Administrative and Supporting Staff

Name of post	Sanc- tioned	In position	Vacant
Admn. Officer	1	1	Nil
Section Officer	1	1	Nil
Assistant Gr. II	2	2	Nil
Assistant Gr. I	1	1	Nil
Sr. Office	1	1	Nil
Superintendent			
Stenographer	1	1	Nil
Peon	1	1	Nil
HDV Driver	1	1	Nil
LDV Driver	1	1	Nil

c) Technical and Administrative Staff

Name of post	Sanctioned	In position	Vacant
Research Associate	2	1	1
Junior Research Fellow	3	3	0

New posts Sanctioned/created/shifted :Nil

Faculty Improvement Programme: Nil

Seminars/Summer institutes/Symposia/Trainings

Name of Scientist	Seminars/symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr.K. Sudhakara	Recent trends in Ultramicrotomy and Cryo Techniques	Labindia Instruments Pvt. Ltd. Trivandrum on 09.04.1998
Dr. Ambika Varma	National Seed Seminar on Seed Technology Developments Challenges for 21st Century	CCS Haryana Agricultural University, Hissar, December 17-19, 1998
Dr. P.O.Nameer	Refresher course on Environmental Biology	School of Env'tal. Studies Cochin University Jan., 4-30, 1999
	National Symp. On Advances in Diagnostic Veterinary Pathology	College of Veterinary and Animal Sciences Mannuthy, Nov., 09-1998
	Hands on training on Amphibian Field Identification and taxonomy	Kempholey Forest, Karnataka Dec. 14-18., 1998

Trainings/ Symposia/Workshops etc conducted at the college: Nil

Academic Programmes

Admission

Year of Admission	M	F	Total	SC/ST			Foreign students		
				M	F	Total	M	F	Total
a(i) U.G. Programme									
	39	5	44	3	1	4	Nil	Nil	Nil
a(ii) P.G. Programme									
Silviculture and Agroforestry	2	Nil	2	1	Nil	1			
Tree Physiology and Breeding	1	1	2	1	Nil	1	Nil	Nil	Nil
Wildlife Science	1	Nil	1	2	Nil	Nil			
a(iii) Ph.D. Programme									
			Nil						Nil

Students passed out during the Academic year 98-99

B.Sc. (Forestry) 6 M.Sc. (Forestry) 4

Study tours

All India Study tour of B.Sc.(Forestry)students for a period of 25 days. South India study tour of B.Sc.(Forestry) students for a period of 10 days.

Other activities: Nil

Research programme

Major Research Achievements: Summary & Highlights

In a study on the soil-plant nutritional status of *Tectona grandis* L f. (teak) in relation to age and site quality, it was found that relation between leaf nutrient status and tree volume growth was feeble.

The models obtained through stepwise regression were all linear in nature and no quadratic terms was present. The volume of tree could be increased further by adequate supply of the appropriate nutrient elements. The analysis also showed that leaf nutrient content influences the soil fertility attributes to a greater extent as the age of the plantation increases.

Farm Revenue

Head of A/C	Expenditure (Rs. in lakhs)	Receipts (Rs. in lakhs)
Non plan	37.81	1.333
Plan	28.67	Nil
Revolving Fund	0.75	0.185

Visitors : Nil

College of Co-operation, banking & Management,
Vellanikkara

Introduction

The Co-operation and banking programme with an intake capacity of 50 students was started on 16th November 1981, at the Radio Isotope laboratory in the Main Campus, Vellanikkara, under the control and supervision of Associate Dean, College of Horticulture, Vellanikkara. The venue was shifted to Directorate of Extension in May 1982, keeping the administrative control still with Associate Dean, College of Horticulture. The programme was delinked from the College of Horticulture and began to function as a separate College under the name 'College of Co-operation and Banking', Mannuthy from 1st April, 1985 onwards. The college was shifted to the new premises at Vellanikkara on 08.09.97. The undergraduate programme, B.Sc.(C & B) and three post-graduate programmes with specialisation in Rural Marketing Management, Rural banking and Finance and Co-operative Management have been started.

Mandate of the Institution

Teaching, Research and Extension are the main objectives of the college.

Staff Position

Scientific Staff

Dept. and designation Dept and Designation	No. of Posts		
	Sanctio ned	n osition	Vaca nt
Associate Dean	1	-	1
DEPT. OF RURAL MARKETING MANAGEMENT			
Professor	1	-	1
Assoc. Professor	2	1	1
Asst. Professor	5	4	1
DEPT. OF DEVELOPMENT ECONOMICS			
Professor	1	-	1
Assoc. Professor	1	3	-
Assoc. Professor (Quantitative Methods)	1	1	-
Asst. Professor	4	2	2
Asst. Professor (Ag. Stat.)	1	1	-
Asst. Professor (Computer Science)	1	1	-
DEPT. OF CO-OPERATIVE MANAGEMENT			
Professor	1	-	1
Assoc. Professor	2	1	1
Asst. Professor	5	4	1

DEPT. OF RURAL BANKING & FINANCE MANAGEMENT			
Assoc. Professor	1	-	1
Asst. Professor (Ag. Extn.)	1	1	-
Total	33	24	9

d) Administrative and Supporting Staff

Name of post	Sanctio ned	In position	Vaca nt
Admn. Officer	1	1	-
Section Officer	2	2	-
Superintendent	1	1	-
Assistants	6	6	-
Typists	3	3	-
Asst. Librarian	1	1	-
Duplicator Operator	1	1	-
Driver	1	1	-
Peons/Class IV	2	2	-
Hostel Manager	1	1	-
Library Attender	1	1*	1
Permanent Labourer	2	3**	-

Library attender on working arrangement

** One on working arrangement

c) Technical and Administrative Staff: Nil
New posts Sanctioned/created/shifted: Nil

Faculty Improvement Programme : Nil

Scholarship awarded to staff/deputation of staff
for higher studies : Nil

Seminars/Summer institute/Symposia/Trainings

Name of Scientist	Seminars/ Symposia/ Workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. E.V.K. Padmini	ICAR Short course on Advances in Agricultural project planning held at KAU	KAU 10 days
Smt.K.N. Ushadevi	"	"
Sri. M. Mohanan	"	"
Dr. G. Veerakumran	Refresher course Training programme on Participatory Rural Appraisal	University of Kerala NAARM 3 days
Dr. A. M. Jose		

Dr. A. Sukumaran	Orientation programme for Counsellors of Management Programme	Indira Gandhi Open University at Bangalore 3 days
Dr. K.P. Mani	Kerala Science Congress	Kasargode 2 days

Ph.D Project : Two
PG Project : Five
Project Terminated During the Period: One

Major Research Achievements: Summary & Highlights

One externally funded project viz. Marketing of Poultry Product- Study with reference to Kerala under the supervision of Dr. N Rajan Nair, Head, Dept. of Rural Marketing Management has been terminated and the final report submitted on 30.06.1998

Farm Revenue: Nil

Training/ Symposia/Workshop etc. conducted at the college

Title	Period	No. of participants
One day workshop on Turnaround Strategies for PACS in Trichur Dt.	1 day	400
ICAR Short Course	10 days	20

Visitors

Name and address	Date of visit	Purpose of visit
Sri. S. Sarma, Hon. Minister for Co-operation and Power		
Dr. S. L Mehta, Deputy Director General ICAR, Dr. Yadav, former Vice-Chancellor, Haryana University Sri. A. K. Sinha, A. D. G, ICAR		
Dr. M. Sivaraman, Director, CMD,		
Sri. K.S.S. Rao, Principal, South Indian Bank Training College		
Sri. Nagararajan, Principal, Training College Dhanalakshmi Bank		
Dr. Ramaswami, Director CARD, TNAU		
Lakshminarayan, Chief, Agriculture, State Planning Board		

Academic Programmes

Admission

Year of Admission	M	F	Total	SC/ST			Foreign Students		
				M	F	Total	M	F	ot l
a(i) U.G. Programme									
1994	11	8	19	2	-	2	-	-	-
1995	13	14	27	2	-	2	-	-	-
1996	13	17	30	2	2	4	-	-	-
1997	11	24	35	-	2	2	-	-	-
1998	15	26	41	5	2	7	-	-	-
a(ii) P.G. Programme									
1994	2	-	2						
1995	1		2						
1997	1	1	2						
a(iii) Ph.D. Programme									
1995	1	-	1						
1996	-	1	1						

Study tours

South India Study Tour of the 1999 batch Students from September 29th to Oct. 8th 1999.

Other activities

Strengthened the activities of the Placement cell and the college level PTA.

Research programme

Externally Funded Projects: One

Southern zone

Regional Agricultural Research Station, Vellayani

Introduction

The Regional Agricultural Research Station for the Southern Zone has been functioning at Vellayani since February 1982. Apart from the continuing research activities under the NARP Phase I and Phase II (and the reprioritised thrust areas), the station implemented 30 externally aided research projects comprising of five AICRPs, five ICAR *ad hoc* schemes, eight STED projects, one CDS project, one KAU-RRII project, one NWDPPRA project, one Food processing project funded by Ministry of Food Processing Industry, three DST projects, two DBT projects, two PPIC projects and one RSMM project.

Mandate

The mandate of the Research stations in the zone based on reprioritisation of the thrust areas of research are summarised below:

Lead functions:

Research on crops for partial shade conditions; export-oriented vegetable and cut-flower

Staff Position

Scientific

Cadre	Sanctioned	In position	Vacant	Date from Vacant
RARS, Vellayani				
NARP PHASE II				
Assoc. Director				
Assoc. Professor	1	1	-	
Asst. Professor	3	3	-	
	6	4	1	Post shifted to
NARP PHASE II				RARS, Kumara-
Asst. Professor	4	2	2	kom on study
				leave
AICRP (FORAGE CROPS)				
Assoc. Professor	1	1	-	
Asst. Professor	2	2	-	
AICRP (NEMATODE PESTS)				
Assoc. Professor	1	1	-	
Asst. Professor	2	2	-	
AICRP (PESTICIDE RESIDUES)				
Assoc. Professor	1	1	-	
Asst. Professor	3	3	-	
AICRP (HONEY BEES)				
Assoc Professor	1	1	-	

Verification functions:

Research on rice, fruits homestead farming coconut tubers vegetables, farm machinery and garden tools

Lead Station

Regional Agricultural Research Station (Southern Region), Vellayani

Satellite stations

Farming Systems Research Station (FSRS), Kottarakkara

Cropping Systems Research Centre (CSRC), Karamana

Coconut Research Station (CRS), Balaramapuram

Krishi Vigyan Kendra (KVK), Sadanandapuram, Kottarakkara

Soil Conservation Research Station (SCRS), Konni*

Soil Conservation Research Station at Konni was formally handed over to the Kerala Agricultural University on 16.12.1997. The station has placed under the administrative control of NARP (Southern Region), Vellayani.

Asst. Profesor	1	1	-	
ICAR ad hoc SCHEME ON OYSTER MUSHROOM Research Assoc.	1	1	-	
ICAR ad hoc scheme on edidemilogy of honey bee disease in kerala & its management Research Assoc.	2	2	-	
Apiculture Asst.	1	1	-	
DST Project on Agrometereological Advisory Services Technical Officer	1	1	-	
ICAR ad hoc scheme on Development of soya rice blended food recipes Research Assoc.	2	2	-	
ICAR ad hoc scheme on Evolving techniques for mono and poly embryonic mango varieties Res. Associate	1	1	-	
AICRP on Soil Tillage	1	1	-	
Asst. Physicist	2	1	1	
DST Project on continious training on technical & income generating activities for women Research Assoc.	3	3	-	
KAU-RRII Project Research Assoc.				
DBT Project on Breeding for interspecific and intergeneric hybrids of orchids for commercial cultivation Senior Research Fellow	1	1	-	
Research Assoc.	1	1	-	
Total	42	37	4	

Major Research Achievements

Biocontrol of aphids and mites

Standardised the main culturing of *Fusarium pallidoseum* which is an entomopathogenic fungus of cowpea aphids, *Aphis craccivora*. The fungus was mass multiplied in rice bran in the laboratory and distributed to farmers for field application. The assistance of Agricultural Officers was sought for distribution of the fungus and getting the feed back.

The predatory insect, *Chrysoperla carnea* was also multiplied in the laboratory on eggs of *corcyra*

moths and distributed to farmers in Kalliyoor for release in their fields for the control of soft bodied, insects in cowpea.

Nematode

Majority of the soil & root samples collected from different locations were found infested by root-knot and reniform nematodes and twenty per cent only were infested by burrowing nematodes.

The pathogenicity trials conducted revealed that 10,000 *Meloidogyne incognita* juveniles per pot gave highest reduction in yield i.e. 59, 48 and 39 per cent in sandy, laterite and red soils respectively. The crop loss studies showed 18 and 64 per cent loss in yield per plant due to 200 and 1000 juveniles per pot. In the field having an initial population of 500 and 1000 juveniles per 100 ml soil sample revealed 27 and 43 per cent loss.

Pesticide residue

In order to get a picture of the dietary intake of pesticide residues, cooked food samples were collected at final stage of consumption representing the different food patterns. A composite sample from the whole day meal was drawn and a representative sample was analysed for estimation of residues. All the twelve samples analysed were contaminated with alpha and gamma HCH. The level of alpha HCH ranged from 0.024 to 0.75 mg/kg while gamma HCH ranged from 0.131 to 4.54 mg/kg.

Honeybee

Studies on the resource partitioning of *Apis* spp. showed that nine plants viz., Rubber, coconut, *coffea arabica*, *coffea robusta*, bhindi, coral creeper, pappaya, glyricidia and copper pod were foraged by all the four

Apis spp., while mango, neem and chillies were visited by *A. cerana indica* and *A. florea* only.

Out of the 27 flora of plants, *A. cerana indica* shared the nectar and pollen from the maximum number of plants followed by *A. mellifera*, i.e., in 15 species. Mango, neem and chillies were shared

by *A. cerana indica* and *A. florea* only. Rubber, the main source of nectar in Kerala are visited by *A. mellifera*, *A. cerana indica*, *A. dorsata* and *A. florea*.

Studies on the co-relation between aggressiveness and performance of *A. mellifera* colonies showed that the aggressiveness is correlated with brood development and yield.

Bio-conversion of coirpith

Two native species of *Pleurotus* domesticated in the mushroom laboratory, College of Agriculture, Vellayani, namely, *P. platypus* and *P. eous* and another exotic strain procured from Holland namely, *P. florida* were found most efficient in the bio-conversion of coir pith.

FORAGE CROPS

Flemingia congesta was found to be a high yielder compared to *Desmanthes virgatus*. Phosphorus level of 25 kg ha⁻¹ was sufficient for both the trees. Hot water treatment of seeds of *Flemingia congesta* and *Desmanthes virgatus* significantly increased germination percentage and vigour of seedlings. Vermicompost was found to be superior to farm-yard manure in fodder production of guinea grass.

AGROMETEOROLOGY

Weekly Agro-Advisory Bulletins are issued to the selected twenty farmers of the neighbouring three Krishi Bhavans viz., Kalliyoor, Venganoor and Nemom. The same is also given to the local dailies (Thiruvananthapuram Edition) for publication for the information of others. Paper cuttings are collected and arranged in order for future back-ups.

Details of scientists deputed to seminars/workshops/symposia. etc.

Name of scientist	Name of Seminar/summer institute	Venue & Date
RARS, Vellayani Dr.S. Lakshmi	Advances in electronic instrumentation for field data collection in agriculture and ocean sciences	CIFT, Cochin 19 to 27 May, 1998
Dr.M. Achuthan Nair	Annual workshop of AICRP on Forage Crops	Bindhan Chandra Krishi Viswa Vidyalaya, West Bengal 5 to 7 May, 1998
Dr.M.Achuthan Nair	Workshop on Pedagogics	NAARM, Hyderabad 26.5.98 to 2.6.98
Sri. S. Devanesan	Practical Bee keeping	Kallikadu Panchayath 1.6.98
Dr.M.S. Sheela	Third International Symposium of Afro-Asian Society of Nematologist	TNAU, Combatore 16 to 19 April, 1998

Smt.L.Girija devi	Short course on "Medium range weather forecasting and development of agromet advisory services"	IARI, New Delhi 20.4.98 to 2.5.98
Smt.L.Girija devi	Annual workshop of "DST project on experimental Agrometeorological advisory services"	TANAU, Combatore 13 to 15 May, 98
All scientists	XX ZREAC Meeting	College of Agriculture Vellayani on 6th June 1998
Dr.M.S. Sheela	Workshop on updating training materials for farmers of KHDP	KHDP, KOCHI 13-14 August 98
Dr.M.S. Sheela	Act as resource person for KHDP training	KHDP, Kochi 17th September 98
Smt. K.S.Premila	Training on emerging trends in Biological control	TANAU, Coimbatore 2-16, December 98
Dr. S. Naseema	Annual workshop of AICRP on Pesticide Residue	BACKV, Kalyani, West Bengal 5-6 January 99
Dr.K. Sudharma	Hort India '99' National Seminar	Trivandrum 7-8 January 99
Dr.M.S. Sheela Dr.T.Jiji	National Seminar "Hort India 99" conducted by KHDP and presented a research paper	Trivandrum 7-8 January 99
Dr.M.S. Sheela	XI Kerala Science Congress and presented a paper	CPCRI, Kasargod 27th Feb to 1st March 99

Details of seminars/workshops/symposia etc. Conducted at the station

The XX ZREAC Meeting was conducted at the College of Agriculture, Vellayani on 6.6.1998, thirtyseven officers from the Department of Agriculture and other institutions, 75 Scientists from KAU including all scientists of the region participated.

One month training programme was organised in the Department of Home Science for the benefit of a self-help group from Kalliyoor Panchayath which was completed on 10.7.1998.

Teaching

U.G and P.G courses were handled by the scientists attached to the RARS, Vellayani.

Extension lectures delivered by scientists

Name and designation	Topic	Venue and date
Dr. Thomas Biju Mathew	1. Integrated Pest Management to Agricultural Officers	RATT, Kazhakkuttam 27.7.98
	2. Integrated Pest Management to Agricultural	RATT, Kazhakkuttam 29.7.98

	Assistants	
	3. Integrated Pest Management to Agricultural Assistants	RATT, Kazhakkuttam 5.8.98
Dr.T.Nalina Kumari	Pests of Rice and their control	RATT, Kazhakkuttam 12.8.98
"	Management of pests of pepper in a one day farmers seminar	Pirappancode 24.9.98
Dr.Thomas Biju Mathew Asst.Professor	Coconut mite for Kera karshaka	Chottanikkara Samithi 29.8.98
"	Management of pests of pepper in one day farmers seminar	Palode 26.9.98
Dr. N.K. Vimalakumari	One day demonstration on Weaning foods developed by KAU in Anganwadi	Anganwadi No. 100 Vellayani, 9.11.98 (44 women participated)
"	"	Pravachambalam on 10.11.99 (29 women participated)
"	"	Ponnumangalam 11.11.98 (32 women participated)
"	"	Pamangode, Nemom 12.11.98 (43 women participated)
Dr.N.K. Vimalakumari Assoc Professor (Home Science)	One day demonstration on Weaning foods developed by KAU to Anganwadi	Mukkunnimala, Nemom 13.11.98 (44 women participated)
"	"	Mukkunada, Naruvamoodu, 16.11.98 (189 women participated),
"	"	Malayinkeezhu, 17.11.98 (32 women participated)
Dr. Thomas Biju Mathew	Coconut mite and its management	Kudappannakkunnu Panchayath, 23.11.98
"	IPM in vegetables to Agricultural Officers	RATT, Kazhakkuttam 3.12.98
Dr. T. Nalinakumari	IPM in rice – a field training to farmers	Mangalapuram 5.12.98
"	IPM in rice – a field training to farmers	Pothencode 15.12.98
Dr. Thomas Biju Mathew	Coconut mite and its management to the Agricultural Officers	Trivandrum 22.12.98
Dr.Naseema Naseema Beevi Assoc.Prof (Ag.Ent)	Pesticide residues in food commodities with special reference to Kerala	CUSAT, Kochi 23.1.99
"	Pesticide residue analysis methods	"
"	Pest of crops and IPM	Govt. Victoria College Palak-

Dr. Thomas Biju Mathew	Principles of toxicology and pollution Integrated pest management	kad on 4.3.99 Govt. Victoria College Palakkad on 4.3.99 Sugarcane Research Station, Thiruvalla on 22.3.99
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Visitors

Name of Visitor	Date	Purpose of visit
Dr. T.N. Rao Deputy Director, PPIC	23.7.98	Evaluation of the two PPIC projects at RARS, Vellayani
Dr. R.C. Mishra Project Co-ordinator AICRP on Honeybee	30.10.98	Evaluation of the projects
Dr. T.N. Rao Deputy Director, PPIC	3.11.98	Experimental plot visit and discussion with the ADR
Dr. H.S. Gaur Project Co-ordinator (Nematodes), ICAR	15.3.99 & 16.3.99	Monitoring of AICRP on Nematodes

Cropping System Research Centre, Karamana.

Introduction

The Cropping System Research Centre (CSRC) is located at Nedumcaud, Karamana, 3.0 km south east of Thiruvananthapuram Central railway and bus stations. The station has an area of 7.65 ha of which 7.25 ha is double cropped wet land and 0.4 ha garden land.

The centre, formerly known as the Model Agronomic Research Station, was established in 1955 with the objective of conducting simple fertiliser use trials and soil fertility investigations, under the 'fertiliser use and soil fertility project' sponsored by the Indian Council of Agricultural Research. New schemes and projects were started from 1968

Verification Function

Multilocal trials and integrated production trials with fish/livestock/poultry.

Bioenergy conversion and organic recycling.

Water requirement of crops.

onwards under the All India Co-ordinated Agronomic Research Project (AICARP) of the ICAR. From October, 1983 onwards, the station was upgraded as the Headquarters of the AICARP in Kerala, with a unit for conducting Experiments in Cultivators' Fields (ECF).

Mandate of the station/unit

Lead Functions

Research in rice and rice based cropping system.

Lead Station :

NARP 9(SR), Vellayani Satellite Station: CSR Sub Centre, Wadakkenchery

Staff Position

Category/Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific				
KAU				
Assistant Professor	1	1	-	
AICARP(ICAR)				
Professor (Agron.)	1	1	-	
Assistant Professor	2	2	-	
(1) S.S (2) Stat.				
Total	4	4		
b) Technical				
NON PLAN (KAU)				
Lab Assistant	1	1	-	
AICARP (ICAR)				
Technical Assistant	2	-	2	
Farm Asst. (Sr.Gr.)	2	2	-	
Total	5	3	2	
a) Administrative/supporting/para-technical/ministrial and other positions (scheme-wise)				
Non-Plan				
Admn. Assistant	1	1	-	
Sr. Grade Assistant	1	1	-	
Peon (He.Gr.)	1	1	-	
Choukidar	1	-	1	
Part-Time Sweeper	1	1	-	
Typist	1	1	-	
Messenger (Class IV)	1	1	-	
Total :	7	6	1	

New post/Sanctioned/created/ shifted : Nil

Faculty Improvement Programme: Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars/ symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. G. K. Balachandran Nair	National Seminar on coastal Agriculture	Gujarat Agrl. University, Navsari Campus from 13.9.98 to 29.3.98
Dr. K. K. Sulochana	State level workshop on strategies for the Management of mite infestation in coconut.	KAU Headquarters from 4.11.98 to 7.11.1998.

Training /symposia/workshop etc. conducted
Nil

Academic Programme:
Teaching

All the Scientists of this Centre handled classes to the B.Sc.(Ag.) trainee students of the College of Agriculture, Vellayani.

The Professor & Head continued to be member of one of the P.G. students of the Agronomy Department, COA, Vellayani.

Research Programme
Major research achievements

AICRP Projects on cropping pattern
Multiple use of cowpea and nutrient balance in a rice based cropping system

There was no effect for the treatments on any character during Kharif, 1998-99. But during Rabi season significant variation in grain yield was noticed due to the treatments.

Permanent Plot Experiment on integrated nutrient supply system in cereal based crop sequence

The results showed that during Kharif, 1998-99 the grain yield varied significantly under different treatments. During Rabi, there was no significant effect for the treatments on any character.

Long range effect of continuous cropping and manuring on crop productivity and soil fertility.

During Kharif 1998-99 the treatments did not cause any significant variation in any biometric character or yields. During Rabi 1998-99 the treatment effect was significant on straw yield.

Effect of Azospirillum in rice based cropping system

The experiment did not register any significant result under differential treatments during both Kharif and Rabi seasons of 1998-99.

Maximising yield/productivity of rice using farm yard manure, spacing and levels of fertilizers.

During Kharif 1998-99 grain yield significantly varied due to the interaction effect of farm yard manure x spacing S3 (25% higher plant population) gave a grain yield of 57.13q/ha from control plots.

During Rabi interaction effect of inorganic fertilizer x farm yard manure x plant population had significant effect on grain yield.

Partial substitution of muriate of potash by common salt in a rice - rice - cowpea cropping sequence

Neither the biometric character nor the yields showed significant variation under treatment effects during the Kharif season, 1998-99. But during Rabi, both grain and straw yields varied significantly as a result of treatment application.

Effect of different doses of N P & K on the incidence of rice diseases

The results of the experiment during Kharif (1998-99) did not show any main effect on the incidence of diseases. However there was some interaction effect (N x P x K) in the case of sheath blight disease. But reverse was the case with sheath rot disease, where interaction effect was not significant, but main factor effects (N and K) were evident.

During Rabi, both main and individual interaction effects were significant on the incidence of diseases (sheath blight and sheath rot).

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan 315-31-2252	Rs. 59,772	
Plan 315-31-0039	Rs.10,90,860	Rs.2,00,146
Revolving Fund	2,268	Rs.47,899

Visitors

Name and address	Date of visit	Purpose of visit
Dr. B Gangwar, Proj. Co-ord., ICAR Project	17.8.98 27.3.99	To visit the Centre Visit of the station and inspection of the encroached area by the local people in North side(Bl.-1) of this centre
Dr. K.N Shyamasundaran Nair, V.C., KAU	"	"
Sri. P.B Sidharthan, IAS, Reg- istrar, KAU	"	"
Sri. P Sreekumaran, D. P.P., KAU	"	"

Coconut Research Station, Balaramapuram

Introduction

The Coconut Research Station was established in January 1948 with 38.18 acres of land at Pachalloor, near the College of Agriculture, Vellayani by the Department of Agriculture, Kerala as a scheme partly financed by the Indian Central Coconut Committee. The scheme was terminated in December 1962. Later during the 3rd Five Year Plan (in 1963 - 64) the venue was shifted to a 14.13 ha. Plot of garden land at Kattachalkuzhy, 4.0 km south of Balaramapuram on the Vizhinjam - loam soils.

Mandate of the Station/Unit

To conduct research, teaching and extension activities in the technology of coconut cultivation and management.

Lead function

Evolving agro-techniques for nutrient management, cultural management, inter cropping and

The station functions under the administrative control of NARP(SR), Vellayani.

Staff Position

Category/Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific				
Assoc.Professor (Agron)	1	1	-	
Asst. Professor (Agron)	1	1	-	
Asst. Professor (P1. Path.)	1	1	-	Held by Assoc. Professor
Total				Held by Prof & Head
b) Technical				
Farm Supervisor Gr.I	3	3	-	
Farm Asst. (Seln.Gr.)	1	1	-	
Farm Asst. Gr.II	1	1	-	
Watchman	1	0	1	
c) Administrative/supporting/ para-technical/ ministerial and other positions (scheme-wise)				On working arrangement to SCRS Konni
Admn: Assistant	1	1	-	
Asistant (Seln.Gr.)	1	1	-	
Assistant (Sr.Gr.)	1	1	-	
Typist Gr.I	1	1	-	
Peon (Hr.Gr.)	1	1	-	
	1	1	-	

Balaramapuram road. The station was taken over by the Kerala Agricultural University in February 1972. The soil at Kattachalkuzhy represents the typical red loam soil of south Kerala.

The main objective of the station is to conduct research on coconut in typical red loam soils of Vellayani series under the Neyyattinkara - Vellayani soils association with particular emphasis on the agronomic and plant protection aspects.

The thrust area of research is the manurial agronomic and plant protection aspects relating to coconut in red pest/disease management in coconut and coconut based farming systems.

Verification Function

To produce hybrid and quality seedlings as identified to be most adaptive and promising and to polarize these varieties.

Lead Station

The station functions under the administrative control of NARP(SR), Vellayani.

New post/sanctioned/created/ shifted : Nil.

Scholarship awarded to staff/Deputation of staff for higher studies : Nil

Faculty Improvement Programme

Seminars/Symposia/ Trainings /Summer institute/Workshops

Name of Scientists	seminars / symposia/ work-shops/summer institutes to which deputed	Institute, period of deputation and duration of course
Dr.N.Purushothaman Nair	Workshop on farm water management	CWRDM Calicut 6 day course

Training /Symposia/Workshop etc. conducted : Nil

Visitors: Nil

Academic Programme Teaching

Imparted training on Farm Management and Research Station activities to B.Sc. (Ag) final year students of the College of Agriculture as part of the Field Training.

Conducted P.G. courses Guided two postgraduate students in Agronomy.

Gave training to B.Sc. (Ag) First year students of the college of Agriculture on coconut cultivation and management

Research Programme

Major research achievements

Based on the result, NPK nutrients @ 0.68:0.23:0.09 kg/tree/year have been recommended for the red loam soils of southern Kerala. The effect of potassium application to coconut palms, was distinctly visible from the experiments.

Farm Revenue

Head of A/C	Expendi- ture	Receipts
Non plan	20.392	5.654
Plan	1.118	-
Revc'ving Fund	0.788	0.932

Farming Systems Research Station, Sadanandapuram

Introduction

The Farming Systems Research Station, Sadanandapuram was started in the year 1986 as NARP Special Station. The station functioned in a rented building from 14.5.1986 till 22.4.1988, when it was shifted to its own building in a newly acquired site. In October 1993, the station was renamed as Farming Systems Research Station. It is located at Sadanandapuram, five kilometers to the South East of Kottarakkara taluk, Kollam district. The total area is 3.96 ha comprising of two plots separated by distance of 250 meters. Plot 1 known as Kshethrakunnu, has an area of 4.03 ha and plot II, known as Chandapurayidam has 4.93 ha.

Mandate of the station

Lead Functions

Research on homestead farming, soil and water conservation and management

Verification Function

Research on tubers, coconut, rice, horticultural crops, cashew and agro-forestry.

Satellite Stations: Satellite station of RARS, Vellayani

Staff Position

Category/Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific				
Assoc. Professor	2	2	-	
Asst. Professor	7	4	3	
b) Technical				
Farm Assistant (Agri.)FS gr. II	2	2	-	
Farm Assistant (Vety) Gr.I	1	1	-	
Technician Gr I	1	1	-	
Lab Assistant Gr.II	1	-	1	
b) Administrative/supporting/para-technical/ministerial and other positions (scheme-wise)				
Admn Assistant.	1	1	-	
Assistant GrI	2	2	-	
Typist Gr.I	1	1	2	
Peon	2	-		

New post/Sanctioned/created/ shifted :Nil

Faculty Improvement Programme: Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars /symposia/ workshop/ summer institute to which deputed	Institute, period of deputation and duration of course
Sri.Anil K.R	International workshop on technology options for sustainable drinking water	Centre for Development Studies, Thiruvananthapuram. As resource person on 12.8.98
"	Natural springs – an alternate to drinking water	Pazhakulam Social Service Society as resource person on 25.8.98 & 26.8.98
Dr. R. Pushpakumari	District level seminar on intensive vegetable cultivation	Co-operative bank Auditorium Kollam on 27.3.1999
Dr.S.Ravi,	"	"
Dr.R.S Shehana	"	"
Dr.S. Regeena	"	"
Sri.K.Ajithkumar	"	"
Sri.AnilK.R.	"	"
Smt.Bini Sam,	"	"

Academic Programme

Teaching

Dr.R.Pushpakumari, Associate Professor served as major advisor to one MSc. (Ag) student. She also served as member of the Advisory committee of one Ph.D student and one M.Sc.(Ag) student of the Department of Agronomy, College of Agriculture, Vellayani.

Dr. S Regeena, Asst. Professor served as Major Advisor to one M.Sc. (Ag) student of the Department of

Agricultural Economics, College of Agriculture, Vellayani.

Research Programme

Major research achievements

Two promising cultures of rice "Makaram and Kumbham" were evolved for the Cheradi tract of the eastern laterite areas.

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan	Rs.23,66,797	Rs.1,67,295
Plan	Rs. 5,80,973	
Revolving Fund	Rs.1,61,630	Rs. 4,54,944 (interest 14,522)

Visitors: Nil

Soil Conservation Research Station,
Perinjockal, Konni.

Studies on soil and water conservation for the humid tropical zones.

Introduction

The Soil Conservation Research Station is situated at Konni panchayath, 5 kms east from Konni town. The Dept of Agriculture took up this station in 1962 with the aim of conducting research in soil conservation methods suited for Kerala. The station was handed over to the Kerala Agricultural University on 01.07.1998 for conducting various research programmes under the administrative control of Associate Director of Research NARP(SR), Vellayani on Soil & Water management and related areas .

Lead Function

To conduct basic, strategic and applied research for developing location specific technologies on soil and water conservation.

To solve area specific problems in soil and water conservation.

To impart training in modern research methodologies and technology upgradations.

Verification Function

Lead Station

RARS , Vellayani

Mandate of the station

Staff Position

Category /Designation	No of Posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific Assoc. Professor & Head		1		Working arrangement fromFSRS, Kottarakkara
b) Technical Farm Supervisors Farm Assistants	— —	2 1		Working arrangement "
c) Administrative/ supporting/ paratechnical/ ministerial and other positions (scheme-wise) Office Assistants	—	1		Working arrangement

New posts/sanctioned/created/shifted :	:Nil
Faculty Improvement programme:	:Nil
Symposia/Trainings/Summer institutes/Workshop	:Nil
Training/ Symposia/Workshop conducted:	: Nil
Academic Programme:	:Nil
Research Programmes	: Nil
Major research achievements	:Nil
Farm Revenue	:Nil
Visitors	:Nil

Special zone of problem areas
Regional Agrl. Research Station, Kumarakom

Introduction

The Regional Agricultural Research Station is situated at 93° latitude and 763' longitude in the Kumarakom Village of Kottayam district in the southern side of 'Kavanar', 15 kms north of Kottayam town. The history of RARS, Kumarakom dates back to the year 1947, when the station was established by the Department of Agriculture with the financial support of the Indian Central Coconut Committee. In 1958, the station was taken over by the State Department of Agriculture and from 1972 onwards the station is functioning under the Kerala Agricultural University. The station was upgraded as a Regional Research Station for the special zone of problem areas of Kerala in 1982. The land area of the farm, in the beginning, was 23.23 ha. During 1980, an additional area of 21.49 ha of land was transferred to Kerala Agricultural University making the total area of the Station 44.72 ha. The main objective of the station was originally to conduct research on coconut and coconut diseases. However, with the implementation of NARP, the station became the lead station to conduct problem oriented location specific research on all crops in the special zone of problem areas of Kerala State.

Mandate of the Station:

To serve as a regional centre for solving location specific problems in the Special Zone of Problem Areas comprising of Kuttanad, Onattukara, Kole and Pokkali tracts. In addition, the station has the mandate of integrated farming and management of root (wilt) disease of coconut. The satellite stations under the regional centre have specific mandates: RRS Mon-

compu (rice), RRS Kayamkulam (rice, oil seeds & pulses), SRS Thiruvalla (sugarcane), RRS Vyttila (rice, fish/prawn) and AICRP Karumadi (drainage in rice fields)

Lead functions

To serve as a regional centre for solving the location specific problems in the Special Zone of problem Areas comprising Kuttanad, Onattukara, Kole and Pokkali tracts.

To take up research on integrated farming systems incorporating crops, livestock and fish.

To promote research efforts in respect of food grains, pulses and oilseeds particularly those that are grown under rainfed conditions.

To evolve agronomic practices and land use pattern in the influence area of the station.

To co-ordinate research efforts in the control and management of the dreadful disease, root (wilt) of coconut.

To co-ordinate and guide the research activities of the sub stations in the Special Zone.

Lead Station

RARS Kumarakom

b) Satellite Stations

R.R.S. - Moncompu

R.R.S.- Kayamkulam

R.R.S.- Vyttila

AICRP.- Karumadi

SRS.-Thiruvalla

Staff position:

Category/Designation	No of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific				
Associate Director/Professor of Agronomy	1	-	1	Prof. (Ent.) holding charge
Professor (Bot.)	1	1	-	Assoc.Prof (Bot.) working
Assoc. Professor (Ento.)	1	1	-	Professor is working
Assistant Professor (Stat.)	4	2	2	
Associate Professor	1	-	1	Prof KP Ramachandran Nair retired on 15.7.98
Assistant Professor	10	8	2	
NARP Phase II				
Associate Professor	1	-	1	
Assistant Professor	1	1	-	
Associate Professor	2	2	-	
Administrative and Teaching Staff				

Category/Designation	Sanctioned	In position	Vacant	Remarks
Farm Assistants	5	5	1	
Lab Assistant	1	1	-	
Pump Operator	1	1	-	
Bus attendant	1	1	-	
Driver LDV	1	1	-	
Assistant	2	2	-	
Typist	1	1	-	
Peon (Hr. Gr.)	1	1	-	
Peon	2	2	-	
Watchman	1	-	1	
Sr. Office Superintendent	2	2	-	
Section Officer	2	2	-	
Duplicator Operator	1	1	-	
Lab Assistant Gr. II	1	1	-	
Lab Asst. Gr.III (Hr.Gr.)	1	1	-	
Lab Asst. Gr. III	2	2	-	
Driver (HDV)	1	1	-	
Technician	1	1	-	
Assistant	3	3	-	
Office Superintendent	1	1	-	
Typist	2	2	-	
Class IV (Watchman)	2	2	-	
Administrative Officer Gr.II	1	1	-	
Tractor Driver	1	-	1	
Farm Assistant	2	2	-	
Driver (LDV)	1	1	-	
Farm Assistant (Vety.)	1	1	-	
Assistant	1	1	-	
Watchman	1	-	1	
Fisherman	2	-	2	
3. Research Associate/Sr. Research Fellow/Fisherman				
Research Associate	1	1	-	
Research Associate	1	1	-	
Sr. Research Fellow	2	2	-	

New post/sanctioned/created/shifted: Nil
Faculty Improvement Programme
Scholarship awarded to staff/ deputation for higher studies :Nil

Seminars/ Symposia/ Summer institutes/ workshops attended

Name of scientist	Seminar/symposia etc. to which deputed	Institute, period of deputation and duration of course
Smt . Asha Joseph	Short training course on 'On-farm water Management'	CWRDM, Kozhikode 12-10-98 to 17-10-98
Dr. K. Geetha	Short training course on 'Phosphate solubilizers and mobilisers'	TNAU, Coimbatore, Microbiology Dept. 21-12-98 to 31-12-98
"	Short term training on Rural Dev. through wasteland, dryland watershed management and role of co-operatives	Reg. Inst. of Co-op. Management, Bangalore 17-2-99 to 20-2-99
Dr.K.J.Joseph	Role of social sciences under the changed scenario of agricultural research	IARI, New Delhi 30-3-99 to 19-4-99
Dr.Elizabeth K. Syriac	National seminar on 'Participatory approaches for Horticulture Development'	Kerala Hort. Dev. Programme at Sreemoolam Club, Trivandrum 8-1-99 to 9-1-99
Dr.Anuradha Krishnan	Workshop on IFS/mechanisation	KAU headquarters, Thrissur 11-8-98 and 12-8-98
"	Workshop on germplasm inventory and gene banking of freshwater fishes	Org. by NBFGR, held at CMFRI, Kochi 12-10-98 to 13-10-98
"	Short term training on live feed culture	CMFRI, Kochi 24-11-98 to 28-11-98
Dr.K.G.Padmakumar	National Workshop on germplasm inventory and gene banking of freshwater fishes, organised by NBFGR, Lucknow	NBFGR, Lucknow held at Kochi 12-10-98 to 14-10-98

Academic programme

Teaching

Dr. P.J. Joy is serving as the Chairman, Advisory Committee of Ms. Haseena Bhaskar, Ph.D. scholar of the Department of Entomology, College of Horticulture, Vellanikkara. Dr. K.G. Padmakumar serves as the major advisor of Ms. Leena Joseph, M.Sc. student, School of Environmental Sciences, Mahatma Gandhi University, Kottayam. Dr. K.J. Joseph is the major advisor of Ms. Shanat K. Mathew, MSc. (Ag.) student of the Department of Agricultural Economics, College of Horticulture, Vellanikkara.

Field training was imparted to B.Sc. (Ag) students from the College of Agriculture, Padannakad, College of Horticulture, Vellanikkara and College of Agriculture, Vellayani.

Research programme:

Major research achievements

An improved variety of *Dioscorea* 'Indu', developed at this station, was released at the State Release Committee at Thiruvananthapuram in the Variety Release Committee Meeting during May 1998.

In the Integrated weed Management trial in brinjal, considering weed dry weight, fruit yield and biometric attributes of plants, solarization treatment and the herbicides oxadiazon and alachlor were found to be promising.

Performance studies on promising forage crops in Veroor watersheds indicated that congo signal is the best suited fodder grass for Veroor watershed.

Studies on promising grass-legume mixtures revealed that guinea grass + cowpea/horsegram was the best suited mixture for Veroor watershed.

Onfarm research on snakegourd with bio fertilizers indicated that soil application of biofertilizers, azotobacter/azospirillum @ 20gm/plant with either 50% or 75% recommended doze of nitrogen could produce fruit yield which was on par with 100% N as chemical fertilizer.

Biofertilizer trial in cucumber revealed that soil application of biofertilizers ie. azotobacter/azospirillum @ 20gm/plant with 50% or 75% N was as good as 100% N as chemical fertilizer.

Onfarm trial with biofertilizers on vegetable cowpea (pandal type and bush type) indicated that biofertilizer

treatments significantly influenced the yield. The treatment rhizobium + 100 % NPK was on par with rhizobium + phosphobacteria + 75% N, 75% P and full K. Hence we can save 25 % N and P when rhizobium and phosphobacteria are used in cowpea.

Under the project on cage and pen culture, raft installation was fabricated for use in open waters in the Vembanad lake. Nylon cages of different dimensions were utilised for the initial trial.

Under the GOK sponsored project on fish ranching in Vembanad lake an extensive survey covering 93 landing centre were surveyed for fish catch and species wise fish landings were estimated.

In the valuation trial with ginger for intercropping in coconut is sufficient.

In garcinia, grafts of 214 elite types of trees selected from different parts of Kerala were planted in the RARS, farm and are being maintained. This will be largest germ plasm collection of the crop in the country.

Integrated Nutrient Management in Cassava indicated that from the economic point of view, application of either biofertilizers like azospirillum and VAM or azospirillum and phosphobacteria or 20t/ha vermicompost along with 50% recommended doze of fertilizers (25:25:25 kg NPK/ha) is sufficient for cassava in Velloor watershed.

The project on ' Ecology and Management of gall midge, *Orseolia oryzae* (Wood-Mason) in Kuttanad, that in June 1996 concluded in April 1999.

A design for establishment of fish sanctuary in the Vembanad lake was evolved and the work is in progress.

Twelve major infectious/invasive diseases were identified, reported and therapeutic measures tested and standardised. Farm revenue:

Head of a/c	Expenditure (Rs.)	Receipts (Rs.)
Non-plan	7628660	
Plan	2696441	740585 (plan & non plan together)
Revolving fund	54,803/-	3,15,284/-

Exhibition

Venue	Duration	No. of beneficiaries	Amount spent
Thiruvalla, MGMHS	7 days	5000	Rs. 5,000
Mathrubhoomi Karshaka Mela at Alappuzha	27-12-98 to 31-12-98		Rs. 20,000
Kerala University Golden Jubilee Agl. Fair at Thiruvananthapuram	August - 1998 (10 days)		Rs. 5,000

Correspondence course: Nil

Training\Symposia\Workshop etc conducted

Topic	Period	No. of participants
Zonal Research Extension Advisory Council	2-6-98	98
"	10-2-97	97

Visitors

Name	Date of visit	Purpose
Sri.C.N.Jayadevan, Executive Committee Member	27-4-98	Tractor driver selection
Dr.N.Mohanakumaran, Director of Research	02-6-98	ZREAC
Dr.Koshy John, Director, Spices Board	20-6-98	Assess the progress of project on garcinia
Dr.Shyam Vir Singh, Dept. of Sci. & Tech., NewDelhi	16-5-98	To study research activities
Dr.Shyamasundaran Nair, Vice Chancellor	25-6-98	Expert Committee on ric cultivation
Dr.R.V.G.Menon, Director, ANERT	25-6-98	"
Dr.R.Gopalakrishnan, Director of Research (Retd.)	25-6-98	"
Dr.K.P. Kannan, Fellow (CDS)	25-6-98	"
Dr.M.Aravindakshan, Chairman, Coconut Board	2-2-99	Discussion on the activities on coconut
Dr.N.Mohanakumaran	10-2-99	ZREAC & inspection

Rice Research Station, Moncompu

Introduction

The Rice Research Station, Monkompu is located at Monkompu, Thekkekkara of Champakaulam Pan-

chayat in Kuttanad Taluk of Alappuzha District. The station was started in the year 1940.

Mandate:

To take up work on location specific research needs of rice in Kuttanad.

Lead functions

Evolving high yielding varieties with multiple resistance to pests and disease.

Standardisation of management practice so as to increase productivity.

Formulating integrated management practices to control weeds, pests and diseases.

Evolving low cost production technology for Kuttanad.

Lead Station:RARS-Kumarakom

Satellite Station: Functions as satellite station of RARS Kumarakom

Staff position

Category/Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific				
Professor	1	-	1	
Assoc. Professor	2	2	-	Till 31.8.98 & 2.12.98
Asst. Professor	7	5	2	
Jr.Statistician	1	-	1	
AICRIP				
Asst.Prof.	3	3	-	
Tech. Asst.	2	-	2	
b) Technical Staff				
Farm Asst. (Sr.Gr.)	1	1	-	
Farm Asst. Gr.II	2	2	-	
Lab. Asst. Gr.I	1	1	-	
Lab.Asst.Gr.II	1	1	-	
Lab.Asst.Gr.III	2	2	-	
Lab.Asst.Gr.III (HG)	1	1	-	
c) Admn. & Supporting staff				
Admn. Assistant	1	1	-	
Assistant (Sr.Gr.)	3	3	-	
Assistant Gr.I	1	1	-	
Typist (Senior Grade)	1	1	-	
Jeep Driver	1	1	-	
Peon	1	1	-	
Watchman	1	-	1	
Sweeper cum Attendant	1	-	1	
Boat Driver	1	1	-	
Boat Syrang	1	-	1	

New post/sanctioned/created/shifted: Nil

Faculty Improvement Programme

Scholarship awarded to staff/ deputation for higher studies: Nil

Seminars/ Symposia/ Summer institutes/ workshops attended

Name of scientist	Seminar/symposia etc. to which deputed	Institute, period of deputation and duration of course
Dr.N.Rema Bai	AICRIP Workshop Lucknow	15-18 April 1998
Dr.P.Santhakumari	"	"
Smt.Annie-Koruth	"	"
Sri.P.H.Latif	"	"
Dr.D.Ambikadevi	Summer Institute at TNAU, Coimbatore	6-20 May, 1998

Training/ symposia/ workshop etc. conducted at the station

Title	Period	No. of participants
Farmers' day and Agricultural Seminar	1 day, 23.3.99	150
Agricultural Exhibition (Expo'98) at Chengannur	17 days, 25.4.98 to 11.5.98	--

Academic programme

Teaching

Sri.P.H.Latif served as the major adviser of an M.Sc. (Ag) student at COA, Vellayani. Dr.Sosamma Jacob was appointed for setting question papers and valuation of answer sheets for B.Sc. (Ag) of KAU.

Research programme

Major research achievements

Seven rice varieties viz., Mo.13 (Pavithra), Mo 14 (Panchami), Mo. 15 (Remanika), Mo.16 (Uma), Mo.17 (Revathy), Mo 18 (Karishma), Mo 19 (Krishnanjana) were released from the station. Pavithra, Panchami, Uma and Krishnanjana were tolerant to gall midge. Remanika is a short duration variety with 100 days. Uma and Revathy have a dormancy period of 3 weeks. Karishma and Krishnanjana are suitable for *karilands* in Kuttanadu.

Farm revenue:

Head of A/C	Expenditure	Receipts
Non-plan 345-31-0034	5193657	285227
Plan		
Revolving fund		

Visitors

Name and address	Date of visit	Purpose
Dr.S.N.Puri, Director, IPM, New Delhi	5-1-99	Discussion on IPM
3. Dr.J.Bentur, Sr.Scientist, DRR, Hydera- bad	26-1-99	Collection of gall midge
4. Dr.N.M.Nair, Emeritis Scien- tist	4-3-99	Collection of literature on rice

Rice Research Station, Kayamkulam

Introduction

Rice Research Station, Kayamkulam is located at the Kayamkulam Municipality of Alappuzha District, one kilometer east of Kayamkulam town, on the northern side of Kayamkulam – Punalur road.

The station was established in the year 1937 under the erstwhile University of Travancore. It was subsequently transferred to the Department of Agriculture in 1958 and continued to function under it till 31.01.1972. It became part of the KAU with effect from 07.02.72.

Mandate of the station/unit

To serve as a sub centre of the special zone of problem area to solve the location specific problems of Onattukara tract by evolving/developing crop varieties viz: rice, pulses and oilseeds(Sesamum and groundnut)suited to different situations and having high yield potential with tolerance to drought, flood, salinity, pests and disease.

To formulate improved agronomic practices and plant protection measures for the crops mentioned above.

Lead Functions

To adopt various cropping patterns in rice fields during summer to enhance the nutrient status.

To develop viable cropping systems including both annuals and perennials suited to the homestead gardens of this tract and to assess their effect on root(Wilt) disease of coconut.

Production and distribution of quality seeds and seedlings (vegetable seeds, paddy, pulses, sesamum, mushroom spawn & nutmeg, clove and arecanut).

Strengthening research on horticultural crops, production and micro propagation of ornamentals and orchids.

To conduct frontline demonstrations in sesame and pulses under AICRP and Village Adoption Programme respectively.

To impart training to extension personnel of the Department of Agriculture and farmers on crop production technology.

Lead Station

Satellite Stations

Satellite station of RARS, Kumarakum.

Staff Position(as on 31.03.99)

Category/ Designation	No. of posts			Remarks
	Sanctioned	In Position	Vacant	
a) Scientific				
KAU Non plan				
Professor	2	2	Nil	
Assoc. Professor	1	1	Nil	
Asst. Professor	4	4	Nil	
ICAR Adhoc				
Assoc. Professor	1	1	Nil	
Assist. Professor	1	1	Nil	
ICAR Adhoc				
Research Associate	2	2	Nil	
b) Technical				
Farm supervisor	3	3	Nil	
Farm Assistant	2	2	Nil	
Lab assistant Gr. II				
Lab assistant Gr. III	3	3	Nil	
a) Administrative/supporting/para-technical/ ministerial and other positions (scheme-wise)				
Admn. Assistant	1	1	Nil	
Assistant (Sel. Gr.)	2	2	Nil	
Typist Sr. Gr.	1	1	Nil	
Peon (Hr. Gr.)	1	1	Nil	
Sweeper	1	1	Nil	
Regular Mzdoor	1	1	Nil	
Jeep Driver (Gr. III)	1	1	Nil	
Tractor Driver (Hr. Gr.)	1	1	Nil	

New post/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme

Scholarship awarded to staff/Deputation of staff for higher studies : Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars / symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. Sverup John	All India kharif Groundnut workshop.	Orissa University of Agricultural and Technology from 03.04.98 to 05.04.98
	Review committee meeting of DOR and AICORPO.	UAS, Bangalore 7th & 8th August 1998.
Dr. P. Sudhamakumari	Annual Groundnut workshop	Thirupathy from 12.10.98 to 20.10.98
	Annual kharif Research workers group meeting.	TNAU from 19.04.98 to 22.04.98
	Summer Institute on Integrated Nutrient Management for sustainable Agriculture	Madhurai from 19.07.98 to 08.08.98
Dr. Lulu Das & Meena Kumari	Short term course on recent advances in mushroom cultivation.	NCMRT solan from 29.07.98 to 07.08.98
Dr.Lulu Das & Smt. Suja. G	State level workshop on mite infestation in coconut.	KAU, Vellanikkara
Smt. Suja. G	Training on research trends in biological control	TNAU, Coimbatore from 2nd to 16th December 1998.
Dr. S. Bhavani Devi & Dr. Robert (Research Associate)	Annual meeting of the Mycological society of India	CAS in Botany, Chennai, 20.01.99
Dr. Sverup John, Dr Sushama Kumari, Dr. Lulu Das ,M Indira, Smt. Suja & Dr. M. R. Bindu	ZREAC meeting for problem areas	RARS, Kumarakum

Training /symposia/workshop etc. conducted

Title	Period	No. of participants
Seminar in connection with Frontline demonstration.	Feb. 26, 99	250
Training for final year B.Sc.(Ag.) students	Nov.-Dec. 1998	4

Academic Programme : Nil

Research Programme

Sri. N. R Nair, Associate Professor & Head and Dr. P Sushamakumari served as P.G. Advisory committee members.

Major research achievements

RICE

Rice culture 4003-3-1 with a mean yield of 3910kg/ha in the farm trial was recommended for release by the XXth ZREAC meeting.

For the Orumundakan area two high yielding cultures from the crosses (OM-IX Pankaj) and (OM-IX-H4) a mutant culture M44-1-3 were identified and CYT was conducted in the station.

SESAMUM

The sesamum cultures 10-03-02 which had an average yield of 572kg/ha was released under the name Thilathara in the 19th State Seed sub Committee meeting. Variety CST-785 was recommended for release in the 22nd ZREAC meeting held at Kumarakum. Two high yielding sesamum outlines viz. cul 4 and cul 15 were found promising.

Effective management of fruitflies is possible by adopting a combined method of keeping a trap having ocimum leaf extract containing Carbofuran and a bait spray of 0.1% Malathion with 2% sugar at monthly intervals starting from initial fruit set. This was recommended in the 21st ZREAC meeting for inclusion in the package of practices recommendations.

ORCHIDS

Embryo culture techniques were attempted for 3 dendrobium varieties viz, Chaophya X Isumi Vassalai, Ceasu alba X Kasim gold and sonia.

Protocols standardised for indirect organogenesis.

In an experiment to standardise protocols for the low cost production of orchids, it was observed that boiled and filtered tap water can give the same effect as that of double distilled water.

Triadimefon (a triazole derivative) was used to harden plantlets under *in vitro* conditions, there by eliminating the *ex vitro* hardening procedure. It was noticed that subcultured plantlets grow very well in medium fortified with 30 & 40 mg/l-1 triadimefon.

Work was initiated to standardise the explants for

isolation of protoplast. A methodology was standardised for optimum protoplast yield from leaf mesophyll explants.

SDS-PAGE was carried out for varietal identification. Significant difference in banding patterns was noticed among the eight varieties studied.

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan		
Plan : Station	122200	186410
Revolving Fund	171552	113768

Visitors

Name and address	Date of visit	Purpose of visit
Dr. B. Gangavar, zonal coordinator, AICORPO	18.08.98	To discuss about frontline demonstration in oil seeds
Dr. Painula, project coordinator, AICRP on tillage	04.12.98	To monitor the progress of work on tillage

Rice Research Station, Vyttila

Introduction

The Rice Research Station, Vyttila is situated in a representative site in the centre of the pokkali tract. This station started functioning during the year 1958 in a leased land in Kunnara, and was shifted to the present site in 1963. The station was taken over by the KAU in 1974. Taking into account the importance of fish-prawn culture during the saline phase, a unit for fisheries research was established during the year 1976. At present the station has a total area of 8.91 ha of which 4.25 ha are wet land. In March 1982 the station was brought as a sub-centre of NARP of the special zone of problem areas.

Mandate of the station

To evolve high yielding saline resistant rice varieties suited for the low-lying coastal areas and to find out suitable agronomic practices for the cultivation of rice in this area.

To evolve cropping system practices by which the annual income per unit area from pokkali fields increased by adopting integrated farming of rice fish and prawn.

To evolve semi intensive cultural practices for fishes and prawns in brackish water ponds.

Lead Functions

The lead function is to conduct research on all aspects of Pokkali rice and rice-fish farming systems.

Verification Function

Lead Station: RARS Kumarakom

Satellite Station: Satellite station of RARS

Staff Position

Category/ Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific				
Professor (Pl.Br.)	1	1	-	Station Head
Assoc. Professor (Agron.)	1	1	-	
Assoc. Professor (SS & AC)	1	1	-	
Assoc. Professor (Aqua.)	1	1	-	
Asst. Professor (Pl.Br.)	1	1	-	
Asst. Professor (Aqua.)	1	-	1	
b) Technical				
Farm Supervisor Gr. II	2	2	-	
Farm Asst.	2	2	-	
Lab Asst. Gr. II	1	1	-	
Driver Gr. II	1	1	-	
Fisherman cum watchman	2	1	1	
Pump Operator	1	1	-	
c) Administrative/Supporting				
Admn. Assistant	1	1	-	
Assistant	2	2	-	
Typist	1	1	-	
Peon	2	2	-	
Watchman	1	-	1	

New post/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme: Nil

Scholarship awarded to staff/Deputation of staff for higher studies: Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars /symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Sri. K. C. Chandy	XXXIII Annual Rice Group Meeting (DRR)	Punjab agricultural University, Ludhiana 15.04.98 to 18.04.98
Smt. K. S. Shylaraj	NATP project finalisation meeting	CSSRI, Karnal 27.08.98 to 28.08.98
	Summer Institute on Instrumental methods in Life sciences	Cochin University of Science & technology, Kochi 24.11.98 to 18.12.98

Training /symposia/workshop etc. conducted

Title	Period	No. of participants
Scientific cultivation of banana to VAP beneficiaries.	One day on 25.02.99	20 6
Field training to ARS trainees from NAARM, Hyderabad	20.07.98 to 18.08.98	

Smt. K. S. Shylaraj was awarded Ph.D. by CUSAT, Kochi.

Teaching

Field training to B.F.Sc. & B.F.Sc. Students from the College of Fisheries, Panangad.

Academic Programme

Sri. V. Sreekumaran was awarded Ph.D. by the KAU.

Field training to B.Sc.(AG.) students from the College of Agriculture, Padannakkad.

Research Programme

Major research achievements

Two cultures viz. Cul.1734 & cul.1728 were found promising in comparative yield trials.

Breeding for earliness in the varieties ^{H4} and SR-26-B by induced mutation, the semi tall cultures 2006 and the culture 1-20 were found promising.

A semi tall mutant culture 1001 was found performing better under pokkali farming.

Etroplus suratensis (Pearlspot) seeds can be produced in large numbers by providing egg attaching materials such as coconut leaf petiole in pokkali ponds during the breeding season, from October to February.

The positive influence of rice yield in pokkali fields due to tidal action can be attributed to the washing away and reduction of toxic products and addition and increase in the nutrient content in the soil especially exchangeable K and increase in the dissolved oxygen content of flood water.

Slow release nitrogen fertilisers had little effect on rice yield in pokkali fields.

Polyculture experiment of brackish fishes along with fresh water carps during the low saline phase yielded 1800kg/ha within a period of 190 days. Among fresh water carps, rohu and silver carps grow very fast in ponds.

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan	25,83,782	1,61,505
Plan	3,94,053	
Revolving Fund	Nil	

Visitors

Name and address	Date of visit	Purpose of visit
Director of Agriculture, Thiruvananthapuram	18.08.98	Station visit
Dr. R. K. Singh, Rice Breeder, CSSRI, Kamal	Oct. 98	To analyse the pokkali farming system and the ongoing experiments

Sugarcane Research Station, Thiruvalla

Introduction

The sugarcane research station, Thiruvalla was established during year 1976 with the complete assistance from ICAR, under AICRP on sugarcane. The KAU strengthened the research efforts of this

station during 1979 by providing more infrastructural facilities and man power. The research programmes in sugarcane were later strengthened research in vegetables was initiated by the funds provided by NARP phase II. At present the research is also supported by plan funds.

Mandate

To function as a lead station for sugarcane research and development.

To carry out research on vegetables prevalent in the tract particularly on cucurbits, cowpea, amaranthus, bhindi, brinjal and chillies and also on feasibility of newly introduced vegetables.

Lead Functions

Sugarcane

To evolve red rot resistant sugarcane varieties for Kerala with high cane yield as well as with high jaggery and sugar recovery.

To formulate agro-techniques under varying agro ecological situation.

To develop a sugarcane based cropping system suited to Kerala.

To breed sugarcane varieties suitable for multiple ratooning, jaggery production commercial production of soft drink fodder production and late planting.

Ratoon management for sustainable production.
Post harvest technology in sugarcane

Integrated pest and disease management in sugarcane.

Seed production programme.

B. Vegetables.

Improvement of the existing vegetable crops grown in the acidic alluvial soils of South Kerala and evolving varieties resistant to pests and diseases.

Standardization of agro-techniques for maximising the yield potential of these varieties.

Integrated pest and disease management.
Seed technology studies.

Intensive vegetable seed production programme.
Studies on post harvest technology.

Lead Station: RARS, Kumarakom

a) Satellite Stations

SRS, Menonpara

Staff Position

Category/Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific				
ICAR				
Assoc.Professor (Agron.)	1	1	-	
Asst.Professor (Pl.Br.)	1	1	-	
Assoc.Professor (Pl.Path.)	1	1	-	
NARP				
Asst.Professor (Hort.)	1	1	-	
KAU				
Assoc.Professor (Ag.Bot.)	1	-	1	Post vacant wef 22.10.98 at Menonpara
Asst.Professor (Ag.Bot.)	1	-	1	Shifted form RRS, Kayamkulam wef 08.01.99
Asst. Professor (Agron.)	2	1	1	
Asst. Professor (Ag. Chem)	1	1	-	
b) Technical				
ICAR				
Farm assistant Gr. I	1	1	-	
Lab Assistant Gr. II	1	1	-	
KAU				
Farm Supervisor Gr. I	1	1	-	
Farm Assistant Gr. II	1	1	-	
Lab Assistant Gr. II	1	1	-	
b) Administrative/ supporting/ministerial				
KAU				
Admn. Assistant	1	1	-	
Assistant Gr. I	2	2	-	
Typist	1	1	-	
peon	1	1	-	

New post/Sanctioned/created/ shifted: 1

Faculty Improvement Programme

Scholarship awarded to staff/Deputation of staff for higher studies: Nil

Seminars/Symposia/ Trainings /summer institutes/workshops

Name of Scientists	seminars / symposia/ workshop/ summer institute to which deputed	Institute, period of deputation and duration of course
Dr. K. Sreekumar	Summer Inst. on Pl. Gen. Resources Workshop of AICRP on Sugarcane	NBPGR, N. Delhi, 27.7.98-7.8.98 (12 days) Vasantdada Sugar Institute, Pune. 13.09.98 - 15.09.98, (3 days)
Dr. D. Alexander	NARP Zonal workshop for problem zone Workshop of AICRP on Sugarcane	RARS, Kumarakom, 02.06.98 & 10.02.99 Vasantdada Sugar Institute, Pune 13.9.98-15.9.98, 3days
Dr. Babu George	NARP Zonal workshop for problem zone Workshop of AICRP on Sugarcane	RARS, Kumarakom, 02.06.98 - 10.02.99
Dr. Jessy M. Kuriakose	NARP Zonal workshop for problem zone	RARS, Kumarakom, 02.06.98 - 10.02.99
Thomas Mathew	NARP Zonal workshop for problem zone	RARS, Kumarakom, 02.06.98 - 10.02.99
Dr. Sosamma Cherian	NARP Zonal workshop for problem zone	RARS, Kumarakom on 10.02.99

Training /symposia/workshop etc. conducted

Title	Period	No. of participants
Farmers day and Agrl. Seminar	1 day 23.03.99	150
Agrl. Exhibition (Expo'98)at Chennur	17days, 25.04.98 – 11.05.98	

Academic Programme

Teaching

Dr. D. Alexantler, Assoc.Professor (Agronomy) has been member of the Advisory committee of the Ph.D. programme of Sri. Thomas Mathew, Asst. Professor (Agronomy) who is carrying out research at this station.

Research Programme

Major research achievements

The meeting of the state seed committee held on 16.06.98 recommended the release of the new sugarcane variety Madhumathi (Co 88017). It is a high yielding midlate maturing non-lodging variety moderately resistant to red rot disease with high jaggery quality and recovery. The average cane yield of this variety is 125.32t/ha and CCS yield is 13.9t/ha. Jaggery recovery is 15.7t/ha.

CoT1 93116(Cul. 85/85 evolved at this centre had been accepted for advised varietal trial at national level under AICRP on Sugarcane.

The results of the frontline demonstration in sugarcane revealed that the technologies of new and promising varieties, water management, ratoon management and integrated pest and disease management could bring 25 per cent improvement in yield of cane.

A total quantity of 2.93 lakhs of sugarcane sets and 98kg. vegetable seeds had been produced and distributed during the period.

Farm Revenue

Head of A/C	Expenditure (Rs.Lakhs)	Receipts (Rs.Lakhs)
Non plan		
347-31-034	20.590890	2.688818
NARP 347-31-035	1.982320	-
Plan		
347-31-4427	0.194550	-
347-31-251	0.724230	-
347-31-273	0.695320	-
347-31-365	0.253960	-
Revolving Fund		
347-31-5517	0.360000	0.145260
IVSP 347-31-3323	0.170700	-
ICAR 347-31-6632	7.050680	-
NWDPR 347-31-921	0.959890	-
VAP 101-40-048	0.018000	-
KAUF 212-21-209	0.055514	-
Total	33.056054	2.834078

Visitors

Name and address	Date of visit	Purpose of visit
Sri. V. Parameswaran Nair, General council member, KAU	28.10.98	Farm advisory committee meeting

AICRP on Agricultural Drainage, Karumady, Alappuzha. 688 564.

Introduction

The project viz., All India co-ordinated research project on Agril. Drainage under actual farming conditions on Watershed basis is being implemented in "Kavilthekkumpuram Padasekharam", a part of Kuttanad situated in Ampalappuzha village and taluk of Alappuzha district. The scheme has come into effect from 01-12-1981 and was sanctioned for the 6th, 7th and 8th period.

Mandate of the station

The main objectives and thrust areas of research are given below:

To comprehend the effect of surface and subsurface drainage (SSD) system on the movement of soil liquids.

To study the pattern of hydrological cycle occurring in the watershed areas and its importance and influence on the drainage.

To develop a feasible technology for the lay out of sub-surface drainage system suitable for peak and muck soils.

To develop drainage pattern requirement for different crops.

To evaluate the feasibility of using the return flow from drainage for irrigation in relation to water quality rating.

To evaluate the socio-economic benefits acquired from the drainage projects.

Lead Functions

Undertaking research work on agricultural drainage in various crops in farmer's fields.

Extension of the technological know-how developed at this station.

c) Lead Station

RARS Kumarakom

d) Satellite Stations

Nil

Staff Position

Category/Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific				
Assoc. Prof. (Agril. Engg.)	1	1	-	
Asst. Professor (Agron.)	1	1	-	
Asst. Professor (Agril. Engg.)	1	1	-	
b) Technical				
Farm Asst. (Agri.)Sr. Gr.	1	1	-	Farm Asst. (Agri.) Sln.Gr.is working
Farm Asst. (Agril.) Gr. II	2	2	-	Farm Asst. (Agri.)Sr. Gr. is working
Lab Asst. Gr. II	1	1	-	Vacant since 2-7-97
Overseer Gr. I	1	-	1	
Draughtsman, Gr. II	1	-	1	
Technician	2	-	2	
Pump Operator	1	1	-	
Driver Gr.II	1	1	-	
c) Administrative/supporting				
Assistant Gr.I	1	1	-	
Typist Gr. I	1	1	-	
Peon	1	1	-	
Watchman	2	2	-	Security Guards (P/L & C/L)
Section Officer	1	1	-	KAU post

New post/Sanctioned/created/ shifted : Nil

Faculty Improvement Programme : Nil

Seminars/Symposia/ Trainings : Nil

Tining/symposia/workshop etc. conducted: Nil

Academic Programme :

Teaching : Teaching classes are held for the students of KAU.

Research Programme :

Major research achievements

Adoption of SSD at 15m spacing can increase grain yield significantly in Kari soils of Kuttanad during the Punched season. This was in contrast with the previous years' results during the additional crop (Kharif) season. However, there was no significant difference in grain yield among the 15m and 30m spacings of SSD. The incremental yield was 0.84t/ha, which is equivalent to 30%.

The soil and leachate chemical properties also indicate that the crop root zone can be kept under favourable condition during the cropping season by

the adoption of subsurface drainage system.

The study of the root parameters viz., length, volume and colour also indicated the efficiency of the sub surface drainage.

Farm Revenue

There is no farm attached to this station. Hence no revenue.

visitors

Name and address	Date of visit	Purpose of visit
Dr. A.N. Sarcar, Jt. Commissioner, Ministry of Agril. & Co-operation of India		Appraisal of research work
Dr. A.K. Bhattacharya, Project Co-ordinator of the scheme	19-02-99	Monitoring the different re-search projects

**Central zone
Regional Agricultural Research Station,
Pattambi**

Introduction

The station started functioning in 1927 under the name of Paddy Breeding Station in an area of 33.28ha and then the mandate was to improve the local rice varieties of the erstwhile Madras Presidency. With the intensification of research activities in other crops such as cotton, sugarcane, sesamum, pulses and oil seeds, the station was re-named as Agricultural Research Station in 1930. With the acquisition of 30.36ha of land in 1945 additionally, the research activities of the station were further intensified. With the reorganisation of the rice research set up in Kerala in 1972, the station was elevated as the Central Rice Research Station for the State of Kerala. The station was taken over by the KAU when it was formed on February 1, 1972. The station was elevated as the RARS for Central Zone with the implementation of the National Agricultural Research Project (NARP) in 1981.

The total acreage of the research farm is 63.64ha. All the major rice soils of Kerala viz., modan, palliyals and double cropped low lands are represented in the farm. A seed testing laboratory was established under the station in 1966 which was later nominated as the State Seed Testing Laboratory according to the provisions of the Seed Act, 1969. An 'A' class Agricultural Meteorological Observatory started in 1948, is functioning as a part of this station. The soil texture of the farm is predominantly sandy loam and loam. The soil pH ranges from 5.2 to 5.8.

Majority of the crops in the farm are rainfed. However, supplementary irrigation is given to rice during second crop seasons after withdrawal of north east monsoon. Vegetables are raised in summer under irrigation. One block of coconut plantation was irrigated using drip system.

The station has so far released 54 rice varieties. Of this 37 strains were evolved through pureline and mass selection and the remaining through hybridisation and selection. The two high yielding cowpea varieties released by the station are Ptb-1 (Kanakamony) and Ptb-2 (Krishnamony).

Mandate of the station/unit

Generation and transfer of technology related to rice and rice based cropping system, pulses, vegetables, organic farming and seed technology.

Lead Functions

The lead functions are research on rice, pulses, horticultural crops and rice based farming systems.

Verification Function

Animal management, horticultural and vegetable crops, mechanisation in rice farming, crop weather modelling and agro forestry.

Lead Station

Regional Agricultural Research Station, Pattambi

Satellite Stations

Cashew Research Station, Anakayam

Agricultural Research Station, Mannuthy

Cashew Research Station, Madakkathara

Banana Research Station, Kannara

Agromatic Research Station, Chalakudy

Aromatic and Medicinal Plants Research Station, Odakkali

Pineapple research Station, Vazhakkulam

Staff Position

Category/Designation	No. of posts			Remarks
	Sanctioned	Inposition	Vacant	
a) Scientific				
NON PLAN				
Assoc. Professor (Botany 1) (Chemistry 1)	2	-	2	
Asst. Professor NARP I(NON-PLAN)	6	-	6	
Professor	2	-	2	
Assoc. Professor	4	-	4	
Asst. Professor NARP II(NON-PLAN)	8	4	4	
Asst. Professor AICRP	3	1	2	
Assoc. Professor	4	3	1	
Asst. Professor	4	4	-	
AICRP ON ARID LEGUMES	2	1	1	
Assoc. Professor	1	-	1	
Asst. professor AICRP ON LONG TERM FERTILIZER EXPERIMENTS	1	1	-	
Assoc. Professor	1	-	-	
Asst. Professor	1	1	-	

b) Technical				
a) Administrative/ supporting/para-technical/ministerial and other positions (scheme-wise)				
NON-PLAN A				
Section Officer	4	4	-	
Assistant	9	8	1	
Office supdt.	1	1	-	
Peon	3	3	-	
NON-PLAN B				
Sr. Farm supervisor Gr. I	1	1	-	
Farm Supervisor Gr. II	3	3	-	
Farm Assistant	5	3	2	
Lab. Assistant	5	2	3	
Driver(HDV)	1	1	-	
Technician	1	1	-	
Tractor Driver	1	-	1	
Regular mazdoor Class IV	6	6	-	
Watchman	7	7	-	
NARP I				
Adm. Officer	2	2	-	
Typist	1	1	-	
Dupl. Operator	2	2	-	
Lab Assistant Gr. II	1	1	-	
Tractor Driver	1	1	-	
Asst. Engineer	1	-	-	
NARP II				
Farm Supervisor (Vet)	1	1	-	
Technician	1	1	-	
Asst.Gr.II	1	1	-	
AICRP				
Farm Asst. Gr.I	4	4	-	
Tr.Jp.Driver Gr. II	1	1	-	
Tr. & Jeep Driver-I	1	1	-	
AICRP on Arid Legumes				
Farm Asst. Gr.II	2	2	-	
Lab. Asst. Gr.II	1	1	-	
AICRP ON LONG TERM FERTILIZER EXPTS.				
Class IV	1	1	-	
NSP-BSP				
Tech. Assistant	2	2	-	
Fld/Lab Assistant	1	1	-	
Driver	1	-	1	
DATA BASE				
Jr. Programmer	1	-	1	

New post/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme: Nil

Scholarship awarded to staff/Deputation of staff for higher studies: Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars / symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. K. A Mariam	National workshop on Long Term Fertility management through integrated plant nutrient system	Indian institute of soil Science, Bhopal. 02.04.98 to 04.04.98
Dr. I. Johnykutty, Dr. L Nadarajan & Dr. Rehmath Niza	Rice workers group meeting	PAU Ludhiana 14.04.98 to 18.04.98
Dr. P. A hmed	Workshop on TAR-IVLP	HPKVV, Palampur 27.05.98 to 29.05.98
Dr. S Leenakumari & Smt. G. Valarmathi	13 th Annual Group Meeting NSP	University of Mysore 02.05.98 to 04.05.98
Dr. T Girija	IUFRO Seed Symposium recalcitrant-98	Forest research Institute, Malasia 12.10.98 to 15.10.98

Training /symposia/workshop etc. conducted

Title	Period	No. of participants
ZREAX workshop at RARS, Pattambi	29.05.98	-
T & V Monthly workshop of Palakkad and Malappuram Dt.	One day	-
Seed development training programme each		14 batches of 25 farmers each

Academic Programme

Teaching

Dr. T. E George functioned as the chairman of the Advisory committee of two Ph.D students, Smt. M. K Jessy and Smt. K. B Sheela and as a member of the advisory Committee of Sri. E Sreenivasan working on Genetic analysis of horsegram.

Research Programme

Major research achievements

Plant breeding

Rice

Five hundred germplasm accessions were raised in the field during 1998-99 out of which 200 were screened for biotic and abiotic stresses like bacterial leaf blight, gall midge, stem borer, leaf roller and iron toxicity and field tolerant varieties were identified for further utilisation in the breeding programmes. Fifteen traditional rice varieties from different locations of Palakkad and Malappuram districts were collected and characterised based on Farm trials during 1998 using short duration rice cultures viz., Cul.A4-4-2 and Cul. C3-2 suitable for direct seeding. Trials were laid out during Virippu 1999.

Comparative Yield Trials of four semitall mutants for four years at RARS, Pattambi with Jyothi as check showed that Cul.210-25 was promising with a pooled mean of 4377.3Kg.ha⁻¹ as against 3751.3Kg.ha⁻¹ of Jyothi. Five photosensitive cultures

(Mutants of PTB 20) were also evaluated in CYT and the cultures 20D-1(3858Kg.ha⁻¹) and 20D-9(3812Kg.ha⁻¹) were found promising with the same duration as that of Ptb 20 with an yield advantage of about 600-700Kg.ha⁻¹ over the parent.

In the maintenance breeding programme, nucleus seeds of ten rice varieties viz., Jyothi, Matta Triveni, Neeraja, Kairali, Kanchana, Aathira, Aiswarya, Mangala Mashsuri, Karuna and Ptb 10 were produced following the seed production principles laid out for self pollinated crops as per the revised seed rules, 1993.

Under the AICRIP, two advanced Variety Trials and five Initial Variety trials were conducted using advanced cultures developed in different regions of the country and fifteen entries with high yield (6000-7000 Kg ha⁻¹) were selected for further evaluation at RARS, Pattambi.

A total of 4.5tons of breeder seeds of different varieties was produced during 1998-99.

Soil science and agricultural chemistry

In permanent manurial Trial, continuous application of organic manure @18tons/ha was found to be the best with respect to grain yield and straw yield for the dwarf indica rice varieties in virippu season as in the previous year.

Field trials on the NWDPRP Project "On farm research on vegetable crop with biofertilizers" were conducted in four watersheds of Palakkad district.

Agronomy

DRR seed drum would be a viable practice for direct seeding where effective water management is possible.

In the evaluation of herbicides under direct-sown rice under semi-dry system, Rice guard 25+1 WP 0.375+0.015Kg ai ha⁻¹ at 1.0Kg ai ha⁻¹ at 2 DAS were found promising. Agrod was found toxic to rice seedlings. Hand weeded plots gave the highest yield. However, herbicides gave an yield on par with the hand weeding reducing the cost of cultivation.

Studies on weed management under direct wet-sown rice G 46 showed that Butachlor+safener 50EC 1.0Kg at 3 DAS; Aniloguard plus EC@ 0.25+0.01 at DAS and Ethoxysulfuron 15 WSG @ 0.02 Kg at 7-15 at 7-15 DAS are the promising herbicides under wet sown situation.

Application of herbicides under transplanted rice did not evoke any appreciable difference in yield possibly due to less weed infestation due to standing water during Kharif & Rabi of 1998-99.

Plant pathology

Field efficacy of biopesticides of plant origin against sheath blight disease showed that none of the botanicals were found to be on par with Tilt 25EC. Achook EC and Neem gold were found to be promising in checking sheath blight incidence.

Among the newer fungicides, carpropamid 30SC was found to be significantly superior and comparable to Beam 70WP in controlling blast infection.

For evaluating new fungicides against sheath blight Tilt 25EC(1ml/l) was found to be superior in checking infection with increased grain yield.

Entomology

Imida clopid(Confidor 200 SL)at 20% ai as seed treatment and soil drenching with the same at 0.75g ai/ha of nursery reduced stem borer and whorl maggot damage and increased yield significantly.

Among pre-release entries, cultures IET 12537, IET 14074 and RP 3179-1462 offered resistance to attack of stem borer and gall midge and gave good yield.

Pulses

During kharif, 1998 an Initial Varietal trial with 17 cowpea entries received from AICRP was laid out in the field along with Kanakamony as local check. Among the 17 entries, V-585 gave the highest grain yield of 7.36A.ha-1 followed by VCP-9(7.30A.ha-1). In the Cowpea Advanced Varietal trial, 23 AICRP entries along with kanakamony as local check was laid out in the field during kharif, 1998. Among them, V-552 gave the highest grain yield of 6.40A.ha-1 followed by CAVC-10(5.45 A.ha-1).

Under the NWDPRP project for identification of suitable cowpea varieties for fringe cropping, four experiments were laid out during October, 1998 in the four watersheds of Palakkad district - Nellaya, Pavukonam, Thallachira and Karalmanna. Kanakamony was found to be the best variety, for fringe cropping in the area. Number of pods/plant was maximum for the variety Pusa phalguni. In most locations its yield was on par with that of Kanakamony. But it was less preferred by the farmers due to its short pod length leading to higher labour cost involved in harvesting. Excessive trailing/twining tendency was the undesirable feature of Kanakamony. V-240 was accepted by farmers as the variety with best cooking quality among the five varieties tested.

Horticulture

Application of more organic manures and less inorganic fertilizers increases the shelf life of fruits and seed viability in both cucumber and ash gourd.

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan	91,68,137	10,99,957.25
Plan	7,47,334	44,467.00
Revolving Fund	2,11,700	2,62,351.50

Name and address	Date of visit	Purpose of visit
Science club members, DSCA, Malappuram	01.04.98	Station visit
Farmers from Ramanattukara	01.04.98	Station visit
Dr. Anand Swarup, Project Co-ordinator, (LTFE)	02.06.98	LTFE field visit
Farmers and Assistant Director of Agriculture from Thamarassery	19.06.98	Station visit
Dr. V Subbiah, Co-ordinator CREMNET-IRRI, Philippines	04.08.98	"
Dr. M.M Thyagarajan Professor of Soil Science TNAU, Coimbatore	04.08.98	"
Dr. Mohanakumaran V, Director, KAU	28.08.98	"
Dr. N. V Krishnayha & Dr. C. S Reddy DRR, Hyderabad	15.09.98	"
Dr. Syamasundaran Nair K N Vice-Chancellor, KAU	27.09.98 & 28.09.98	"
Dr. Krishnaswamy from TNAU	05.12.98	Monitoring team for reviewing seed production system
Dr. Dharm Singh, Karnal	05.12.98	"
Sreedhara Gowda, UAS, Dharwar	05.12.98	"
Dr. D. M Venkida Reddy, UAS	05.12.98	"
Sri. Ujjinaih, UAS	05.12.98	Inspection of FET training As ARS Probationers
Dr. Sabaratnam, Principal Scientist NAARM, Hyderabad	14.12.98 19.12.98	
Dr. Ramakrishna Rao & Cini Varghese		

Cashew Research Station, Anakkayam

Introduction

Cashew Research Station was started in 1963. The station situated at Anakkayam village in Malappuram district has an area of 9.92ha of which 8 ha is under cashew and 0.5ha under coconut.

Mandate of the station

The objectives of the station are to evolve materials, methods and means to increase the yield potential of cashew through crop improvement and by recommending proper manurial schedules, cultural practices etc.

Staff Position

Category/Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific				
Professor (Pl.Br)	1	1	1	Vacant from 2.6.97
Asst. Professor (Hort)	2	2	0	
b) Technical				
Farm Supervisor (GrII)	1	1	0	
Farm Asst. (sln.Gr)	1	1	0	
Lab Assistant (Gr.III)	1	1	0	
c) Administrative/supp				
Assistant	1	1	0	
Typist	1	1	0	
Class IV	1	1	0	
Full Time Sweeper	1	1	0	From 1.3.98
Mali	1	0	1	
	1	0	1	

New post/Sanctioned/created/ shifted: Nil

Academic Programme:

Faculty Improvement Programme

Teaching: Nil

Scholarship awarded to staff/Deputation of staff for higher studies

Research Programme

Name of scientists and Designation	Details of deputation	Institution/university to which deputed
M.C. Narayanan Kutty Asst. Professor	Ph.D. Part time basis	Kerala Agricultural University

Major research achievements

Two cashew hybrids Akshaya and Anagha were released for commercial cultivation. The evaluation of 750 hybrids and germplasm of 87 types were in progress.

Training /symposia etc. conducted:

Nil

Farm Revenue

Hed of A/C	Expenditure	Receipts
Non plan	11,41,013	1,60,504
Plan		
a) Seed & Nursery Program.	1,33,406	--
b) Streng. Res. In Cashew	1,22,714	--
c) NWDPR	75,820	--
d) DOWD Project	4,07,920	--
e) VAP	4,000	--
f) Data Base System	47,300	--
g) Farm Trials/Ada.Trials	2,888	--
REVOLVING FUND	2,54,557	10,59,004

Visitors: Nil

Agricultural Research Station, Mannuthy

Introduction

This station was started during the year 1957 as Rice Research Station, Mannuthy in the then central Farm, Ollukkara, with the administrative control of the Rice Specialist. Consequent to the shifting of the Head Quarters of the Rice Specialist to Pattambi, this station was renamed as Regional Rice Research Station. With the formation of the Kerala Agricultural University during 1972, the Rice Research Station, Mannuthy and the Agricultural Research Station were taken over from the State Department of Agriculture and brought under the control of Agricultural University. In the year 1976, Rice Research Station and Agricultural Research Station, Mannuthy were merged. This Research Station was named as Agricultural Research Station, Mannuthy with effect from 01.01.1988 and since then is functioning as an independent station.

Apart from KAU Research projects, the station undertakes research projects in rice under 'AICRIP'. It also extends facilities to NBPGR to conduct trials on rice. The station participates in the academic programmes of KAU and is a centre for production and distribution of quality fruit plants, ornamental plants, vegetable seeds, and breeder and foundation seeds of paddy varieties especially of those suited to kole lands.

Mandate of the station

Research on rice and coconut, kole land and crop management under stress

Providing field and labour facilities to post Graduate research Seeds and seedling production

Lead Functions

Evolving hybrids in rice and vegetables.

Evolving rice varieties with high production potential suited to kole lands.

Production and distribution of breeder and foundation seeds of paddy.

Development of production technology for rice.

Evolving bitter gourd and snake gourd varieties suitable to summer rice fallows.

Production and distribution of quality seed materials of improved varieties of vegetables.

Maintenance of commercial nursery and production of planting material.

Production of planting materials of fruits, ornamentals, plantation crops and spices.

Imparting training in various production technology.

Imparting training and work experience in rice cultivation.

Demonstrations in the use of modern Agricultural implements.

Farm advisory service.

Verification Function

Testing of rice production technology.

Testing rice varieties under All India Co-ordinated Rice Improvement Programme as well as multi locational trials.

Lead Station:

RARS, Pattambi

Satellite Stations :N. A.

Staff Position

Category/ Designation	No. of posts			Remarks
	SanCtioned	In position	Vacant	
a) Scientific				
KAU				
Assoc.Prof. & Head	1	1	Nil	
Asst. Prof. (Agron)	1	1	Nil	
Asst. Prof. (Hort.)	1	1	Nil	
Asst. Prof. (Pl.Br& Gen)	1	1	Nil	
ICAR / NARP				
AICRIP (Double Cropping Sub Centre)				
Assoc. Professor (Pl.Br.)	1	1	Nil	
NARP- I Central Zone				
Asst. Prof. (Pl.Br.)	1	1	Nil	
b). Technical				
KAU				
Sr. Farm Supervisor	1	1	Nil	
Farm Assistant (Sr.Gr.)	1	1	Nil	
Farm Asst. Gr. I	1	1	Nil	
Farm Asst. Gr.II	2	2	Nil	
Lab Assistant	1	1	Nil	
Tractor Driver	1	Nil	1	
NARP I – Central Zone				
Technician	1	1	Nil	
Overseer	-	-	-	
b) Administrative/ supporting/para- technical/ministrial and other po- sitions (scheme-wise)				
KAU	1	1	Nil	
Admn. Assistant	1	1	Nil	
Sr.Gr. Asst.	1	1	Nil	
Sel. Gr. Assistant Grade I Assistant	1	1	Nil	
Typist	1	1	Nil	
Peon	2	2	Nil	
Jeep Diver	1	1	Nil	
Watchman	2	Nil	2	

New post/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme

Scholarship awarded to staff/Deputation of staff
for higher studies: Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars / symposia/ workshop/ summer institute to which deputed	Institute, period of deputation and duration of course
Dr.U. Jaikumaran	RAIDCO Silver Jubilee celebration Seminar at Kannur XX Zonal Research and Extension Ad- visory meeting	RAIDCO Kannur, 28.5.98 One day

	Rice Research Workers Conference	RARS, Pattambi 29.05.98 one day
	Seminar of Rice Cultivation	KAU Head Qrs 27.06.98 one day Vilayichira, 27.06.98, one day
	Seminar of Rice production	Peringottukara 20.2.99, one day
Dr. V.V. Radhakrishnan	AICRIP National Annual Rice workshop	PAU, Ludhiana 15 to 18.04.98 4 days CTCRI, TVM 17.05.98 one day
	State Seed Sub Committee meeting for releasing variety Ahalya	RARS Pattambi 29.05.98 one day
	XX Zonal Research and Extension Advisory meeting	KAU Head Qrs. 27.05.98 one day
	Rice Research Workers Conference	Mathilakam, 17.8.98, one day
	Karshaka seminar	Pazhuvil, 5.12.98, one day
	Modern trends in Rice cultivation	
Dr. P.A. Joseph	Agricultural seminar on coconut & intercrop	Community Hall Kollan Gode 27.6.98 one day
	Agricultural seminar on soil and water conservation	Department of Agriculture at Pattikkad 29.9.98, one day
	Modern trends in coconut cultivation	Pazhuvil 5.12.98 one day
	Coconut and inter crop	St. Marye School, Engandiyoor 26.1.99 one day
	Agri. Seminar on coconut cultivation	Sri. Sailam Auditorium, Trithaloor 11.2.99 one day
	Agri. seminar on modern trends in coconut cultivation	Lions Club Auditorium, Triprayar 17.3.99 oneday
	Agri. Seminar on coconut cultivation	\G.M.U.P.S Chettuva 19.3.99 One day
	Agri. seminar on coconut & intercrop	S.N.D.P Hall Edamuttam 20.3.99 one day
	Agri. Seminar on coconut cultivation	Edappal Vattamkulam 27.3.99 oneday
	XX Zonal Research and Extension Advisory meeting, RARS Pattambi	RARS Pattambi 29.5.98 one day
Dr. C.A. Rosamma	Rice Research Workers Conference	KAU Head Qrs 27.6.98 one day
	Innovation in rice production technology to Agri. Assistants	Department of Agriculture vadakkanchery one day
	XX Zonal Research and Extension Advisory meeting	PARS Pattambi 29.5.98 one day
Dr. M.T. Kanakamany	XX Zonal Research and Extension Advisory meeting	RARS, Pattambi 29.5.98 one day
Dr. C. Narayanan Kutty	Commercial nursery management and	Sponsored by The District Collec-

vegetable production technology to SC youths under the scheme SCA to SCP	for 21.3.98 to 6.6.98 60 days
Commercial nursery management and vegetable production technology to SC youths under the scheme SCA to SCP	Sponsored by the District Collector Trichur 8.6.98 to 8.10.98 90 days
Commercial nursery management and vegetable production technology to SC youths under the scheme SCA to SCP	Sponsored by The District Collector Collector 1.2.99 to 28.5.98 one day one day
XX Zonal Research and Extension Advisory meeting RARS Pattambi	RARS, Pattambi 29.5.98 one day one day
TRYSEM Programme	Sponsored by the District Collector Trichur, 10.11.98 to 10.05.99 6 months
Agr. Training on nursery techniques to rural women	Madakkathara panchayat 8.3.99 to 12.3.99 15 days
Agrl. Seminar at Sri Sailam, auditorium	Trithaloor, 11.3.99 one day
Agrl. Seminar at G.M.U.P. School	Chettva 19.3.99 one day

Training /symposia/workshop conducted

Title	Period	No. of participants
Farmer scientist interaction on post kharif rice cropping	26.11.98 & 27.11.98	25
TRYSM programme	10.11.98 to 10.05.99	30
Commercial Nursery management and vegetable production technology	1.02.99.to 14.10.99	29
Nursery techniques to rural women of Madakkathara panchayat	3.03.99 to 12.03.99	

Academic Programme

Teaching

Guided a PG student
Dr. U. Jaikumaran, Assoc. Professor & Head

Served as a question paper setter for External Examinations of KAU

Conducted the work experience course (WE. Agron. 102) to BSc (Ag) College of Horticulture Students
Dr. P.A. Joseph, Associate Professor

Offering course Agro 103 Soil and water conservation to B.Sc.(Ag) and BSc Forestry students

Guiding PG student

Dr. V.V. Radhakrishnan, Associate Professor

Offered course for PG students of the college of Horticulture, Vellanikkara

Guided P.G. students of College of Horticulture

Dr. C.A. Rosamma, Assistant Professor

Guided MSc (Ag) Plant breeding and genetics student of College of Horticulture, Vellanikkara as major advisor

Offered course Genetic An. Sci 106 (2+0) to MSc (Ag) students of Department of Plant Breeding and Genetics, College of Horticulture, Vellanikkara

Dr. Kanakamany M.T. Assistant Professor

Offering course Pl.gen 101 Morphology and systematics of Corp plants (1+1) to BSc (Ag) students of college of Horticulture, Vellanikkara.

Offering course Pb.gen 102 Cytology, Anatomy and Embryology to BSc (Ag) students of College of Horticulture, Vellanikkara.

P.G. PROJECTS

A. Doctorate Degree (Agri) programme

Title of the project	Major Advisor	Advisory committee members from ARS
Alternative sources of cytoplasmic male sterility and genetic analysis of fertility restoration in Rice (S.Biju)	Dr.K.K.Ibrahim	1. Dr.V.V. Radhakrishnan 2. Dr.U. Jaikumar
Genetic Analysis of high yielding rice varieties of different source of origin (Vabha.T)	Dr. Luckins C.Babu	Dr.V.V.Radha krishnan

B. M.sc. (Ag) Programme

Genetic divergence and selection parameters in Basmati rice (Sreejaya.K.C)	Dr.V.V. Radhakrishnan	
Genetic analysis of F ₂ and F ₃ progenies of rice crosses diverse origin (Fazeela.K.V)	Marine Abraham	Dr.V.V. Radhakrishnan
Irrigation scheduling and moisture conservation in watermelon (<i>Citrullus lanatus</i>)	Dr.P.A. Joseph	Dr.U. Jaikumar
Variability Analysis for allogamous traits in rice (Deepa, K.P)	Dr.Tessy Joseph	Rossamma C.A

Major research achievements

Popularisation of rice transplanter, combine and harvesters.

Evolved indigenous cytoplasmic sterile lines and its restorers using wide crosses from exotic germplasm source.

Screened out new rice plant type with higher grain productivity.

Evolved two rice cultures suitable to kole lands and recommended for farm trials.

Started ninety days stipendary training on Commercial Nursery Management and Vegetable Production Technology to SC youths (2 batches) under the scheme SCA to SCP sponsored by the District Collector, Trichur,

Village adoption programme for popularising high yielding rice varieties at Ayyanthole panchayat.

Identified a new accession of snake gourd with small fruit size and recommended for farm trial.

Implementation of NWDPR research projects (11 Nos.)

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan	3952635	736989.40
Plan	905836	-
Revolving Fund	171980	625954.30
Total	5030451	1362344.30

Visitors

Name and address	Date of visit	Purpose of visit
Sri. K. N. Shyamasundaran Nair, Hon. Vice Chancellor KAU	28.11.98	Farm day celebrations
Sri. Raju Narayanaswamy Hon. District Collector	28.11.98	Distribution of certificates to trainees
Sri. M. M. Sankunni Dist. Planning Officer	28.11.98	Farm day celebrations
Most of the subject matter specialists of KERALA	26 & 27.11.98	Farmer - scientist interaction programme

Dr. S. L. Mehta Deputy Director General, ICAR	27.11.98	In connection with sanctioning of catch up grant
Smt. Fathima Abdul Khader, District panchayat president	26.11.98	Inauguration of farmer - scientist interaction
Sri. M. Avarachan Block panchayat president	28.11.98	Farm day celebrations

Cashew Research station, Madakkathara

Introduction

The Cashew Research Station, Madakkathara under the Kerala Agricultural University was established on 01-05-1973. Initially this station was working as one of the four research centres under the All India Co-ordinated spices and Cashewnut Improvement Project (AICCIP) of the ICAR. The World Bank aided Multi-State Cashew Research Project was implemented at this Station from 15-02-1982 to 03-09-1986. Presently this is one of the eight Centres of the All India Co-ordinated Cashew Improvement Project. The Cashew Research Station, Madakkathara is located in Madakkathara Village of Trichur taluk in Trichur district. The station is situated at a distance of 1.50km away from Mannuthy on the left side of Mannuthy -Chirakkakode road. The total area of the farm is 47ha (22.25ha planted with cashew and 1ha under building and roads).

Mandate of the station

To evolve high yielding varieties of cashew by selection and breeding.

Identification of varieties resistant/tolerant to pests.

Seminars/Symposia/ Trainings /summer institutes/workshop

Name of Scientists	seminars /symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. M. Abdul Salam	Seminar	Handled a class on integrated farming systems on 24.10.98 in connection with Kapoor Water Shed Development Programme.

*To develop suitable agro techniques for achieving higher production and productivity.
To standardise suitable vegetative propagation techniques.*

To evolve effective control measures against the major pests of cashew.

Transfer of technology to farmers and extension agencies on improved crop production techniques

Lead Functions:

Research in cashew is the chief objective of the station.

Staff Position

Category/ Designation	No. of posts			Remarks
	Sanctioned	In-position	Vacant	
a) Scientific				
Assoc. Professor (Hort/Agron.)	1	1	-	
Assoc. Professor(Ent.)	1	1	-	
b) Technical				
Sr. Tech. Assistant	1	1	-	
Jr. Tech Assistant	1	-	1	
Farm Assistant Gr. II	2	2	-	
c) Administrative/supporting /para-technical/ministrial and other positions (scheme-wise)				
Assistant Gr. I	1	1	-	
Lab Assistant	1	1	-	
Driver	1	1	-	
Class IV	2	1	1	

New post/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme: Nil

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Training /symposia/workshop etc. conducted:

Title	Period	No. of participants
Cashew apple processing	19-21 August	20
	26-28 August	20
	16-18 September	20
	23-25 September	20
Cashew Production Technology	15.03.99 – 23.03.99	

Academic Programme :

Guidance to PG students:

Dr. M. Abdul Salam guided (as major adviser/member of advisory committee) one M.Sc. (Ag.) and five Doctoral students of the College of Horticulture. The following research projects have been undertaken at present in the centre with the guidance of the scientists.

PH.D.

Varietal reaction to nutrient and moisture stress in cashew

Student Ms. A. Latha
Major Adviser Dr. M. Abdul Salam

Organic recycling and use of bio fertiliser

Student Ms. K. E Usha
Co-Chairman Dr. M. Abdul Salam

Nutritional characteristics of cashew

Student Mr. T.N. Jagadeesh Kumar
Major Adviser Dr. M. Abdul Salam

Morphological analysis of growth and yield in cashew

Student Ms. P. B Pushapalatha
Co-Chairman Dr. M. Abdul Salam

Development pattern, storage behaviour and varietal variability in processing characters of cashew apple (Anacardium occidentale L)

Student Mr. Narayanan Kutty

Major Adviser Dr. M. Abdul Salam

M.Sc. (Ag)

Techniques for commercial production of cashew grafts

Student Mr. Anil Kumar
Major Adviser Dr. M. Abdul Salam

Research Programme

Major research achievements

A clonal germplasm conservation block with 127 accessions was established. Five accessions with nut weight more than 10g are now available in the germ plasm (H 1589 – 10.8g, H 1593 – 12.6g, H 8-7- 10g, H 8-8 – 12.3g and Kiliyanthara – 11g). Eighteen high yielding cashew varieties evolved at six Cashew Research Centres of India are under evaluation at this centre. Based on the results obtained so far it can be concluded that two Vridhachalam varieties (M 26/2 and M 44/3) can also be recommended for cultivation in the state of Kerala. A total of 204 hybrid seedlings were planted in the field during the period 1993-97. Application of neem oil 5 per cent on tree trunk and exposed roots is effective in preventing stem borer infestation for 2 months. Sevidol granules @ 75g/tree, prevented infestation for three months. One new cashew hybrid-H 1597 was released in the name *Am-rutha*. A Cashew apple processing unit and a training unit in cashew were established.

Farm Revenue

Head of A/C	Expendi- ture	Receipts
Non plan	16,42,946	6,68,517
Plan	6,78,424	
Revolving Fund	2,79,475	4,59,544

Doordarsan: Nil

Visitors

Name and address	Date of visit	Purpose of visit
Dr. E. V.V. Bhaskara Rao, Director, NRCC	27.04.98	Station visit
Sri. P.P. Balasubramanian, Director, DCCD, Cochin	09.06.98 26.11.98	"
Dr. K. V. Peter, Director, IISR	18.07.98	"
Dr. N. Nata Rajan, ADR, RARS, Pattambi	19.08.98 27.11.98 01.12.98	"
Sri. Babu, JDA(Hort.), DOA, GOK	19.08.98	"
Sri. Sankunny, Deputy Director	27.08.98	"
Dr. K. V. Ahamed Bhavappa, M.Sc. (Agri.), Ph.D	14.10.98	"
Mr. P. Rajendran, Chairman, KSCDC, Kollam	26.11.98	"
Dr. K. G. Nair, Secretary and Chief Executive, CEPCI, Cochin	26.02.99	"
"	20.03.99	"
T. R. Nair from NABARD	20.03.99	"
Mr. Giridhar Prabhu, Achal Industries, Mangalore	23.03.99	"
Dr. Shyamasunderan Nair, Vice Chancellor, KAU	23.03.99	"

Banana Research Station, Kannara & Pineapple Research Station, Vellanikkara

Introduction

The Banana Research Station at Marakkal was established during the year 1963 in an area of 17.3ha, as a centre of the Department of Agriculture to carry out research on banana and pineapple. In 1970, the station was under the All India Co-ordinated Fruit Improvement Project of the ICAR to carry out research on banana and pineapple. In 1972, when KAU was established, this station was brought under it. In 1974, the venue of the Pineapple Research Centre was shifted to KAU Main campus, Vellanikkara in an area of 6.3ha suited for pineapple cultivation. During 1988, NARP Phase II was implemented for strengthening research on banana, pineapple, cashew and post harvest handling of fruits and vegetables. Presently at Banana Research Station, Kannara, research is being carried out only on banana and pineapple.

Mandate of the station/unit

The main objectives of the station are:

Germplasm collection, conservation and evaluation and description of banana and pineapple in order to recommend promising cultivators of banana and pineapple for large scale cultivation.

To develop better cultivators or clones of banana and pineapple through selection and hybridization.

To standardise agro- techniques for banana and pineapple under different cropping systems in order to achieve higher production and productivity.

To formulate intercropping and rotation schedules in banana and pineapple to increase the returns from unit area.

To monitor major pests and diseases of banana and pineapple through regular survey.

To formulate and recommend suitable control measures for pests and diseases of banana and pineapple.

To evolve small-scale post harvest processing techniques in banana and pineapple.

Lead Functions:

Verification Function:

Lead Station

RARS, Pattambi

Satellite Station

Pineapple Research Station, Vellanikkara

Staff Position

Category/Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
AICRP(TF)				
Assoc. Professor (Hort.)	1	1	-	
Asst. Professor (Hort.)	1	1	-	
Asst. Professor (Pl.Path)	1	1	-	
Asst. Professor (Ento)	1	1	-	
Technical Assistant NARP	2	2	-	
Assoc. Professor (Agron)	1	1	-	Vacant till 30.03.99
Asst. Professor (Hort.)	1	1	-	
AICRP(TF)				
Farm Assistant (Agron)				
Lab Assistant Gr.I	3	3	-	
Oil Engine Driver				
Mali	1	1	-	
Watchman	1	1	-	
KAU	2	2	-	
Farm Supervisor Gr. 2	2	2	-	
Farm Assistant Gr. I				
NARP	1	0	1	
Farm Assistant Gr.II				
AICRP(TF)	1	1	-	
Typist Gr.2				
Peon	1	1	-	
Admn. Assistant	1	1	-	
Assistant Gr.I	1	1	-	
Driver Gr.I	1	1	-	
Pump Operator	1	1	-	
Watchman	1	1	-	
NARP	1	1	-	
Typist Gr. 2	1	1	-	
ICAR ADHOC SCHEME(Biological control of cyst nematode)	1	1	-	
Research Associate	2	2	-	

New post/Sanctioned/created/ shifted: Nil

Scholarship awarded to staff/Deputation of staff for higher studies: Nil

Faculty Improvement Programme

Seminars/Symposia/Trainings/summer institute/workshop

Name of Scientists	seminars /symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. Rema Menon	Seminar on National dialogue on the issues in management of Plant genetic resources	NBPGR, New Delhi 02.12.98 – 01.12.98
Dr. Anitha Cherian .K	Workshop on Sustainable Management of Tomato leaf curl virus disease and <i>Bemisia tabaci</i> in India	UAS, Bangalore 26.02.99-27.02.99

	Training on Identification of Burrowing nematode. <i>Radopholus similis</i> & <i>Heterodera oryzae</i>	CPCRI, Kayamkulam. 25.11.98 – 31.11.98
	Training on serological techniques for the identification of sub-microscopic plant pathogens	CPCRI, Kayamkulam 25.11.98 – 27.11.98
	Training on Phosphate solubilising and mobilising micro organisms	TNAU, Coibatore 21.12.98 – 31.12.98

Training /symposia/workshop etc. conducted: Nil

Academic Programme

Teaching

Dr. Anitha Cherian. K, Assistant Professor offered the course Pl.Pt.203(Crop Pests & Diseases for B.Sc.(C &B) 1996 Admission-Semester 2/97-98. She is the member of the advisory committee of Ph.D students Smt.Estellita and Smt.Vimi Louis of Department of Plant Pathology, College of Horticulture, Vellanikara.

Research Programme

Major research achievements

AICRP(TF)

Banana

The Banana germplasm collection consisted of 225 accessions they were maintained and evaluated. During the period under report FHIA-I and Cultivar Rose were added. The two banana hybrids evolved at the station were released as BRS-I and BRS-II in the State Level Variety Release Committee meeting held during May1998. A descriptor for the banana is being developed. Two plantain (*Nendran*) introductions Njock kon (AAB) and Big Ebanga(AAB) were selected as superior varieties and sent for farm trials. Based on an extensive survey covering Kerala and border districts of Karnataka and Tamil Nadu, the variability in *Nendran* was characterised and grouped into 16 morpho taxonomic groups. A key for the identification of these groups was also developed. Spacing trial in *Palayankodan* revealed that the spacing 1.2 x 1.2 x 2.0m accommodating a plant population of 5028 was found optimum with respect to yield, quality of fruits and net returns. Application of nitrogen at 300g per plant in 4+3 splits (200+100g) was found to be the best treatment for *Palayankodan*, potassium application at 300g in 2+2 splits(100+200g) was observed the best for this variety. Organic and inorganic nitrogen at 1:3 proportion gave the best response in *Palayankodan* and the best

source of organic N was farmyard manure+green leaves.

Fertigation studies in *Nendran* showed that application of nitrogen in the form of urea through drip irrigation was advantageous in bringing down the N requirement by 25 per cent.

Spraying Bavistin(0.1%) or alternated spray of Calixin(0.05%), Bavistin(0.1%) or Dithane M-45(0.2%) or a mixture of Calixin(0.05%) and Bavistin(0.1%) soon after the appearance of the initial symptoms of the disease was found to be effective in controlling the leaf spot disease of banana. Five to six spraying at fortnightly intervals are to be given depending upon the severity of the disease.

An extensive survey was undertaken to determine the diseases associated with banana plants growing in different places. The results of the survey revealed that the major varieties grown were *Nendran*, *Poovan*, *Palayankodan*, *Chenkadali*(Red banana), *Robusta*, *Elakibale*(*Njalipoovan*) & *Monthan*. Diseases recorded were leaf spot, bunchy top, Banana Bract Mosaic(BBMV), rhizome rot, panama wilt & infectious chlorosis of which, sigatoka leaf spot was the most widespread. Observations on different varieties showed that *Nendran*, *Palayankodan*, *Chenkadali* & *Singlal* were highly susceptible to BBMV disease. The varieties *Poovan*, *Bluggoe*, *Agniswar*, *Mannan*, *Kunnan*, *Dhudsagar*, *Valiakunnan*, *Lambi*, *Pisangmass*, *Neyvannan*, *Chenkadali* & *Highgate* were susceptible to bunchy top disease.

For the control of banana pseudostem borer-*Odoiporus longicollis*, Carbaryl/Chlorpyrifos 0.2%(4g/litre) at monthly intervals from fourth month after planting till bunch emergence was found to be effective.

The nematode population in the soil was found to be the least by planting unpaired suckers+dip in 0.5%Monocrotophos+Sunhemp as intercrop and paring and pralinage of Carbofuran at 1.25g ai./plant.

Screening of banana germplasm against nematode pests revealed that varieties *Chenkadali*, *Bodles Altafort*, *Robusta* and *Poomkalli* are poor hosts of the nematode-*Heterodera oryzae* and *Njalipoovan*, *Zanzibar*, *Myndoli*, *Gros Michel*, *Poovan* and *Kadali* are good hosts.

Survey studies of banana crop in different localities of Kerala revealed the presence of banana pseudostem borer-*Odoiporus longicollis*, rhizome weevil-*Cosmopolitus sordidus*, banana aphid-*Pentalonia nigronervosa*, lace wing bug-*Stephanitis typicus*, flower thrips-*Thrips florum*, mites-*Oligonychus indicus*, leaf eating caterpillars, spindle bug, bag worms and mealy bugs. The intensity of the incidence of these insect pests was low.

Pineapple

A pineapple germplasm collection of 24 varieties is being maintained. Based on the studies conducted on important plant and fruit characters of the clones of pineapple var. *Kew* collected through detailed survey throughout Kerala, the clones 1/81, 2/81, 1/82, 3/82, 6/82, 9/82 and 14/82 were selected for large scale multiplication. Among the eight hybrids from the cross *Kew*+*Ripley Queen*, the two promising hybrids

Visitors

Name and address	Date of visit	Purpose of visit
Dr. B.M.C Reddy, Project Co-ordinator, AICRP(TF), IIHR, Bangalore	09.12.98	Review of the AICRP Projects and field visit
Dr. Edmond de Langhe, Professor Emeritus, Katholic University, Belgium	05.01.99	Review of World Bank Aided BIP Project and Station visit
David Grywacz and Hilary Warburton, Scientists from Natural Resources Institute, UK	05.03.99	Station visit
Scientists from CPCRI	17.03.99	Station visit

Agronomic Research Station, Chalakudy.

Introduction

The Agronomic Research Station was established on February 14th, 1972 by the Department of Agriculture, Kerala. The KAU took over the station in 1973 for implementing the Co-ordinated project for research on water management sponsored by ICAR. The Scheme started functioning from July 1974. The sub project for water management studies in the Central Region of Kerala was started as an NARP Project from 1983-84, completed in April 1988 and then continued as a University Project. A new Project "On farm Water management studies pilot Project" financed jointly by the Ministry of Water resources Development, Government of India and CADA, Kerala was functioning in the station from April, 1989 to 1994, March. Under the VIIIth Plan two projects have been started viz. improving productivity of sandy loam soils of Chalamandate of the Unit

To develop effective water & land utilisation strategies by evolving production technologies for utilising scarce moisture resources and to serve as a model centre of crop production for the command area of Chalakudy Irrigation Project.

Lead Functions

To conduct water management and irrigation scheduling in crops and cropping systems.

were selected. These were given for conducting evaluation in farmer's fields in 3 districts of Kerala.

Farm Revenue

Head of A/C	Expenditure (Rs.)	Receipts (Rs.)
Non plan		
KAU 034	27,32,490	9,15,464
NARP 035	4,94,139	61,083
Plan		
AICRP(TF) 624	15,89,916	25,000
Breeding Pineapple 2770	65,215	
Intensive Vegetable Seed Production 3323	33,784	
Homestead 3336	3,33,865	1,16,185
Revolving Fund		

kudy and establishment of a water management sub centre for tree crops at Main Campus, Vellanikkara.

The research station is located at 10o 20' north latitude and 76o 20' east longitude at an elevation of 3.25m above mean sea level. The station is situated on the Chalakudy- Sholayar road, 400m away from Chalakudy town on the way to Athirappilly and Sholayar tourist centre.

The total area of the farm is 8.89ha consisting of 4.51ha wet land and the rest upland. The soil in the farm belongs to the sandy loam textural class that contains about 75-80% sand, 4-12% silt and 7-11% clay. The bulk density varies from 1.3-1.7g/cc. The soil is acidic in nature having a pH of 5 to 6.1. The EC varies from 0.2 to 0.5m mhos/cm. The sub unit at Main Campus, Vellanikkara, is having an area of 6.92ha.

Verification Function

To develop cropping pattern suitable for varying water management and fertility situations.

To test new crops and varieties for their adaptability and performance under different moisture conditions.

To estimate water requirements and conduct water management studies on annuals like rice, pulses, oil

seeds vegetables, banana, tuber crops and perennials like coconut, arecanut etc.

To evolve suitable measures to increase water use efficiency of important crops of the area and to work out the economics of cultivation.

To find out cost effective and efficient methods of irrigation for different crops.

To evaluate water conveyance losses through seepage and to develop economically viable design to reduce these losses.

To conduct on farm water management in farmers' fields on improved water management technologies developed in the research centre.

To produce quality seeds and seedlings.

Lead Station

Agronomic Research Station, Chalakudy.

Satellite Station

Water Management Research on Tree crops - Sub Unit at Vellanikkara.

Staff Position

Category/Designation	No. of posts			Remarks
	Sanctioned	Inposition	Vacant	
a) Scientific				Assoc. Professor (Agron.) inposition
ICAR				
Professor of Agronomy	1	1	-	
Assoc. Professor (Soil phy)	1	1	-	
Assoc. Professor (Agron.)				
Assoc. Professor (Agrl. Engg.)	1	1	-	
Asst. Professor (Agron.)	1	1	-	
NON PLAN	1			
Assoc. Professor (pl.Br.)				
NARP	1	1	-	
Asst. Professor (Agron.)				
Asst. Professor (Soils)	1	1	-	
	1	1	-	
b) Technical				
ICAR				
Farm Assistant				
Lab Assistant				
NON PLAN	5	1	1	
Farm Supervisor				
Pump Operator	1	5	-	
Ploughman/Class IV	1	1	-	
NARP	1	1	-	
Farm Assistant				
Lab Assistant	1	1	-	
	2	1	-	
d) Administrative/ supporting/para-technical/ministerial and other positions (scheme-wise)				
ICAR				
Assistant Gr. 1	1	2	-	
Driver	1	1	-	
Peon	1	1	-	
NON PLAN				
Adm. Assistant	1	1	-	
Assistant	1	1	-	
NARP				
Typist	1	1	-	

New post/Sanctioned/created/ shifted: Nil

Scholarship awarded to staff/Deputation of staff for higher studies: Nil

Faculty Improvement Programme: Nil

Seminars/Symposia/Trainings /summer institute/workshop

Name of Scientists	Seminars / symposia/ workshop/summer institute to which deputed	Institute; period of deputation and duration of course
Dr. S. Pushkala	Chief Scientists meeting	TNAU, Madurai, 27-31 Jan. 1999
Dr. S. Pushkala, Dr. K. P. Visalakshi & Smt. T. K. Bridgit	ICAR(WM) Scientist meet	BCKV, Kalyani, W. Bengal 10-3 feb. 1999
Sri. N. K. Sasidharani	Agri. Seminar	Ezhikkara 21.05.98
	"	Chellanam 20.06.98
	"	PVS, Thripunithura 25.06.98

Training /symposia/workshop etc. conducted: Nil

Academic Programme

Teaching

Sri. V. Jayakrishna kumar, Asst. Professor (Agron.), Water management Research Unit, Vellanikkara offered a course (Agron 101) "Principles of Agronomy for B.Sc(Agri.) students of the College of Horticulture, Vellanikkara.

Dr. K. P. Visakakshi, Asst. Professor (Agri. Engg.) & Reena Mathew, Asst. Professor (Agron.), Water Management research Unit on Tree crops, Vellanikkara offered courses on Forest Engineering & Agronomy at the College of Forestry & Horticulture respectively.

Dr. S. Pushkala, Assoc. Professor functioned as major advisor of the Ph.D. student Ms. Sreelatha. A.K of the College of Agriculture, Vellayani.

Research Programme

Major research achievements

Bubbler Irrigation System

The station developed an irrigation system "The bubbler irrigation system (BIS) - a micro irrigation system efficient over the drip system in economic

water use and increasing the yield of bittergourd and bhindi.

Conveyance and distribution efficiency of irrigation water.

The average conveyance efficiency was found to be 85.8% which showed an improvement from the previous year. The efficiency of lined portion was as high as 95%. The seepage loss was reduced to 14.18% due to proper management of the canal system. The mean distribution efficiency was increased from 57.1% to 71.85%. The mean conveyance efficiency of the Puthukkayu distributary was 88.1%.

Bio-fertilizers for vegetables

A combination of Azospirillum and Phosphobacter has a significant role in meeting the nutrient requirement of the vegetable crops. The bio-fertilizers along with the recommended dose of NPK gave the maximum yield and was superior to the control treatments of recommended major nutrients alone. This treatment was found more effective in the case of cucumber.

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan	24,19,679.23	3,52,418.58
Plan	4,11,614.00	9,865.00
Revolving Fund	1,54,344.00	3,76,887.50

Visitors

Name and address	Date of visit	Purpose of visit
Mr. A. Swamiappan, TNAU	03.07.98	Training programme for development of water control system for diversification of crops in Maharashtra State for 16 engineers of Irrigation Department, Maharashtra
Mr. A. K. Dutta, Dy. Chief Engineer, WAPCOS	03.07.98	
Dr. K. N. Syamasundaram Nair, Vice-Chancellor, KAU, Vellanikkara	02.02.99	Inspection of the station and discussion with the scientists

**Aromatic and Medical Plants Research Station,
Odakkali**

Introduction:

The station was established in the year 1951 as "Lemon grass Breeding Station" under the Department of Industries of the erstwhile Travancore-Cochin Government. The Centre was brought under the Department of Agriculture with effect from 1-8-1954 and renamed "Lemongrass Research Station". The main objective of the Centre was to provide adequate reasearch support for lemongrass cultivation in the state. Consequent to the formation of the KAU in 1972, the station became an integral part of the University's research system. The station was named as Aromatic and Medicinal Plants Research Station (AMPRS) in 1982. Considering the significant contribution of the Centre, Ministry of Health and family Welfare, Govt. of India, identified the centre for large scale cultivation and development of selected endangered species of medicinal plants widely used in indigenous systems of medicine. Under the scheme sponsored by the Ministry of Agriculture, Government of India, the Photochemical laboratory of the station is recognized as one of the Regional Analytical Laboratories for medicinal and aromatic plants. An intensive programme on seed production and distribution of selected plants is also taken up. The station is located in the Asamannoor village of Kunnathunadu taluk in the Ernakulam district of Ker-

ala, 27 km east of Aluva on the Aluva-Munnar road. The station is situated at an elevation of 60m above MSL

Mandate of the station

Intensification of research on aromatic and medicinal plants

Transfer of technology

Supply of good quality planting materials

Quality testing and evaluation

Germplasm collection and maintenance of selected crops.

Lead Functions

Exploration, collection and evaluation of germplasm of aromatic and medicinal plants

Crop improvement in medicinal and aromatic plants

Standardisation of agro-techniques for selected aromatic and medicinal plants

Management of diseases and pests of aromatic and medicinal plants

Utilisation and marketing of medicinal and aromatic plants

Staff Position

Category/ Designation	No. of posts			Re- marks
	Sanctioned	Inposition	Vacant	
a) Scientific				
Assoc. Professor (Ag.)	1	1	-	
Assoc. Professor (En.)	1	1	-	
Assoc. Professor (Ag.Chem.)	1	1	-	
Asstant Professor (Ag.)	1	1	-	
b) Technical				
Farm supervisor Gr.I	2	2	-	
Farm supervisor Gr. II	1	1	-	
Farm Asst.	1	1	-	
Lab Assistant-Graduate	1	-	1	
Lab Assistant-Non-Graduate	1	-	1	
Lab assistant Gr. III	1	-	1	
e) Administrative/supporting staff				
Admn. Assistant	1	1	-	
Asst. Sr. Grade	2	2	-	
Typist Gr. I	1	1	-	
Peon	1	1	-	
Class IV	2	2	-	

New post/Sanctioned/created/ shifted :Nil

Faculty Improvement Programme:Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars / symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Sri. Joy P.P. Dr. Samuel Mathew	Dept. of Agronomy, College of Agriculture, Vellayani,	3-12 August, 1999
Dr. J. Thomas	Seminar on "Standardisation of Indian Traditional Medicines for Global Competitiveness" Review meeting of the central sector scheme for development of medicinal and aromatic plants	Indian Institute of Chemical Technology, Hyderabad 18th & 19th Dec., 1998 Krishi Bhavan, New Delhi 19-03-99

Training /symposia/workshop etc. conducted

Title	Period	No. of participants
Spice trade and adulteration problems	17.04.98	62
Compost preparation using microbial cultures	16.07.98	93
Modern techniques in the cultivation of aromatic and medicinal plants to VHSS students, Muvattupuzha	18.07.98	
Modern techniques in the cultivation of aromatic and medicinal plants.	17.08.98	62
Modern agricultural technology to the farmers of Mudakuzha Krishi Bhavan	26.10.98	53
Modern techniques in the cultivation of aromatic and medicinal plants to VHSS students, Kothamangalam	23.12.98	38

A lemongrass type with high content of geranyl acetate which has high demand in perfumery/agarbatti industry was identified.

Cultivation practices of OD-455 (Thathimalangatha grass), a geraniol yielding accession, were standardized.

A high eugenol yielding cinnamon type was identified.

Manurial requirement for kacholam was optimised.

An inexpensive and easy chemical method for the post harvest quality improvement of palmarosa oil has been standardised.

Standardisation of agro-techniques in lesser known aromatic and medicinal plants of Zingiberaceae.

In chittaratha, harvesting after 42 months of planting gives the maximum rhizome and its oil yields. The best rhizome yields and oil yields are realised at 40 x 30cm spacing with the application of FYM at 20t/ha/year, NPK at 100:50:50kg/ha/year.

Methyl eugenol and poisoned and crushed tulsii leaves were found effective in the attraction of fruit flies affecting bitter gourd.

Farm Revenue

Head of A/C	Expenditure (Rs.)	Receipts (Rs.)
Non plan	28,01,641	4,81,394
Plan	7,19,658	
Revolving	5,13,431	5,52,902
Fund	31,34,730	10,34,296
Total		

Academic Programme :Nil

Major research achievements

Morphological description of 423 accessions of lemongrass was made.

Visitors

Name and address	Date of visit	Purpose of visit
Dr. C.K. George, Ex.Director, Spices Board	17.04.98	Seminar on Spice trade and adulteration problems.
Mr. Sajan Peter, Secretary to Govt. of Kerala	17.04.98	Seminar on spice trade and adulteration problems.
Dr. Amit Mallick, IFS, DFO, Kothamangalam 98	10.06.98	To study various activities at the station
Mr. Christian Meir W., Germany	15.06.98	"

Pineapple Research Station, Vazhakulam

Introduction

The Pineapple Research Station was started at Vazhakulam, 10 kms on east of Murvattupuzha, on 2.1.1995. The main objective of the station is to conduct survey on pests and disease occurrence in pineapple, and to carry out research on crop improvement, agronomic practices, mutational aspects, cropping intensity and, post-harvest technology and to undertake farm advisory services.

Sri.K.P. Kuriakose, Asst.Professor continued as head of the Station.

Mandate of the station

Research on pineapple for development of new varieties and developing sustainable farming technologies for higher yield and quality of fruits are the main objectives.

Lead Functions

Carry out research on crop improvement, agronomic practices, nutritional aspects, cropping intensity and post-harvest technology and extension of new technologies.

Verification Function:

Research on other fruits and vegetables

Staff-Position

Category/ Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
Asst. Professor (P.L.Br.)	1	1	-	
Research Associate	1	-	1	

New post/Sanctioned/created/ shifted: Nil
Faculty Improvement Programme: Nil

Seminars/Symposia/ Trainings /summer institute/workshop: Nil

Training /symposia/workshop etc. conducted

Title	Period	No. of participants
Training programme on pineapple production technology	16.09.98	12

Academic Programme : Nil

Research Programme

Major research achievements

The following research projects were implemented at this station in farmers fields during the year.

KAU Plan Projects

Population density of pineapple var. Mauritius as inter-crop in coconut and rubber plantation

This project consisted of two experiments, one in rubber and the other in coconut garden. The third year harvesting was completed in both the experiments. It was observed that population density of 14815 suckers/ha in paired rows of 45cm x 30cm was optimum for pineapple in rubber plantation, whereas density of 21428 suckers/ha was optimum in coconut plantations.

Improvement of pineapple var. Mauritius through hybridization and induced mutation.

About 90 hybrid seedlings produced by crossing between Kew & Mauritius varieties were planted in field. Hybridization was done between Kew and Mauritius parents.

Interactional variability in pineapple var. Mauritius.

Surveying and collection of plant types is in progress. One plant type with plant characters of the Mauritius variety and fruit characters of Kew variety

was located in farmer's fields. Another type of pineapple having reddish leaf was collected from farmer's fields. The suckers collected are being planted in the main field. Four distinct types were collected so far. The fruit of the selection with plant type characters Mauritius variety and fruit characters of Kew variety was harvested and quality analysed. It was found that the quality characters were comparable to that of Kew variety.

Visitors: Nil

Cropping Systems Research Sub-Centre, Wadakkenchery, Alathur

Introduction

This is the field testing unit of cropping systems research project. The ECF unit started in 1971 functioned in different districts all over the State. This unit has been functioning in Trichur district and was shifted to Kayamkulam w.e.f 02.06.93. Then it was shifted to Alathur on 01.06.99 (NARP Central zone.)

Mandate

On farm research work on location specific problems in the NARP zone.

Lead Functions

To refine and develop location specific need based technologies and to help in the confirmation of advanced technologies under actual farming situation.

Farm Revenue

Head of A/C	Expenditure (Rs. Lakhs)	Receipts (Rs.)
Non plan	-	-
Plan		
321-31- 3370	2.195	
321-31- 4448	0.000	
321-31- 4449	0.239	9767.00
321-31- 4450	0.009	
321-31- 4451	0.000	
321-31- 3327	0.001	
Revolving Fund	-	-
Station total	2.444	9767.00

Staff Position

Category/Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific	2	1	-	
b) Technical				
Farm Assistants	6	6	-	
d) Administrative/supporting/para-technical/ ministerial				
Typist	1	1	-	
Driver	1	1	-	
Watchman	1	1	-	

New post/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme: Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars / symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. Abraham Varghese,	Workshop on ACRP on cropping system research	GAU, Junagadh 26.05.98 to 30.05.98

Training /symposia/workshop etc. conducted

Title	Period	No. of participants
Agricultural seminar and field day	One day	162

Research Programme

Major research achievements

Onattukara:

Integrated nutrient management trials in rice proved that application of vermi compost or dual

culture of cowpea incorporation on 30days was able to substitute 25% nutrient requirement in Kharif rice.

Pre-emergence spray of Oxyflourfen 0.1kg/ha. or Butachlor 1.0kg followed by one hand weeding on

30 DAS or hoeing on 25 DAS were economic methods of weed control in dry sown Kharif rice.

Koottumundakan trials with photoinsensitive varieties and photosensitive variety Dhanya @ 70:30 (w/w) (rate of seedling) proved that Jyothi was the best for mixing with mundakan rice, for kharif compared to Red Triveni, Onam and Bhagya.

Cucumber, amaranthus, bhindi and brinjal could be successfully raised in rice fallows by pot watering in small areas in summer season.

Kuttanad

Integrated nutrient management on rice proved that acid tolerant strains of Azospirillum was able to re-

duce N requirement of rice in Kuttanad by 25% both in Karapadam and Kari lands.

Pre-sowing application of glyphosate or 2 4-D + paraquat was effective in controlling waterweeds and increasing rice yields in Kuttanad.

Coating of Urea with Nimin both at basal and top-dressing was able to reduce the dose of N by 25% without reducing rice yields.

Farm Revenue : Nil

Visitors: Nil

Regional Agricultural Research Station, Pilicode

Introduction

Under NARP scheme, this station was reorganized as Regional Agricultural research Station for the Northern regions comprising of the districts of Kasaragod, Kannur, Kozhikode and Malappuram with effect from 1-6-1980. The present area at RARS, Pilicode is 57.87 ha and that of Nileshwar 17.25.

Dr. P.A. Wahid was the head of the station till August 1998 and later Prof. Sumangala S. Nambiar took charge as the Associate Director of Research of the station

Mandate of the station

Lead Functions:

The main objective of the station is to perform a state-wide research on coconut and coconut based cropping systems.

Verification Function:

To serve as a commodity verification and testing centre for rice, pulses and oilseeds

To supervise and guide the work at Pepper Research Station, Panniyur in the northern zone of Kerala.

To test and evaluate the promising experimental results in farmers' fields under different soil types and climatic conditions.

It has got close collaboration with the Krishi Vignan Kendra, Manjeshwar.

a) **Lead Station** : RARS, Pilicode

b) **Satellite Stations** : Pepper Research Station, Panniyur.

Staff Position

Category/ Designation	No. of posts			Remarks
	Sanc- tioned	In posi- tion	Va- cant	
a) Scientific				
Assoc. Director	1	-	1	Prof. i/c of ADR
Professor	2	1	1	
Assoc. Professor	18	4	14	Two posts shifted to COA, Vellayani. Hence only 12 posts vacant.
Asst. professor	14	3	1	
b) Technical				
Sr. Farm Supervisor	1	1	-	
Farm Supervisor Gr. I	1	1	-	
Farm Supervisor Gr.II (Agrl.)	1	1	-	
Farm Assistant (Agrl.)	7	6	1	
Farm Assistant (Vety.)	3	3	-	
Technical Assistant	1	1	-	
Lab Assistant	6	3	3	
Technician/Electrician	1	-	1	
Pump Operator/Oil Engine Driver	2	2	-	
c) Administrative/ supporting/ para-technical/ ministerial and other positions (scheme-wise)				
Administrative Officer	1	1	-	
Section Officer	2	2	-	
Sr. Office Supdt.	1	1	-	
Seln. Gr. Asst.	2	2	-	
Assistant Gr. II	5	2	3	
Steno/Typist	4	4	-	
Driver	3	2	1	
Peon	4	4	-	
Class IV	2	2	-	
Regular masdoor	25	13	12	Only 7 posts exist, 5 abolished
Watchman	1	-	1	
Cook-cum-Caretaker	1	-	1	
Sweeper cum-Sanitation worker	1	-	1	

Posts shifted :

Two posts of Asst. Professor (Pl.Brdg. & Genetics) shifted to COA, Vellayani.

The post of Office Supdt. Hr. Gr. at RARS, Pilicode and Sr. Office Supdt. of RARS, Pattambi was mutually shifted.

The post of Sr. Farm Supervisor from COA, Vellayani was shifted to RARS, Pilicode.

One post of LDV Driver from RARS, Pilicode was shifted to CRS, Pampadumpara.

Faculty Improvement Programme : Nil.

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	Seminars/symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. G.S.L.H.V. Prasada Rao,	Kerala Science Congress XI Session	CPCRI, Kasaragod 27 Feb. to 1 March 1999
Dr. B. Jayaprakash Naik,	1. Kerala Science Congress-XI Session 2. Training on E-Mail and Internet at DISC 3. Training on Intellectual Property Rights-Patent update	CPCRI, Kasaragod 27 Feb. to 1 March 1999 KAU, Vellanikkara 2 Days on 23 & 24 April 1998 STEC, Trivandrum 1 day on 12 May 1998

Training /symposia/workshop etc. conducted

Title	Period	No. of participants
Zonal Workshop-Research & Extension Advisory Council (NARP Northern Zone)	16th February 1999	75

Academic Programme :

Teaching:

Name of Scientists	Course offered	Institute
Prof. Sumangala S. Nambiar	In charge of Academic	College of Agriculture, Padannakkad
Dr. G.S.L.H.V. Prasada Rao	Ag. Met 101 Metg. 101	"
Dr. B. Jayaprakash Naik	Pbgn. 101 Pbgn. 102	"
Dr. M. P. Giridharan	Hort. 306 Hort. 203 Hort. 102 WE. Hort. 101 WE. Hort. 302 WE. Hort. 303	"
Dr. K.C. Raghavan	Anhs. 301 Anhs. 302	"
Dr. M. Govindan	Pl. Path. 101	"
Dr. T.M. Kurian	W.E. 101	"
Sri. K.P. Mammooty	Pl.Path. 203	"

Research Programme

Major research achievements :

Crop Improvement

Studies revealed that Kerasree ranked first in copra yield (216 g/nut). It could produce 250 nuts/palm/year and out turn of 30kg/palm/year while Kerasowbagya could produce 217 nuts/palm/year with copra out turn of 25kg/palm/year under good management conditions.

Jayathy (Culture 1727) was released as a high yielding variety of rice suitable for this zone.

A large number of accessions of cucurbitaceous vegetables are being screened for summer fallows of rice of the northern region. One improved line of melon (CSI) and another of ridge gourd (LA-1) have been recommended for release.

Crop Management

Coconut seed nuts sown in poly bags were found superior to the ones grown in conventional seed beds.

Among the eight sweet potato entries tested as floor crop in coconut garden, H-4021 gave a maximum yield of 4888 kg/ha while the Kanhangad local yielded only 2963 kg/ha.

A fertilizer trial on sweet potato grown as floor crop in coconut garden indicated that application of 25kg N and 50 kg K per hectare gave the maximum yield.

Irrigation at the rate of 400 litres/palm/week during summer months will increase the yield of nuts, (more than 50%), and the quality and quantity of copra.

A strain of *Azolla pinnata* with high sporulation was screened out from the rice fields of the northern region of Kerala. This strain PIL-1 has great potentiality of saving nitrogenous fertilisers in paddy fields.

Root functions and root development in pepper cuttings was found to be enhanced by inoculation of the cuttings with *Azospirillum*. It also favours the formation of more healthy and strong roots and shoots.

Crop Protection

Spraying Bordeaux mixture was considered to be phytotoxic to cucurbitaceous vegetables. But experiments conducted in bitter gourd, snake gourd and water melon have showed that Bordeaux mixture if properly prepared is not phytotoxic to them.

Agrometeorology

Regression models for predicting annual yield in coconut seven months ahead was developed using agroclimatic indices. The model has a predictability of 0.94 R².

The influence of altitude and latitude was found to be significant on cashew philology. For every altitude of 100m, there was a delay of 2, 5 and 3 days in cashew bud break, harvest and crop duration, respectively.

Crop growth simulation models have been tested in rice. CERES-Rice model was found to be suitable for assessing potential grain yields during Kharif while it requires validation for use with Rabi crop.

Animal sciences

The average birth weight, of kids at three months, six months and at one year were 1.97 ± 0.16 , 7.1 ± 1.45 , 10.11 ± 2.15 and 15.00 ± 3.35 kg, respectively. The average age at first kidding was 503 days with an interkidding interval of 282 days. Among all the births, 40% was singles, 49% twins and 11% triplets. Sex ratio was 49:51. The percentage of kid mortality was 8.2.

Studies on utilization of unconventional feed and economics of pig (Large White Yorkshire) rearing and feed efficiency of pure bred and cross bred broiler rabbits (Soviet Chinchilla, Newzealand White, Gray Giant and White Giant and their crosses) were initiated.

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan	85,96,249	
Plan	5,08,784	
ICAR	4,27,624	13,24,141
OEAP	5,59,079	
Revolving Fund	7,93,562	5,98,646

Visitors : Nil

Pepper Research Station, Panniyur

Introduction

Pepper Research Station, Panniyur, started in 1952 as part of a scheme to improve pepper cultivation, was uplifted to the status of a research station under the KAU in 1972. The station concentrates on crop improvement, crop management and crop protection aspects of black pepper. It is an important co-ordinating centre of the All India Co-ordinated Research Project on Spices of the ICAR. Besides research, nucleus planting materials of released varieties of black pepper, viz. Panniyur 1, Panniyur 2, Panniyur 3, Panniyur 4 and Panniyur 5 are also been distributed.

Mandate of the station

The station is solely devoted to research on black pepper. The station was started with a mandate to conduct research on various aspects of pepper industry in the country, so as to give it a firm footing and confidence to face competition from other pepper producing countries of the world.

Lead Functions

Research on black pepper.

Staff Position

Category/ Designation	No. of posts			Remarks
	Sanctioned	Inposition	Vacant	
AICRP on pepper(ICAR)				
a) Scientific				
Assoc. Professor (Pl.Path.)	1	1	-	
Asst. Professor(Pl.Br.)	1	1	-	
Asst. Professor(Agron.)	1	1	-	
Asst. Professor(Pl.Path.)	1		1	
KAU-Non Plan				
Professor	1	-	1	
Asst. professor	3	-	3	
AICRP on Pepper(ICAR)				
b) Administrative/ supporting/para-technical				
Farm Assistants	2	3	-	One post shifted from RARS, Pilicode
Lab Assistant	1	-	1	
Peon(Hr. Gr.)	1	1	-	
Integrated Programme for Devp. of spices(OAEP)				
Farm Assistant	1	1	-	
KAU,(Non-Plan)				
Farm Supervisor Gr. I	1	1	-	
Farm supervisor Gr. II	1	1	-	
Farm Assistant Sr. Gr.	1	1	-	
Pump Operator	-	1	-	Arrangemen from RARS
Admn. Assistant	1	1	-	
Seln. Gr. Assistant	2	2	-	
Seln. Gr. Typist	1	1	-	
Class IV(Hr. Gr.)	1	1	-	
Hr. Gr. Peon	2	2	-	
LDV Driver	1	1	-	
b) Technical				

New post/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme: Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars / symposia/ Workshop/Summer institute to which deputed	Institute, period of deputation and duration of course
P. K. Unnikrishnan Nair, Dr. A. Rajagopalan &Dr. Arya K. Dr. Arya K	NARP Northern Zonal Workshop Components of yield & their analysis in crop breeding	11.06.99, RARS, Pilicode 05.08.98 to 28.08.98 TNAU, Coibatore

Training /symposia/workshop etc. conducted

Title	Period	No. of participants
Bio control of Phytophthora foot rot disease of black pepper	2 days	40

Academic Programme

Teaching

Scientists (Sri. P.K Unnikrishnan Nair, Professor and Dr. A Rajagoplan, Assoc. Professor) of this station offered courses to the B.Sc.(Ag.) students of the College of Agriculture, Padannakkad.

Research Programme

Major research achievements

The maximum green berry yield of 7.05kg/vine was recorded by Valli(PRS 61) and based on the yield performance for the last five years it could be seen that Karimunda III, Valli, Karimunda II and Kalluvally IV gave a stable yield. Hybridisation work between genotypes/cultures was carried out in all possible combinations.

In the multilocational trial in black pepper culture 1558(OP of Kalluvally) was found to be significantly superior to Karimunda with respect to green berry yield.

For the management of nursery disease of black pepper, dipping stem cuttings in culture solutions of *Trichoderma harzianum* and *T. Viride* re-

corded minimum rotting per cent followed by spraying and drenching of 1% Bordeaux mixture.

Farm Revenue

Head of A/C	Expenditure (Rs.)	Receipts (Rs.)
Non plan	24,16,904	4,15,846
Plan ICAR & OEAP Revolving Fund	12,68,239	-

Visitors

Name and address	Date of visit	Purpose of visit
Dr. G. Balakrishna Moorthy Professor, Hort. Res. Station, TNAU	29.07.98	To observe AICRP experiments on black pepper
Dr. T. D John, Joint Director, Spices Board, Cochin	07.09.98	"

High Range

Regional Agricultural Research Station, Am- balavayal.

Introduction

This station was established in 1945 as a part of the Wayanad Colonization Scheme to provide planting materials and technical advice to the settled cultivators. With the formation of Kerala state, it was brought under the Department of Agriculture. It was upgraded to the status of a Central Horticultural Research Station in 1966 and later brought under the control of Kerala Agricultural University in 1972. In 1983, it was elevated to the status of a Regional Agricultural Research Station under the National Agricultural Research Project with Cardamom Research Station, Pampadumpara as its sub station.

The Regional Agricultural research Station, Am-
balavayal is located at an elevation of 974 metres
above Mean sea level in Sultan Bathery Taluk of Way-
anad District. It is 100 km North-east of Kozhikode.

Mandate of the Station

Staff Position

a) Scientific Staff

Category	Sanctioned	In position	Vacant	Remarks
NARP I				
Associate Director	1	1		Headquarters shifted to KAU, Vellanikkara
Associate Professor (Agronomy)	1	1		
Assistant Professor				
Plant Breeding	1	-	1	
Agrl. Economics	1	-	1	
Horticulture	2	1	1	One post shifted to COH
NARP-II				
Associate Professor (Horti. & Animal Management)	2	1	1	
Assistant Professor (Hort., Patholgy & Farm Mach.)	3	2	1	
KAU Non-plan				
Asst. Professors	1	-	1	
Plant Pathology	1	1	-	
Microbiology	1	1	-	
Soil Science & Agrl. Chemistry	1	1	-	
AICRP on Spices				
Assoc. professor (Plant Breeding)	1	-	1	
DST on AAS				
Asst. professor (Agronomy/ Agromet)	1	-	1	Asst. Professor in position

The station carries out research on various aspects of improvement of agriculture in Wayanad.in general and the colonization area in particular and to render techni-
cal advice on scientific cultivation to the farmers of the
area.

Lead Functions

Research on pepper and pepper based cropping in high
ranges, hill paddy, cool season vegetables, soil and
water management, subtropical fruits and coffee based
cropping system.

Verification function

Research on essential oils and medicinal plants and
ginger.

Lead station

Regional Agricultural Research Station, Ambalavayal.

Satellite stations

Cardamom Research Station, Pampadumpara.

b) Administrative/Supporting/Technical staff

Cadre	Sanctioned	In position	Vacant	Remarks
Administrative				
Administrative Officer	1	1		
Section Officer	5	2		
Assistants	2	2	3	
Typist/ Steno				
Supporting/Technical				
Farm Supervisor/Farm Assistants (Agri.)	11	10	1	One Farm Assistant on working arrangement at Vellimadukunnu
Farm Assistant (Vety.)	1	1	1	
Field Supervisor	1	1	-	
Laboratory Assistant	-	-	-	
Technician	3	3	-	
Tractor Driver	1	1	-	
Others				

Faculty Improvement Programme

Scholarship awarded to staff/ Deputation of staff for higher studies :Nil

Seminars/Symposia/Trainings/Summer Institute/Workshop

Name of Scientist	Seminar/Symposia/ Workshop/Summer Institute to which deputed	Institute - period of deputation and duration of course
Dr. T. Pradeepkumar	Decentralized Planning	State Planning Board 6-4-1998
	Harvest and Post harvest technology of Plantation crops CPCRI, Kasargod	23-7-98 to 12-8-98
	IX Plan Project Implementation Workshop	Kerala Agrl. University, Vellanikkara, 14.12.98
	Efficient Designing of Expts. and Analysis of Experimental data	IASRI, New Delhi, 16-2-99 to 1-3-99
Dr. K.N. Anith	Internet & E-Mail	DIS Vellanikkara 16 & 17-4-1998
	Advanced training on recent trends in symbiotic Nitrogen fixation	TNAU, Coimbatore 1-3-99 to 14-3-99
Dr. K. Vasanthakumar	National workshop and exhibition On tribal medicine	KIRTADS, Calicut 5 to 9 - 5 - 1998
	National Regional Science Centre, Calicut Golden Jubilee Symposium of Spices	10 to 12-8-98
Smt. Susamma P. George	University variety Evaluation Committee Meeting	KAU, Vellanikkara, 11- 5-1998
	State Seed Sub Committee Meeting CTCRI, Sreekaryam	16-5- 1998
Dr. K.C. Aipe	All India Radio Advisory Committee Meeting	RCRS, Chundale

Trainings/ Symposias/ Workshops etc. conducted

Title	Period	No. of Participants
XVI th ZREAC of High range zone	27-5-1998	50
Farmer Scientist Interaction for Kharif season	23 & 24-9-98	50
Training programme for mushroom production	Aug.1998	25
Project Co-ordination group meeting of fruits & Horticulture	6-11-98	15
XVII th ZREAC Meeting of High Range zone	11-3-99	45
Farmer Scientist interaction for Kharif crops	18-3-99	25
Faculty seminar on Veterinary & Animal Sciences	27-2-99	75

Academic Programme

Two batches of B.Sc. (Ag.) students from College of Horticulture, Vellanikkara and College of Agriculture, Vellayani were given field training at the station from 27.4.1998 to 16.5.1998 and 8.6.1998 to 20.6.1998 respectively. Students from Cochin university and Guruvayurappan College, Calicut visited the station on 22.10.1998 and 20.11.1998, respectively to acquaint with the functioning of the Biotechnology laboratory.

Research Programme

Major Research Achievements

Spices

In ginger, Kuruppampadi recorded the highest green rhizome yield of 24590 kg/ha followed by PGS-35 (23875 kg/ha) and Ernadan (23865 kg/ha)

Vegetables

French bean variety, Sel 909 gave highest yield (38.64 t/ha) followed by Arka kamal.

Among the eight cauliflower varieties tested, Serrano recorded the highest yield (40 t/ha) followed by Snow ball-6 (22.65 t/ha).

Rice

Among the 59 accessions in the rice germplasm, Chomala recorded the highest grain yield of 6134 kg/ha followed by HP-5 (5917 kg/ha)

Farm Revenue

Head of A/c.	Expenditure (Rs. in lakhs)	Receipts (Rs. in lakhs)
Non Plan & Plan	9851548.00	23,35814.50
Revolving Fund	865812.00	9,66,789.00
Total	10717360.00	33,02,603.50

Consultancy : Nil

Visitors

Name & address	Date of Visit	Purpose of visit
Dr.USHA ABROL. Regional Director National Institute of Public Co-operation & child Development, Bangalore	13.04.1998	To acquaint with the activities of the station
Sri Ramachandra, I.P.S., General Manager, Telecom	23.04.1998	To acquaint with the activities of the station
Sri. P.V.Velayudhan Sri A.Sreedharan, General Council Members	30.04.1998	To acquaint with the activities of the station
Sri. Lohitadas, Film Director	09.05.1998	To acquaint with the activities of the station

Name & address	Date of visit	Purpose of visit
Sri.K.K.Abraham, Chairman, Standing Committee, Dist. Panchayat, Kalpetta	19.05.1998	To acquaint with the activities of the station
Dr.R.K.Samantha, Zonal Co-ordinator, K.V.K., ICAR, Bangalore	10.07.1998 12.11.1998	Monitoring and evaluation of K.V.K. Am- balavayal. To attend the SAC meeting of K.V.K., Am- balavayal
Dr.V.Arunachalam, Swamithan Research Foundation, Madras	21.08.1998	To acquaint with the various activities of the station
Sri.P.P.Balasubramaniam Director, Directorate of Cashew Develop- ment, Cochin	23.08.1998	To acquaint with the various activities of the station
Sri. N.Mohandas, District Collector, Wayand	21.08.1998 16.10.1998 & 24.10.1998	To acquaint with the various activities of the station.
Dr.R.K.Samantha, Zonal Co-ordinator, KVK, ICAR	12.11.1998	
Executive Committee Members Sri.Cyriac John, M.S.Jayasuriyan, C.N.Jayadevan, MLA	24.11.1998	To visit the site proposed for Veterinary College, Pookkode and to acquaint the ac- tivities of the station
Sri C.K.P.Padmanabhan, Executive Committee member	09.12.1998	To visit the site of proposed for Veterinary College, Pookkod and to acquaint the ac- tivities of the station
Sri Chandikunju, Spices Board, Cochin	07.01.1999	To acquaint the activities of the station .
Mr.A.Balakrishnan Nair, Superin- tendent of Police	23.01.1999	To acquaint the activities of the station
Dr.R.N.Pal, ADG, ICAR (PC) & Team of Sci- entist from various Agrl. Universi- ties/ICAR Institution.	22.03.1999	To acquaint with the various activities of the station .

Cardamom Research Station, Pampadumpara Introduction

The Cardamom Research Station, Pampadumpara was established in the year 1956 under the State Department of Agriculture, Government of Kerala. It was later transferred to the KAU by virtue of the KAU Act 1971 with effect from February, 1972. The station was selected as one of the co-ordinating centres for spices under the All India Coordinated Research Projects in 1972. Pepper and cardamom are the mandate crops of the station. The station is situated in the Pampadumpara village of Udumbanchola taluk in Idukki district. It is located on the eastern side of Kumily-Munnar road, 35kms away from Kumily and 71kms from Munnar in the Cardamom hills of the western ghats.

Mandate of the station

Lead Functions

Evolving high yielding varieties of cardamom.

To standardise location specific agro-techniques for successful cultivation of cardamom, black pepper and cool season vegetables.

To formulate effective management strategies for major insect pests and diseases of cardamom and black pepper.

Verification Function

Supplying superior quality planting materials of cardamom, black pepper, coffee, rose and other ornamental plants.

To undertake agricultural extension and education activities in Idukki district.

the district.

Issual of phytosanitary certificate to rooted black pepper cuttings in notified nurseries.

Pest and disease surveillance during epidemics in Staff Position (as on 01.04.99)

Category/Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific				
AICRP on Spices				
Assoc. Professor (Hort.)	1	1		
Asst. Professor (Ento.)	1	-	1	
NARP				
Asst. Professor (Extn.)	1	-	1	
Asst. Professor (Pl.Br.)	1	-	1	
KAU non plan				
Asst. Professor (Pl. Path.)	1	-	1	
Asst. Professor (Soil Sci.)	1	1		
Asst. Professor (Hort.)	1	-	1	
Assoc. Professor (Bot.)	1	-	1	
b) Technical				
AICRP on Spices				
Farm Assistant Sl. Gr.	1	1		
Lab Assistant Gr. I	1	1		
NARP				
Farm supervisor Gr. II	1	1		
Farm Assistant Sl.Gr. a	1	1		
KAU Non plan				
Sr. Farm Supervisor	1	1		
Farm Supervisor Gr. II	1	1		
c) Administrative/ supporting/para-technical/ ministerial and other positions (scheme-wise)				
AICRP on Spices	1	1		
Peon				
NARP	1	-	1	
Typist Gr. I	1	1		
Driver Gr. II				
KAU Non Plan	1	1		
Admn. Assistant	1	1		
Senior Gr. Assistant	1	1		
Assistant Gr. II	1	1		
Typist Gr. II	1	1		
Driver III	2	2		
Watchman	1	1		
Sweeper Cl.IV	1	1		
Pump Operator				

New post/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme : Nil



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Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	Seminars /symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. Hebsy Bai & Dr. N. Mini Raj	NARP workshop, Ambalavayal	25.05.98
Sri. M. Murugan	Training on Trichoderma for cardamom, at ICARI, Myladumpara	16.10.98
Dr. N. MiniRaj & Sri. M. Murugan	XAVIth ZREAC workshop, Ambalavayal	09.03.99

Training /symposia/workshop etc. conducted: Nil Academic Programme

Teaching

Classes were handled for the undergraduate students during their visit to the station as a part of their study tour programme.

Research Programme

Major research achievements

CARDAMOM

Genetic Resources

Germplasm collection and description of types and varieties of cardamom

Among the accessions, PS-29 recorded the maximum wet (891.7g) as well as dry (170.9g) yield of capsules. With respect to the quality parameters the maximum volatile oil (8.0%) as well as oleoresin content (12.2%) was observed in PS-12 followed closely by PS-5.

Crop improvement, Biotechnology and Biochemistry

Co-ordinated varietal trial in cardamom.

The maximum wet (301.3g) and dry (60.0g) yield of capsule was recorded in M-1 and was found to be significantly superior. The lowest yield of both wet (57.5g) and dry (15.0g) capsules was observed in SKP-51.

Plant height, number of tillers, wet and dry yields of capsules were highest in T6 ie, NPK 75:75:150 kg ha⁻¹ + 0.5 kg neem cake plant⁻¹.

BLACK PEPPER

a. Crop improvement, Biotechnology and Biochemistry

Co-ordinated varietal trial in black pepper

Cul-239 recorded the maximum wet (1104.7g) as well as dry (408.3g) yield of berries followed by Ot-

taplackal, 809.5g and 311.1g respectively. The highest volatile oil content was recorded in Cul-5128 (4.6%) which was significantly superior than other treatments.

Plant Pathology and Entomology

(i) Survey for the incidence of insect pests of black pepper at high altitudes.

Survey was initiated from April, 1999. Eighteen Panchayats in four taluks have been surveyed for the occurrence of insect pests in black pepper. The most predominant insect pest was the marginal gall thrips, *Liothrips karnyi* observed in 22.9% of the leaves and reported from all the gardens surveyed. Three species of scale insects viz., mussel scale, (*Lepidosaphes piperis*), soft scale, (*Marisipococcus marsupiale*) and coconut scale (*Aspidiotus destructor*) have been observed in eleven panchayats (3.88%). Scale insects were mostly recorded in the plains of Thodupuzha (Karimkunnam 49.3%) and their occurrence at high ranges was very meagre. Serpentine leaf miner, leaf gall midge and bag worm have been observed in 1.13%, 0.16% and 0.23% of the leaves respectively. Among the eighteen Panchayats surveyed, Pollu beetle, (*Longitarsus nigripennis*) was recorded only in the plains of Thodupuzha (4.00%) and was observed in only one garden at high ranges (Vazhathoppu 0.85%). An aphid and a looper were registered from Mariyapuram and Vellathooval Panchayats respectively.

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan	32,79,212	8,35,667
Plan	3,63,874	-
Revolving Fund	52,853	95,002

**Visitors**

Name and address	Date of visit	Purpose of visit
Prof.K.N.Shyamasundaram Nair, Vice-Chancellor, KAU, Trichur	10.05.98	Official
Dr. S. Thamburaj, Dean, Horticultural College and research Institute, Coimbatore	18.02.99	Official
Prof. P. N Ravindran, Project Co-ordinator, AICRP(Spices)IISR, Calicut	03.03.99	Official and Review meeting

Kerala Horticulture Development Programme (R&D) Unit, KAU Campus, Vellanikkara

Introduction

The Research and Development (R&D) component of Kerala Horticulture Development Programme (KHDP) started functioning at the KAU during February 1994. This forms a part of the joint venture of the Kerala State Government and the European Economic Community (EEC). The R & D component of KHDP is fully financed by the KHDP. The R & D activities of KHDP at the university is functioning at two campuses of KAU viz., College of Horticulture, Vellanikkara and College of Agriculture, Vellayani.

Mandate of the station/unit

Staff Position

To conduct research on fruit crops (banana, mango and pineapple), vegetables and post, harvest technology of fruits and vegetables based on farmers problems.

To supply quality planting materials, ie breeder/foundation seeds of vegetables, mango grafts and tissue culture plants of banana and pineapple to KHDP.

Establishment of pest and disease surveillance units at Ernakulam and Thiruvananthapuram Pilot Project areas of KHDP and to monitor the occurrence of pests and diseases so as to give recommendations.

Lead Functions

To conduct research on the immediate needs of the banana and vegetable farmers of the KHDP pilot project areas.

Category/ Designation	No. of posts			Remarks
	San ctioned	Inposition	Vacant	
a) Scientific Cadre KHDP Fund Professor Associate Professor Cadre	1	1	0	
KAU Associate Professor	2	2	0	
Assistant Professor	3	3	0	
ICR Ad-hoc Research Associate	2	2	0	
b) Technical Farm Supervisor Gr I Farm Assistant	1 1	1 1	0 0	
c) Administrative/supporting/para-technical/ ministerial and other positions (scheme-wise)				
Administrative Assistant	1	1	0	
Office Assitant	1	1	0	
Stenographer	1	1	0	
Typist	1	1	0	
Driver	3	3	0	

New post/Sanctioned/created/ shifted :Nil

Faculty Improvement Programme: Nil

Scholarship awarded to staff/Deputation of staff for higher studies :Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars /symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. T. R. Gopalakrishnan Dr.K. Aravindakshan	Presented paper on "Biodiversity of chillies in Kerala" during the National sem on Spices Training programme of "Use of computer in Agricultural Research" The third annual scientific meeting of "Banana improvement project" The Pro-musa meeting of "Global banana workers" National Seminar on "Participatory approaches for horticultural development"	10.8.98 IISR Calicut 11/5/98 to 23/5/98 IARI, New Delhi. 5/11/98 to 6/11/98, Douala, Cameroon. 8/11/98 to 10/11/98 INIBAP, Douala, Cameroon. 8/1/99 to 9/1/99 KHDP, TVM.
Dr.Maicykutty P Mathew	Seminar on "Coconut mite Eriophis guerri-ronis (k)" State level workshop on "Coconut mite"	9/10/98 Collectorate, Ernakulam. 6/11/98 KAU,
Dr. V.S.Devadas	"X th National Seed Seminar" "National symposium on Vegetables" National Seminar on "Participatory approaches for horticultural development"	17/12/98 to 19/12/98 HAU, Hisar. 12/12/98 to 14/12/98 PDVR, Varanasi. 8/1/99 to 9/1/99 KHDP, TVM.
Prof P.Reghunath	"28th ZAREAC" "Hort India"	April 1998, KAU 8/1/99 to 9/1/99 KHDP, TVM.
Dr. C.Gokulapalan	"28th ZREAC" "Hort India"	April 1998, KAU 8/1/99 to 9/1/99 KHDP, TVM.
Dr.T.Radha	"Training on Computer applications in Agriculture" National seminar on "New horizon in production and post harvest management of tropical and sub-tropical fruits"	20/4/98 to 1/5/98 NAARM, Hyderabad 8/12/098 to 9/12/98 IARI, New Delhi.
Dr.Babylatha, Dr. Nandini Smt.Omana pavunny,	"Eleventh science congress" The summer institute on "Physiological analysis of yield in crop plants" Summer institute on "Harvest and post harvest technologies of plantation crops" Participated in the National Seminar on "New horizon in production and post harvest management of tropical and sub tropical fruits"	27/2/98 to 1/3/98 CPCRI, Kasaragod. 15/6/98 to 24/6/98 IARI, New Delhi 21 days at CPCRI Kasaragode 8/12/98 to 9/12/98 IARI New Delhi.

Training /symposia/workshop etc. conducted :Nil
Academic Programme
Teaching

a) Courses handled.
Dr. Maicykutty P.Mathew

Associate Professor:
UG Ent.304 ,PG Ag Ent 607 , Diploma- in Natural Rubber Production NRP 107

Dr. V. S. Devadas, Associate Professor:
Pg-Veg. 604. (Vegetable and flower seed pro

duction) (2+1)

Prof. P. Reghunath,
Entomology 203

Dr. C. Gokulapalan, Associate Professor:
Path. 102 , 202, 602 and Biological control of
plant diseases

Dr. T. Radha, Associate Professor:
Agro 102, Fmu-202, Fmu-202 and Hort-101

Sri. A. K. A. Babylatha Associate Professor:
UG-Hort-101AFS 412 and Hort-303

Dr. K. Nandini, Associate Professor
Ag. Bot. 305, Crops 201, Ag. Bot.612, Ag. Bot- 612 ,
Ag. Bot – 710 , Path. 202,

Dr. Sheela Paul, Path. 305 , Fmu 308, Path. 204
W.E. , path 604, path 702

Omana Pavunny, Associate Professor
Food Science COH Vellanikkara, (2+1) sem-
first Post Graduate guidance

Dr. T. R Gopalakrishnan Assoc.Professor
As Chairman

C. R Rekha, (96-12-23). "Nutritional Manage-
ment of bittergourd (*Momordica charantia. L*)
in relation to pest and disease incidence

As advisory committee member

M. Praveen Kumar (96-1—33) "Anthracnose dis-
ease of vegetable cowpea *Vigna unguiculata* Var
sesquipedalis (7) Verdcourt".

Vimi Louis (97-10-21) "Effect of selected medicinal
plant extracts on the incidence of pumpkinmosaic."

Dr. K. Aravindakshan, Assoc.Professor
As chairman –

R. Beena (98-12-12). "Somatic embryogenesis
in banana *Musa* (AAB) Nendran".

As member of advisory committee

S. Pattabiraman . (97-12-10)

Lalitha. (98-12-20)

R. Lavanya (98-12-20)

N. Gouthami. (98-12-22)

Dr. Mireykutty P. Mathew, Assoc. Professor
As chairman

M. Sunil Dutt (97-11-32). "Bio-pesticides
for intergrated pest managementy in bitter gourd."

As member of advisory committee

C. R. Rekha (96-12-23)

Dr. V. S. Devadas, Assoc. Professor
As chairman

S. Devi (97-12-18)

As member of advisory committee

P. V. Liji

Barath Balan

Krishnakumari(Ph. D)

Prof. P. Reghunath

As chairman

T. Santhosh Kumar, "Management of imporetant
sucking pests of chilli *Capsicum annum*".

As member

C. Nandakumar

Dr. T. Radha, Assoc.Professor

As chairman

S Pattabiraman (97-12-10). "Evaluation of *In vitro*
multiplied accession of Pineapple. Cv/Mauritius".

As member

M. L. Jyothi (Ph.D)

Dr. K. Nandini, Assoc.Professor

As chairman

Mrs. Thara Manoharan. "Cytological and biochemi-
cal changes in aged osmoprimed seeds of chilli (*cap-
sicum annum. L*)".

As member of advisory committee

K. Sudha

Ambili S. Nair

Sanjeev U. Nair

Shiji K. Itty

Dr. Sheela Paul, Assoc. Professoessor

As chairman

K. I. Akbar. "Integrated management of bacterial
wilt of tomato caused by *Ralstonia solancearum*
(Smith) Yabuuchi et al.,".

As member of advisory committee

M. Praveen Kumar

Smt. Omana Pavunny, Assoc. Professor

As chairman

M. E. Smitha."Food consumption pattern and nutri-
tional status of women agricultural abourers in Ol-
lukkara Block".

Raji M. John. "Quality evaluation of banana by-
products

Sabeena Tajudheen. "Evaluation of banana varieties
for quality attributes."

Research Programme

Major research achievements

Vegetables

The following vegetable varities form KHDP (R&D)
Unit have been recommended for the release by the
19th State Seed Sub-Committee

Haritha

High yielding (62t/ha) and bacterial wilt resistant long duration brinjal variety with large, long, glossy and light green fruits.

Neelima

The first F1 hybrid brinjal in the country, with large oval fruit, having resistance to bacterial wilt and high productivity upto 100 t/ha.

Vyjayanthi

High yielding (12.5 t/ha), extra long (55-60 cm) and wine red podded vegetable cowpea.

Saubhagya

Small, medium sized and high yielding oriental pickling melon variety.

The high yielding, greenish white and long podded vegetable cowpea VS 13-2 has been recommended for the central zone by the ZREAC meeting held at RARS Pattambi.

Integrated Pest and Disease Management (IPDM) techniques for the control of pests and diseases in bittergourd, Snakegourd, cowpea, amaranthus, chilli, brinjal and bhindi have been standardised.

Acetamiprid at 5g a.i/ha, Monocrotophos @0.05% and Acephate + Bt were found to be most effective for the control of leaf hopper (*Empoasca motti*) in bittergourd. Neem + garlic emulsion, Nimbidine gave long term protection from *Aphis gossypii*.

Acetamiprid, at 20g ai/ha controlled the fruit borer infestation and 5-15 g a.i/ha controlled sucking pests like leaf hopper, aphids and white flies in bhindi, brinjal and bittergourd.

Application of Ethrel 150 ppm at 2-3 leaf stage and 15 days after first application were found effective for increasing yield in cucurbitaceous vegetables.

Two Manjeri nendran accessions namely WA-12/MPM and VA 18/MPM progressed for farm trial. The bunch weight of the accessions were 15.65kg and 13.50 kg respectively.

Identified one poovan ecotype resistant to Panama wilt disease and the banana variety Grand Naine is found to be well adapted to Kerala conditions.

The tissue culture nendran banana is found to yield 20-22% more than that from conventional suckers. Planting of two tissue culture plants per pit spaced at 3m x 2m accomodation (3332 plants / ha) resulted in better productivity.

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan		
Plan	35,31,319.00	2,14,311.75
KHDP and ICAR		
Adhoc scheme		
Revolving Fund	Nil	

Visitors: A large number of farmers visited the KHDP research fields.

**College of Veterinary & Animal Sciences,
Mannuthy.**

Introduction

The College of Veterinary & Animal Sciences was established in 1955 with a view of training sufficient Veterinary Personnel. For the first few years the institution was directly under the administrative control of the Government of Kerala but subsequently brought under the control of the Department of animal Husbandry. M.V.Sc. & Ph.D. programmes were started in 1962 and 1965 respectively. The College became a constituent unit of the KAU in February 1972.

The College has associated with it, farms for Live-stock, Poultry, Pigs and Goats. Unit of Dairy Technology and Meat Technology are in the Campus. Two Veterinary Hospitals, one at Mannuthy and other at Kokkalai and a Farm Clinic at ULF Mannuthy are also attached to the College.

In addition to teaching, research projects aided by the University and external agencies are operated in the college. Importance was also given for transfer of technology.

The College and the residential campus cover an area of 154 hectares.

The college has 20 statutory departments viz., 1. Anatomy, 2. Animal reproduction, 3. Animal Breeding & Genetics, 4. Bio-Chemistry, 5. Clinical Medicine, 6. Dairy science 7. Extension, 8. Live-stock Production management, 9. Livestock Products Technology, 10. Microbiology, 11. Nutrition 12. Parasitology, 13. Pathology, 14. Pharmacology and Toxicology, 15. Physiology, 16. Poultry Science, 17. Preventive Medicine, 18. Surgery, 19. Statistics, 20 Veterinary Public Health.

All the departments except Biochemistry and Live-stock Products Technology are offering Post graduate courses at Masters level and all except Extension, preventive Medicine, Veterinary Public Health, Bio-Chemistry, Livestock Products Technology and Statistics are offering Ph.D Programme.

Mandate of the Institution

Teaching, research, extension and service activities in the field of Veterinary & Animal sciences are the main objectives of the College.

Staff Position

Department and designation	No. of Posts		
	Sanctioned	In position	Vacant
DEPT OF ANATOMY			
Professor	1	-	1
Assoc. Professor	3	3	-
Asst. Professor	6	4	2
CLINICAL MEDICINE			
Professor	2	-	2
Assoc. Professor	2	2	-
Asst. Professor	5	3	2
DAIRY SCIENCE			
Professor	1	-	1
Assoc. Professor	4	3	1
Asst. Professor	2	2	-
ANIMAL REPRODUCTION			
Professor			
Assoc. Professor	3	1	2
Asst. Professor	5	4	1
	8	5	3
MICROBIOLOGY			
Professor	2	1	1
Assoc. Professor	2	2	-
Asst. Professor	5	3	2
NUTRI -TION			
Professor	1	4	1
Assoc. Professor	5	2	-
Asst. Professor	4	1	3

PATHO-LOGY			
Professor	4	3	1
Assoc. Professor	3	1	2
Asst. Professor	6	1	5
POULTRY INCLUDING CENTRE			
Professor			
Assoc. Professor	3	1	2
Asst. Professor	4	4	-
	6	-	6
PHARMACOLOGY			
Professor			
Assoc. Professor	1	1	0
Asst. Professor	4	4	-
	6	-	6
PREVENTIVE MEDICINE			
Professor			
Assoc. Professor	1	0	1
Asst. Professor	2	1	1
	7	2	5
PHYSIOLOGY			
Professor	1	0	1
Assoc. Professor	3	1	2
Asst. Professor	5	4	1
STATISTICS			
Professor	1	0	1
Assoc. Professor	1	0	1
Asst. Professor	4	4	0
VETERINARY PUBLIC HEALTH			
Professor	1	0	0
Assoc. Professor	2	0	2
Asst. Professor	6	6	0

Faculty Improvement Programme

Scholarship awarded to staff/Deputation of staff for higher studies

Dr. B. Gangadharan, Asst. Professor, Pathology was deputed for higher Studies.

Dr. G. Girish Varma, Asst. Professor, Physiology

and Dr. K. Vijayakumar, Asst. Professor, Preventive Medicine continued on deputation for Higher Studies.

Dr. T. Leena Devi, Asst. Professor, Pathology, Dr. C. Latha, Asst. Professor, Vety Public Health and Dr. Usha Narayana Pillai, Asst. Professor, Clinical Medicine were on study leave for higher studies.

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars / symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. P. A. Devasia	Meeting of State Level Planning Board Committee	Planning Board office, Trivandrum 5.12.98, 21.01.99 & 14.05.99
Dr. K. M. Syam Mohan	Short course on Feed technology application in Livestock	I.V. R.I, Izatnagar 30.03.98 to 7.04.98
Dr. P. Ganga-devi	National Symposium & 2nd National Convention of Indian Society for Nuclear technology in Animal Sciences	College of Vety. & Animal Science, Mannuthy 9.02.99 & 10.02.99

T. K. Kunhamu,	Biennial Workshop of AICRP on A.F 99	NDUAT Kumar Gunj 6.03.99 to 7.03.99
V. Jamaludheen,	"	"
Dr. P. A. Peethambaran,	Recent concepts in Poultry disease diagnosis and biosecurity of commercial poultry farm.	Namakkal 22.07.98 to 5.08.98
Dr. K. P. Sreekumar	Summer Institute "Recent advances in reproductive endocrinology"	IVRP Izatnagar May 98
Dr. Jayavardhanan	"	"
Dr. Sicilamma George	Summer Institute	Jawaharlal Nehru University, New Delhi Feb, 99
All staff members	Convention & Symposium of the Indian society for Nuclear Technology at Mannuthy	Mannuthy Feb 99
Dr. B. Sunil	International food convention at CFTRI Mysore	Mysore, Nov.98
Dr. Koshy John	Summer school on "DNA based technique in disease Disgnolsis"	Madras Vety. College 4.05.98 to 24.05.98
Dr. K. Devadas	11th Kerala Science Congress	CPCRI Kasaragod Feb 99
Dr. M. R. Saseedranath	Annual Convention & National Symposium on Animal disease control	TNAU Coimbatore 9.12.98 to 11.12.98
Dr. P. V. Tresamol	Summer Institute on recent advances in diagnosis of Avian disease	Mannuthy 8.07.98 to 28.07.98
Dr.P.C. Alex	Training for facultymembers, peoples campaign for planning	KILA Trichur, 23.09.99 to 25.09.99
"	Sustained development in animal health care	5.02.99 to 7.02.99
"	Seminar on Vety. Ethics & Jurisprudence	Nagpur Vety. College 16.07.98 to 17.07.98
Dr. P.G. Baby	Recent concepts in Electron Microscopy cellular & molecular pathology	Mannuthy 8.03.99 to 17.03.99
Dr. Usha Narayanapillai	"	"
Dr. S. Ajithkumar	Short course in Indigenous medicine	IVRI Izatnagar 3.08.98 to 13.08.98

Dr. V. Vijayakumar	ICAR Annual review meeting of Embryo transfer	Oct.98
Dr. Joseph Mathew	Refresher course on production of instructional materials for teaching	HAU, Hissar 21.12.98 to 16.01.99
"	4th International food convention	CFTRI, Mysore 24.11.98 to 27.11.98
"	Eight Swadeshi Science Congress	St. Joseph College for women, Alappuzha 5.11.98 to 7.11.98
"	11th Kerala Science Congress	CPCRI, Kasaragod 27.2.99 to 1.03.99
Dr. T. V. Viswanathan	Scientists meet on AICRP (Pigs)	AAU Guwahati 17.06.98 to 19.06.98
"	NATP Workshop	Delhi 26.08 to 27.08
Dr. Geevarghese P.I., Dr. Mukundan . M	IFCON at Mysore	CFTRI Mysore 27.11.98
Dr. Geevarghese P.I	Advances in Ice-cream and frozen deserts	NDRI Marnal Dec.98

Training /symposia/workshop conducted

Title	Period	No. of participants
2nd convention & National Symposium of Indian society for Nuclear Technology	9.02.99 to 10.02.99	80
Summer school on "Recent advances in the diagnosis of Avian diseases"	8.07.98 to 28.07.98	17
Short term training on "Manufacture and standardisation of Biological products"	3.08.98 to 2.11.98	14
Training on "Immunodiagnosis of infectious disease"	16.11.98 to 21.11.98	7
Training for field veterinarians on Advances in the treatment of parasitic diseases	7.10.98 to 15.10.98	11
"	20.10.98 to 24.10.98	5
"	15.02.99 to 22.02.98	1
Training in large animal Surgery	20.07.98 to 25.07.98	6
Training in anesthesiology & Orthopedics	12.10.98 to 17.10.98	5
Workshop on model projects formulations peoples plan campaign.	March 99	55
Training for Senior Veterinary surgeons on advances in disease investigation	8.02.99 to 12.02.99	11
Training in dairying for pre release defense personal	8.02.99 to 12.02.99	15
Training on fluid therapy & critical care	24.02.98 to 28.02.98	7

Special Clinical diagnostic procedure	22.07.98 to 26.07.98	15
Training on Ruminant medicine	24.10.98 to 26.10.98	15
Training on Handling of tranquilizer	19.05.98 to 24.10.98	15
	2 years	6
Meat processing Cum plant operation	1 year	1
Quality control of meat and meat products	1 year	4
Meat plant operation and maintenance	1 year	6
Meat processing cum wholesome meat production	3 months	9
Quality control, meat inspection and abattoir management	July 98	8
Training on livestock production for pre release defense personnel	February.	6

Academic Programme

Admission

Year of Admission	M	F	Total	SC/ST			Foreign Students		
				M	F	Total	M	F	Total
a(i) U.G. Programme									
1984	1	-	1	-	-				
1986	1	-	1	-	-				
1987	2	1	3	-	-				
1988	3	1	4	-	1				
1989	-	1	1	-	1				
1990	-	4	4	-	-				
1991	1	1	2	-	-				
1992	7	3	10	-	1				
1993	57	39	96	5	4				
1994	28	28	56	0	2				
1995	61	54	115	4	4				
1996	42	38	80	2	2				
1997	57	43	100	5	2				
1998	77	60	137	9	10				
Total	341	269	610	25	27				
a(ii) P.G Programme									
1996	27	4	31						
1997	15	10	25		1				
1998	30	8	38						
Total	72	22	94						
a(iii) Ph.D. Programme									
1997	-	1							
1998	2	-							

Students passed out during the Academic year 98-99:

Males : 61

Females: 36

Total : 97

Other activities

Sports and games

The College team participated in the KAU Table Tennis tournament held at Tavanur on 20th June 1998.

The KAU Shuttle badminton was organised at Mannuthy on August 31st and 1st September. College team was the winner in the tournament.

The basket ball team of the College participated in the KAU tournament held from 17th to 20th September at Vellayani.

The Volley ball team of the College participated in the KAU Volley ball tournament held at Vellayani from 17th to 20th September.

The KAU Cricket tournament was organised at the Veterinary College ground from 16th to 20th December '98 and the College team became the winner.

The following students participated in the inter University tournament

Sony Kunjappan, Sabu George, Iyas Ahammed and C. John Thomas Kunnath, represented KAU in the Inter University football tournament held at Karakudi during November '98.

Titson Pintesso and Soorya kanth P.S represented the KAU in the Inter University Table tournament held

at Annamalai during November '98.

NSS Activities

The activities of the NSS Unit

One day camp for campus cleaning and vegetable gardening in the Veterinary College campus and hostel on 19.05.98.

One day camp at Edappully Grama Panchayat for antirabic vaccination of dogs on 24.05.98.

One day camp at Edappully again on 28.06.98 for vaccination against Foot and Mouth in cattle and goats.

Nature camp cum immunization of domestic animals around Wildlife Sanctuary, Peechi from 01.11.98 to 03.11.98.

Livestock Census Camp sponsored by Kalpetta Municipality and Vengappally panchayat as part of Peoples Campaign for development for 5 days from 13.11.98 to 17.11.98.

Immunisation Camp against FDM & RD at Madakathara on 13.12.98.

Research Programme

Major Research Achievements

Serological study on Brucellosis in cattle and Human Beings: 3.89% and 0.8% of samples were positive, respectively

Bacteriological screening of pasteurized milk samples: 96.9% of detected *E.coli* were sensitive to gentamycin and norfloxacin.

Canine parvovirus seroprevalance in Kerala: 70.5%

'DOT ELISA' very sensitive for detection (sample survey)

Hormonal induction of Oestrus and Artificial Insemination were Standardised. Surgery of the gastroesophageal region in dogs was made more effective and less complicated through "abdominal approach".

A more simple and effective method for correction of hip dislocation in calves: "closed reduction with external fixation" Technique.

"Osteotomy and use of full pin transverse fixation": An effective technique for lengthening the forelimbs of calves.

Cryoprobe and cryocoagulation of eye lens for surgical management of cataract in dogs.
Better restoration of structural and functional integ-

ity of defective oesophagus through Oesophasoplasty using chrome and glutaraldehyde processed aortic tissue.

Progeny Testing Scheme: Testing of two sets of Holstein Friesian crossbred bulls established their superiority. An acceptable milk recording system and factors for predicting 305 days milk yield were developed.

Establishment of a nucleus stock of vechur and other dwarf cattle and Characterization of their biological parameters.

Evaluation of cattle stationed at the radio active belt areas of Keralam, through SCE analysis, revealed direct indication of chromosomal damage

Distribution of 'Gramapriya' and 'Varna' chicks to progressive farmers

Training farmers of Palghat district on Broiler chicken production.

S.18 Generation progenies of IWN and IWP strains of White Leghorns were tested

Mineral Status of Cattle in Kerala: Satisfactory status in Cattle was established through a survey in the state, slightly lower blood which showed calcium level in the animals from Kottayam, Wayanad and Kasaragod districts.

No mineral mixture in use was found to conform to the specifications of the Bureau of Indian standards.

Positive balance of minerals was noticed in grass fed cows and negative balance for calcium and magnesium in straw fed ones.

Silk worm pupae meal could substitute unsalted dried fish as an animal protein supplement for large white Yorkshire pigs.

Ammonium Chloride at 1% level prevents urolithiasis in goats, when fed with magnesium calculogenic ration

Economic weight gain in kids of 3 to 4 months age encured through rations with 8% crude protein

Unsalted dried fish in Pigs ration substitutable with "carcass meal"

Decreased feed utilization efficiency in calves when percentage of unconventional feed items (tapioca leaves and rubber seed cake) are increased in ration.

Incorporation of dried Prawn waste at 10% level in

growing cattle ration recommended

Etiopathological studies on Polyencephalomalacia in goats in progress

Interdigital haemorrhage, ocular congestion and malformations detected in induced aflatoxicosis in duck embryos.

Hypoproteinaemia and Immuno suppression were evidenced in Aflatoxin B1 administered Japanese Quails

Ciprofloxacin, Gentamicin, Chloramphenicol and oxytetracycline were the effective antibiotics in the order of choice for treatment of bacterial mastitis in Trivandrum, Ernakulam, Trichur, Palakkad and Calicut district. Invitro milk sample studies.

Pathology of induced aflatoxicosis in broilers under investigation.

Studies to fix permissible levels of aflatoxins in young ducks are in progress

Providing sprinklers during summer to reduce heat stress in growing pigs promotes efficient production.

Highly significant relationships were established between climatic variables and clinico-haematological parameters in sheep and goat.

Established better reproductive performance in pigs under sprinkler and range system than conventional system with wallowing tank.

NABARD Project on Bio conversion Technology in Pigs in progress

Through detailed molecular characterization studies "Restriction enzyme analysis on DNA" and "SDS-PAGE analysis of viral proteins" were identified as dependable techniques for differentiation of three strains of duck plague viruses Viz KA 95 (Virulent local isolate)I (Virulent isolate form IVRM) and V (Vaccine strain).

Etiological significance of Pasteurellosis and duck plague was established in the reported duck mortality from Pallippad and Chenam of Kerala State.

Through detailed morphological and biochemical analysis and experimental studies vaccines developed to protect ducks from mortality reported from Pallipad and Chenam areas of the state.

Recommendations

Name of vaccine	Route	Dose
Pastarella bacterin	1/m	0.5ml/duck above 6 months
"	"	0.3ml/ duck below 6 months
Simultaneous vaccination with cellculture adapted duck plague vaccine from a local isolate	"	0.5ml/duck

The best antifungal drug against yeast mastitis was identified through invitro studies "clotrimazole and nystatin" followed by "Amphotericin B and Itraconazole" and "Itraconazole and Keto conazole"

Cinnamon leaf oil and clove oil were found to be active against all yeast and yeast like isolates from mastitis milk in 1/10 dilution.

Biotyping antibiogram and plasmid profiling of avian strains of Pasteurella multocida were conducted. A combination of two parameters, such as plasmid profiling and one of the typing these avian strains.

Direct plate ELISA in serological and Immunoperoxidase in direct impression smear technique confirmed

Efficacy of Methoprene, Diflubensuron, Azhadiectin, Petroleum ether extract of *Acorus calamus*, and radiation exposure in control of cutaneous myiasis compared.

Prevalence of mite infestation in rabbits in and around Trichur confirmed to be 56.9%.

Serological methods to investigate on mite infestation in rabbits were evaluated.

Ivermectin was most effective in treatment of mite infestation in rabbit. It was followed by Karanji oil and Anitraz in effectiveness. Diflubenzuron had no therapeutic effect.

Farm Revenue

Visitors

Name and address	Date of visit	Purpose of visit
Dr. Mehta, Deputy Director General (DDG), ICAR.		
Dr/. Lisayas, Asst. Director General (ADG), ICAR		

Dr. Nattam Singh, Minister, Punjab		
T.S. Dhillon, Spl. Asst. to A.M.		
Dr. G.S. Chehal, M.D Poultry, Dev. Corporation, Punjab		
Dr. M.L. Madan, DDG, ICAR		
Dr. Justice V.B. Nambiar		
Sri. Sushir Kumar, Vice Admiral of Indian navy		
Dr. S. L. Mehtha, DDG, ICAR		
Dr. Sathyanarayana Rao, Professor & Head, V.P.M, Bangalore		
Dr.S.R. Sreemovasan, Professor, TNAU		
Dr. S.S. Balain, Ex.DDG.		
Dr. Anjaneya Prasad, Rtd. Dean, U.C., Thirupathy		
Dr. R. Kapthauma, Rtd. DAH, Mizoram		
Dr. S.N. Sharma, Rtd. Professor of Microbiology, J & K		
Dr. S. S. Bhatia, Project Co-ordinator, AICRP on Pigs		

Dr. Arun Varma, ADG		
Dr. Lal Krishna, ADG (AH), ICAR		
Dr. Raghavan, Scientist, IVRI		
Dr.R. Manickam, Director, TNUAS, Chennai		
Dr. V. K. Tanuja, ADG		
Dr. A.K. Sinha, ADG		

**College of Veterinary and Animal Sciences,
Pookode, Wayanad**

Introduction

The office of the Second Veterinary College at Pookode in Wayanad Dist under the Kerala Agricultural University started functioning with headquarters at Mannuthy from 28.10.98. As the infrastructural facilities are not completed at Pookode the students of Ist B.V.Sc. & AH course have been admitted to the existing Veterinary college at Mannuthy for the time being.

Mandate of the Institution

To impart Veterinary education and to provide qualified veterinary personnel.

Staff Position

Scientific Staff

Dept and Designation	No. of Posts		
	Sanc-tioned	In posi-tion	Va-cant
Special Officer	1	1	-

Administrative and Supporting Staff

Name of post	Sanc-tioned	In posi-tion	Va-cant
Stenographer	1	1	-

c) Technical and Administrative Staff

Name of post	Sanc-tioned	In posi-tion	Va-cant
Driver (LDV)	1	1	-

New posts Sanctioned/created/shifted: Nil
Faculty Improvement Programme: Nil

Seminars/Summer institute/Symposia/Trainings:
Nil

Training/ Symposia/Workshop etc conducted at the college: Nil

Academic Programmes

Admission

Year of Admission	M	F	Total	SC/ST			Foreign Students		
				M	F	Total	M	F	Total
a(i) U.G. Programme									
1999	19	16	35	3	1	4	-	-	-

College of Dairy Science & Technology, Idukki

Introduction

The B.Tech. programme in Dairy Science & Technology was started in the year 1993 in the College of Veterinary & Animal Sciences, Mannuthy. Later on, the college was temporarily shifted to the Directorate of Extension building. The College will be permanently shifted to the identified site at Idukki district soon after the creation of minimum facilities at the new site.

The academic work of the college is managed mainly by drawing teachers from other colleges of the university and other institutions in Thrissur.

Mandate of the Institution

To train graduates in the field of Dairy science & Technology.

To conduct both basic and problem oriented research in the field of milk production and processing.

To conduct extension programmes at farmer's level to boost milk production.

Staff Position

Scientific Staff

Dept and Designation	No. of Posts		
	Sanctioned	In position	Vacant
Special Officer	1	1	-

Administrative and Supporting Staff

Name of post	Sanctioned	In position	Vacant

Assistants	3 (Temporary)	3	-
Dairy Assistant	2	2 **	-
Driver	1	1*	-
Class IV	1	1*	-
Stenographer	1	1	-

**temporarily posted from the Employment Exchange

* on daily wages

New posts Sanctioned/created/shifted: Nil

Faculty Improvement Programme: Nil

Scholarship awarded to staff/deputation of staff for higher studies: Nil

Seminars/Summer institute/Symposia/Trainings

Name of Scientist	Seminars/ symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. V. Prasad, Special Officer	International Conference on sustainable animal production, health & environment: Future challenges.	HAU Hissar from 24-11-99 to 27-11-99. 4 days

Training/ Symposia/Workshop etc conducted at the college

Title	Period	No. of participants
Farmers seminar on "Milk Production in Kerala-Problems and Prospects"-	12-5-99	Officers from NGO sector, farmers, students, etc.
"Technology update in dairy Bacteriology"-	4-10-99 to 8-10-99	9 Officers of Quality Control wing of the Dairy Development Dept, Kerala.

Academic Programmes

Admission

Year of Admission	M	F	Total	SC/ST			Foreign Students		
				M	F	Total	M	F	Total
a(i) U.G. Programme									
1999	9	23	32	2	1	3	Nil	Nil	--

Students passed out during the Academic year
1998-99 : 21

Study tours:

South India tour (1996 Batch)
All India Tour (1995 batch)
Visit to Mattupetti (1998 batch)
Visit to C F T R I (1995 Batch)

Research programme: Nil

Farm Revenue: Nil

Visitors: Nil

Study tours:
Other activities:
Research programmes:
Farm Revenue:
Visitors:

} Nil

**Centre for Pig Production and Research,
Mannuthy**

Introduction

This centre was started in 1965 as a small Pig Breeding Unit along with an Auxiliary Pork Production Scheme under the Department of Animal Husbandry. It was taken up by KAU in 1972 and was renamed as KAU Pig Breeding Farm.

The All India Co-Ordinated Research Project on Pigs was started in 1993 with the objective of studying the

performance, of indigenous pigs and to produce a cross breed between indigenous and exotic pigs with a total capital outlay of Rs. 49.148 lakhs.

The Massive Livestock Development Program (MLDP) was started in 1993 in collaboration with the Department of Animal Husbandry, Kerala with a capital outlay of Rs.70 lakhs with the objective of distributing 20,000 piglets to the farmers in Kerala both as breeding and fattener units. The Farm was upgraded to the Centre for Pig Production and Research in 1995. It has also been identified as the Lead Institution for the World Bank funded National Agricultural Technology Project (NATP) on productivity enhancement of pigs.

Mandate of the station/unit

To conduct research on various aspects of pig production

To Serve as demonstration unit for farmers and instructional unit for students.

To produce and distribute good quality piglets to farmers.

Lead Functions

Research, Teaching, Extension and Planning.

Verification Function

Establishment of field units of piggeries.

Staff Position

Category/ Designation	No. of posts			Remarks
	Sanctioned	Inposition	Vacant	
a) Scientific				
CPPR	2	-	2	
AICRP on Pigs	3	3	-	
b) Technical				
CPPR	3	2	1	
AICRP on Pigs	3	2	1	
Administrative/supporting/para- technical/ministerial and other positions (scheme-wise)				
CPPR	27	24	3	
AICRP on Pigs	14	13	1	

New post/Sanctioned/created/ shifted
One post of Senior Farm Supervisor was abolished.

Faculty Improvement Programme: Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	Seminars/ symposia/ work-shop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. Joseph Mathew	Refresher course on production of instructional material for teaching	AAREM, CCSHAU 21-12-98 to 16-1-99
Dr Joseph Mathew Dr. A.P. Usha	National symposium on nuclear and related techniques for human and animal welfare in the next millennium	COV & AS, KAU 9-10 Feb 1999
Dr. Joseph Mathew	Training in e-mail and internet	KAU, 20-21 May 1998
"	Fourth International Food Convention	CFTRI, Mysore. 24-27 Nov 1998
"	Eighth Swadeshi Science Congress	St. Joseph's College, Alappuzha
"	Second National Congress on medicinal plants	Oushadhi 17th Oct 1998

Training /symposia/workshop etc. conducted

Title	Period	No. of participants
Earn while you learn students project on Pig rearing	7-3-98-to 23-9-98	7

**Academic Programme
Teaching**

Offered U.G course, LPM 311, P.G course, SLP 613, SLP 706 and internship SIS 521.

**Research Programme
Major research achievements**

The following Research Projects were undertaken

Investigation on prevalence and nature of congenital defects of pigs in Centre for Pig Breeding & Research.

Cytogenetic profile of crossbred pigs.

Evaluation of Silk Worm Pupae and Chaff grain meal on growth and production performance of crossbred pigs.

A model integrated farming system centred on pigs.

Study on the carcass characteristics of cross bred pigs

Study on E.F.U of Cross bred pigs

Farm Revenue

Head of A/C	Expenditure (Rs)	Receipts (Rs)
Non plan	5078017	1583854
Plan	-	-
Revolving Fund	-	-

Visitors

Name and address	Date of visit	Purpose of visit
Agriculture Minister of Punjab Director of A.H. Punjab	14-7-98	Official
Dr. M.L. Madhan, I.C.A.R., DDG	26-8-98	Official
Quin-quennial Review team, Chaired by Dr. S.S.Balan	8-11-98 to 10-11-98	Assess the progress of AICRP on pigs

Centre for Advanced Studies in Poultry Science, Mannuthy.

Introduction

This includes Department of Poultry science, Revolving Fund Hatchery, DBT & DST projects.

Mandate of the station

Teaching, research, Extension

Lead Functions

Teaching – B.V. Sc., M.V. Sc., Ph. D.

Research – RFH, DST, DBT, PG Projects.

Extension- Farm Advisory Service, Trainings.

Staff Position

Category/Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
Centre for Advanced studies in poultry science				
a) Scientific				
b) Technical	3	2	1	
c) Administrative	1	-	1	
	1	1	-	
Department of Poultry Science				
a) Scientific	9	2	7	
b) Technical	1	-	1	
a) Administrative	2	1	1	
Revolving Fund Hatchery				
a) Scientific	1	-	-	
b) Technical	1	-	-	
c) Administrative	6	-	-	

New post/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme: Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars/ symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. P.A. Peethambaran	Training	CASPS, Namakkal 22.07.98 to 05.08.98
Dr. A.K.K.Unni	Seminar	Pazhakulam on 04.06.98
Dr. P.A.Peetham-baran	"	"
Dr.K.Narayanankutty	"	"
Dr. G. Reghunathan Nair	"	"

Training /symposia/workshop etc. conducted

Title	Period	No. of participants
One day training on Poultry Management	One day 17.09.98 & 06.10.98	20.Nos. each

Academic Programme

LPM 322 – UG Course.

SPS 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 650 – PG courses

Major research achievements

Research Highlights

A commercial hatchery making use of the Revolving fund was established in March '98 with the support of ICAT with an outlay of Rs.25 lakhs.

The first phase of Technology transfer-cum-demonstration on broiler chicken funded by the Department of Biotechnology (Rs.18.27 lakhs) was completed. Second and third phase of the project is in progress. twentyfive farmers were selected each from Palghat and Ernakulam Districts. Farmers were given training on management of broilers.

They were also provided with processing equipments and training on scientific processing of poultry.

Research projects completed

Efficacy of litter materials on broiler performance.
Production performance of Austra-White and Rhodo-White Layers on litter floor.

Influence of phytase on phosphorous utilisation in broilers.

Effect of sodium sulphate supplementation in layer diet.

Introduction of cage system of egg production in the homesteads funded by DST.

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan Plan	Recurring : 19,92,828	25,49,765
Revolving Fund	Non-recurring: 7,53,550	

Visitors: Nil

**Centre of Excellence in Pathology, Mannuthy
Introduction**

The department of Pathology was upgraded to the status of Centre of Excellence during 1987. D. K. M. Ramachandran continued to be the Director of the Centre for the period under report.

Lead Functions:

Teaching, Research and Extension

Staff Position

Category/ Designation	No. of posts			Re- marks
	San- ctio- ned	In po- sition	Vacan	
a) Scientific				
Director	1	1	Nil	
Professor	4	3	1*	
Assoc.Professor	3	1	2	
Asst.Professors	6	5	4	
b) Technical				
a) Administra- tive/supporti ng/para- technical/ ministerial and other positions (scheme- wise)				
Farm Supervisor (HG)	2	2	Nil	
Steno to Director	1	1	Nil	
Farm Assistant	1	1	Nil	
Class IV	2	2	Nil	
Permanent labourers	2	2	Nil	
Trainee for EM Lab	1	1	Nil	
Research Associate	2	2	Nil	

* Three Assoc.Professors were upgraded to Profes-
sors.

New post/Sanctioned/created/ shifted

Post of one Asst.Professor (Dr. T. V. Anilkumar) shifted and transferred to Faculty of Agriculture, Vellayani.

Faculty Improvement Programme

Details of Deputation/study leave

Dr. B. Gangadharan on deputation for higher studies

Dr. T. Leena devi on study leave for higher studies

Charge in academic position: Nil

Scholarship awarded to staff/Deputation of staff for higher studies: Nil

Seminars/Symposia/ Trainings /summer insti-
tute/workshop: Nil

Training /symposia/workshop etc. conducted

Title	Period	No. of partici pants
Kisan mela of Poultry farmers on diagnosis of poultry diseases	August 25	200
National symposium on Diagnostic Veterinary Pathology	November 9-11	137
Training in advances in disease Investiga- tion for officers in animal husbandry Dept.	17.08.98 – 16.11.98 & 01.12.98 – 28.02.99	12 11

Academic Programme

Teaching

Regular classes for undergraduate, post graduate and doctorate students and various research programmes.

Research Programme

Major research achievements

Experiments were conducted utilizing various agents which are supposed to be the agents responsible for inducing PEM, like Amprolium, BHC, Rice and Chela leaves. The results are under preparation for the Ph.D. thesis entitled "Prevalence and pathology of PEM in goats."

Induced Aflatoxicosis was studied in duck embryos. Gross lesions included inter digital hemorrhage, bi-lateral intra ocular congestion, oedematous head. Malformations like fused digits, evisceration and beak deformities were prominent. Histopathological lesions were degeneration of hepatic cells, tubular epithelium of kidney and hemorrhage in all the tis-
sues.

Aflatoxin B1 was administered to one month old Japanese quails at the rate of 0.5ppm 2 months and vaccinated with R2 B strain vaccine on the 42nd day. There was significant increase in ESR, liver and spleen weights in the toxin treated groups while bur-
sal weights, RBC counts and leucocyte counts were significantly depressed. A significant depression in the total serum protein, serum albumin and serum globulin levels accompanied by a relative depression in the HI titres.

Milk samples were surveyed from five districts of Kerala – Thiruvananthapuram, Ernakulam, Trichur, Palakkad and Calicut. Both CMT positive samples and clinical samples were subjected to cultural and

invitro sensitivity test. Milk samples from Ernakulam and Calicut showed that the major pathogen were Gram negative bacilli whereas those from Palakkad and Trichur it was Gram positive coccus. The invitro sensitivity results of these isolates to various antibiotics showed that Ciprofloxacin was most sensitive followed by Gentamycin, Chloramphenicol and Oxytetracyclin.

The glands had various stages of inflammatory reactions. Histopathology of these glands revealed infiltration of neutrophils and mononuclears were observed in the interstitium and alveolar lumen of lactating glands. Corpora amylacea could be observed in majority of the lactating and non-lactating glands. Galactophoritis, polypoid thickening of cisternal epithelium and cytoplasmic vacuolation of secretory epithelium were the other lesions.

Farm Revenue: Nil

Extension and other activities:

1. Post mortem of large animals	944
- poultry	4496
2. Rabies diagnosis	352
3. Histopathology	1418
4. Nasal smears	61
5. Feed samples analysed	225

Visitors

Name and address	Date of visit	Purpose of visit
Dr. Lal Krishna, Asst. Director General (AH), ICAR	November	
Dr. S. L. Mehta DDG (Edn.), ICAR	January 1999	

Veterinary College Hospital, Mannuthy.

Mandate of the unit

To provide clinical service to the public and training facility to the UG, PG students and Veterinarians under training.

Staff Position

Category/ Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific	3	3	-	
b) Technical	1	1	-	
b) Supporting	-	-	-	
c) Ministerial Class IV	1	-	1	

New post/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme

Scholarship awarded to staff/Deputation of staff for higher studies: Nil

Seminars/Symposia/ Trainings /summer institutes/ workshop

Name of Scientists	seminars /symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. P.G. Baby	Workshop at Planning Board, Trivandrum	Planning Board- 3 days

Trainings /symposia/workshops etc. conducted: Nil

Academic Programme

Provided clinical training and research materials to the UG & PG students.

Research Programme

Major research achievements } Nil

Farm Revenue:

Visitors

Name and address	Date of visit	Purpose of visit
Dr. S. L. Mehta (DDG, ICAR)	27.11.98	Routine visit to SAU, (KAU)
Dr. Madam (DDG, ICAR)	-	
Sri. Sushil Kumar, Vice Admiral of Indian Navy	-	

Livestock Research Station, Thiruvazhankunnu

Introduction

The Madras Government in 1950 started this station under the post-war development scheme of Animal Husbandry department with office at Perinthalmanna. This was transferred to the Animal Husbandry Department of Government of Kerala in 1956 which was later handed over to the KAU in February 1972. It was redesignated as Livestock Research Station on 14.08.78. The station has an area of 163.3 ha.

Mandate of the station

To evolve elite breeds of crossbred dairy cattle by scientific management of livestock and technology transfer to villages in the form of providing artificial insemination facilities, veterinary aid etc.

To conduct problem oriented and adaptive research projects in animal nutrition, breeding and management.

To advise local farmers on recent advancements in scientific management of livestock and technology transfer to villages in the form of providing artificial insemination facilities, veterinary aid etc.

To treat and inseminate animals of the local farmers.

Extension activities as per the directions of the University.

Lead Functions

Scientific Dairy cattle production and management

Staff Position

Category/ Designation	No. of posts			Remarks
	San ctioned	In position	Vacant	
a) Scientific				
Assoc. Professor (Animal Nutrition)	1	-	1	
Assoc. Professor (Animal reproduction)	1	-	1	
Asst. Professor (Animal Br. & Gen.)	1	1	-	
Asst. Professor (Anim. Reprod.)	1	1	-	
Asst. Professor (Animal Management)	1	1	-	
Asst. Professor (Path.)	1	-	1	
Asst. Professor (Dairy Science)	1	-	1	
b) Technical				
Sr. Farm Supervisor (Vety)	1	1	-	
Farm Supervisor Gr. I (Vety.)	1	1	-	
Farm Supervisor Gr. II (Vety.)	2	2	-	
Farm Assistant (Vety.)	1	1	-	
Farm Supervisor Gr. I (Agri.)	1	1	-	
Farm Supervisor Gr. II (Agri.)	1	1	-	
Farm Assistant (Agri.)	4	4	-	
Technical Supervisor	1	1	-	
LDV Driver	1	1	-	
Pump Operator	2	2	-	
Field Supervisor	1	1	-	
Maistry	2	2	-	
Watch man	7	2	5	
Mazdoor	2	2	-	
d) Administrative				
Admn. Assistant	1	1	-	
Section Officer	1	1	-	
Assistants	5	5	-	
Typist	2	2	-	
Peon	2	2	-	
Sweeper	1	1	-	
AGRO FORESTRY SCHEME, 379-33-621 AICRP ON AF				
Scientific				
Assoc. Professor (Forestry)	1	1	Nil	Asst. Professor is working against this post
Asst. professor (Agroomy/Agricultural Engg.)	2	1	1	
Technical				
Technical Assistant	2	Nil	2	
Farm Assistant	2	2	Nil	
Lab Assistant	2	2	Nil	
LDV	1	1	Nil	
Administrative				
Assistant Gr. II	1	1	Nil	
Peon	1	1	Nil	

New post/Sanctioned/created/ shifted
Post of Section Officer shifted from KVK Pattambi.

Faculty Improvement Programme
Scholarship awarded to staff/Deputation of staff
for higher studies: Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	Seminars/symposia/workshops/summer institutes to which deputed	Institute, period of deputation and duration of course
T. K. Kunhamu	Biennial Workshop of AICRP on Agroforestry	NDUAT at Faizabad, U.P On 06.03.99 & 07.03.99
V. Jamaludheen	Biennial Workshop of AICRP on Agroforestry	NDUAT at Faizabad, U.P On 06.03.99 & 07.03.99

Trainings /symposia/workshops etc. conducted:
Nil

Academic Programme
Teaching

B.V.Sc. & A. H Internship training

B.Tech. (Dairy Science) Internship training

Courses for the Vocational Higher Secondary students(Four Batches)

Research Programme

Major research achievements

Trials onpepper experiment trials suggest *Garuga pinnata* and *Gliricidia sepium* showed that are potential supports for pepper. The non-conventional multipurpose trees like *Artocarpus hetrophylus*(Jack) and *Acacia* were found to be very much promising as pepper supports.

Farm Revenue

Head of A/C	Expenditure (Rs.)	Receipts (Rs.)
Non plan		
379-36-008	102,66,684.00	23,53,643
Plan		
379-36-204	4,95,227	
379-31-251	27,900	-
279-33-621	6,67,426	
Revolving Fund	-	-

Visitors

Name and address	Date of visit	Purpose of visit
Hon. Justice V. Bhaskaran Nambiar	17.08.98	Enquiry Commission
N. V. Chandran, G.C Member, KAU	28.10.98	Farm Visit
E. K. Menon, E. C Member, KAU	24.02.99	Farm Visit

Cattle Breeding Farm, Thumburmuzhi

Introduction

Thumburmuzhi Is a hill-tract area, which is located about 14kms. east of Chalakudytown in the Chalakudy-Sholayar route. In 1957, Government of Kerala started a dry cattle salvage farm under the Animal Husbandry Department at Thumburmuzhi. By the end of 1957, a Cattle Breeding Station was started with the financial assistance from ICAR. The dry cattle salvage farm was wound up in 1962. The ICAR Scheme continued upto 1969. Since then a Livestock Farm functioned under Animal Husbandry Department. The farm was taken over by Kerala Agricultural University on 1.2.72 and now is functioning as Cattle Breeding Farm. The total area of the farm is 63 acres. Area under fodder cultivation is 40acres.

Mandate of the station/unit

Teaching – The farm is intended for teaching of Veterinary and Animal Husbandry students as well as that of Dairy Science and Technology on the modern scientific line of animal rearing and fodder production. This is being conducted as part of the internship-training programme.

Research - The farm is also intended to undertake research projects as part of external aided scheme as well as M.V.Sc.project for B.V.Sc and AH students.

Extension – The farm is also aimed at providing extension service to the farmers in and around the farm in the form of conducting seminars, providing treatment and insemination facility, distribution of fodder slips and providing training and demonstration to farmers.

Lead Functions

To breed and maintain an elite herd of crossbred cattle.

To extend facility for research on crossbred cattle.

To extend facility of artificial insemination to the cattle of surrounding villages.

To supply improved varieties of fodder slips.

Staff Position

Category/ Designation	No. of posts			Re- marks
	San- ctio- ned	In posi- tion	Vac- ant	
a) Scientific				
Associate Professor	1	1	Nil	
Assistant Professor	2	1	1	
b) Technical				
Farm Supervisor (Agri)	1	1	Nil	
Farm Supervisor (Vety.) Gr.I	1	1	Nil	
Farm Assistant (Agri.)	1	1	Nil	
Farm Assistant (Vety.)	2	2	Nil	
Pump Operator	1	1	Nil	
Class IV	5	4	1	
Lab Asst. Gr.III	1	1	Nil	
LDV Driver	1	1	Nil	
a) Administra- tive/supportin g/para-techni- cal/ministerial and other po- sitions (scheme-wise)				
Admn. Assistant	1	1	Nil	
Assistant	2	2	Nil	
Typist	1	1	Nil	

New post/Sanctioned/created/ shifted
Faculty Improvement Programme
Scholarship awarded to staff/
Deputation of staff for higher studies
Seminars/Symposia/ Trainings /
summer institute/workshop

Nil

Training /symposia/workshop etc. conducted

Title	Period	No. of par- ticipants
Scientific rearing of Livestock	17-8-98	
Profitable milk pro- duction	25-9-98	
Balanced Cattle Feed and milk production	6-3-99	
Formulation of low cost animal feeds	25-1-99	

Academic Programme

Imparted internship training to B.V.Sc. & A.H. stu-
dents.

Research Programme

Nutrition experiments were conducted in calves as part of the project work on "NABARD Project on Bio conversion Technology".

Mineral balance studies were conducted as part of the project work under ICAR Network programme on micronutrients in dry animals as well as calves.

Feeding trials using unconventional feeds were conducted as part of the project work under DST Scheme on "Formulation of low cost animals feeds using feed stuffs available in rural area of Kerala on heifers, lactating cows and calves.

Conservation of germplasm is being conducted on Vechur cattle as part of the project under ICAR conservation of germplasm of Vechur and other dwarf cattle of Kerala.

Researches on the performance of the progenies born in this farm especially with respect to their production traits are carried out as part of the project under ICAR progeny testing scheme.

Major research achievements: Nil

Farm Revenue

Head of A/C	Expendi- ture (Rs.)	Receipts (Rs.)
Non plan	44,83,819	14,35,208
Plan	5,53,114	
Revolving Fund	-	

Visitors

Name and address	Date of visit	Pur- pose of visit
Sri.P.B.Sidhardhan, IAS, Registrar, KAU.	17.9.98	Station visit
Director of Physical Plant,KAU	19.12.98	"
Sri.M.S.Jayasooriyan, Exe.Committee Member, KAU	24.3.99	"

**Regional Cattle Infertility Research Centre,
Kozhikode.**

Staff Position

Category/ Designation	No. of posts			Re- marks
	San- tion ed	In Posi- tion	Va- cant	
a) Scientific				
Professor	1	1	-	-
Asst. Professor	1	-	1	-
b) Technical				
Farm Supervisor (Vety.)Gr.I	1	1	-	-
Farm Supervisor (Vety.)Gr.II	1	1	-	-
Lab Assistant (Gr.III)	1	1	-	-
Attendant (Hr.Gr.)	1	1	-	-
c) Administra- tive/suppo- rting/para- technical/ ministerial and other positions (scheme- wise)				
Assistant Gr.II	1	1	-	-
Peon Hr. Gr.	1	1	-	-

New post/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme: Nil

**Seminars/Symposia/ Trainings /summer institutes/ work-
shops**

Staff of the Centre attended "Present Trends in cattle infert-
ility problems.

Training /symposia/workshop etc. conducted: Nil

Academic Programme

Offered courses for the M.V.Sc. & Ph.D. students of
the College of Veterinary & Animal Sciences.

Research Programme

Major research achievements

During the period under report 4363 animals were
registered at this centre for diagnosis and treatment
purposes. A total number of 814 cows and Heifers.

was given artificial insemination after proper infer-
tility treatment and 279 animals were screened for
pregnancy diagnosis.

Detailed Haemoglobin of 168 animals were carried
out. The severe inorganic phosphorous, Calcium and
total protein have been estimated in infertile animals
which revealed that organic phosphorous has signifi-
cantly decreased in anoestrus animals and other
values did not differ significantly either in anoest-
rum nor in repeat breeding animals.

The incidence of repeat breeding was higher in heifer
than cows. Feeding high quality food and supportive
therapy with trace minerals were recommended.

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan Plan	10,60,560	17,350
Revolving Fund	1,36,359	

Visitors: Nil

KAU Veterinary Hospital, Kokkalai

Introduction

This hospital started functioning in 1902 and was
taken over by the Kerala Agricultural University in
1972. The following units are functioning here -
Surgery, Clinical medicine, preventive medicine,
clinical laboratory, Radiology and physiotherapy
and Artificial Insemination Centre.

Mandate of the station/unit

To provide veterinary service to the public.

To provide clinical training to the UG & PG Veteri-
nary students.

To provide referral facility to the field veterinarians.

To provide laboratory facility to field veterinarians.

Lead Functions

Veterinary service to farmers.

Clinical training to veterinary students in UG & PG
levels.

To serve as referal centre for field veterinarians.

Staff Position

Category/ Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific Professor	1	1	Nil	All on working arrangement from Vety. College
Assoc. Professor	-	1	Nil	
Assoc. Professor	-	1	Nil	
b) Technical Farm Supervisor (Vety.)	2	2	Nil	''
Pharmacist	1	1	Nil	''
d) Administrative/supporting/para-technical/ministerial and other positions (scheme-wise)				
Section Officer	1	Nil	1	''
Assistant Gr. I	1	1	Nil	''
Attendant	2	-	2	''
Sweeper cum scavenger	1	1	Nil	''
Lab Attendant	1	1	Nil	''
Peon	1	1	Nil	''

New post/sanctioned/created/ shifted: Nil

University Livestock Farm Research & Development Scheme, Mannuthy

Faculty Improvement Programme : Nil

Staff Position

Seminars/Symposia/Trainings /summer institutes/workshops
Nil

Trainings/symposia/workshops etc. conducted
Nil

Academic Programme

The scientific staff of this hospital offered UG and PG courses in the College of Veterinary & Animal sciences, Mannuthy and regularly oversaw of the UG and PG Clinical Training Programme and practical classes to the VHSE students.

Research Programme: Nil

Farm Revenue: Nil

Visitors: Nil

Category/ Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific Professor	1	1	-	
Asst. Professor	2	2	-	
b) Technical Farm Supervisor	5	3	2	
Farm Assistant	7	7	-	
Pump Operator	1	1	-	
Lab Asst. Gr. II	1	1	-	
e) Administrative/supporting/para-technical/ministerial and other positions (scheme-wise)				
Admn. Assistant	1	1	-	
Section Officer	1	1	-	
Assistants	4	3	1	
Class IV	4	4	-	

New posts/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme Nil

Scholarship awarded to staff/Deputation of staff for higher studies: Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars /symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. Ally .K.	Summer Institute	KAU 21 days
Dr. A.Kannan	"	"

Training /symposia/workshop etc. conducted: Nil
Academic Programme
Teaching

Dr. Ally.K., Asst. Professor imparted training to B.Sc. (Tech.) in Dairy Cattle Nutrition and to VHSC students in Animal Husbandry.

Dr. A. Kannan imparted training to B.Sc. (Tech.) students in Dairy Farm Management and Fodder Production and to VHSC students in Animal Husbandry.

Research Programme
Major research achievements
Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan (256-26-0008)	1,03,27,374	17,06,782
Plan (256-26-2202)	3,95,584	1,14,072
Revolving Fund	-	-

Visitors: Nil

Meat Technology Unit, Mannuthy

Introduction

This unit started functioning from 1992. Over and above the basic functions of KAU, the Unit undertakes income generation programmes and provides technical advice to the Govt. of Kerala, and local bodies regarding modernization of slaughter houses in the State. An eco-friendly rendering plant is attached to this unit. The unit conducts various training programmes to the Veterinary Surgeons, vocational graduates and entrepreneurs.

Mandate of the unit
Teaching, research and extension

Staff Position

Category/ Designation	No. of posts			Re- marks
	San- ctio- ned	In- po- si- tion	Va- cant	
a) Scientific	-	4	-	Work- ing ar- range- ment from Dept. of Vety. Public Health
b) Technical	4	2	2	
f) Administra- tive/supporting /para-techni- cal/ministerial and other posi- tions (scheme- wise)	4	3	1	Elec- trician and Fitter posts vacant One class iv post vacant

New posts/sanctioned/created/ shifted: Nil

Faculty Improvement Programme: Nil

Seminars/Symposia/ Trainings /Summer institute/workshop

Name of Scien- tists	seminars / symposia/ work- shop/summer institute to which deputed	Institute, pe- riod of depu- tation and duration of course
Dr. George T. Oommen & Dr. M. Sunil	International Food Conven- tion IFCON 1998	CFTRI, Mysore

Training /symposia/workshop etc. conducted

Title	Period	No. of par- ticipants
Quality control, Meat in- spection and Abattoir Stipendiary Training pro- grammes	3 months	9
Meat Processing cum plant operation	2 years	4
Plant operation & Main- tenance	1 year	3
Meat Processing Technology & Whole- some Meat production	1 year	7
Entrepreneurship pro- gramme	5 days	1

Academic Programme**Teaching**

Courses for B.V.Sc. & A. H

Research Programme**Major research achievements**

Value addition and Meat preservation studies were undertaken. Samples were analysed for species identification. Meat-cum-bone meal incorporation studies for feeding calf, goat and dog.

Farm Revenue

Head of A/C	Expenditure (Rs.)	Receipts (Rs.)
Non plan		
Plan	14,38,686.70	7,475.00
Revolving	22,79,910.00	30,62,230.00
Fund:		

Visitors

Name and address	Date of visit	Purpose of visit
Dr. Ratan Singh, Minister (AH), Punjab	14.07.98	To study the activities of MTU and rendering plant
Dr. G. S. Chehal, Poultry Devp. Corporation, Govt. of Punjab	14.07.98	To study the activities of MTU and rendering plant
Dr. M. L Madan, DDG, ICAR	26.08.98	To know about the activities of MTU
Dr. D. S Balain, Ex. DDG, ICAR	10.11.98	To have personal acquaintance with processing & preservation of meat & meat products
Dr. Anwar Alam, DDG(ICAR)	18.11.98	To understand meat processing i.e going on in our institute
Dr. S. L Mehta, DDG, ICAR	27.11.98	Inspection
Dr. J. S P Yadav & Dr. A. K. K. Sinha	16.11.99	ICAR Inspection team

College of Fisheries, Panangad

Introduction

The College of Fisheries was established in the year 1979 under the Faculty of Fisheries of the KAU. This is the third Fisheries College in the country. The four year bachelors degree programme in Fisheries leading to B.F.Sc. degree was started with the aim of producing the highly required, professionally and technically qualified manpower in fisheries to cater to the needs of the fisheries sector.

The college is situated at Panangad, near Kochi in an area of about 30 hectares. The college possesses a 43.5feet research vessel and 18feet fiberglass vessel. For the smooth and proper conduct of academic and related activities the fisheries faculty is divided into seven departments, viz. Aquaculture, Fishery Biology, Processing Technology, Fishery Hydrography, Fishing Technology, Fishery Engineering and Mangement Studies.

Mandate of the Institution

Teaching, Research & Extension activities in Fisheries and related fields are the main objectives of the college.

Staff Position

a) Scientific Staff

Dept and Designation	No. of Posts		
	Sanctioned	In position	Vacant
Dean	1	-	1
Professor	4	2	2
Assoc.Professor	21	19	2
Asst.Professor	26	15	11

b) Administrative and Supporting Staff

Name of post	Sanctioned	In position	Vacant
Admn. Officer Gr.I	1	1	Nil
Section Officer	3	3	Nil
Senior Officer Supdt.	2	2	Nil
Seln. Gr. Assistant	3	3	Nil
Sr. Gr. Assistant	2	2	Nil
Assistant Gr. I	4	4	Nil
Assistant Gr. II	1	1	Nil
Officer Supdt.	2	2	Nil
Sr. Gr. Typist	1	1	Nil
Typist Gr. I	1	1	Nil
Pcon	4	4	Nil
Sweeper-cum- Attendant	1	1	Nil
Full time Sweeper	2	2	Nil

c) Technical and Administrative Staff

Name of post	Sanctioned	In position	Vacant
Asst. Librarian	1	1	Nil
Reference Assistant	1	-	1
Library Assistant	1	1	-
Clerical Assistant	1	-	1
Lab. Assistant Gr. II	2	2	Nil
Lab Assistant Gr. III	4	4	Nil
Technician	1	1	Nil
Duplicator Operator	1	1	Nil
Pump Operator	1	1	Nil
HDV Driver	1	1	Nil
LDV Driver	3	2	1
Bus Attendant	1	1	Nil
Field man (Fisheries)	2	2	Nil
Fisherman	5	1	4
Farm Assistant (F.S. Gr.II)	1	1	Nil
Junior programmer	1	1	Nil
Skipper Gr. II	1	1	Nil
Engineer I/C	1	1	Nil
Deck hand	3	3	Nil
Gear Technician	1		1*
Hostel Manager	1		1*

* Employment hands engaged.

New posts Sanctioned/created/shifted: Nil

Faculty Improvement Programme: Nil

Seminars/Summer institute/Symposia/Trainings

Name of Scientist	Seminars/ symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Sri. T.M Sankaran	Workshop on Science and principles of teaching and learning"	NAARM, Hyderabad 29.05.98 – 30.05.98
Dr. M.S Raju,	Refresher course on "Quantitative Economics"	CUSAT, 03.08.98 – 25.08.98
Dr. K.Kerala Varma	International Symposium on Information Technology	Institute of Oceanography, Goa 12.10.98 – 16.10.98
Dr. K.V Jayachandran,	Chromosome and gene manipulation in fish	Madurai Kamaraj University 02.11.98 – 14.11.98
Smt. Sncy V.John,	Refresher course in Physical Education	Annamalai University 25.11.98 – 16.12.98

Training/ Symposia/Workshop etc conducted at the college

Title	Period	No. of participants
Additives in seafood processing	15.06.98 – 19.06.98	1
Commercial culture fisheries	20.07.98 - 25.07.98	1
Fishery Oceanography	14.06.98 – 19.12.98	1
Ornamental fishes	07.12.98 – 09.12.98 & 14.12.98 – 16.12.98	2

Academic Programmes

Admission

Year of Admission	M	F	Total	SC/ST			Foreign Students		
				M	F	Total	M	F	Total
a(i) U.G. Programme									
1998	29	24	53	5	1	6	-	-	-
a(ii) P.G Programme									
1998	4	1	5	-	-	-	-	-	-
a(iii) Ph.D. Programme									
-	-	-	-	-	-	-	-	-	-

Students passed out during the Academic year 98-99

Study tours

Thirty four students of the 1995 batch of B.F.Sc. students went for an All India study tour during the period from 21.03.99 to 01.04.99.

Research programme

Major Research Achievements -Summary & Highlights (Department/Disciplinewise)

The Programmed Learning Material on Ocean waves has been adapted for computer aided self learning. For finalising the programmed learning material field

Visitors:

Name and address	Date of visit	Purpose of visit
Sri. K. Somasundara Panicker Mayor, Cochin Corporation	14.05.98	Inauguration of lecture series on "Frontiers in Fish Processing"
Sri. K.B. Pillai, IAS, Chairman, MPEDA	15.06.98	Inauguration of training programme on additives in seafood processing
ri. A. J. Tharakan, President, Seafood Exporters Association	15.06.98	Inauguration of training programme on additives in seafood processing
Sri.Mohanan and Sri.Prasanth Menon A.G Manager, Canara Bank	20.07.98	Inauguration of training programme on commercial culture fisheries
Dr. Sebastian Paul, MLA, Ernakulam	21.08.98	Release of College magazine "Smrithi"
Dr. Carlos, FAO Expert on the HACCP	14.08.98	To give talk on quality control
Members of the Executive Committee	19.09.98	To see the College activities
Konkan Krishi, Vidyapeeth		
Dr. S. L Mehta, DDG(Education) ICAR	26.11.98	Official visit
Dr. C.R. Soman, Professor(Rtd.) in Nutrition, Medical College, Trivandrum	07.11.98	To deliver Devidas Menon Endowment Lecture.

trial and opinion survey among students were conducted.

Three micro encapsulated diets were prepared with clam meal as the protein source and collagen and gelatin and commercially available egg. Albumin, respectively, as the encapsulating material were found acceptable to the larvae of *Macrobrachium rosenbergii* from the 6th stage onwards, with survival rate ranging from 80 to 90%, which is almost comparable with that of the larvae fed with *Artemia nauplii*(90%).

Tapioca was found to have better binding properties in prawn feed among the natural binders like yam, potato, elephant yam and colocasia. 12% of tapioca powder as binder has been found ideal for optimum food utilization and growth in *Macrobrachium rosenbergii*.

Feeds containing chemical binders such as carboxymethyl cellulose, sodium alginate, agar-agar, carageenan and polyvinyl alcohol when tested showed that PVA, agar-agar and sodium alginate are better as they improve the water stability of the feeds.

Monocrotophos, a widely used organophosphate pesticide in the paddy fields of Kuttanad, was found to have significant difference in the hatching time, hatching rate and survival of the embryo and larvae of the cultivated carp, *Labeo rohita*.

Farm Revenue

Head of A/C	Expenditure (Rs.)	Receipts (Rs.)
Non plan	1,25,82,896.00	5,99,608.00
Plan	20,78,071.00	
Revolving Fund	-	-

Fisheries Station, Puduveypu

Introduction

The fisheries Station, Puduveypu is located at a distance of about 2km west of Murikkumpadam in Vypeen Island. It is surrounded by the Arabian Sea on the west, Cochin barmouth on the south and a canal emerging from the barmouth on the east. The northern side of the Station faces the main land.

The station started functioning in the year 1979 with 250 acres of accreted wet land assigned free of cost by the Revenue Department, Government of Kerala. Later, 150 acres of newly formed land, adjacent to the existing campus, was also assigned to the University in March 1993. Later, the Revenue Divisional Officer, Fort-Cochin withdrew 70 acres keeping only 330 acres under the Station's possession.

The campus is mostly a saline marsh with mangroves and salt resistant varieties of grass and shrub. In selected locations, part of the land is converted into pond-bund systems for aquaculture and agricultural research purposes. The rest of the land subject to diurnal tidal inundations, forms the site for fish and shell fish seed collection. The bunds and other suitable areas are planted with 1,066 coconut palms.

Recently the Government has issued orders for resuming the entire land for setting up various projects including gas based thermal plant at Puduveypu, leaving only 50 acres to the University for research purpose.

Mandate of the station/unit

The station imparts practical training on brackish-water fish culture for B.F.Sc. and M.F.Sc. students of the College of Fisheries, Panangad. The station is also involved in research work to develop appropriate farming techniques for better productivity. In addition, it is also the mandate of the Station to supply commercial brackish water fish seed to farmers and other research institutions. Training programme on brackish water aquaculture and utilization of marsh lands for agricultural purposes are also routinely conducted.

Lead Functions

The Station functions as a lead centre for teaching, research and extension of Fisheries subjects and technologies. Practical training on brackishwater farming is given to the UG and PG students of the University. Approved research programmes on commercially important fish and shrimps are implemented. Pursuits are under way to evolve appropriate fishery based farming technologies.

Verification Function

To modify and evolve fishery based farming technologies suitable to coastal wet land conditions.

Staff Position

Category/ Designation	No. of posts			Remarks
	Sanctioned	In position	Vacant	
a) Scientific				
Assoc. Professor (Aqua.)	1	1	--	
Assistant Professor (Aqua.)	1	Assoc. Prof.	--	
b) Technical				
Farm Asst. Gr. II	1	1	--	
Fieldman (Fisheries)	1	1	--	
Pump Operator	1	1	--	
Lab Assistant Gr.II	1	1	--	
Administrative/supporting				
Admn. assistant	1	1	--	
Assistant Gr.I	1	1	--	
Assistant Gr.II	1	1	--	
Typist Gr.II	1	1	--	
Peon	1	1	--	
Staff on working arrangement				
Driver LDV	--	1	--	Relieved on 30.06.99

New post/Sanctioned/created/ shifted: Nil

Faculty Improvement Programme : Nil

Seminars/Symposia/ Trainings /summer institute/workshop

Name of Scientists	seminars /symposia/ workshop/summer institute to which deputed	Institute, period of deputation and duration of course
Dr. K.S. Purushan	Zonal review meeting of NWDB Project Fisheries resource Management seminar	TANUVAS, Chennai 20.04.98 State Dept. of fisheries at CMFRI, Kochi 08.08.98

Training /symposia/workshop etc. conducted:
Nil

Major research achievements

Academic Programme

Low density farming at the rate of 3000 nos/ha of *Lates calcarifer* and *Oreochromis mossambicus* providing supplementary feed proved to be an adaptable method of carnivorous fish farming.

Teaching

Imparted theory and practical classes for B.F.Sc. and M.F.Sc. students as per regular curriculum

Useful data is generated towards refining appropriate aquaculture and integrated farming technologies.

Research Programme

Farm Revenue

Head of A/C	Expenditure (Rs.)	Receipts (Rs.)
Non plan	15,68,186.00	1,97,309.00
Plan	1,22,936.00	--
Revolving Fund	--	--
ICAR Project	82,155.00	13,451.00
E.M.D	130.00	
Extension & other activities: VAP		
Uniforms	4,000.00	
	440.00	
Total	17,77,847.00	2,10,760.00

Visitors

Name and address	Date of visit	Purpose of visit
Dr. M. J. Kuttiamma, Professor, Dept. of Marine sciences, CUSAT, Kochi- Along with 16 PG students	22.07.98	To familiarise activities of the Station
Dr. K.P. Ramachandran Nair, Principal Scientist, CIFT, Kochi	28.07.98	For discussion regarding KAU-CIFT collaborative Res. Project
Dr. P.T. Mathew, Sr. Scientist, CIFT, Kochi	28.07.98	"
Revenue Commissioner, Govt. of Kerala, Thiruvananthapuram	1.08.98	For ascertaining survey details of land being resumed by the Govt.
District Collector, Ernakulam	1.08.98	"
Revenue divisional Officer, Fort-Kochi	1.08.98	"
Tahsildar, Kochi Taluk, Kochi	1.08.98	"
Head of Dept. of Zoology, St. Theresa's college, Ernakulam along with 32 students	17.02.99	To familiarise research activities of the Station

Kelappaji College of Agricultural Engineering & Technology, Tavanur

Introduction

The College Campus is located in Tavanur Village on the south bank of Bharathapuzha in Malappuram Dist, 7 km west of Kuttippuram. The campus was the seat of Rural Institute established in July 1963. The Institute was taken over by the KAU on 12th December 1975, under section 59 of KAU Act of 1971 and was renamed as Institute of Agrl. Technology and it was functioning as one of the Campuses of the University. The University subsequently opened the Faculty of Agricultural Engg. &

Technology on 2nd October, 1985 and the Institute was upgraded and renamed as 'Kelappaji College of Agricultural Engineering. & Technology' after the famous Gandhian Social Worker and Sarvodaya leader Sri. K Kelappan. The total area of the campus is 40 ha.

Mandate of the Institution

To impart education at UG & PG level in the faculty of agricultural engineering, to conduct research in the various disciplines of Agricultural Engineering and to provide extension support to Department and farms.

Staff Position

Scientific Staff

Dept and Designation	No. of Posts		
	Sanctioned	In position	Vacant
Dean	1	1	0
DEPT. OF LWRCE			
Professor	1	0	1
Assoc. Professor	2	0	2
Asst. Professor	5	5	0
DEPT. OF IDE			
Professor	1	0	1
Asst. Professor	2	0	2
Asst. Professor	5	4	1
DEPT. OF PHT & AP			
Professor	1	0	1
Assoc. Professor	2	1	1
Asst. professor	4	2	2
DEPT. OF FPME			
Professor	2	1	1
Assoc. Professor	3	0	3
Asst. professor	8	5	3
DEPT. OF SAC			
Professor	2	1	1
Assoc. Professor	2	2	0
Asst. Professor	11	7	4
ICAR FIM			
Assoc. Professor	1	1	0
PLASTICULTURE DEVELOPMENT CENTRE			
Assoc. Professor	1	0	0
Asst. Professor	1	1	0
AICRP-ERAS			
Assoc. Professor	1	1	0
Asst. Professor	1	1	0
INDUSTRIAL FARM			
Asst. Professor	2	1	1
NARP			
Asst. Professor	2	0	2

Administrative and Supporting Staff

Name of post	Sanctioned	In position	Vacant
Admn. Assistant	1	1	0
Section officer	4	4	0
Sr. Office Superintendent	1	1	0
Assistants	12	11	1
Typists	6	6	0
Matron	1	1	0
Hostel manager	1	0	1
Class IV	14	13	1

Technical and Administrative Staff

Name of post	Sanctioned	In position	Vacant
Asst. Engineer	1	0	1
Design Engineer	1	0	1
Junior Programmer	1	0	1
Reference assistant	1	1	0
Library Assistant	1	1	0
Draftsman (Civil)	1	0	1
Technical Supervisor	5	3	2
Trade Assistant	3	1	2
Pump Operator	2	2	0
Driver (LDV)	3	3	0
Technician	12	5	7
Lab Assistant	6	5	1
Farm Supervisor (Agri.)	2	2	0
Farm Supervisor (Vety)	1	1	0
Farm Assistant (Agri.)	4	4	0
Farm Assistant (Vety.)	1	1	0
Draftsman(Mech.)	1	0	1
Research Assistant	1	0	1
Gardener	1	1	0
Attender	1	0	1
Workshopmate	1	1	0
Audio visual Operator	1	1	0

New posts sanctioned/created/shifted

One post of Trade Assistant (Refrigeration & A/C) was converted as Technician (A.V Operator) w.e.f 30.05.98.

Faculty Improvement Programme**Scholarship awarded to staff/deputation of staff for higher studies**

Name of Scientists & Designation	Details of deputation	Institution/ University to which deputed
Sri. P. Rajendran, Asst. professor	Doctoral Studies	TNAU, Coimbatore

Seminars/summer institutes/symposia/trainings

Name of Scientist	Seminars/symposia/workshops/ summer institutes to which deputed	Institute, period of deputation and duration of course
Dr. K. John Thomas	Dean's meeting 18th, 19th & 20th March 1999	NAARM, Hyderabad
Smt. V. P. Lakshmikutty	Dean's Committee Meeting 30.04.98 & 1st, 2nd & 5th 1998	IRI, New Delhi
Dr. P. V. Habeeburrahman	2 Refresher courses	
Smt. Josephina Paul	2 Refresher courses	
Dr. Santhi Mary Mathew	Refresher course	
Dr. V. Anil Kumar	Training on harvest & post harvest technology of plantation crops, 1 Refresher course	CPCRI, Kasaragod July 23.07.98 to 12.08.98

Trainings/ Symposia/Workshops etc. conducted at the college

Title	Period	No. of participants
AICRP on Energy Requirements in Agrl. Sector-Annual Workshop	19.11.98 - 21.11.98	-
PDC Annual workshop	22.01.99 - 23.01.99	-

Academic Programmes

Admission

Year of Admission	F	Total	SC/ST			Foreign Students			
			M	F	Total	M	F	Total	
a(i) U.G. Programme									
	10	15	25	1	2	3	-	-	-
a(ii) P.G Programme									
	3	2	5	-	-	-	1	-	1
a(iii) Ph.D. Programme									
	-	-	-	-	-	-	-	-	-

Students passed out during the Academic year 98-99

U.G - 18

P.G - 3

Study tours

All India Study Tour 97-98 Batch

All India Study Tour 95-96 Batch

Major Research Achievements Summary & Highlights

Modification and evaluation of Yanji transplanter, KAMCO paddy reader etc. were under progress. A

Visitors:

Name and address	Date of visit	Purpose of visit
Dr. Anwar Alam, DDG (Engg.) ICAR Dr. NSL Sreevasthava, DDG, (Engg) ICAR DR. Dipanker De, (Project Co-ordinator AICRP on ERAS)	19.11.98 - 21.11.98	Annual Workshop on AICRP on ERAS
Mr. Modi, Sr. Res. Officers of NCPA Dr. Sood, Sr. Res. Officers of NCPA Dr. O. P. Garg, Sr. Res. Officers of NCPA Dr. K. V. Peter, Director CSRI, Calicut	22.01.99 23.01.99	Annual Workshop of PDC
Dr. M. M. Pandey, (Co-ordinator AICRP on FIM) Sri. Paloli Muhammad Kutty (Local Administration Minister)	10.02.99 24.12.98	Meeting on People's Campaign Programme

1.6 reaper was developed with KAMCO power tiller.

Energy survey conducted at different parts of Palakkad, Trichur & Malappuram Districts. Data of energy requirements and outputs were collected and stored from farmers for reference.

Extensive laboratory & field tests and performance evaluation of axial flow and mixed flow pumps imported from Thailand.

A power operated thresher for on farm operation was designed, developed and tested. A power operated cleaner-cum-grader for black pepper was developed.

An equipment for harvesting jackfruits was developed.

Equipment for decorticating cashew nut is under progress.

Development of equipments for decorticating and cutting of coconut and for climbing coconut progressed.

Farm Revenue

Head of A/C	Expenditure	Receipts
Non plan	1,15,24,554	
Plan	51,55,323	9,02,052
Revolving - Fund	1,34,127	1,13,865

KAU SCHOOL, VELLANIKKARA

Introduction

The Kerala Agricultural University School was started in 1981 with a view to provide school education to the wards of the University employees in Mannuthy and Vellanikkara Campuses. Former Vice-Chancellor, Late Dr. N. Kaleeswaran, IAS took special interest in establishing the school. It became a complete High School during the Academic year 1990-91. At present classes from I to X are functioning in the School. Creche and Pre-Primary classes are also functioning along with this.

Staff position

Category/ Designation	No. of posts		
	Sanc- tioned	In posi- tion	Va- cant
HEAD MASTER	1	1	-
TEACHER			
English Medium	5	5	-
U.P.S Asst. (Mal.Med.)	3	3	1
U.P.S Asst. (Hindi)	1	1	1
U.P.S Asst. (Mal.)	1	-	1
L.P.S Asst. (Mal)	5	5	-
H.S.A	9	-	9
SP. TEACHERS			
Physical Educa- tion	1	-	1
Drawing	1	-	1
Music	1	-	1
Nursery School Asst.	4	2	2
Ayah	4	2	2
Class IV Assistant	3	3	-
	1	1	-

Strength of students

Standard	Strength
L.K.G	42
U.K.G	35
Std. I	56
Std. II	59
Std. III	64
Std. IV	69
Std. V	82
Std. VI	88
Std. VII	89
Std. VIII	92
Std. IX	96
Std. X	97
Total	869

Academic Achievements

Hafiz K. Ibrahim, James Joseph and Master Nandan K. P., who scored 565 marks, 555 marks 551 marks respectively (out of 600) in the S.S.L.C Exam 1998-99 won the Kaléeswaran memorial Endowment

award. Kumari Sarah Alexandar and Kumari Hazia Hasson won the L.S.S scholarship examination with 15th & 16th rank respectively. Kumari Shirin Leo and Kumari Shiny K Joseph won the U.S.S scholarship Examination with 8th & 13th rank respectively.

Extra Curricular Activities

Science club, Maths club and Nature club are functioning in the school. This school bagged 1st prize in Educational District Level Science & Maths Exhibition. Also won the over all first in science and Maths Exhibition held at Kozhikode. Master Hafiz K. Ibrahim of Std. IX E, won 3rd prize in the State level Childrens' Science Congress and participated in the National science Seminar held at Bhopal. Master James Joseph of Std. IX E won the 3rd prize in the state level Science Seminar held at Thiruvananthapuram. The science teacher Smt. Najeema Unnikammu won the 2nd prize in State Level teaching aids competition for science teachers.

Arts

Master Sandeep Balan won 1st prize in classical music and light music in Revenue district level School Youth festival and was placed 'A' grade in State level School Youth Festival. Kumari Nisha Noel won the 1st prize in Sub district level School Youth festival.

Scouts & Games

Four Guides won the Rajyapuraskar award for 1998-99.

Parent Teachers Association

The Parent Teachers Association worked actively at the School.

Science Club, Maths Club and Nature Club functioned well in the School. The school won 1st prize in District Science Congress, Aggregate II in the Science Exhibition and II in the Science Project. In the Science project, the school received consolation prize and the same was selected for the National Children Science Exhibition held at Gujarat. Master Remon V. R. and Master Blaze Vincent presented the project. Smt. Najeema Unnikammu, science teacher has won the consolation prize in teaching aids competition. Maths club at KAU HS was selected as the best maths Club in Trichur district. Kumari Sherin K. Joseph won 1st prize in District level maths quiz competition and participated in the state level maths quiz competition and won consolation prize. The school participated in the district maths exhibition and won aggregate 2nd prize with 1st prizes for group project by Cris Alosius, Lakshmy N.S. and Salini T.P and in charts section by Master Sreejith H. Das, 2nd prizes in Applied construction by Divya P.M.

Sports

Master Shanoj T. B. won 1st prize in 100mts race and 2nd prize in 200mts race in the District level sports and was placed 4th in 100mts race in State level sports.

Chapter III

EXTENSION

Directorate of Extension

The major extension role of the University is to provide technical support and consultative service to Government Departments engaged in agricultural development and to farmers in special cases. The extension education programmes of the University are planned, organised and conducted by the Directorate of Extension at the University level. The Communication Centre, the Central Training Institute, the KAU Press and the Information-cum-Sales Centre are the major constituent units of the Directorate. Besides these units, extension education programmes are also implemented through the research stations and educational institutions under K.A.U.

The Transfer of Technology Programmes are implemented through the Krishi Vigyan Kendras (KVK) and

the Village Adoption Programme. The Krishi Vigyan Kendras at Ambalayal, Pattambi and Sadanandapuram are sponsored by the ICAR. The KVK at Manjeswaram is financed by the University.

Communication Centre, Mannuthy

Introduction

The major activity of the Communication Centre is to provide information support to the extension personnel of the development departments, voluntary agencies, co-operative societies, farmers and others through a variety of media. Its three sub units viz, Publication unit, Information Unit and the Exhibition and Graphic Service Unit together perform the function of information dissemination.

Staff position

Category/ Designation	No. of Posts		
	Sanctioned	In position	Vacant
a) Scientific services			
Professor (Agronomy)	1	1	-
Professor (Plant Protection/ Entomology)	1	-	1
Associate Professor (Plant protection/Plant Breeding)	1	1	-
Associate Professor (Agronomy)	1	1	-
Associate Professor (Horticulture)	1	1	-
Associate Professor (Animal Husbandry)	1	1	-
Associate Professor (Poultry service)	1	1	-
Assistant Professor (Extension)	1	-	1
Assistant Professor (Aqua)	3	2	1
Assistant Professor (Chemistry)	1	1	-
Assistant Professor (Pl.Pathology)	1	-	1
Assistant Professor(Entomology)	1	1	-
Publication Unit			
Associate Professor (Entomology)	1	-	1
Assistant Professor (Animal sciences)	1	-	1
Assistant Prof (Aquaculture)	1	-	1
Information Unit			
Assoc. Prof(Extn)	1	1	-
Asst. Prof (Animal Husbandry)	1	-	1
Asst.Prof (Extn.)	2	-	2
Exhibition and Graphic Services			
Assistant Professor	2	1	1
b) Technical			
Language Editor	1	1	-
Malayalam Translator	1	1	-
Farm Supervisor	1	-	1
Technical (HG)	1	1	-
Farm Asst GrI	1	1	-
Photographer	1	1	-
Artist (HG)	1	1	-
Driver (LDV)	1	1	-
Dark Room Assistant	1	-	1

c) Administrative/Supporting/Para-technical/Ministerial and other position			
Admn Assistant	1	1	-
Section Officer	1	1	-
SeI. Gr. Assistant	1	1	-
Sr. Gr. Assistant	3	2	1
Assistant Gr. I	1	1	-
Assistant Gr II	1	1	-
Peon	2	2	-
Sweeper Cum Attendant	1	-	1
Typist	1	1	-

New posts sanctioned/created/shifted : Nil

Report in brief

Demonstrations

Name and designation of scientists	Topic	Duration	No of Batches	No of participants
		Venue		
K.K. Santha Assoc.Prof.	Vegetative propagation techniques	KAU Pavilion at the TCR	1	58
Dr.S. Estelitta Asst. Prof.	Mushroom Cultivation	Pooram Exhibition May 98	1	-
Dr. Jayasree Sankar Asst.prof.	Vermicompost	13.5.98 1.5.98	1	-

Visits to Farmer's fields

No. of visits/Area	Main problems tackled	Date/ period
Nemmara	Problems of Coconut and Banana	23.5.98
Kunnath,	Vegetable Pest	3.7.98
Mannuthy	Pests on Coconut	28.7.98
Marar Lane , Tcr	Mango Pest	25.8.98
Angamaly	Coconut Pest	27.8.98
Chazoor	BPH affected area	26.11.98
Thiruvilwamala	Fallow land cultivation	27.11.98
ARS Mannuthy	Coconut pest	15.1.99
Nallenkara	Cashew crop	22.1.99
Varadiyam	Coconut Cultivation	16.3.99
Kollengode	Vegetable pest	25.3.99
Chelakkara	Coconut pest & disease	12.5.98
Pattikkad	Kitchen garden setting	1.8.98
Vyttila	Vegetable pests and diseases	17.9.98
Vyttila	Banana pest	12.10.98
Erattumukku	Jack	13.11.98
Mukkanur	Coconut pest	24.1.99
Angamaly	Mango pest	10.3.99
Myeiyad	Pests & diseases of ornamental plants	15.9.98
Pattikkad	Vegetable pest	24.10.98
Kodungallore	Areca nut yellowing	12.11.98,
Kattakampal	Areca nut yellowing	23.2.99
CPCRI, Kannara	Areca nut yellowing	21.11.98

Malappuram	Coconut plot	7.12.98
Kodungallur	Arecanut yellowing	31.1.99
Chuvannamannu	Coconut pest attack	22.2.99
Kolazhy	Pineapple pests and diseases	10.3.99
Pudukkode	Pests and diseases	16.3.99
Kanimangalam	Banana diseases	26.3.99
Vadakkenchery	Coconut stem bleeding & fertilizer management for coconut	15.3.99
Pandipparambhu	Control of coconut mite and nutritional requirement of rose and fruit plants	12.1.99
Koorkkenchery	Control of red palm weevil	27.2.99
Thiroor	Control of red palm weevil	9.3.99
Kodungallore	Coconut crop management and inter cropping	31.1.99

Farm advisory services

Period	Farm clinics	Solution to farmer's field problems		
		In person	Through telephone	Through post
April 1998 to March 1999	321	898	306	89

Exhibitions

Venue	Duration	Amt spent (Rs)
Agri Fair at Kanakakunnu Trivandrum	6-1-99 to 9-1-99	30,000
Trichur Pooram Exhibition TCR	March - May	3.9 Lakhs
Alenkara Malsya mela, Calicut	15-16,2/99	
Haritha Karshaka Sangamam, KAU Headquarters	3-6-98 to 4-6-98	2,500
Watershed Development Programme, GHS, Pattikkadu	29-9-98	1,500
Exhibition in connection with State level seminar on mite,	6-11-98	5,000
Flower Show, 1999	22-1-99 to 27-1-99	10,000
Exhibition in connection with State level seminar on Arecanut yellowing	21-3-99	47,000
Exhibition of KAU Publications in connection with IASLIC XXII Conference & National Seminar on Right to Information technology exhibition	21-24/12/98	1,500
Exhibition conducted by KAU at Paravur Adarsh Vidyalaya	12-1-99 to 15-1-99	5,000
Exhibition conducted in connection with the programme Floriculture 2020 at Central Auditorium, KAU	12-2-99 to 13-2-99	
Exhibition in connection with 'Karshakasree Award' conducted by Malayala Manorama, Kannur	19 to 23-11-98	25,000
Exhibition in connection with 'Mathrubhumi Karshikamela' Alappuzha	27-31/12/98	20,000

Correspondence course:
Course Director Smt. K.K. Santha

Topic	No. of beneficiaries	Reg. Fee	Amount spent
Vegetative propagation in plants	164	100	8000/-

Training/Symposia/Workshop etc conducted

Topic	Period	No. of participants
(1) State level seminar on 'problems and prospects of ornamental fish culture in Kerala'	18-12-98	75
(2) Training on Ornamental fish culture	30-6-98 to 4-7-98	10
	2-2-99 to 6-2-99	10
(3) District level Agricultural Seminar at Cherpu	12-3-99	300
(4) State level Workshop on Mite management	6-11-98	500
(5) State level workshop on Aracanut yellowing	21-3-99	500
(6) World food day	16-10-98	150
(7) Chingam-1 Farmers' Day	17-8-98	1000
(8) Training for SC/ST youths -IPM on Vegetables	2-1-98	30
(9) Farmer-Scientist interaction programme-Insect control in rice	19-8-98	40
(10) Training for SC/ST Youth, pests of vegetables	3-6-98	30

Participation of scientists in the peoples' campaigns for decentralised planning

Name and designation	Nature of participation	Venue	Date
Dr. A.D. Antony Assoc Prof	Member DLEC	Trichur	April 98 March 99
Dr.M.K. Sheela & Dr. Suma Paulose Assoc. Professors	Resource person in Agriculture in the peoples campaign programme	Venkitangu	6.10.98
		Thaniyam	14.10.98
Dr. M.K. Sheela Assoc.Prof		Kodungallor	22.10.98
		Kadakara	26.10.98
		Pudukkad	2.12.98
		Wadakkenchery	3.12.98
		Kavussery	4.12.98
Dr.M.K. Sheela & Dr Suma Paulose Assoc.Professors		Mukundapuram	5.12.98
		Paralam	8.12.98
		Alathoor	16.12.98

Dr. Suma Paulose Assoc. Professor		Wadakkenchery	17.12.98
		Mundathicode	19.12.98
		Erimayoor	8.2.99
		Panjai	16.2.99
		Cherpu	20.2.99
		Nenmara	5.3.99
		Venkitangu	6.10.98
		Chavakkad	17.10.98
		Vellangalloor	24.10.98
		Palethuruthy	29.10.98
		Angamaly	2.11.98
		Thrikkakara	3.11.98
		Mattoor	9.11.98
		Karukuthy	11.11.98
		Kannamaly	2.12.98
		Vandazhi	3.12.98
		Tharoor	4.12.98
		Elamkulam	30.1.99
		Chalakkudy	6.2.99
		Mukkannur	11.2.99
Thalikulam	15.2.99		
Elamkunna puzha	26.3.99		
K.K. Santha Assoc. Prof	Member, Peoples' participation programme Kunnankulam as subject expert in Project formu- lation on vegetable & floricult- ure	Kunnankulam	17.10.98
Dr.S. Estellita & Dr. Jayashree Saikar Asst. Professors	Resource person GALASA Proj- ect Plant protection aspect of paddy.	Sreekrishnapu- ram	21.6.98
		Koottanad	23.6.98
		Mannarcad	24.6.98
		Attappadi	26.6.98
		Attappadi	28.6.98
		Thenkurissi	21.2.99

Dr. Jayshree Sankar Asst. Professors	Resource person in Agri Seminar under peoples' Planning	Chennamangalam	30.4.98
		Cherayi	25.6.98

Participation in Farmers' Seminars in association with the Dept of Agri. and other agencies

Name and Designation	Topic	Venue	Date
Smt. K. Krishnakumari Asst. Professor	Vegetable cultivation	Chennamangalam	30.4.98
	Cool season vegetables	Kattappana	8.5.98
	Vegetable cultivation	Pathankallu	6.6.98
	Vegetable cultivation	Chalissery	17.6.98
	Vegetable cultivation	Thrikkakara	27.6.98
	Vegetable cultivation	Mannuthy	17.7.98
	Vegetable cultivation	Mannuthy	16.10.98
	Vegetable cultivation	Cheranellur	6.1.99
	Coconut cultivation	Malampuzha	7.1.99
	Banana cultivation	Malampuzha	13.1.99
	Kitchen garden	Puthukad	28.1.99
	Kitchen garden	Lakkadi	23.3.99
	Leaf vegetables	Madakkathara	24.3.99
	Veg. Cultivation	Elamkunnappuzha	26.3.99
Dr.M.K. Sheela Assoc. professor	IPM in rice	Amabloor	3.6.98
	Pests of coconut	Avanoor	16.6.98
	Pests of rice	Ayanthole	26.6.98
	Cultivation of vegetables	Thaloor	6.7.98
	Pepper cultivation	Kaiparambu	8.7.98
	IPM in rice	Anthicad	18.8.98
	Pests of coconut	Nattika	11.9.98
	IPM in rice	Alagappanagar	14.9.98
	IPM in rice	Manaloor	28.9.98
	Mites in coconut	Pazhuvil	7.10.98
Mites in coconut	Peringottukara	13.10.98	

	Mites in coconut	Annamanada	15.10.98
	Mites in coconut	Vallachira	16.10.98
	Mites in coconut	Kaipamangalam	23.10.98
	Mites in coconut	Kunnamkulam	24.10.98
	Mites in coconut	Udayamperoor	2.11.98
	Mites in coconut	Koorkkencheri	16.11.98
	Pests of coconut	Chalakkudy	19.11.98
	Pests of rice	Kodakara	24.11.98
	Pests of vegetables	Pudukkadu	2.1.99
	Cultivation of rice	Alagappanagar	11.1.99
	Vegetable cultivation	Desamangalam	12.1.99
	Mites on coconut	Vyttila	13.1.99
	IPM in rice	Thaloor	16.1.99
	Rice pests	Aviniseri	25.1.99
	Vegetable pests	Orumanayoor	20.3.99
	Mites in coconut	Kodali	28.3.99
	Pests of Banana	Kodali	29.3.99
	Water shed Management	Pattikkad	29.9.98
K.K. Santha Assoc. Professor	Pepper cultivation	Koduvally	22.9.98
	Pepper cultivation	Athirappally	6.6.98
Dr. Suma Paulose Assoc. Professor	Coconut cultivation	Puthur	8.6.98
	Pests of coconut	Ayyanthole	26.6.98
	Coconut cultivation	Thaloor	6.7.98
	IPM in rice	Alathur	29.7.98
	Innovation of rice production technology	Malampuzha RATTC	12.8.98
	IPM in rice	Wadakkenchery	17.8.98
	Pests of banana	Pudukkad	11.9.98
	Vegetable cultivation	Alagappanagar	14.9.98
	Pests of vegetables	Koorkenchery	16.11.98

Dr. S Estellita Asst. Professor	Pests of coconut	Chalakydy	19.11.98
	Pests of rice	Kodakara	29.11.98
	Vegetable cultivation	Irijalakuda	12.12.98
	Vegetable cultivation	Pudukkad	2.1.99
	IPM in rice	Cheranellur	6.1.99
	IPM in rice	Alagappanagar	11.1.99
	IPM in rice	Peramangalam	12.1.99
	IPM in rice	Vytila	13.1.99
	Mites in coconut	Thalor	16.1.99
	Vegetable	Avinissery	25.1.99
	Coconut	Orumanayur	20.3.99
	Vegetable cultivation	Kodali	27.3.99
	IPM in rice	Kodali	28.3.99
	Pepper cultivation	Kodali	29.3.99
	Pests and diseases of vegetable	Paravur	30.4.98
	Mushroom cultivation at Idukki mela	Kattappana	8.5.98
	Banana diseases	Pattambi	26.5.98
	Pests and diseases of vegetables	Chalisseri	17.6.98
	Banana cultivation	Mukkannur	21.11.98
	KHDP	Kochi	16.12.98
Pests and diseases of vegetables	Melur	6.2.99	
Plant protection of coconut	Talikkulam	16.2.99	
Banana cultivation	Cherppu	12.3.99	
Pests & diseases of vegetables	CMS School, Man-nuthy	12.2.99	
T. N Jagadeesh Kumar asst. Professor	Pepper cultivation	Kodakara	20.4.98
	Cashew cultivation	Vellankallur	15.6.98
	Agro forestry	Anakkayam	22.9.98
	Cococut cultivation	Vadakkancherry	6.11.98
	Pineapple cultivation	Iringalakkuda	21.11.98

Dr Jayasree Sankar Asst. Professor	Vermi compost	Vadanappalli	29.4.98
	Vermi compost	Kattappana	8.5.98
	Vermi compost	Thanniym	6.6.98
	Organic manures	Erumappetti	13.6.98
	Coconut cultivation	Thalikulam	20.6.98
	Fertilizer management	Puthukode	27.6.98
	Coconut cultivation	Anthikkad	29.6.98
	Manuring of crops	Cherpu	12.3.99

Information dissemination

Publications

Periodical	Kalpadhenu	Vol 25	Issues 4 & 3
	Kalpadhenu	Vol 26	Issues 1& 2
Non Periodicals			
<i>Books</i>			
Common weeds of Rice Ecosystem in Kerala (July 1998)			
A Monograph on crop pests of Kerala and their control (3rd edition) March 99			
<i>Booklets</i>			
Kaada (Jan 99) (Mal)			
Mulaku Krishi (April 98)(Mal)			
Kaikarikal (Jan 99)(Mal)			

Technical bulletins

1. Nutrition Garden (May 98) – K.Krishnakumari, ..
2. Mandari - Thengukrishikku bheeshani M.K. Sheela , Suma Paulose (Mal) Nov 98
3. Leaflet on Arecanut Yellowing (March 99) – Estelitta & Jayasree Sankar

Popular articles

Name of Scientist	Title	Publication
Dr. A. D. Antony	Ornamental Fish culture in Kerala	Kalpadhenu 26 (1&2) July-Dec 1998
Smt.K. Krishnakumari	Minor fruits (Mal)	Kalpadhenu 25(4)3-6 April-June 98
Dr. Seema B	On guava (Mal)	Kalpadhenu 25(4)
Dr. S. Estillita & Dr. Jayasree Sankar	Arecanut yellowing (Mal)	Mathrubhumi daily March 1999

Radio talks

Name of Scientists	Topic	Date	Station
Dr. A.D. Antony	Commercial Production of Ornamental fishes	26.8.98	(AIR TCR)
Dr.A.D. Antony	Ornamental fish breeding as a source of income	26.11.98	(AIR TCR)
Dr.A.D. Antony	Diseases of Aquarium fishes	17.3.99	(AIR TCR)
Smt. Krishnakumari	Pulses cultivation	25.5.98	(AIR TCR)
Smt. Krishnakumari	Capsicum varieties suited for Kerala and its cultivation practices	25.7.98	(AIR.TCR)
Dr.M.K. Sheela	Pests of Coconut	13.5.98	(AIR TVM)
Dr.M.K. Sheela	Pepper	9.11.98	(AIR TCR)
Dr.M.K. Sheela	Pepper	6.2.99	(AIR Calicut)
Dr.M.K. Sheela	Banana	9.3.99	(AIR Kannur)
Smt.K.K. Santha	Bhindi	6.10.98	(AIR TVM)
Dr. Suma Paulose	Pests of tomato, chilli & brinjal	9.7.98	(AIR TVM)
Dr. Suma Paulose	Questions and Answers on the Pests of tomato, chilli & brinjal	6.8.98	(AIR TVM)
Dr. Suma Paulose	Insecticidal residues in vegetables	27.10.98	(AIR TCR)
Dr. Suma Paulose	Brown plant hopper	3.3.99	(AIR TCR)
Dr.Jayasree Sankar	Application of Lime in kole lands	22.10.98	(AIR TCR)
Dr. Jayasree Sankar	Sampling for soil testing	1.3.99	(AIR TCR)

Important visitors

Name and address	Date of visit	Purpose of visit
S.L. Metha DDG (ICAR)	Feb '99	Review of Extension Education activities of KAU

Seminars/summer institutes/symposia/trainings(deputed)

Name of scientists and designation	Seminars/summer institutes/symposia workshop to which deputed	Period of deputation and duration of course
Smt K. Krishnakumari Asst. Professor	Training need assessment Tool & Techniques at NIRD Hyderabad	21.9.98 – 25.5.98
	Spice production technology IISR Calicut	20.11.98 – 27.11.98
Sri. Jose Joseph Asst. Professor	Training on Educational Video production at National Academy of Agricultural Research Management, Hyderabad	31.8.98 – 11.9.98

Dr. Seema B Asst. Professor	Participatory Rural Appraisal for Rural Development NIRD, Hyderabad	7.11.98
Smt K.K. Santha Assoc. Professor	Training Need Assessment tools and Techniques at NIRD Hyderabad	21.9.98 – 25.9.98
Dr. S. Estelitta Asst. Professor	Training Need Assessment tools and Techniques at NIRD Hyderabad	21.1.98 – 25.9.98
Dr. Jayasree sankar Asst. Professor	Summer School on Integrated Soil Productivity Management for Sustainable Agriculture at Agrl. College & Res Institute, Madurai	15.7.98 – 4.8.98

Other details if any

Name of Scientist	Course work	College/Student
Sri. Jose Joseph	Extension education & Psychology	B.Tech. Agrl Engineering
Dr. Elizabeth Joseph	Aquaculture (1+1)	College of Co-operation, Banking & Management
Dr. Seema B	Forestry Extension (1+1) Extension Methods & Aids (1+1) Training for Development (2+1)	College of forestry College of Co-operation, Banking & Management M.Sc. Agri. Extension College of Horticulture
Dr M.K. Sheela & Dr. Suma Paulose	Crop pests & Diseases (2+1)	College of Co-operation Banking & Management
Dr.P. Sreedevi	Agron 403 (1+1)	College of Horticulture

All Scientists have functioned as external examiners for semester final exams in their fields of specialisation by setting question papers, valuing answer sheets and conducting viva voce examinations.

Village Adoption Programme

The Communication Centre co-ordinated the implementation of the Village Adoption programmes. The adopted villages function as the field laboratories of the university. All the constituent colleges and research stations of the University adopted the programme by adopting a village adjacent to the Station/College.

The Communication Centre adopted 'Jain' Centre Ernakulam as the Centre for the programme. Rooted jasmine plants, vegetable seeds, fertilizers, agricultural implements etc. were supplied. Guidance on implementing the programme was given and follow up action was also taken.

List of staff

Farm advisory services:

Professor of Plant Protection	Vacant
Assoc. Professor (Agron.)	Dr. P. Sreedevi
Assoc. Professor (P.P/Pl. Breed)	Dr. M. K. Sheela
Assoc. Professor (A. H)	Dr. C. B Manomohan

Participation in NSS Activities / Activities in association with other KAU units/other activities

Dr. M.K. Sheela - Member, vegetable co-ordination group, KAU

Dr. M.K. Sheela & Dr. Suma Paulose - Participated in the meeting convened by the Minister for Agriculture at Ernakulam Collectorate on 9-98 for mite eradication

Dr. M. K. Sheela & Dr. Suma Paulose - Participated in the NSS Programme organised by the C B & M College as Resource persons on agriculture subjects for tribals.

Dr.P. Sreedevi- Compilation of the Annual Administration Report KAU 1997- 98

Assoc.Professor (Ento)	Dr. Suma Poullose
Assoc.Professor (Aqua Cul.)	Dr. A. D Antony
Assoc.Professor (Hort)	K Krishnakumari, Asst.Prof
Asst. Professor (Poultry Sci.)	Vacant
Asst. Professor(Pi. Path)	Dr. S Estelitta
Asst. Professor(Bio Chem)	Dr. Jayasree Sankar S
Asst. Professor(Aqua Cul)	Dr. Elizabeth Joseph, Assoc.Prof
Extn. Unit	
Asst. Professor(Extn.)	Jose Joseph
Asst. Professor(Extn.)	Dr. B Seema
Asst. Professor(Extn.)	T. N Jagadeesh kumar, Asst.Prof(Agron.)
Publication Unit	
Assoc.Professor(Ento)	Vacant
Asst. Professor(A H)	Dr. Koshy Varghese(by w/a from KVK Pattambi on 2 days in a week)
Information Unit	
Assoc. Professor(Extn)	Dr. R Muraleedhara Prasad
Asst. Professor(Extn)	Vacant
Asst. Professor(Extn)	"
Asst. Professor(A H)	"
Exhibition & Graphic unit	
Asst. Professor(Extn)	K. K Santha, Assoc.Prof
Asst. Professor(Extn)	Vacant
Asst. Professor(Aqua)	"
Language Editor	K. Mrudula Devi
Farm Supervisor Gr. I	
Farm Asst. Sel. Gr.	George Puravath (a w/a)
Farm Asst. Sr. Gr	P. N. Sadasivan
	Valsamma George (on w/a at ICSC)
Technical Supervisor Gr. I	
Photographer (HG)	Eugine G Varghese
Artist	V. V. Satheesan
Driver LDV Gr. I	Vacant
Dark room Asst.	Sooria Narayanan N
Assistant Sel. Gr.	Vacant
	Prema B. Nair
	Jacob Joe P. A.
Assistant Sr. Gr.	M. P. Narmada
	M. Komalam
Assistant Gr. II	Shantha kumari K. R
	Shakila Beegam M
Typist Sr. Gr	Sudha. T.
Peon (HR)	Ramakrishnan M. K(on w/a at P.R.P)
	M. O Kochammu (upto 31.1.99)
Peon	Unnikrishnan M.P (on w/a at ICSC)
Malayalam Translator	K. N Chandralekha
Section Officer	N Vijayakumar
Ad. Assistant	K. R Dileep kumar

Information and Sales Centre, Mannuthy

Introduction

The Information and Sales Centre, Mannuthy was inaugurated on 16th July, 1993 by Sri.K Karunakaran the then Hon'ble Chief Minister of Kerala.

Information and Sales Centre is a unique extension service venture of KAU through which quality planting materials, livestock products like egg, meat and meat products, fruit and vegetable products, ornamental finger lings and KAU publications are made available to the public through a single window. The supplies are supplemented by providing technical advice on various problems confronted in agriculture and allied subjects through farm clinics and video projections by the scientists of the communication Centre.

Mandate

To serve as a no loss-no profit institution to provide quality planting materials, farm products etc.

Staff position

All the staff including labourers are on working arrangement from different stations of the KAU

Category/ Designation	No. of Posts	
	Sancti-oned	Working ar- rangement from
a) Scientific Officer-in-charge	1	Com. Centre, Mannuthy
b) Technical Farm Supervisor (Ag.)	1	CTI, Mannuthy
Farm Assistant Sln. Gr. (Ag.)	1	CTI, Mannuthy
Farm Assistant Sr. Gr. (Ag.)	1	Com. Centre, Mannuthy
Farm Assistant Sln. Gr. (Vety.)	1	CV & AS
c) Supporting Pump Operator	1	Mech. Sub divi- sion, Vellanikkara
Class IV Employee	2	COH, Vellanik- kara & Com. Centre, Mannuthy
Data Entry Trainee	1	On contract basis

Visitors

Name and address	Date of visit	Purpose of visit
Christy Fernandes, Chairman , Coirboard of India		Visit
Dr. M. Mahadevappa, V.C. UAS, Dharwad		"
C. Sivaraman, Officer, Dept. of Agriculture, Govt. of Pondichery		"

Revenue

Head of A/C	Expenditure	Receipts
Non plan	Rs.3,41,218	Rs.49,48,000
Plan		
Revolving fund		

Central Training Institute, Mannuthy

Introduction

The Central Training Institute was started in October, 1986 as a special sub-project under NAEP-I with financial assistance of the GOI. Since 31.03.91, CTI is financed fully by the KAU.

Mandate

CTI is the nodal point of all training activities undertaken by KAU for the State Development Departments, Commodity Boards, Banks etc.

Staff position

Category/ Designation	No. of Posts		
	Sancti-oned	In po- sition	Vacant
d) Scientific Professor of Extension	1	-	1
Assoc. Professor	1	1	-
Asst. Professor	1	1	-
e) Technical Farm Supervisor	1	1	on working arrange- ment
Farm Assistant	1	1	
f) Administrative/ Supporting/ Para-technical/ Ministerial and other positions			
Assistant Gr.I	1	1	-
Sln. Gr. Typist	2	2	-
Sr. Gr. Typist	1	1	-
Peon	1	1	-
Driver	1	1	-
Duplicator Operator	1	1	-

Demonstrations: Nil

Training programmes

Name of the Course Director	Topic	Duration		o of partic pants	No. of Batches
		From	To		
NATIONAL TRAINING PROGRAMMES					
Dr. M. Abdul Salam,	Cashew Production Technology	15.03.99	23.03.99	18	1
STATE DEPARTMENT OF AGRICULTURE					
Dr. M. Abdul Salam,	Cashew Production Technology	Aug.98	Sept.98	20	4
Dr. M.S. Sheela,	Integrated Nematode Management in banana & vegetables	1.07.98	24.07.98	10	1
Dr. T. Nalina Kumari	Integrated Pest Manage- ent in rice	4.08.98	7.08.98	20	1
Sri. P. K. Unnikrishnan Nair,	Biocontrol of Phytophthor foot root of Black pepper	Aug.98	Sept.98	10	4
Dr. K. Rajmohan,	Plant tissue culture	31.12.98	31.01.99	5	1
Dr. T. Nalina Kumari	IPM in rice and vegetables	2.12.98	3.12.98	30	2
Professor & Head	State level training on improved rice production Technology	21.10.98	23.10.98	20	1
Dr. N. Rema Bai,	State level training on improved rice production Technology	20.01.98	22.01.98	20	1
Dr.Sukumara Varma,	Mushroom spawn production	11.08.98	13.08.98	5	1
STATE DEPARTMENT OF ANIMAL HUSBANDRY					
Professor & Head, Phar- macology	Handling of ranquilizer guns for control of wild nimals	18.05.98	23.05.98	10	1
Professor & head Clinical Medicine	Fluid therapy and critical care	24.08.98	28.08.98	10	1
Professor & Head Clinical Medicine	Special clinical diagnostic procedures	22.09.98	26.09.98	10	1
Professor & Head Surgery	Large animal surgery	25.07.98	20.07.98	6	1
Professor & Head Clinical Medicine	Advances in ruminant medicine producers	20.10.98	24.10.98	10	1
Professor & Head	Fertility management of	01.12.98	28.02.99	10	1

Animal Science	livestock				
Professor & Head Surgery	Anaesthesiology & Orthopaedics	10.10.98	17.10.98	6	1
Professor & Head Parasitology	Diagnosis of parasitic infections in domestic animals	20.10.98	24.10.98	8	1
Director, Centre of Excellence in Pathology	Advances in disease investigation	17.10.98	16.11.98	10	1
Director, Centre of Excellence in Pathology	Advances in disease investigation	1.12.98	28.02.99	10	1
Professor & Head Microbiology	Manufacture and standardisation of biological products	03.08.98	02.11.98	10	1
Professor & Head Microbiology	Immuno diagnosis of infectious diseases	16.11.98	21.11.98	10	1
Professor & Head Clinical medicine	Advances in treatment of pet animals & love birds	23.11.98	25.11.98	10	1
Professor & Head MTU	Quality control, meat inspection & abattoir management	28.02.99	01.12.98	10	1
OTHER DEPARTMENTS/AGENCIES					
Dr. D. Damodaran Nam-poodiri	Application of additives in sea food processing	May 98	19.02.99	19	1
Dr. G. Shobhana	Extension management	15.02.99 22.02.99	26.02.99	17	2
Dr. Joy Mathew, Dr. Alexander George	Communication methods	22.09.98	26.09.98	20	1
Professor & Head, Pharmacology	Handling of tranquilizer uns for control of wild nimals	25.05.98	30.05.98	10	1
Sri. M.V. Mohan	Aquarium fish breeding	08.12.98 14.12.98	10.12.98 16.12.98	10	2
Dr. K. Jayasree Vadhyar	ommercial Culture fisheries	20.07.98	25.07.98	15	1
Dr.M. Mukundan	Dairying	1.07.98	31.07.98	25	1
Dr.M. Mukundan,	Dairying	01.02.99	28.02.99	25	1

STIPENDARY TRAINING PROGRAMMES					
Professor Head MTU	Processing cum plant operation	9.12.97 onwards		6	1
Professor Head MTU	Meat plant operation and maintenance	9.12.97 onward		4	1
Professor Head MTU	Meat Processing Technology & whole- ome meat production	9.12.97 onwards		10	1
Special Officer & Head, DP	Inplant training in sanitary practice	May 98		4	1
Special Officer & Head, DP	Inplant training in preparation & package of indigenous products	May 98		4	1
Special Officer & Head, DP	Inplant training in operation & mainte- ance of dairy equip- ents	May 98		4	1
Special Officer & Head, DP	Inplant training in operation maintenance of dairy equipments	May 98		4	1
VOCATIONAL TRAINING PROGRAMMES					
Dr. Narayanankutty	Commercial nur- sery management, vegetable production technology and paddy mechanisation	Sept 98 Dec. 98	Dec.98 March 99	15	2
Dr. S. Ravi,	Cashewgrafting technique	Aug.98	Sept.98	15	1
Dr. K. Rajamohan	Plant tissue culture	Feb.99	March 99	5	1
Professor & Head	Processing & marketing of cooked meat & eggs	8.02.99	12.02.99	1	1
Dr. R. Vikraman Nair	Plant tissue culture	16.02.98 onwards	24.06.98	2	1
	"	April 98 Onwards	27.06.98 10.07.98 25.07.98 18.07.98	2	1
	"	3.07.98 onwards	22.08.98	4	1
	"	22.09.98 onwards	03.07.98	4	1

Dr. P.K Rajeevan	Orchid & anthurium cultivation for educate UY (PAO,Emakulam)	22.06.98	Nov-98	16	1
Dr.A Sukumara Varma & Dr. T. N Vilasini,	Mushroom cultivation	25.06.98 8.07.98 23.07.98 13.07.98	16.11.98	20	3
Dr. Jacob John	fruit & vegetables preservation	17.08.98		20	1
Dr. Jacob John	Fruit & vegetable processing	29.06.98		20	1
Dr. A. D. Antony,	Ornamental fish cultur	May 98		10	3
Professor & Head Processing Tech.	Fruit & vegetable processing	Oct.98		20	2
Dr. V. L Sheela,	Land scaping & floriculture	16.10.98		25	2
Smt. K Geetha,	VermiTechnology			20	2

Visits to farmers' field: Nil

Farm advisory services: Nil

Seminars/summer institutes/symposia/trainings

Name of scientists and designation	Seminars/summer institutes/symposia workshop to which deputed	Period of deputation and duration of course
Dr. Joy Mathew Assoc.Professor	National Training Course on HRD skills	09.11.98 – 20.11.98

Revenue

Head of A/C	Expenditure	Receipts
Non plan 402-40-100	Rs.17,44489.00	Rs.3,16,595.00
Plan	-	-
Revolving fund	-	-

Visitors: Nil

KAU PRESS

Introduction

The KAU Press caters to the printing needs of the university. During the period under report, 205 works were received, out of which 198 were completed. This includes periodicals, publications under Krishi Vijana Manjeri series, Annual Administration Report (Eng. & Mal.), Budget estimate & budget speech, audit report 88-89, 89-90, Research report 95-96, calender, letter heads, certificates, prospectus for the various degree courses, practical manuals for various faculties etc. Different forms and

registers required for the university were also printed and supplied.

The following publications and peridicals were printed and published during the period under report.

Revised edition of the book.

പന്നിഉല്പാദനവും പരിപാലനവും

Revised edition of the book--കായ്കറികൾ

Revised edition of the book-ശാസ്ത്രീയമായ ആടു വളർത്തൽ

കമ്യൂണിറ്റി മഞ്ഞളിപ്പ് റോഗം Leaflet

Kalpadhenu Vol. 25 issue No. 4

Kalpadhenu Vol. 26 issue No.1

Two DTP Machines alongwith a Risograph Unit were installed at KAU Press. Two Compositors and one Jr. Foreman were given training in DTP Operation at the State Audiovisual & Reprographic Centre, Ernakulam.

Krishi Vigyan Kendra, Ambalavayal

Introduction: The Krishi

Vigyan Kendra, financed by the ICAR became functional in 1984 primarily to cater to the needs of the tribal population in Wayanad district.

Mandate:

Extension activities in agriculture and allied fields aimed mainly at the tribal population and non-tribal farmers of Wayanad.

Staff position

Category/ Designation	No. of posts		
	Sanctioned	In position	Vacant
a) Scientific 1. Training Organizer 2. Training Associates	1 6	1 5	- 1
b) Technical 1. Training Assistant	3	3	-
c) Administrative/Supporting/ Para Technical /Ministerial and other positions	6	5	1
TOTAL	16	14	2

Scholarship awarded to staff/Deputation of staff for higher studies: Nil

New posts sanctioned/created/shifted: Nil

Report in brief

Exhibition

Venue	Duration	No. of beneficiaries	Amount spent
J.N.H.S. Mahi	Dec.27th to Dec.29th 1998	Data not available	2115/-

Participation of scientists in the people's campaigns for decentralized planning

Name of Scientists	Nature of participation	Venue	Date
Dr. Radhamma Pillai	Chairman (Vety), BLEC	Sulthanbathery	18.3.98
			18.4.98
			6.10.98
			20.10.98
			28.10.98
			10.12.98
			23.12.98
			14.01.99
			21.01.99
			18.02.99
Dr. T. P. M. Das	Member (Agri),BLEC	Kalpetta	24.7.98
			9.9.98
			6.10.98
Sri. S. Gopakumar	"	Sulthan Bathery	23.12.98

Demonstrations

Name and designation of scientist	Topic	Duration		No. of Batches	No. of participants	Amt spent (Rs.)
		From	To			
T.P. Manomohan das	Mushroom cultivation	18.5.98	20.5.98	1	11	-
Sri.C.M.George	Rat trap demonstration	18.9.98	18.9.98	1	35	595
Sri.C.M.George	IPM in Rice	15.10.98	15.10.98	1	58	-
Dr.T.P. Manomohan das	Mush room cultivation	17.11.98	19.11.98	1	52	-
Sri. Sajeew	Bee keeping	23.11.98	24.11.98	1	33	1284
Dr.T.P.Manomohan das	Mushroom cultivation	18.3.98	20.3.98	1	65	-

Training programmes/seminars/workshop conducted

Name of scientists	Topic	Duration		No. of participants	No. of batches	Amount spent (Rs.)
		From	To			
Sri. C. M. George	IPM in agriculture	4/4/98	4/4/98	43	1	
Sri. C. M. George	Foot rot of pepper	18/4/98	18/4/98	55	1	
Dr. A. Radhamma Pillai/ Dr. Saji Joseph	Animal husbandry	22/4/98	22/4/98	47	1	
Dr. A. Radhamma Pillai	Profitable cow rearing	6/6/98	6/6/98	44	1	
Dr. T. P. Manomohandas	Mushroom cultivation	18/5/98	20/5/98	11	1	
Dr. A. Radhamma Pillai	Profitable cow rearing	7/6/98	7/6/98	76	1	

Sri. C. M. George/ Dr. T. Pradeepkumar	Agricultural Seminar	10/6/98	10/6/98	75	1	
Sri. C. M. George/ Dr. A. Radhamma Pillai	Management of quick wilt/Cattle rearing	15/6/98	16/6/98	10	1	
Sri. C. M. George/ Dr. T. P. Manomohandas	Management of quick wilt	19/6/98	19/6/98	36	1	684
Dr. A. Radhamma Pillai	Animal husbandry	26/6/98	26/6/98	63	1	
Sri. C. M. George/ Dr. T. P. Manomohandas/ Dr. A. Radhamma Pillai/ Dr. T. Pradeepkumar/ Smt. Susan Cherian/ Smt. Susamma P. George	Pepper cultivation /Profitable cow rearing /Mushroom cultivation/ Vegetable cultivation / Compost making	8/7/98	10/7/98	16/19/13	3	768
Dr. A. Radhamma Pillai	Goat rearing	14/7/98	14/7/98	38	1	
Dr. K. N. Anith/ Dr. A. Radhamma Pillai	Environment Awareness seminar	15/7/98	15/7/98	97	1	
Dr. A. Radhamma Pillai/ Dr. Alikunhi/ Dr. M. A. Gopalakrishnan	Rabies eradication seminar	25/7/98	25/7/98	74	1	1480

Dr. A. Radhamma Pillai	Management of farm cattle and Poultry	29/7/98	29/7/98	37	1	
Sri. C. M. George Dr. A. Radhamma Pillai	Agriculture and AH	10/8/98	10/7/98	17	1	323
Sri. C. M. George/ Dr. A. Radhamma Pillai	Agriculture and AH seminar on farmers' day	17/8/98	17/8/98	100	2	
Sri. C. M. George/ Dr. T. P. Manomohandas/ Dr. A. Radhamma Pillai/ Dr. K. Vasanthakumar/ Dr. K. C. Aipe/ Smt. Susan Cherian/ Smt. Susamma P. George	Pepper cultivation /Profitable cow rearing /Orchid cultivation /Pesticide application/ Compost making	22/8/98	22/8/98	60	1	1080
Dr. A. Radhamma Pillai	AH seminar	22/8/98	22/8/98	72	1	
Dr. A. Radhamma Pillai/Smt. Susan Cherian/ Dr. T. P. Manomohandas	Agriculture and AH seminar	7/9/98	9/9/98	30	1	1800
Dr. A. Radhamma Pillai/K. R. Sasidharan	Care and management of cows/Goat rearing	10/9/98	10/9/98	27	1	
Sri. C. M. George/ Dr. K. Vasanthakumar/ Dr. K. C. Aipe/ Dr. T. Pradeepkumar/ S. Gopakumar	Agriculture/ Agro-forestry	18/9/98	18/9/98	35	1	595
Sri. C. M. George	Agriculture seminar	23/9/98	23/9/98	18	1	
Dr. A. Radhamma Pillai	Management of farm cattle and poultry	26/9/98	26/9/98	29	1	
Dr. A. Radhamma Pillai	Backyard system of poultry	7/10/98	7/10/98	17	1	
Sri. C. M. George	Pest and disease management of pepper	9/10/98	9/10/98	136	1	
Sri. C. M. George	IPM in rice	15/10/98	15/10/98	58	1	
Sri. C. M. George/ Dr. T. P. Manomohandas	Organic farming and IPM	26/10/98	26/10/98	27	1	486
Dr. T. P. Manomohandas/ Dr. K. Vasanthakumar/ Smt. Susan Cherian	Agricultural seminar	31/10/98	31/10/98	46	1	772
Sri. C. M. George/ Dr. A. Radhamma Pillai	Vegetable cultivation and poultry rearing	10/11/98	10/11/98	29	1	495
Dr. T. P. Manomohandas	Mushroom cultivation	17/11/98	19/11/98	52	1	
Sri. Sajeev/Smt. Susan Cherian	Bee keeping	23/11/98	24/11/98	33	1	1254
Dr. A. Radhamma Pillai/ K. S. Rajamony	Animal Husbandry/ Vegetable cultivation	28/11/98	28/11/98	36	1	684
Smt. Susan Cherian	Compost making/ Importance of soil conservation	3/12/98	3/12/98	32	1	
Dr. A. Radhamma Pillai	Profitable cattle rearing	16/12/98	16/12/98	65	1	

Dr. A. Radhamma Pillai	Poultry rearing	21/12/98	21/12/98	43	1	
Sri. C. M. George/ Dr. A. Radhamma Pillai	Quick wilt eradication/Backyard rearing of cows	22/12/98	22/12/98	21	1	
Sri. C. M. George/ Dr. T. P. Manomohandas	Agriculture seminar	28/12/98	28/12/98	109	1	
Sri. C. M. George/ Dr. A. Radhamma Pillai/ Dr. T. Pradeepkumar	IPM/Vegetable cultivation/Backyard poultry rearing	7/1/99	7/1/99	23	1	437
Dr. A. Radhamma Pillai	Clean milk production	15/1/99	15/1/99	15	1	285
Dr. A. Radhamma Pillai	Clean milk production	16/1/99	16/1/99	23	1	247
Sri. C. M. George/ Dr. A. Radhamma Pillai	Agricultural and AH seminar	8/2/99	8/2/99	83	1	-
Dr. T. Pradeepkumar/ Dr. K. N. Anith/Dr. T. P. Manomohandas	Vegetable/Biofertiliser/Banana cultivation	10/2/99	10/2/99	20	1	340
Mr. Paulose/ S. Gopakumar	Bee Keeping	15/2/99	15/2/99	14	1	
Mr. Paulose/ S. Gopakumar	Bee Keeping	17/2/99	17/2/99	118	1	2200
S. Gopakumar/ C. M. George	Agricultural seminar	19/2/99	19/2/99	92	1	
S. Gopakumar/ C. M. George/ Smt. Susan Cherian/ Dr. A. Radhamma Pillai	Agriculture/Agroforestry/Animal Science/Agri. Engg.	22/2/99	22/2/99	13	1	-
C. M. George/ Smt. Susan Cherian/ Dr. A. Radhamma Pillai/ Dr. K. C. Aipe	Agricultural Training	22/2/99	26/2/99	29	1	5771.50
Dr. A. Radhamma Pillai/ Dr. A. Ramakrishnan/ Dr. K. Narayanankutty/ Dr. P. A. Pecthambaran/ Dr. N. Vijayan	Poultry seminar	27/2/99	27/2/99	57	1	2266
Dr. A. Radhamma Pillai	Scientific rearing of cows/clean milk production/management of diary cows	8/3/99	8/3/99	22	1	-
Dr. A. Radhamma Pillai	Backyard poultry rearing	9/3/99	9/3/99	20	1	760
Dr. A. Radhamma Pillai	Problems in AH sector	15/3/99	15/3/99	150	1	-
C. M. George	Quick wilt eradication	15/3/99	15/3/99	61	1	-
Dr. T. P. Manomohandas/ Smt. Susan Cherian	Mushroom cultivation/Agri. Engg. Seminar	18/3/99	20/3/99	65	1	-
Dr. A. Radhamma Pillai	AH seminar	18/3/99	18/3/99	22	1	-
Dr. A. Radhamma Pillai	Vijnana Vypana seminar	20/3/99	20/3/99	39	1	-
Dr. A. Radhamma Pillai	AH seminar	22/3/99	22/3/99	44	1	-

C. M. George	Quick wilt eradication	22/3/99	22/3/99	79	1	-
Dr. A. Radhamma Pillai	Scientific rearing of cows	25/3/99	25/3/99	39	1	1014
C. M. George	Pepper cultivation	26/3/99	26/3/99	7	1	-
Dr. A. Radhamma Pillai	Scientific rearing of cows	28/3/99	28/3/99	120	1	-
Dr. A. Radhamma Pillai	Care and management of calves	29/3/99	29/3/99	31	1	806

Visits to farmer's field

Date/period	No. of visit	Main problem tackled
April 1998 to March 1999	16	Foot rot disease of pepper Germination of paddy seeds. Nematode attack in banana And diseases of domestic animals

Farm advisory service

Attended to problems faced by farmers

Consultancy : Nil

Visitors:

Name and address	Date of visit	Purpose
Dr. R. K. Samantha, Zonal Coordinator Zone VIII, ICAR	10.7.98	To participate in SAC meeting
Dr. V. Anunachalam, Genetics Divn, IARI	21.7.98	Visit to station
Dr. P. P. Balasubramaniam, Directorate of Cashew and Cocoa, Kochi	23.8.98	Visit to station
Sri. R. D. Iyer, Former HOD, Crop Improvement, CPCRI	1.1.99	"
Dr. R. N. Pant, ICAR, New Delhi	22.3.99	"

Faculty improvement program: Nil

Seminars/Summer Institutes/Symposia/trainings

Name of Scientists and designation	Seminars/summer institute/ symposia workshop to which deputed	Period of deputation and duration of course
Sri.C.M.George Assoc. Professor & Head Dr. T. P. M. Das, Assoc. Professor (Pl. Pathology).	State level workshop on strategies for the management of mite infestation in coconut, Vellanikkara	4.11.98 to 7.11.98
Sri.C.M.George, Associate Professor & Head	National workshop of KVK's, Udayapur	12.1.99 to 20.1.99
Gopakumar, Assistant Professor (Agroforestry)	OFT/FLD Training at KVK, Gandhigram	22-27 Feb 1999, 3 days

Revenue

Head of A/C	Expenditure	Receipts
Non plan	Nil	Nil
Plan	14,24,272	Nil
405-40-5504		
Revolving fund	830	4425

Krishi Vigyan Kendra, Manjeshwar

Introduction

The KAU established KVK, Manjeshwar on 22nd October 1984 with a view to cater to the needs of the farmers residing in the multi-linguistic belt of Manjeshwar block, Kasaragod District. This area is mostly inhabited by Tulu and Kannada speaking population.

Mandate

The major objective of the KVK, Manjeshwar is to transfer the technologies evolved in the research stations to farmers and thereby improving their living standards. The KVK imparts up to date knowledge to farmers, farm youths and farm women on the-crop planning, crop production techniques, animal husbandry, forestry, home science, and fish culture etc. in order to improve their skills and understanding in scientific farming.

Staff position

Category/ Designation	No. of Posts		
	Sanctioned	In position	Vacant
a) Scientific			
Professor(Agr.Extn)	1	-	1
Asst. Professor(Fish.)	1	1	-
Asst. Professor(Agr,Engg.)	1	-	1
Asst. Professor(Agr. Extn.)	1	-	1
Asst. Professor (Home Science)	1	-	on study leave
Asst. Professor(Forestry)	1	-	1
b) Technical			
Farm Supervisor (Agr.) Gr.I	1	1	-
c) Administrative/Supporting/Para- technical/Ministerial and other positions			
Section Officer	1	1	-
Asst. Grade II	1	1	-
Typist Gr. II	1	1	-
Driver Gr.III	1	1	-
Peon	1	-	1
Watchman	1	-	1
Total	13	6	7

Faculty improvement programme

Scholarship awarded to staff/Deputation of staff for higher studies.

Name of scientists and Designation	Details of deputation	Institution/ university to which deputed
Mrs G.K.Beela Asst. Professor of Home Science	Study leave for higher studies from 01.08.98 for 3 years	M.G. University, Kottayam

Technical programme Report in brief

The project 'Agroforestry models for Extension and training.'

A total of 6.13lakh seedlings of various forestry and horticultural crops was distributed to beneficiary farmers. Emphasis was given to fast growing multi-purpose tree species consisting of exotic species like mangium, casuarina, subabul etc. along with traditional species like teak, neem and a few horticultural species like mango, tamarind and cashew. Farmers established multistorey crops and homestead farming. Fisheries and rabbitory were also tried in the project area. Different combinations of plants like fodder crops and flowering/horticultural plants,

suiting to different situations, were also experimented with participation of women farmers.

Vegetable agronomical measures were followed as cover crops and as contour filter strips.

Soil conservation measures.

Contour trenches, staggered trenches with filter strips, contour furrows were established in the 7th plots to conserve maximum available water during monsoon.

Combination of mechanical structure and vegetative contour strips were found to be effective.

Demonstrations

Name and designation of scientists	Topic	Duration		No of Batches	No. of participants	Amount spent
		From	To			
Smt. G.K Beela, Asst. Professor (Home Science)	Pre school Nutrition & Kitchen gardening	10.04.98	11.04.98	2	51	Rs.500

Training programmes

Name and designation of scientists	Topic	Duration		No. of participants	No. of batches	Amount spent
		From	To			
B.Shantharam Asst. Professor (Agr.)	Fish farming	10a.m	5pm.	230	5	Rs.450
	Fish farming & fish breeding techniques	10a.m	5pm.			
	Brackish water fish culture	10a.m.	5pm.			
	Brackish waterprawn culture	10a.m.	5pm.			
A.K. Sherif Asst. Professor (Agr.Extn.)	Paddy cultivation	10a.m.	5pm.	230	5	Rs.450
	Bush and Jasmine cultivation	10a.m	5pm.			
	Mushroom cultivation	10a.m.	5pm.			
	Agr. Extn. Coconut & Arecanut cultivation	10a.m.	5pm.			

Visits to Farmer's field

Date/period	No. of visits	Main problems tackled
April 98 to March 99	19	Fertilizing & feeding the fish Maintenance of pond Pest and disease control in coconut, arecanut, paddy & cashew

Farm advisory service: Attend to problems faced by farmers

Exhibition: Nil

Correspondence course: Nil

Participation of scientists in the peoples campaigns for decentralised planning

Name and designation	Nature of participation	Venue	Date
B. Shantharam, Asst. Professor of Aquaculture	Lecture & Discussion on fish farming development & scope	RARS, Pilicode	05.01.99 & 06.01.99

Information dissemination

Publications: Farm news issued – 20nos.

Revenue

Head of A/C	Expenditure	Receipts
Non plan 406-401104	Rs.7,66,062.00	-
Plan 406-40-921	Rs.40,956.00	-
101-93-159	Rs.500.00	-
Revolving fund	-	-

Krishi Vigyan Kendra, Sadanandapuram**Farm advisory services:**

Attended to the various problems faced by farmers

Introduction

The KVK, Sadanandapuram was established at the Farming Systems Research Station, Kottarakkara, Kollam district on 1st October 1994. This is located forty kilometers away from Kollam district headquarters and the operational area includes the whole of Kollam district.

Seminars/summer institutes/symposia/trainings:
Nil

Other details if any

Sri. B. Shantharam, Asst. Professor and Head of KVK, Manjeshwar was involved in Academic Programme in the college of Agriculture, Nileshtar.

Mandate

Dissemination of Agricultural technologies to improve production and productivity and to increase self employment by undertaking the following activities.

Video:

Video shows were screened in all the panchayats especially for the farmers and rural youth, Development department officers and school children.

Organizing vocational training programmes on agriculture and allied enterprises.

Training Modules:

Training modules on the following subjects were prepared and distributed to the farmers and officers of Manjeshwar block.

On farm testing (in farmers' fields in crop production, horticulture, livestock, fisheries etc.

Package of practices of field crops

Silvicultural practices of tree crops

Soil moisture conservation measures

Animal husbandry practices

Aquaculture

Front line demonstrations major cereal crops, oil seeds and pulses and other enterprises related to agriculture

Important visitors: Nil

In service training of field level extension officials.

Staff position

Category/ Designation	No. of Posts		
	Sanctioned	In position	Vacant
d) Scientific			
Training Organiser	1	1	-
Training Associates	6	4	2
e) Technical			
Training Assistants	3	3	-
f) Administrative/Supporting/Para-technical/ Ministerial and other positions			
Administrative	2	2	-
Supporting	2	2	-
Driver	2	1	1
Total	16	13	3

New posts sanctioned/created/shifted: Nil.

Scholarship awarded to staff/deputation of staff for higher studies

Seminars/summer institutes/symposia/trainings

Name of scientists and Designation	Details of deputation	Institution/university to which deputed
Dr.R.Prakash, Associate Professor	NARP , Zonal workshop at College of Agriculture Vellayani	6.6.98
Sri.C.Nandakumar, Associate Professor	”	”
Dr. R.Prakash, Associate Professor	Interaction session with master farmers of KHDP at Animation Centre, Thiruvananthapuram	21.5.98
”	Interaction session with master farmers of KHDP at KHDP Ernakulam	9th & 10th July 1998
”	KHDP workshop on “Working for farmers and preparation of training materials” (as co-ordinator) at Ernakulam	13th A& 14th August 1998
Sri.C.Nandakumar, Associate Professor	One day scientist meet on “Management of root wilt disease in coconut” at KAU Thrissur	6.8.98h
Dr.K.R.Sheela, Associate Professor	Training on “Hi-tech ornamental crop production” at KAU Thrissur	15th to 23rd Sept 1998
Dr.V.L.Sheela, Asst Professor	”	”
Dr.S.Chellammal, Asst Professor (Sel.Gr)	Training on Enterprenuership Development at TTC, Avinashilingam Coimbatore	”
Dr.R.Prakash, Associate Professor	KVK Annual meet at Suler, Coimbatore	28th to 30th Oct 1998
”	State level workshop on ”Strategies for the	5th to 6th Nov. 1998

	management of mite infestation in coconut". at KAU Hqrs, Thrissur	
Dr.C.Nandakumar, Associate Professor		
Dr.R.Prakash, Associate Professor	Training on "Entrepreneurship Development in Agriculture" – Unit of Transfer of Technology, IARI, New Delhi	8th to 19th Dec 1998
Dr.K.R.Sheela, Associate Professor	Training on "Front Line Demonstration and On-Farm Testings at KVK, Gandhigram, Dindigal	25th to 27th February 1999

Demonstrations

Demonstrations were organised in connection with all the training programmes and field days.

The following Front Line Demonstrations were conducted in different locations of Vettikkavala Panchayat during 1998-99.

Management in Nendran banana- control of pseudostem weevil (5 demonstrations)

Enhancing productivity in amaranthus using improved variety "Arun" (4 demonstrations)

Enhancing productivity in bitter gourd using improved variety "Preethi" (5 demonstrations)

Revenue

Head of A/C	Expenditure	Receipts
Non plan		
ICAR 322-40-504 KVK		
110 Scientists	8,54,819/-	
120 Tech.supp	2,74,361/-	
130 Adm.supp	2,27,860/-	
152 Health/Medical	8,204/-	
300TA	30,273/-	
Plan		
210 Research materials	935/-	
220 O.E & M	25,149/-	
332 Maint. of vehicle	26,890/-	
557 Farm Advisory work	16,441/-	
604 Library	5,053/-	
812 Training	35,496/-	
		Rs.82834/-
Revolving fund		
Opening balance as on 1.4.98 = Rs.30163/-		
Closing balance as on 31.3.99 = Rs.56711/-	Rs.57660/-	(Interest Rs.1374/-)

Training programmes

Name and designation of scientists	Topic	Duration (days)	No of participants	No. of batches	Amt. spent
Off campus trainings:					
Dr.R.Prakash, Associate Professor (Agrl. Extn)	Management practices for coconut, pepper and banana	2	20	1	
		2	26	1	
Dr. C.Nandakumar, Associate professor (Agrl. Entomology)	Vegetable cultivation. Pest and disease management in arecanut, pepper and spices	2	23	1	
		2	24	1	
Dr.K.R.Sheela, Associate Professor (Agronomy)	Plant protection measures and equipments used.	2	18	1	
Sri.V.Anilkumar, Training Assistant	IPM in rice	2	51	1	
Dr.R.Vijayan, Associate Professor (AH), College of Agriculture, Vellayani	Cattle management	2	30	1	
Dr.S.Chellammal, Associate Professor, Homescience	Fruit and vegetable preservation	2	26	1	
On campus trainings					
Dr. R.Prakash, Associate Professor (Agrl. Extn)	1. Cereal production 2. Agronomic aspects of different crops	2	58	1	
		2	16	1	
Dr.C.Nandakumar, Associate Professor (Agrl. Entomology)	3. Integrated nutrient management	2	15	1	
Dr.K.R. Sheela, Associate Professor (Agronomy)	4. Scientific farming techniques	2	30	1	
Sri.V.Anilkumar, Training Assistant	5. Vegetable cultivation 6. Apiculture	2	45	2	
		2	15	1	
Dr. R. Vijayan Associate Professor (AH), College of Agriculture, Vellayani	7. Sustainable agriculture and bio-pesticides 8. Cattle management	2	17	1	
		2	33	1	
Dr.R.Prakash, Associate Professor (Agrl. Extn)	9. Poultry rearing 10. Follow-up training	2	20	1	
		1	23	1	
Rural Youth					
	1. Organic farming and sustainable agriculture 2. Apiculture 3. Sericulture 4. Mushroom Cultivation 5. Nursery Management and Ornamantal gardening 6. Orchid and Anthurium cultivation 7. Fruit and vegetable cultivation	2	38	1	
		2	103	5	
		2	33	1	
		2	106	5	
		3	121	6	
		2	63	3	
		3	125	7	

Dr. C.Nandakumar Associate Professor (Agrl. Entomology)	Extension functionaries 1. Intensive vegetable cultivation	2	33	2
Dr.S.Ravi, Assoc.Professor, (Plant Pathology)				
Dr.R.Prakash, Assoc. Professor, (Agrl.Extn.)				
Dr.C.Nandakumar, Assoc.Professor, (Agrl.Entomology)				
Dr.K.R.Sheela, Assoc.Professor, (Agronomy)				
Sri.V.Anil kumar Training Assistant				
Dr.V.L.Sheela, Asst.Professor, (Horticulture)				
Dr.Chellammal, Assoc.Professor & Smt. Rari John, Asst. Professor				
Dr.R.Prakash, Assoc. Professor (Agrl.Extn.)				
Dr. C.Nandakumar, Assoc.Professor, (Agrl.Entomology)				
Total		1112	49	35496

District level seminar

A district level seminar on "Intensive vegetable production" was organised by the KVK at the Co-operative Bank Auditorium, Kollam on 27.3.1999. 125 farmer representatives from different Haritha Sangams of Kollam district participated in the seminar.

Field days

Bio composting at Parippally - 98 farmers

Kitchen garden and compost preparation at Vettikavala - 70 participants

Use of plant protection equipments and preparation of bio pesticides at Kollam-7- participants.

Farmer - Scientist interactions:

The scientists of KVK participated as resource persons for the farmer-scientist interaction session held at Pathanamthitta on 14th and 15th October 1998 and 7th and 8th December 1998.

Visits to Farmer's field

Date/Period	No. of visits	Main problems tackled
April 1998 to March 1999	161	Pest and disease problems in coconut, vegetables and pepper. Pseudostem borer management in banana, acidity problem in rice, weedicide application in rice, tea mosquito management in cashew and management practices of important crops. For the conduct of FLD and OFT trials of KVK, several visits were undertaken to the farmers' field. For the conduct of watershed projects also, field visits were conducted.

Farm advisory services :

An Agro-clinic was started at the KVK on 13.11.98. The Kottarakkara Block Panchayat President inaugurated the clinic. The clinic functions on all Tuesdays and Fridays.

The KVK started three farmers club at Kanjirakkode, Kundara and at Panaveli. The following on Farm Testing trials were also conducted during the period

Weed control in rice using herbicides (10 locations)

Comparative evaluation of different plant protection measures on the control of fruit flies of bitter gourd (5 trials)

Vermi compost as a source of organic manure for vegetables (5 trials)

Exhibition

Venue	Duration	No. of beneficiaries	Amount spent
Chengannoor (flower show)	5 days (15th to 19th January 1999)		Rs.4000/-
Kulakkada (Agricultural fair)	2 days (17th to 18th March)		No separate fund

Correspondence course : Nil

Participation of scientists in the people's campaigns for decentralised planning

Name and designation	Nature of participation	Venue	Date
Dr.R.Prakash, Associate Professor,	Participated as faculty member in agricultural training/workshop	KILA, Thrissur	17th to 22nd April 1998
	"	"	"
Smt. Rari John, Assistant Professor	Participated as a faculty member in Vanitha vikasana seminar	KILA, Thrissur	18th May 1998

Classes handled as resource person in various seminars organized by other departments and Grama/Block Panchayats

Resource person	Topic	Date	No. of participants	Location
Dr.K.R.Sheela	Scientific vegetable cultivation	6.4.98	50	Sooranadu South
Dr.K.R.Sheela	Seed production in vegetables	18.4.98	10	KVK, Sadanandapuram
Smt.Rari John	Importance of home science in daily life	28.4.98	50	Kundara
Dr.K.R.Sheela	Mother Plant and seedling selection in coconut and coconut management	29.4.98	10	KVK, Sadanandapuram
Dr.K.R.Sheela	Importance of vegetable cultivation and management of banana and vegetables	5.5.98	60	Kollam
Dr.C. Nandakumar	Use of PP chemicals and preparation of bio pesticides	5.5.98	60	Kollam
Dr.R.Prakash	Organic farming	12.5.98	40	Kunnathoor
"	Organic farming and its scope	16.5.98	40	Sooranadu North
Sri.V. Anilkumar	Organic manures and organic pesticides	16.5.98	40	Sooranadu North
Dr.R.Prakash	Organic farming and compost preparation	18.5.98	40	Soornanadu South
Sri.V. Anilkumar	Soil sampling and balanced fertilizer application	18.5.98	40	Soornadu South
Dr.Sheela.K.R	Preparation of vermi compost and integrated nutrient management	19.5.98 & 20.5.98	40	Poruvazhy, Varkala
Sri.V. Anilkumar	Preparation of organic pesticides	19.5.98 & 20.5.98	40	Poruvazhy, Varkala
Dr.K.R.Sheela	Pepper management	21.5.98	40	Varkala
Sri.V. Anilkumar	Soil sampling and use of organic manure to improve soil properties	21.5.98	40	Varkala
Dr.K.R.Sheela	Pepper cultivation and its quality improvement	22.5.98	150	Yeroor

Dr.C.Nanda kumar	Pest and disease management in pepper	22.5.98	150	Yeroor
Dr.K.R.Sheela	Compost preparation and use of bio-fertilizers in agriculture	23.5.98	40	Valiyapadam
Dr.C.Nanda kumar	Organic pesticides in agriculture	23.5.98	40	Valiyapadam
Dr.R.Prakash	Fertilizer management in coconut	25.5.98 & 26.5.98	40	Kunnathoor
Sri.V. Anilkumar	Pest and disease management in coconut	25.5.98 & 26.5.98	40	Kunnathoor
Dr.C.Nanda kumar	Pepper management	28.5.98	40	Soornandu
Dr.C.Nanda kumar	Pest and disease management in coconut	30.5.98	40	Valiyapadam
Sri.V. Anilkumar	Fertilizer management in coconut	30.5.98	40	Valiyapadam
Dr.C.Nanda kumar	Use of bio-pesticides in agriculture	12.6.98	25	Ezhukone
Dr.C. Nandakumar	Home made insecticides/ fungicides	15.6.98	25	Ezhukone
Dr.R.Prakash	Pepper problems and constraints	20.6.98	60	Valakom
Dr.C. Nandakumar	Environmental pollution and food contamination	27.6.98	100	Pooyappalli
Dr.C. Nandakumar	Pest and disease management in pepper	29.6.98	100	Channappetta
Dr.K.R.Sheela	Site selection, planting and fertilizer management in pepper	29.6.98	100	Channappetta
Dr.K.R.Sheela	Organic manures and compost preparation	4.7.98	100	Karali Junction
Dr.C. Nandakumar	Pest and disease management in coconut and rice	4.7.98	100	Karali Junction
Dr.R.Prakash	Pepper cultivation	14.7.98	75	Pallikkal
DR.R.Prakash	Coconut cultivation	25.7.98	80	Valakom

Dr.C. Nandakumar	IPM in rice	25.7.98	90	Omalloor
Dr.K.R.Sheela	Use of weedicides in rice	25.7.98	90	Omalloor
Dr.K.R. Prakash	Participatory technology development	4.8.98	30	Pazhakulam
Dr.R. Prakash	Coconut cultivation	7.8.98	70	Mulavana
Dr.K.R.Sheela	Pepper cultivation	10.8.98	50	Vilakkudi
Dr.K.R.Sheela	Pepper cultivation	17.8.98	100	Pattazhi South
Dr.C. Nandakumar	Vegetable cultivation and plant protection	17.8.98	100	Ummannoor
Dr.R. Prakash	Paddy and pepper cultivation	17.8.98	60	Kareepra
Dr.K.R.Sheela	Importance of organic manure, bio fertilizers and bio-pesticides in agriculture	22.8.98	50	Kampamkode
Dr.C. Nandakumar	Management in black pepper	26.9.99	50	Nilamel
Dr.C. Nandakumar	Management in black pepper	7.10.98	100	Kunnathoor
Dr.C. Nandakumar	Pepper cultivation	24.10.98	50	Varkala
Dr.C. Nandakumar	Pepper cultivation	29.10.98	100	Anchal
Dr.R.Prakash	Communication skill development	3.11.98	15	RATT Centre Kazhakkottam (for Agrl. Officers)
Dr.V.L.Sheela	Cultivation practices of important fruits crops in Kerala	10.11.98	15	RATT Centre Kazhakkottam (for Agrl. Officers)
Dr.C. Nandakumar	IPM in important crops	14.11.98	100	Ummannoor
Dr.V.L.Sheela	Fruit production technology	16.11.98	14	RATT Centre Kazhakkottam (for Agrl. Officers)
Dr.R.Prakash	Communication skill development	21.11.98	15	RATT Centre, Kazhakkottam (For Agrl Officers)
Dr.R.Prakash	Communication skill development	26.11.98	15	RATT Centre, Kazhakkottam (For Agrl Assts)

Dr.R.Prakash	Scope of organic farming in Kerala	28.11.98	60	Kundra
Dr.C. Nandakumar	IPM in rice	28.11.98	80	Chathannoor
Dr.K.R.Sheela	Fertilizer and weed management in rice	28.11.98	80	Chathannoor
Dr.R.Prakash	Organic farming	2.12.98	50	S.G.College Kottarakkara
Dr. V.L.Sheela	Commercial Floriculture	10.12.98	16	RATT Centre, Kazhakkottam (For Agrl Officers)
Dr.C. Nandakumar	Rice cultivation & IPM in rice	14.12.98	100	Nedumpana
Dr.K.R.Sheela	Management practices for pepper	15.12.98	75	Sasthamkotta
Dr.K.R.Sheela	Scientific vegetable cultivation	16.12.98	30	Adoor
Dr.K.R.Sheela	Nutrient and weed Management in rice	17.12.98	30	Omallee
Dr.C. Nandakumar	Integrated pest and disease Management in rice	18.12.98	30	Omallee
Dr.K.R.Sheela	Nutrient management in vegetable & vermi composting	20.12.98	60	Neduvathoor
Smt. Kunjamma P	Pest and disease management in vegetables	29.12.98	100	Pathanamthitta
Dr.R.Prakash	Sustainable agriculture for progressive farming	2.1.99	20	RATT Centre, Kazhakkoottam
Dr.K.R.Sheela	Vegetable cultivation and vermi composting	7.1.99	60	Odanavattom
Dr.C. Nandakumar	Integrated pest management	23.1.99	30	Kunnathoor
Dr.K.R.Sheela	Pepper management	23.1.99	50	Mylom
Dr.R.Prakash	Apiculture	26.1.99	25	Adoor
Dr.C.Nanda kumar	IPM in rice	27.1.99	60	Ezhukone
Dr.C.Nanda kumar	IPM in rice	28.1.99	20	Pazhakulam

Dr.C. Nandakumar	Organic farming in banana	2.2.99	30	Pazhakulam
Dr.R.Prakash	Entrepreneurship development	6.2.99	15	RATT Centre, Kazhakkottam (For Agrl Officers)
Dr.K.R.Sheela	Pepper management	6.2.99	60	Pooyappally
Dr.V.L.Sheela	Nutritive value of fruits and vegetables	10.2.99	45	RATT Centre, Kazhakkottam (For Agrl Officers)
Dr.V.L.Sheela	Fertilizer management in black pepper	15.2.99	60	KVK, Sandanandapuram
Dr.C. Nandakumar	Pest and disease control in pepper	15.2.99	60	KVK, Sandanandapuram
Dr.C. Nandakumar	IPM in important crops of Kerala	16.2.99	50	Adoor
Dr.C. Nandakumar	IPM in important crops of Kerala	17.2.99	50	Adoor
Dr.R.Prakash	Oral communication skill	16.2.99& 17.2.99	20	Vellayani (for Range officers)
Dr.R.Prakash	Oral communication skill	22.2.99& 23.2.99	20	Vellayani (for Range officers)
Dr.K.R.Sheela	Fertilizer and weed management in rice	2.3.99& 3.3.99& 4.3.99	75/day	Vettikkavala
Dr.C. Nandakumar	IPM in rice	2.3.99& 3.3.99& 4.3.99	75/day	Vettikkavala
Dr.S.Ravi	Integrated disease management in rice	2.3.99& 3.3.99& 4.3.99	75/day	Vettikkavala
Dr.R.Prakash	Constraints in rice production	3.3.99	75	Vetikavala
Dr.R.Prakash	Vegetable cultivation	4.3.99& 5.3.99	100	Soornadu
Dr.K.R.Sheela	Fertilizer management in coconut and conservation of water in coconut garden	6.3.99 8.3.99 9.3.99& 10.3.99	45/day	KVK, Sandanandapuram
Dr.C. Nandakumar	Pest and disease management in coconut	6.3.99& 8.3.99	45/day	KVK, Sandanandapuram

		10.3.99		
Dr.S.Ravi	Pest and disease management in coconut	9.3.99	45/day	KVK,Sandanandapuram
Dr.R.Prakash	Problems and prospects of coconut cultivation	6.3.99& 10.3.99	45/day	KVK,Sandanandapuram
Dr.R.Prakash	Problems and prospects of coconut cultivation	9.3.99	60	Mynagappally
Dr.R.Prakash	Cultivation practices for rice and coconut	12.3.99	60	Mynagappally
Dr.R.Prakash	Communication skill development for master farmers of KHDP	15.3.99 & 16.3.99	20	Thiruvananthapuram
Dr.K.R.Sheela	Fertilizer and drought management in coconut	16.3.99& 17.3.99	50	KVK,Sandanandapuram
Dr.C. Nandakumar	IPM in coconut	16.3.99& 17.3.99	50	KVK,Sandanandapuram
Dr.R.Prakash	Constraints and opportunities in the agricultural sector of Kerala.	17.3.99	100	Kulakkada
Dr.R.Prakash	Vegetable cultivation	18.3.99	80	Mungappally
Dr.K.R.Sheela	Management practices for rice	22.3.99	60	Sasthamkottah
Dr.C. Nandakumar	Integrated farming in homesteads	22.3.99	80	Mynagappally
Dr.R.Prakash	Coconut cultivation	23.3.99	80	Sasthamkottah
Dr.R.Prakash	Coconut cultivation	25.3.99	60	Mynagappally
Dr.K.R.Sheela	Significance of organic manures in crop production	25.3.99	100	Anchal
Dr.C. Nandakumar	IPM in crops	25.3.99	100	Anchal
Dr.S. Chellammal	Significance of balanced diet in adulthood	26.3.99	26	Kunnicode

Other informations

Faculty improvement programme

Important visitors

Name and address	Date of visit	Purpose of visit
Dr.K.N.Syamasundram Nair, Hon ^{ble} Vice-Chancellor	2.11.98	"

Krishi Vigyan Kendra, Pattambi

city and since November 1982, it is fully sponsored by the (ICAR)

Introduction

The Krishi Vigyan Kendra, Pattambi is functioning in the Regl. Agrl. Research Station Campus, Pattambi and the operational area includes the whole of Palakkad district. The Kendra was established on 22nd October 1979 under the Kerala Agricultural Univer-

Mandate

Vocational Training Programme

On farm testing

Front line demonstration

Inservice training for field level extension officials

Staff position

Category/ Designation	No. of Posts		
	Sanct- oned	In position	Vacant
g) Scientific			
Training Organiser	1	1	-
Training Associate	6	5	1
h) Technical			
Training Assistant	3	3	-
i) Administrative/Supporting/Para-technical/Ministerial and other positions			
Office Superintendent	1	1	-
Steno-cum-typist	1	1	-
Drivers	2	2	-
Supporting staff	2	2	-
Total	16	15	1

New posts sanctioned/created/shifted: Nil

Exhibition

Venue	Duration	No. of beneficiaries	Amount spent
Fort Expo 1999 Fort Maidan Palghat	45 days	Above 5000	Rs. 15,568
Exhibition of Agril. at DUICC, Kappur	2 days	About 1200	

An amount of Rs.30,000/- was sanctioned to this Kendra for making exhibits. The Kendra organised exhibitions in all the necessary places using these materials.

Correspondence course: Nil

Trainings/Symposia/Workshops etc conducted: Nil

Training programmes

Name and designation of scientists	Topic	Duration		No of participants
		From	To	
Dr. P. Rajendran	FET to ARS probationers	21.11.98	20.12.98	6
	Integrated pest management	1.12.98	31.12.98	25
	Intensive training for Agril. Officers of State Dept of Agriculture	16.3.99	7.3.99	20
	Integrated pest management in rice	17.7.99	24.9.99	25
	Watershed management of mitrakisan of Palakkad Dt.	5.5.99		46
	Watershed management for officers the of State Dept. of Agriculture	4.3.99		28
	Watershed management of mitrakisan of Malappuram Dt.	22.9.99		162
Smt. Safia, N. E Asst. Professor	Preservation of fruit & vegetable for rural women	10.3.99	1203.99	20
	Preservation of fruit & vegetable for youth	18.3.99	20.3.99	13
Dr. Koshy Varghese Asst. professor	Livestock management	19.7.99		25
	Training on backyard poultry	16.02.99	26.02.99	23
Smt. Premalatha Asst. Professor	Training for entrepreneurship development for link workers of women in Agriculture	15.02.99	22.09.99	30
Sri. Sreenivasan RARS, Pattambi	Training for Integrated management in pulses	15.02.99		72

Participation of scientists in the peoples campaigns for decentralised planning

Name and designation	Nature of participation	Venue	Date
Dr. P Rajendran Assoc.Professor	Member Trainings under GALASA	Ottappalam	

Demonstrations :Nil

In addition, as a part of the training "Women in Agriculture" of the State Department of Agriculture, field level training of various aspects such as mushroom cultivation, nursery management, poultry science, dairying etc. was conducted by the Krishi Vigyan Kendra

at different centres of the KAU like College of Horticulture, College of Vety. & Animal Sciences, Central Orchard etc. About 600 rural women were trained as per this programme.

Visits to Farmer's field

Date/period	Place	Main problems tackled
14.05.98	Chittoor	Intègrated pest disease and nutrient management on rice, pulses, vegetables and coconut
18.08.98	Nallepulli	
19.11.98	Thiruvegapura	
20.11.98	Vaniamkulam	
28.11.98	Chuduvalathur	
12.12.98	Chittepuram	
03.12.98	Nellaya	
04.03.99	Mannuthy	
06.03.99	Mannarghat	
22.03.99	Lakkidy	

Farm advisory services:Nil

Consultancy: Nil

Visitors

Name and address	Date of visit	Purpose of visit
Sri. K. Vijayadas President, Dist. Panchayat, Palakkad		Station visit
Sri. Kunjikhader Haji Kerakesari Valanchery		

Other informations

Faculty improvemen programme

Scholarship awarded to staff/Deputation of staff for higher studies

Name of scientists and Designation	Details of deputation	Institution/university to which deputed
N. E Safia, Asst.Professor (Home Science)	Orientation programme for University/College teachers	Academic Staff College Karyavattum, Trivandrum.

Seminars/summer institutes/symposia/trainings

Name of scientists and designation	Seminars/summer institutes/symposia workshop to which deputed	Period of deputation and duration of course
Dr. P. Rajendran Assoc. Professor & Head	Annual review meeting of KVKs	28.10.98 – 30.10.98
	VIII workshop on KVKs	15.01.99 – 17.01.99
	Rural development through watershed management and role of co-operatives	17.02.99 – 20.02.99
	Training programme on OFT and FLD	
		28.02.99 – 27.02.99

Revenue

Head of A/C	Expenditure	Receipts
Non plan	-	-
Plan (ICAR)	16,46,472.00	8,416.00
Revolving fund	59,984.00	80,562.00

Other details if any

Innovative extension programmes are being organised through the centre for the benefits of practicing farm-

ers. The programme envisages local level training on specified and intended topics at individual, group and community levels. Such programmes include "Pest surveillance Sena" in Nellaya Panchayath, "Dhavalagramam" in Vilayoor Panchayath, "Paripoornatha" in Vaniyamkulam Panchayath, Model Continuing Education Centre, Pattambi. "Gurukulam" and women co-operatives for Scheduled Castes.

COH - VELLANIKKARA

The scientists of the college actively participated in the different extension activities organised by the university, took classes on different aspects of crop production especially on the control of coconut mite arranged by the Department of Agriculture and other agencies. The teachers also participated in peoples' campaign for decentralised planning in Thrissur district. Dr. E.V. Nybe and Dr. A. Sukumara Varma regularly attended the T & V monthly meetings organised by the Department of Agriculture at Ernakulam. The various Departments participated in Thrissur Pooram exhibition. The department of Olericulture also participated in ar-

ranging the exhibition connected with "Haritha Karshaka Sanghamam". A number of radio talks were delivered by the faculty members and answers to queries from farmers were prepared and sent. The teachers took classes in training programmes organised by RATTTC, Malampuzha, Kozha and Vyttila.

The Department of Agrl. Extension conducted a one day seminar cum exhibition on Integrated pest management for farmers of Madakathara Panchayat in collaboration with the Krishi bhavan, Madakathara on 23rd December 1998.

Demonstrations

Name and designation of scientists	Topic	Duration		No. of batches	No. of participants	Amount spent
		From	To			
Dr. Jim. Thomas & Dr. A.M.Ranjith	Coconut mite disinfection programme	Sept 1998	Nov 1998	5 Nos at Ernakulam	50-100	Met by Dept. of Agriculture

Training Programmes

Name and designation of scientists	Topic	Duration		No. of participants	No. of batches	Amount spent
		From	To			
Dr. A.Sukumara Varma, Professor & Dr.T.N.Vilasini Assoc. Professor	Mushroom cultivation	3 days/ batch		50	4	13000
Dr. V.Indira, Assoc. Professor	Fruit and vegetable preservation	5.4.98 12.4.98	9.4.98 17.4.98	15 15	2	6000
Dr.R.V.Nair Professor	Tissue Culture			5	4	

Visit to farmers' fields

The scientists of the Dept. of Entomology visited paddy fields in Thrissur district. The staff of the Dept. of Agrl. Extension made field visits in Kappur watershed area, Malappuram for survey of farm resource appraisal among 100 farmers during October, November and December 1998 as a part of the programme planning course of Final year UG students. Weekly visits to Madakathara panchayat area to collect farm details were also conducted. Dr. A.S.Varma, Professor, visited Amballoor for investigation of a new problem in coconut. Dr. Sally K. Mathew, visited cashew plantations of PCK at Nilambur to investigate the cause of inflorescence

blight in cashew. Front line demonstrations for coconut mite control was conducted in Thrissur, Ernakulam, Alleppey, Palakkad and Malappuram districts.

Extension services:

The soil, plant and manure samples brought by various agencies were analysed and recommendations were given. Advisory services were rendered on various aspects of crop production, post harvest handling and plant protection by the faculty members of the different departments. The biocontrol agents of weeds (*Salvinia molesta* and *Eichhornia crassipes*) were supplied.

Participation of scientists in Peoples' campaign for decentralised planning

Name and designation	Nature of participation	Venue	Date
Dr. V. Indira, Associate Professor	Orientation and organisation of camp	Ollukkara block Panchayat	24.6.98
Dr. Jim Thomas	As MLEC and BLEC member and convenors of two projects	Chalakyady Municipality and block	1988 and 1999
Smt. Norma Xavier	Taking classes	Madakathara panchayat	5/98 and 6/98
Dr. V. Indira	Taking classes	Madakathara Panchayat	24.3.99
Dr. V. Indira	Taking classes	Madakathara Panchayat	27.3.99
Dr. P. V. Prabhakaran, Professor	Meeting of BLEC	Town Hall, Thrissur,	27.7.99
"	Meeting of DLEC	Ayyanthole	14.8.98 16.9.98
"	BLEC meeting	Ollukkara block office	8.10.98 28.09.98 29.09.98 09.10.98 17.10.98
"	DLEC meeting	Collectorate, Thrissur	13.10.98 27.10.98
"	Project Clinic	Town Hall, Thrissur	21.10.98
"	Meeting with World bank officials	KILA, Thrissur	12.11.98
"	BLEC Meeting	Ollukkara	30.11.98 1.12.98 22.12.98
"	DLEC Meeting	Collectorate, Thrissur	16.12.98 30.12.98 15.1.99 27.1.99 15.2.99
"	Subject Committee Meeting	Dept. of Agri. Thrissur	8.1.99

Farm Advisory Services:

The Agro Advisory Services Unit at Vellanikkara is catering to the farmers of the five panchayaths viz. Panancherry, Ollukkara, Cherpu, Madakkathara and Porathissery. Weekly Agro- Advisory Bulletins were prepared based on the medium range weather

forecast received from the Super Computer Centre, NCMRWF, New Delhi. During the period under report 25 such advisories were prepared by the expert committee constituted by the KAU and disseminated to the farmers of the nearby Krishibhavans under the above five panchayaths.

Consultancy: NIL

COA – PADANAKKAD

Demonstrations: Nil

Training Programmes

Date	Name of Scientist	Details of training/ Classes
29.4.98	Dr.T. Premanathan	Seminar - Diseases of rice and its management - K.B. Thrikkariapur
20.5.98	Dr.T. Premanathan	Seminar - Integrated disease management in important crops - Agrl. Fair, Kannur.
20.6.98	Dr. T. Premanathan, Smt. Ancy Joseph	District level Seminar on Agriculture, Kanhangad.
17.7.98	Dr.P.C.Balakrishnan	Seminar on Paddy/Coconut varieties and cultivation practices - Farmers' Day, Nileswaram.
29.8.98	Dr.P.C.Balakrishnan	Crop campaign programme on coconut - Seminar at Cheruvathur.
25.9.98 & 28.9.98	Dr.P.R.Suresh	Classes for Agrl. Officers at RATTTC, Taliparamba on Soil & Water Conservation
28.10.98	Dr.K.N.Satheesan	Classes for Agrl. Officers on Mushroom cultivation at RATTTC.
24.10.98	Dr.T.Premanathan	Classes on Pepper cultivation at Pilicode.
28.1.99	Dr.Meera V. Menon	Training for Mitra Kisans under NWDPR.
30.1.99	Dr. P. R. Suresh	Classes on soil and water conservation at Ramanthali
29.1.99	Dr. Madhu Subramoniam	Classes on Integrated Pest Management
30.1.99	Dr.K.M.Sreekumar	
26.3.99/ 27.3.99	Dr.M.H.Faizal & Smt.Suma Divakar	Classes on production Technology of cashew at RARS, Pilicode

Visits to farmers' field

Date	Problem	Name of Scientist
21.04.98	Bittergourd leaf blight	Dr.T.Premanathan
28.05.98	Banana unfurling - <i>Asuania</i> attack	Dr.T.Premanathan
10.11.98	Nut fall of coconut	Dr.T. Premanathan
28.01.99	Coconut grey blight	Dr.T. Premanathan

Participation of scientists in the Peoples campaign for decentralised planning

Name & Designation	Nature of participation	Venue	Date
Dr.P.C. Balakrishnan, As-soc. Professor	Training for members of work group	Kanhangad	5.5.98
Dr.P.C. Balakrishnan, As-soc. Professor	Meeting of Work group on agricultural & allied subjects	Kanhangad	6.6.98 and 27.8.98
Dr.P.C.Balakrishnan, As-soc. Professor	Task Force Meeting	Kanhangad	16.10.98

Farm advisory services:

Scientists of the College attended identification of plant protection problems with respect to diseases and recommended control measures based on the requests from various farmers, Agricultural Officers etc. as shown below:

April, 1998	-	04 days
May, 1998	-	08 days
June, 1998	-	03 days
August, 98	-	01 day

September, 1998	-	04 days
October, 1998	-	01 day
November, 1998	-	03 days
December, 1998	-	02 days
January, 1999	-	05 days
February, 1999	-	01 days
March, 1999	-	03 days

Consultancy : Nil

COF – VELLANIKKARA

Good quality seedlings of various forestry species suitable for pure plantations or agro/social forestry programmes are produced in the College and distributed through the University Sales Centre.

Participation of scientists in the Peoples campaign for decentralised planning :Nil

Farm advisory Services:

Advice rendered to farmers on various aspects of agroforestry practices, nursery techniques, propagation, landscaping, tree planting and management.

Consultancy :Nil

CCBM – VELLANIKKARA

Demonstrations: Nil

Training Programmes

Name and designation	Topic	Duration		No.of Participants	No of batches	Amt spent
		From	To			
Dr. M. Mohandas	ICAR Short Course on Agricultural Project Planning and management	15th June	24th June	20	1	80814

Visits to farmers fields : Nil

Extension Services:

The Faculty of the college have been serving as resource persons for various training programmes at KAU, KILA, SISI, District Co-operative Banks, ICDP, IMG and similar organisations. Members of the Faculty of the college were involved in the ICDP programme of revitalisation of Primary agricultural Credit Societies in Trichur District and in providing training to the elected representatives and the employees of PACS in the District. A number of faculty members served as resource persons for U.G.C & ICAR sponsored Summer Institutes and orientation courses.

Name and Designation	Nature and participation	Venue	Date
Dr.M.Mohandas	Resource person	KILA	Frequently
Dr.K.P Mani	Resource person	KILA	Frequently
Dr. A. Sukumaran	Resource person	KILA	Frequently
Dr.Philip Thomas	Resource person	KILA	Frequently

Farm advisory Services: Nil

Consultancy : Nil

RARS - VELLAYANI

Training/seminars/ workshops / symposia etc.

Name of scientist	Name of Seminar/ summer institute	Venue & Date
Dr.S. Lakshmi Assistant Professor	Advances in electronic instrumentation for field data collection in agriculture and ocean sciences	CIFT, Cochin 19 - 27 May, 1998
Dr.M. Achuthan Nair Associate Professor (Agron)	Annual workshop of AICRP on Forage Crops	Bidhan Chandra Krishi Viswa Vidyalaya, West Bengal
Dr.M.Achuthan Nair Associate Professor (Agron)	Workshop on Pedagogy	5 to 7 May, 1998

Sri. S. Devanesan Assistant Professor (Ent)	Practical Bee keeping	NAARM, Hyderabad 26.5.98 to 2.6.98
Dr.M.S. Sheela Associate Professor (Agron)	Third International Symposium of Afro-Asian Society of Nematologist	Kallikadu Panchayath 1.6.98
Smt.L.Girija devi Assistant Professor (Agron)	Short course on "Medium range weather forecasting and devel- opment of agromet advisory services"	TNAU, Combatore 16 to 19 April, 1998
Smt.L.Girija devi Assistant Professor (Agron)	Annual workshop of "DST project on experimental Agrometeorological advisory services"	IARI, New Delhi 20.4.98 to 2.5.98
All scientists	XX ZREAC Meeting	TANAU, Combatore 13 to 15 May, 98
Dr.M.S. Sheela Assoc.Prof. (Ent)	Workshop on updating training materials for farmers of KHDP	College of Agriculture Vellayani on 6th June 1998
Dr.M.S. Sheela Assoc.Prof. (Ent)	Resource person for KHDP training	KHDP, KOCHI 13-14 August 98
Smt.K.S.Premila Asst.Prof (Ent)	Training on emerging trends in Biological control	KHDP, Kochi 17th September 98
Dr. S. Naseema Beevi Associate Professor (Ent)	Annual workshop of AICRP on Pesticide Residue	TNAU, Coimbatore 2-16, December 98
Dr.K. Sudharma Assoc. Professor (Ent)	Hort India '99' National Seminar	BACKV, Kalyani, West Bengal 5-6 January 99
Dr.M.S. Sheela Assoc. Professor (Ent) Dr.T.Jiji Asst Professor (Ent)	National Seminar "Hortindia 99" conducted by KHDP and presented a research paper	Trivandrum 7-8 January 99
Dr.M.S. Sheela Assoc Professor (Ent)	XI Kerala Science Congress and presented a paper	CPCRI, Kasargod 27th Feb to 1st March 99

Seminars/workshops/symposia etc. conducted at the station

The XX ZREAC Meeting was conducted at the College of Agriculture, Vellayani on 6.6.1998. 37 Officers from Department of Agriculture another Institutions, 75 Scientists from KAU including all Scientists of the region participated.

One month training conducted in the Department of Home Science for the benefit of a self-help group

from Kalliyoor Panchayath and was completed on 10.7.1998.

A training programme on "Integrated Pest Management in Rice" was conducted in the Department of Agricultural Entomology from 4.8.1998 to 7.8.1998 to Agricultural Assistants of the Department of Agriculture.

A training was conducted on spawn production to the beneficiaries of people's planning programme of Athiyannur block in the mushroom laboratory at the

Department of Plant Pathology, College of Agriculture, Vellayani.

Extension lectures delivered by scientists

Name and designation	Topic	Venue and date
Dr. Thomas Biju Mathew Asst. Professor (Ag.Ent.)	Integrated Pest Management to Agricultural Officers	RATT, Kazhakkuttam 27.7.98
Dr. Thomas Biju Mathew Asst. Professor (Ag.Ent.)	Integrated Pest Management to Agricultural Assistants	RATT, Kazhakkuttam 29.7.98
Dr. Thomas Biju Mathew Asst Professor (Ag.Ent.)	Integrated Pest Management to Agricultural Assistants	RATT, Kazhakkuttam 5.8.98

Name and designation	Topic	Venue and date
Dr. T. Nalinakumari Assoc. Professor (Ag. Ent)	Pests of Rice and their	RATT, Kazhakkuttam 12.8.98
Dr. T. Nalinakumari Assoc. Professor (Ag. Ent)	Management of pests of pepper in a one day farmers seminar	Pirappancode 24.9.98
Dr. Thomas Biju Mathew Asst. Professor (Ag. Ent)	Coconut mite for Kerala karshaka	Chottanikkara Samithi 29.8.98
Dr. Thomas Biju Mathew Asst. Professor (Ag. Ent)	Management of pests of pepper in one day farmers seminar	Palode 26.9.98
Dr. N.K. Vimalakumari Assoc. Professor (Home Science)	One day demonstration on Weaning foods developed by KAU in Anganwadi	Anganwadi No. 100 Vellayani, 9.11.98 (44 women participated)
"	"	Pravachambalam on 10.11.99 (29 women participated)
"	"	Ponnumangalam 11.11.98 (32 women participated)
"	"	Pamangode, Nemom 12.11.98 (43 women participated)
Dr. N.K. Vimalakumari Assoc Professor (Home Science)	One day demonstration on Weaning foods developed by KAU to Anganwadi	Mukkunnimala, Nemom 13.11.98 (44 women participated)
"	"	Mukkunada,
"	"	Naruvamoodu, 16.11.98 (189 women participated)
Dr. Thomas Biju Mathew Assistant Prof (Ag Ent)	Coconut mite and its management	Malayinkeezhu, 17.11.98 (32 women participated)
"	IPM in vegetables to Agricultural Officers	Kudappannakkunnu Panchayath, 23.11.98

Dr. T. Nalinakumari Assoc Professor (Ag Ent)	IPM in rice – a field training to farmers	RATT, Kazhakkuttam 3.12.98
”	IPM in rice – a field training to farmers	Mangalapuram 5.12.98
Dr. Thomas Biju Mathew Assistant Prof (Ag Ent)	Coconut mite and its management to the Agricultural Officers	Pothencode 15.12.98 Trivandrum 22.12.98
Dr. Naseema Beeve Assoc. Prof (Ag. Ent)	Pesticide residues in food commodities with special reference to Kerala	CUSAT, Kochi 23.1.99
”	Pesticide residue analysis methods	”
”	Pest of crops and IPM	Govt. Victoria College Palakkad on 4.3.99
Dr. Thomas Biju Mathew Assistant Prof (Ag Ent)	Principles of toxicology and pollution	Govt. Victoria College Palakkad on 4.3.99
”	Integrated pest management	Sugarcane Research Station, Thiru- valla on 22.3.99

CSRC – KARAMANA

Demonstrations

Name and Designation of Scientists	Topic	Duration		No. of batches	No. of participants	Amount spent
		From	To			
Dr. K.K. Sulochana	Mushroom cultivation	One day		1	20 House wives and BSc. Ag students	xpenditure incurred from the existing Mushroom project

Training programmes: Nil

Visits to Farmer's fields

Attended to the field problems of farmers.

Participation of scientists in the peoples campaigns for decentralised planning: Nil

Farm advisory services:

Rendered services to the farmers as and when requested

CRS – BALARAMAPURAM

Extension and other activities
Report in brief

A cluster of 20 marginal coconut farmers from Venganoor Panchayat selected through the Krishi Bhavin, Venganoor were give fertilizers as input to coconut palm free of cost as a part of the village adoption programme of the station during 1998-99. Scientist of the station frequently visit to these farm and give advice to farmers.

Demonstration: Nil

FSRS – KOTTARAKKARA

Demonstrations: Nil

Training programmes

Name and Designation of Scientists	Topic	Duration		No. of participants	No. of batches	Amount spent
		From	To			
DR. S Ravi, Assoc.Professor	Techniques in cashew grafting	45 working days		10	1	

Visits to Farmer's fields

The scientists of the station visited farmer's fields on request to solve field problems. Regular field visits were also conducted to monitor NWDPR research programmes.

Extension services

Participation of scientists in the peoples campaigns for decentralised planning

Name and Designation	Name of participation	Venue	Date
Dr. R Pushpakumari Assoc. Professor	Scientific vegetable cultivation	Pathanapuram	29.12.98
Dr. R. S Ashehana Assoc. professor	Organic farming	Vazhappally	17.08.98
	Organic farming	Kundara	27.11.98
	Soil testing and need based fertilizer application	Pathanapuram	29.12.98
Dr. S Ravi Assoc.Professor	Mushroom cultivation	Edamulakkal	17.08.98
Dr. Rejeena Asst Professor	Organic farming in sustainable agriculture	Melila	17.08.98
	Vegetable cultivation and vermi composting	Neduvathoor	17.12.98
	Vegetable cultivation and vermi composting	Neduvathoor	22.12.98
	Vegetable cultivation and vermi composting	Veliyam	05.01.99
	Vegetable cultivation and vermi composting	Kottarakkara	11.01.99
	Organic farming and vermi compost	Kottarakkara	02.01.99
	Organic farming and sustainable agriculture	Alappad	05.03.99
	Sustainable agriculture and vegetable farming	Kulathupuzha	16.03.99
		Kulakkada	17.03.99
Sri. K. Ajithakumar Asst.Professor	Scientific vegetable cultivation	Ezhukone	17.08.99
Sri. Anil K. R Asst.Professor	Water management	Vettikkavala	17.08.98

Farm advisory services

The scientists of the station interacted with the farmers who visited the station in search of solution to their problems and offered remedial measures.

SCRS – KONNI

Visit to Farmers fields : 4

Demonstrations: Nil
Training programmes: Nil

Extension services :5

Participation of scientists in the peoples campaigns for decentralising planning

Name and Designation	Name of participation	Venue	Date
Dr. Arthor Jacob Assoc. Professor Smt. Kunjamma P Mathew Assoc. Professor	Handled classes in farmer's seminar On plant protection Aspects of coconut & pepper	Pathanamthitta Thannithodu Aruvappulam	11/1/99 10/3/99 23/3/99

Farm advisory services -15 farmers

Consultancy(Service made available at cost in the form of projects) Catalogue and provide brief description(Nature Content Duration Income earned etc.)Nil

RRS – MONCOMPU

Training conducted

Title	Period	No. of participants
Rice production technology	21-23 January, 1999	15

Demonstrations: Nil

RRS – KAYAMKULAM

The staff of the station participated in the science pest held at Women's College, Thiruvananthapuram where exhibits from the station namely varieties of paddy, pulses and sesamum were displayed. Sri. N.R.Nair, Associate Professor and Head attended the coconut workers meeting held at Vellanikkara on 6th August 1998. On 17th August, Dr. Shym.S.Kurup and Dr.P.Sushamakumari participated in the Karshaka Day at Chettikulangara on 23/11/98. Dr. Sverup John took a class on Organic farming and

intensive farming at Palamel Co-operative Society Dr. Sushamakumari handled a class on organic farming at Pullad on 7/12/98. Dr. Lulu Das delivered a lecture on biofertilizers for the farmers at the Muslim U.P.S. Puthiyakavu. Smt. M. Indira took classes on vermicomposting on 15/2/99 and coirpith composting on 20/2/99 at Karunagapally, Dr. Sverup John, Dr. Bhavani Devi, Dr. Shyam.S.Kurup and Smt. G.Suja took classes at Vathikulam on coconut cultivation, mushroom cultivation, vegetable cultivation, and integrated pest management respectively.

Demonstrations

Name and Designation of Scientists	Topic	Duration		No. of batches	No. of participants	Amount spent
		From	To			
Dr.Sverup John & Dr.P.Sushama kumari	FL.D on oil seeds	Dec.	March	15 demonstrations of 1 acre each	15 farmers	32,000/-
Smt. G.Suja	Village Adoptions programme	Dec.	March	18 plots	18 farmers	3,000/-

Training programmes - Nil

Visits to Farmer's fields

Farm trial plots and plots selected for Village Adoption Programme were regularly visited. Fields of farmers approaching with specific field problems were also visited to recommend suitable remedial measures.

Extension services

A team of scientists of this station visited the various disease/pest affected areas whenever needed to rectify the problems.

RRS - VYTTILA

Demonstrations : Nil

Training programmes

Name and Designation of Scientists	Topic	Duration		No. of participants	No. of batches	Amount spent
		From	To			
Dr. K. Anilakumar Assoc. Professor	Scientific cultivation of banana to VAP beneficiaries	25.02.99	-	1	20	500
	Field training to ARS trainees from NAARM, Hyderabad	20.07.98	18.08.98	1	6	-

Visits to Farmer's fields

Visits to pokkali fields were conducted and Officers of the Agricultural Department to Kadamakudy, Chellanam, Njarakkal, N.Paravur and Kumbalangi areas and suggested various for the reclamation and cultivation. The Fisheries scientist visited the homestead ponds in Poonithura Village for popularising improved techniques of Carp farming in low saline phase. Apart from these the scientists also visited the coconut gardens in the Mulanthuruthy and Vyttila areas severely affected by the coconut mite and apprised the Entomologists of the College of Agriculture, Vellayani.

Scientists of the station attended agricultural seminars, group meetings and diagnostic surveys organised by the Department of Agriculture, Karshaka Samithis, Panchayats and input agencies.

The scientists also involved in the conduct of VAP programme in the Thripunithura Eloor areas.

Field experiments on the efficacy of bio-fertilisers were

A training was also conducted to the farm labourers on the safety measures for handling the PP chemicals and spraying equipments.

Extension services

Dr. K. Sivan Pillai, Professor and Head held the Chairmanship of the KAEP workshop of the Ernakulam district.

Participation of scientists in the peoples campaigns for decentralised planning.

Name and Designation	Name of participation	Venue	Date
Dr. K. Sivan Pillai, Professor & Head	Member, BLEC, Harippad	Harippad	18.04.98
			22.05.98
		Alappuzha Harippad	2.06.98
			06.07.98
			28.07.98
			13.08.98
			19.09.98
			05.10.98
		16.10.98	
		19.12.98	

Dr. V.Sreekumaran, Assoc. Prof. (Agron)	Core Faculty Member	Vellanikkara Palakkad Extension directorate, Mannuthy	15.12.98 2102.98 22.03.98 to 25.03.99
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Farm advisory services

153 progressive farmers visited the station during the year 1998-99 and sought recent technologies in-varietal aspects, and agro-aqua techniques for inte-

grated farming systems in pookkali fields. Vegetable seeds costing Rs.2000 were also supplied to the Gramapanchayats in Alanangad Block in connection with the Peoples Campaign Programme.

SRS – THIRUVALLA

Name and Designation of Scientists	Topic	Date	Venue
Dr. D Alexander, Assoc.Professor	Core faculty meeting of Planning Board as resource person	06.04.98	Thiruvananthapuram
	District level Training to Dept. Officials on balanced nutrition of plants	18.04.98	KILA, Trichur
	District Agricultural Seminar-Integrated Nutrient management	18.05.98	Pathanamthitta
	Sustainable Agriculture	23.05.98	Kuttoor
	Organic Farming	24.05.98	Kadapra
	Bio fertilizers	19.06.98	Pandanad
	Integrated Nutrient management	27.06.98	Vennikulam
	Training to selected farmers	24.07.98	RATTC, Kozha
	Integrated plant nutrition	30.07.98	Mepral
	Scientific Advisor Committee of KVK	07.08.98	Thelliyoor
	Organic farming	17.08.98	Chunakkara
	Training to AO's and Agri. Assts.	22.09.98 23.09.98	RATTC, Kozha
	Coconut cultivation	26.09.98	Chathenkeri
	Agricultural Seminar	08.10.98	Puliyoor
	Agricultural Seminar	07.11.98	RARS, Kumarakom
	Organic farming	08.12.98	RARS, Kumarakom
Sugarcane production technology	25.02.99	Marayoor	

Dr. Babu George Assoc. Professor	Pepper nursery production	13.05.98 17.07.98	Pathanamthitta
	Watershed programme	01.10.98 – 31.03.98	Kuttoor
	Pest & diseases of sugarcane	26.02.99 27.02.99	Marayoor
Dr. Jessy M. Kuriakose Assoc. Professor	Scientific Vegetable production technology	20.11.98	Vallikkadu
	“	18.12.98	Naranganam
	“	25.02.99	Ezhankulam
	“	15.03.99	Kulañada
	Recent trends in vegetable production	10.03.99	Seethathode
	Scientific vegetable production	12.03.99	Kuttoor
	“	18.03.99	RATTC, Kozha
Dr. K Sreekumar	Environmental pollution in Kuttanad	29.12.99	Alapuzha
Thomas Mathew	Watershed programme	01.10.98 – 31.03.99	Kuttoor
	Banana cultivation	08.10.98	Konni
	Sugarcane production	25.02.99 – 26.02.99	Marayoor

Demonstrations

Name and Designation of Scientists	Topic	Duration		No. of batches	No. of participants	Amount spent (Rs.)
		From	To			
Dr. D Alexander Assoc. Professor	Ratoon management	April 98	March 99	1	2	12000
Dr. Babu George Assoc. Professor	Integrated pest & disease management in sugarcane	April 98	March 99	1	2	12000
Dr. K. Sreekumar Assoc. Professor	Varietal demonstration in sugarcane	April 98	March 99	1	2	12000

Training programmes

Name and Designation of Scientists	Topic	Duration		No. of participants	No. of batches	Amount spent (Rs.)
		From	To			
Dr. D Alexander Assoc. Professor	Sugarcane cultivation	23.03.99		150	1	10000
Dr. Babu George Assoc. Professor	Sugarcane cultivation	23.03.99		150	1	10000
Dr. Sosamma Cherian	Sugarcane cultivation	23.03.99		150	1	10000
Dr. K. Sreekumar Assoc. Professor	Scientific vegetable production	23.03.99		150	1	10000
Dr. Jessy M Kuriakose		23.03.99		150	1	10000

Visits to Farmer's fields

The scientists of the station had inspected four problem fields of coconut in Thiruvalla, Mannar

and Peringara region on 16.10.98 and 21.10.98. It was identified to be due to mite infestation and effected suitable plant protection operation.

Participation of scientists in the peoples campaigns for decentralised planning

Name and Designation	Name of participation	Venue	Date
Thomas Mathew Asst. Professor	Impact of programme planning in agriculture	Perunadu	25.03.99

Consultancy: Nil

AICRP KARUMADY

Extension and other activities

Farmers have been enlightened with the advantages of SSD in kari soils. The beneficiaries of the research area were supplied with the non-labour inputs as envisaged in the technical programme.

Demonstrations : Nil

Training programmes: Nil

Visits to Farmer's fields

Regular experiments and evaluations are being conducted in farmers' fields.

Extension services

A proposal for extension of the SSD system in the remaining area of Kaviltheekkumpuram Padasek-haram has been formulated and proposed under Peoples' Campaign Programme.

Demonstrations: Nil

Participation of scientists in the peoples campaigns for decentralised planning : Nil

Consultancy : Nil

RARS - PATTAMBI

The station maintains close linkage with various departments and other agencies for the effective transfer of technology generated by the scientists, Scientists assistant the State Agri. Dept. in conducting monthly T & V workshops which finalise the messages to be transferred to farmers based on research results, feed back from the farmers and extension personnel. Scientists of the station functioned as resource Persons in the T & V monthly workshop of Palakkad & Malappuram District, monthly NARP workshop of Malappuram Dt. And participated in the ZREAC work shops. Also they have participated in various agricultural seminars as indicated below and took classes.

Training programmes

Name and Designation of Scientists	Topic	Duration		No. of participants	No. of batches	Amount spent
		From	To			
Dr. Rajendran Assoc. Professor	Seed dept. Prg. to farmers ZREAC workshop	25.05.99		25	14	
ADR I/c Central zone	T & V monthly workshops of Palakkad & Malappuram Dt.	one day				

Visits to Farmer's fields

Conducted Diagnostic visit to the farmers fields and suggested remedial measures for the field problems.

Participation of scientists in the peoples campaigns for decentralised planning

Name and Designation	Name of participation	Venue	Date
Dr. P Anand Assoc. Professor	PPC core faculty interaction	CRS, Anakkayam	08.02.99
Dr. I Johnkutty Assoc. Professor	Workshop of PPC organized	Krishi Bhavan, Vallikunnu	09.03.99
Dr. Leenakumari S Assoc. Professor	Peoples planning training on rice production	Krishi Bhavan, Ambalappara, Pattanchery, Shornur	03.06.98
Dr. Rehmath Nisa Assoc. Professor	Peoples planning training on rice production	KVK, Pattambi & KCAET, Thavanur	
Sri. E. Sreenivasan Asst. Professor	Peoples planning training on crop production Peoples planning training on rice production	KCAET	

Consultancy : Nil

CRS – ANAKKAYAM

Demonstrations

Forty demonstration plots on high yielding cahsew varieties were laid out in Malappuram district.

Farm advisory services:

Service rendered to 300 farmers, planters as well as the Plantation Corporation limited.

ARS – MANNUTHY

The scientists of this station are usually associated in the following extension activities

Dr. U. Jaikumar, Assoc. Professor and Head
Farm advisory service to farmers

- Nominated member of committee on revamping and consolidation of irrigation projects
- Member state level Advisory committee for monitoring and evaluating adaptive trials of CADA

Dr. P. A. Joseph, Associate Professor

- A serial is being published in Karshakashree on Agricultural practices to be followed in every month
 - Farm advisory service to farmers
- Dr. V. V. Radhakrishnan, Associate Professor
- Officer in-charge of the village adoption Programme at Pananchery Panchayat
 - Attending training class- seed standards and seed testing – Methods of seed testing and storage- increasing requirements – breeder seed, foundation seed and certified seed.

- (c) Farm advisory service to farmers
Dr. C. A. Rosamma, Assistant Professor
- (a) Farm advisory service to farmers
Dr. Kanakamony, M. T. Assistant Professor
- (a) Farm advisory service to farmers
Dr. C. Narayanankutty, Assistant Professor
- (a) Offering training on 'Commercial nursery management and vegetable production technology' to sc youths under the scheme sca to scp sponsored by the District Collector, Trichur.
- (b) Course Director, training on Nursery techniques to unemployed rural youths sponsored by the DRDA, Trichur under TRYSEM programme

- (c) Course Director, training on nursery techniques to unemployed rural youths sponsored by KrishiBhavan, Madakkathara under the peoples participation programme.
- (d) Course Director, training on commercial Nursery techniques to unemployed rural youths sponsored by Elamkunnappuzha Grama Panchayat, Vypeen under the peoples Participation Programme.
- (e) Course teacher of the work experience course (WE Agron. 102) to Bsc (Ag) College of Horticulture students.
- (f) Farm Advisory service to farmers

Demonstrations

Name and Designation of Scientists	Topic	Duration		o. of batChes	No. of participants	Amount spent
		From	To			
Dr. Rosamma C.A		26.11.98	27.11.98	2	25	500
Dr.Kanakamony M.T		28.11.99	28.11.99	-	-	0000

Training programmes

Name and Designation of Scientists	Topic	Duration		No. of participants	No. of batches	Amount spent
		From	To			
Dr. C.Narayanankutty	Training on commercial nursery management and vegetable production technology	21.3.98	6.6.98	14	1	123144
	TRYSEM programme	8.6.98	8.10.98	15	1	Nil
	Nursery techniques to rural women of Madakkathara Panchayat	1.2.99	28.5.99	15	1	Nil
		10.11.98	10.5.99	2	1	
		8.3.99	12.3.99	10	1	

Visits to Farmer's fields

The scientists of this station visited the farmers fields on request or whenever required

Extension services

- 1 Training to beneficiaries for starting commercial venture in nursery production and vegetable production
2. Agro consultancy service

Farm advisory services

1. Agroclinic service
2. Working demonstration at farmers field for mechanical transplanting and harvesting
3. Hybrid rice production through mechanised cultivation at Chazor and Alappat kole

CRS - MADAKKATHARA

Demonstrations: Demonstrations on propagation, planting, plant protection were given to several

batches of trainees, students, farmers and visitors, who visited this station.

Training programmes: Nil

Visits to Farmer's fields

Visited the plantation of the following organisations/farmers

1. Plantation Corporation of Kerala.
2. Forest Department
3. 32 demonstration plots spread over Trichur, Palakkad, Ernakulam and Malappuram district.

Participation of scientists in the peoples campaigns for decentralised planning: Nil

Farm advisory services:

1. Provided extension service to several batches of farmers and visitors.
2. Conducted an on- the- spot study regarding the pest disease complex in Kasaragode district

Consultancy : Nil

BRS & PRS – KANNARA

Demonstrations: Nil

Training programmes: Nil

Visits to Farmer's fields

Regular field visits were conducted to farmer's fields and rendered diagnostic services.

Participation of scientists in the peoples campaigns for decentralised planning: Nil

Farm advisory services

Regular farm advisory committee meeting were held and accordingly follow up actions were carried out.

Consultancy : Nil

ARS - CHALAKUDY

Sri. N.K Sasidharan attended agricultural seminars and handled classes at Poyya and Vechoor. Dr. S Pushkala took class for the trainees of RTT, Vyttila on vermi compost. Smt. T.K Bridgit and Dr. S. Pushkala took classes for VHSC students of Nadavaramba and for one- day agricultural seminars at Kottat and Pottachira.

Demonstrations: Nil

Training programmes: Nil

Visits to Farmer's fields

All the scientists in the station have visited the nearby farmers fields to advice the farmers on crop management and plant protection measures for coconut, vegetables and tubercrops.

Participation of scientists in the peoples campaigns for decentralised planning

Name and Designation	Name of participation	Venue	Date
Sri. K.C Chandy Professor & Head	Resource person & Member avenue tree planting & beatification Block level and Municipality level meetings	Chalakydy Municipality	Sept, Oct. 99

Dr S Pushkala
Assoc. Professor

Sri N K Sasidharan

Farm advisory services

Many local farmers have approached the scientists for advice on crop management and protection as well soil and water management for various crops like coconut, vegetables and tubercrops. They have been directed to manage the crops with proper fertilization and plant protection.

Consultancy

Dr. S. Pushkala and Dr. K.P Visalakshi, Assoc. Professors are acting as co-investigators in the Chala-

kydy River Diversification Scheme under KRPLLD Scheme of Centre for Development studies, Ulloor under the Chalakydy Municipality.

AMPRS – ODAKKALI

Dissemination of technology is carried out through regular farmer contact programmes, correspondence, news papers, audio and visual media. The station functions as a quality testing centre for essential oils. Village adoption programmes, lab to land pro-

grammes, conducting of agriclincs and training programmes are integral part of extension activities. On-farm demonstration and trials with medicinal plants are conducted in various watersheds in Ernakulam district under NQDPRA project. The station meets the demand of planting materials from potential cultivators not only from within and outside the state. In addition, the following activities also were undertaken.

Karshaka Dinam on Chingam 1st was celebrated under the joint auspices of the Dept. of Agriculture and this station.

Demonstrations: Nil

Training programmes

Name and Designation of Scientists	Topic	Duration		No. of participants	No. of batches	Amount spent
		From	To			
	Classes were handled by the scientists to the Extension officers and Agrl. Assistants of the Dept. of Agriculture on Integrated management of pests and diseases and different agrotechniques					

Visits to Farmer's fields

Diagnostic field visits, identification of field problems brought by the farmers and recommendations and follow up were done by the scientists of the station.

Participation of scientists in the peoples campaigns for decentralised planning

Name and Designation	Name of participation	Venue	Date
All scientists	Participated in the different programmes arranged under the Peoples Planning Programme in the different Panchayats of Ernakulam district.		

Consultancy: Nil

PRS – VAZHAKULAM

Extension service rendered/Farm advisory services
A regular contact with farmers is maintained by visiting their plots and giving proper technology to them in the cultivation and management of pineapple. 43 such cases were attended to.
Handled a class on pineapple cultivation in the agril. Seminar held at Valayanchirangara on 21.11.98

Farm advisory services

Consultancy : Nil

RARS – PILICODE

Demonstrations : Nil

Training programmes

Name and Designation of Scientists	Topic	Duration		No. of participants	No. of batches	Amount spent
		From	To			
Dr. M.P Giridharan Asst. Prof. (Hort)	Cultivation of banana, Pineapple and Vegetable	26.11.98	-	50	1	1,000/-
	Training programme for Task Force members of Agri& AH in Kanhangad and Nileshtar Blocks under Peoples Cam-	05.01.99	06.01.9	65	1	12,000/-

	paign					
Dr. M. Govindan, Assoc. Professor (Microbiology)	Mushroom cultivation	18.03.99	20.03.9	20	1	1,500/-
	Mushroom cultivation	22.03.99	24.03.9	20	1	1500/-
Dr. B. Jayaprakash Naik, Asst. Profes- sor (Pl. Brdg.)	Cashew Production Technol- ogy	25.03.99	27.03.9	15	1	1,950/-

Name of Scientists	Topic	Participants	Host Institute	Date and Venue
Dr.M.P Giridharan	Scientific Management of Plantation Crops	Farmers	Karol-Alappadam Grama Panchayath	05.06.98 Kankol
	Vegetable cultivation	Farmers	Pilicode Grama Pan- chayath	08.06.98 Pilicode
	Vegetable cultivation	Farmers	Kasaragod Dist. Pan- chayath	2.06.98Kanh angad
	Vegetable propagation of cashew	Unemployed youths	Dept. of Agriculture	18.08.98Tali paramba
	Vegetable propagation of cashew	Unemployed youths	RATTC Agriculture	26.08.98 Taliparamba
	Cultivation of medicinal plants	Farm women	TEC Taliparamba	28.08.98 Taliparamba
	Vegetable propagation of cashew	Unemployed youths	RATTC Taliparamba	29.08.98 Taliparamba
	Vegetable production	Unemployed youths	RUDSET Kannapuram	10.10.98 Kannapuram
	Cultivation of medicinal plants	Unemployed youths	RUDSET Kannapuram	10.10.98 Kannapuram
	Vegetable propagation of cashew	Unemployed youths	RATTC Taliparamba	04.12.98Tali paramba
	Plant propagation	College students	NAS College Kanhan- gad	30.12.98 Kodom
	Nursery management	VEOs	E.T. C Taliparamba	02.02.99 Taliparamba
	Vegetable cultivation	Farmers	Dept. of Agriculture	05.02.99 Taliparamba
	Homestead farming	Farmers	Kerala Sasthra Sa- hithya Parishath	07.02.99 Kayyur
	Scientific technologies for coconut cultivation	Farmers	Kannur District Pan- chayath	21.02.99 Kannur
	Vegetable production technology	Farmers	RATTC Taliparamba	20.03.99 Taliparamba
	Vegetable production technology	Farmers	RATTC Taliparamba	23.03.99 Taliparamba
Dr. M. Go- vindan	Biofertilizer	Farmers	Pilicode Grama Pan- chayath	08.06.98 Pilicode
	Biofertilizer	Farmers	Krishi Bhavan Pilicode	22.10.98 Puthilot
	Biofertilizer	Farmers	Malayala Manorama	19.11.98 Kannur
	Mushroom spawn production	Farmers	Krishi Bhavan Ko- dom-Belur	20.01.99 Kodom
	Agricultural -Scientific Approach	Pre-primary TTC students	Pre-primary TTC Paduvalam	04.02.99 Paduvalam

	Organic farming	Farmers	Dept. of Agriculture	05.02.99 Taliparamba
	Organic farming	Farmers	Kerala Sasthra Sa- hithya Parishath	07.02.99 Kayyur
	Mushroom cultivation	Unemployed youth	RATTC Taliparamba	06.03.99 Taliparamba
Sr. K.P. Mammootty	Wilt disease of pepper	Farmers	Kinayanoor- Karinthalam Pancha- yath	18.07.98 Parappa
	Wilt disease of pepper	Farmers	Kinayanoor- Karinthalam Pancha- yath	22.07.98 Vellirik- kundu
	Integrated disease management	Farmers	Nileshwar Block Pan- chayath	30.07.98 Pilicode
	Integrated disease management	Farmers	Nileshwar Block Pan- chayath	31.07.98 Pilicode
	Disease of coconut	Farmers	Krishibhavan Mattool	25.01.99 Mattool
	Pepper cultivation	Farmers	Kannur District Pan- chayath	21.02.99 Kannur
	Disease of rice	Farmers	Dept. of Agriculture Kasaragod	01.03.99 Pilicode
	Disease of rice	Farmers	Dept. of Agriculture Kasaragod	02.03.99 Kannur
	Disease of rice	Farmers	Dept. of Agriculture Kasaragod	05.03.99 Pili code
	Disease of rice	Farmers	Dept. of Agriculture Kasaragod	06.03.99 Pilicode
	Disease of rice	Farmers	Dept. of Agriculture Kasaragod	18.03.99 Pilicode
	Disease of rice	Farmers	Dept. of Agriculture Kasaragod	19.03.99 Pilicode
Dr.B.Jayapra kash Naik	Cashew cultivation	Farmers	Dept. of Agriculture	20.08.98 Taliparamba
	Cashew cultivation	Farmers	Dept. of Agriculture	27.08.98 Taliparamba
	Cashew cultivation	Farmers	Dept. of Agriculture	29.08.98 Taliparamba
	Cashew cultivation	Farmers	Malayala Manorama	20.11.98 Kannur
	Improved varieties of cashew	Unemployed youths	RATTC Taliparamba	05.12.98 Taliparamba
	Cashew cultivation	Farmers	Dept. of Agriculture	30.01.99 Taliparamba
	Cashew cultivation	Farmers	Kannur District Pan- chayath	21.02.99 Kannur
Dr. K. C. Raghavan	Poultry Farming	Farmers	Farmer's Society pili- code	27.11.98 Pilicode
	Clean milk production	Watershed/ Mi- trakisan trainees	Dept. of Agriculture Kannur	26.01.99 Pilicode
	Clean milk production	Watershed/ Mi- trakisan trainees	Dept. of Agriculture Kannur	02.02.99 Pilicode
	Decentralised planning in A. H. sec- tor	Farmers	Kerala Sasthra Sa- hithya Parishath	07.02.99 Kayyur
	Animal management	Mitrakisans (NWDPPRA)	Dept of Agriculture Kannur	25.03.99 Pilicode

Visits to Farmer's fields:

Scientist	Field visited	Date
Sri.K.P Mammooty	Farmers' Field at Vatakara	09.10.98
	Farmers' Field at Vatakara	03.11.98
	Farmers' Field at Calicut	10.11.98
	Farmers' Field at Calicut	23.11.98
	Kasaragod	21.01.99
	Farmers' Field at Panathur	21.01.99
	Farmers' Field at Chittarikkal	28.01.99
Dr. B. Jayaprakash Naik	Cashew Nursery of Plantation Corporation at Cheemeni	28.11.98
	Cashew Nursery of Plantation Corporation at Rajapuram	24.12.98
	Cashew Nursery of Plantation Corporation at Panathur	21.01.99

Extension services :

Maintenance of 38Nos. of Cashew demonstration plots in farmer's field under the Central Sector Scheme on cashew.

Participation of scientists in the peoples campaigns for decentralised planning

Name and Designation	Name of participation	Venue	Date
Dr. B. Jayaprakash Naik Dr. M. Govindan	State Level Core Faculty Meeting	Trivandrum	06.04.98
Dr. M. P. Giridharan Dr. M. Govindan Dr. K. C. Raghavan	BLEC Meeting	Nileshwar	16.04.98
Dr. M. P. Giridharan Dr. M. Govindan	As Resource person for State level training	KILA, Trichur	17.04.98 to 22.04.98
Dr. K. C. Raghavan	Task Force Meeting	Pilicode	20.04.98
	Task Force Meeting	Thrikaripur	22.04.98
	As Resource person for State level training	KILA, Trichur	26.04.98 to 28.04.98
Dr. M. P. Giridharan	As Resource person for Panchayat level training for Task force members	Valiyaparamba	28.04.98
	As Resource person for Block level training for Task force members	Taliparamba	12.05.98
Dr. K. C. Raghavan Dr. M. P. Giridharan	DLEC Meeting	Kasaragod	13.05.98
Dr. K. C. Raghavan Dr. M. P. Giridharan	Task Force Committee(Ag.) Meeting	Pilicode	14.05.98
Dr. K. C. Raghavan	Task Force Meeting	Kinanoor	18.05.98
Dr. K. C. Raghavan Dr. M. P. Giridharan	Grama Sabha	Pilicode	23.05.98
Dr. K. C. Raghavan Dr. M. Govindan	Grama Sabha	Pilicode	27.05.98

Dr. M. P. Giridharan	DLEC Meeting	Kasaragod	16.06.98
Dr. B. Jayaprakash Naik	BLEC Meeting	Manjeshwar	17.06.98
Dr. K.C. Raghavan	DLEC	Kasaragod	27.06.98
	MLEC	Kanhangad	29.06.98
Dr. K.C. Raghavan Dr. M. P. Giridharan	Vikasana Seminar	Pilicode	18.07.98
Dr. K.C. Raghavan Dr. M. P. Giridharan Dr. M. Govindan	BLEC	Nileshwar	27.08.98
Dr. M. P. Giridharan Dr. M. Govindan	BLEC	Nileshwar	07.10.98
Dr. K.C. Raghavan Dr. M. P. Giridharan	BLEC	Nileshwar	16.10.98
Dr. B. Jayaprakash Naik	BLEC	Manjeshwar	16.10.98
Dr. K.C. Raghavan	BLEC	Nileshwar	21.10.98
Dr. B. Jayaprakash Naik	BLEC	Manjeshwar	26.10.98
Dr. K.C. Raghavan Dr. M. P. Giridharan	BLEC	Nileshwar	27.10.98
Dr. M. P. Giridharan Dr. B. Jayaprakash Naik	State level training	Kozhikode	13.11.98 14.11.98
Dr. K.C. Raghavan Dr. M. P. Giridharan	Block level training	Nileshwar	27.11.98 28.11.98
Dr. B. Jayaprakash Naik	BLEC	Manjeshwar	03.12.98 04.12.98
Dr. K.C. Raghavan Dr. M. P. Giridharan	DLEC	Kasaragod	14.12.98
Dr. B. Jayaprakash Naik	BLEC	Manjeshwar	17.12.98 21.12.98
Dr. M. P. Giridharan Dr. M. Govindan	BLEC	Nileshwar	21.12.98
Dr. B. Jayaprakash Naik	BLEC	Manjeshwar	29.12.98
Dr. K.C. Raghavan	DLEC	Kasaragod	14.01.98
Dr. K.C. Raghavan Dr. M. P. Giridharan	BLEC	Nileshwar	29.01.98

Dr. K.C. Raghavan	DLEC	Kasaragod	02.02.99
Dr. B. Jayaprakash Naik	BLEC	Manjeshwar	03.02.98

Farm advisory services

Village Adoption Programme

Kottara Harijan colony in Nileswar Panchayat was selected for the implementation of village Adoption programme during 1998-99.

Agro-advisory services

Agro-advisory bulletins were disseminated on every Tuesday

PRS – PANNIYUR

Extension and other activities

Report in brief

Scientists of the station participated in agricultural seminars organised by the Department Of Agriculture, Kerala State, FACT, Spices board, Service Co-operative banks etc.

Scientists of the station delivered radio talks on various aspects of pepper cultivation.

Popular articles on cultivation and disease management in black pepper were published in Spice India, published by the Spices Board, Cochi.

Sri. P.K Unnikrishnan Nair, Professor functioned as an expert for the certification of pepper rooted cuttings produced by approved nurseries in Kannur district.

Sri. P.K Unnikrishnan Nair, Professor served as a member of the diagnostic team and visited bud rot affected areas in Karingad and Kovilampara of Badagara taluk.

The station participated in the agricultural exhibition organised by the Malayala Manorama at Kannur on 19th to 21st November, 1998.

Two days training programme on biocontrol of Phytophthora foot rot disease of black pepper was conducted in four batches on 14th & 15th September, 1998, 7th, 14th & 15th and 22nd & 23rd October, 1998 for the benefit of agricultural officers of the Dept. of Agriculture, Kannur district.

Dr. A Rajagopalan, Assoc. Professor conducted training class on medicinal plants for the members of Mahila Samajams at Extension Training Centre, Taliparamba on 5th August, 1999.

Dr. K Arya, Asst. professor delivered a lecture on biotechnology in connection with the inauguration of the Botany Association of Sir Syed College, Taliparamba on 28.01.99

Village adoption programme was implemented at this station in which 20 beneficiaries were selected in Chapparapadavu panchayath and inputs such as neem cake and pepper cuttings were distributed to them.

A taluk level biomass assessment study financed by ANERT (Agency for Non-conventional and Rural Technology), Thiruvananthapuram was conducted at Taliparamba taluk during 1998-99. Dr. A Rajagopalan, Assoc. Professor functioned as the Principal Investigator.

Demonstrations

Training programmes: Nil

Visits to Farmer's fields

Sri. P.K Unnikrishnan Nair, Professor, visited the disease affected plots of arecanut and coconut at Koodathai on 24.12.98 and Chamal kattipara and Adivaram on 06.01.99.

The wilt affected areas of black pepper at Mudakkozhi in Muzhakkunnu Krishi Bhavan were visited by Sri. P.K Unnikrishnan Nair.

Extension services

Sri. P.K Unnikrishnan Nair visited the plot at Valiithode, Aralam in connection with the selection of Krishi Nidhi award as a member of the District Scrutinizing Committee on 25.03.99.

Participation of scientists in the peoples campaigns for decentralised planning: Nil

Farm advisory services

Lab to land programme was implemented. Pepper rooted cuttings and neem cake were distributed to 20 farmers in Chapparapadavu panchayath.

RARS – KUMARAKOM

Scientists frequently handle classes in training programmes organised by the department of Agriculture and other NGOs. Training programmes on mushroom production and vermicomposting are conducted

in the station. There is an Information cum Sales Centre and an Exhibition Unit in the station.

Demonstrations:

Training programmes

Name and designation of scientist	Topic	Duration		No. of batches	No. of participants	Amount spent (Rs.)
		From	To			
Dr.K.J.Alice, Professor of Pl.Pathology and Dr.A.V.Mathew	Training on mushroom production technology - 3 batches of 3 days duration	26-8-98	28-8-98	I	24	2400
		11-1-99	13-1-99	II	9	900
		19-2-99	22-2-99	III	24	2400
Dr.Joseph Philip	Training on orchid and anthurium cultivation	19-1-98	23-1-98	I	20	4000
Sri.K.C.Rajan	Mithra Kissan Training of NWDPRAs farmers (Funded by DOA)	25-2-99	27-2-99	I	30	5400
		3-3-99	5-3-99	II	35	
	Field day cum Agrl. Seminar in Velloor watershed	10-3-99	(1 day)		80	2496
Dr.K.Geetha	Training on vermiculture	7-11-98	(1 day)	I	8	200
		8-12-98	"	II	7	175

Visits to farmer's fields:

Name and designation of scientist	No. of visits made in 1998-99	Major problems observed
Dr.K.J.Alice, Prof. of Pl.Path.	5	Bacterial leaf blight of paddy, bacterial blight of cowpea, Blackvine disease of cowpea, Quick wilt of pepper
Dr.A.V.Mathew, Assoc.Prof.	21	Bacterial leaf blight of rice, blast of rice, yellowing in rice, bacterial, fungal and viral diseases of vegetables, Quick wilt of pepper, nutfall and leaf rot of coconut
Smt.Asha Joseph, Asst.Prof.(Ag.Engg.)	17	Field visit to farmers plots in connection with NWDPRAs experiment and to attend the demonstration trial of paddy reaper, thresher and transplanter
Sri.K.C. Rajan	35	Visit in connection with NWDPRAs trials in farmers fields

Dr.K.Geetha	30	Visit to NWDPRAs experiments; taking classes to farmers in Agrl.seminar, banana plot for fertilizer application and pseudostem weevil
Dr.Elizabeth K. Syriac	26	Field visit to farmers plots in connection with NWDPRAs field experiments. As resource person in Agrl. seminars.
Dr.Anuradha Krishnan	6	Organic farming plot at Muhamma and Rice-cum fish integrated farming plots.
Dr.K.G.Padmakumar	20	Visit to Rice-fish integrated farming plots
Dr.Joseph Philip	7	Yellowing of Arecanut, coconut, stunted growth and non-flowering of vegetables, pseudostem weevil infestation of banana, anthurium and orchid cultivation
Dr.K.J.Joseph	20	Adopted Village demonstration plots, paddy field and coconut gardens for pest and disease problem

Extension services:

Period	Farm clinics	Solution to farmer's field problems		
		In person	Through tele- phone	Through post phone
	Dr. Elizabeth K. Syriac		100	
19-3-99	Agrl. Seminar, Ayarkunnam	In person		
20-3-99	Agrl. Seminar, Ettumanoor Panchayat	„		
27-3-99	Agrl. Seminar, Vazhoor Block Panchayat	„		
4-3-99	IFFCO training programme at Kottayam	„		
25-2-99	Mittra Kisan Training Programme at RARS	„		
3-3-99	Mittra Kisan Training Programme at RARS	„		
	KA Inasi		100	
15.8.98	Agricultural Seminar, Vaikom	"		
	KC Rajan		100	
19-3-99	Agricultural Seminar, Ayarkunnam	In person		
10-3-99	Agricultural Seminar, Pampady	„		
20-3-99	Agricultural Seminar, Kangazha	„		

21-5-98 to 22-5-98	Mushroom Trg. at Pazhakulam Social Service Society, Adoor	In person
30-5-98	IPM of vegetables at Neendoor - Agrl. Seminar	„
18-6-98	IPM of vegetables at Athirampuzha	„
4-7-98	Agrl. Seminar- IPM in pepper Krishibhavan Puthupally	„
17-8-98	IPM in coconut - Krishibhavan, Manarkad	„
21-8-98	Training Programme - Coconut Development Board - Alappuzha	„
26-8-98 to 28-8-98	Mushroom Training - RARS, Kumarakom	„
18-9-98	Training Class on Mushroom - Devamatha College, Kuravilangad	„
24-9-98	Agrl. Seminar - IPM Coconut - Pallickathod	„
26-9-98	Agrl. Seminar - IPM Coconut - FACT, Vaikom	„
15-10-98 16- 10-98	Mushroom Trg. Vandanmedu Dept. Society, Idukki	„
21-10-98 23- 10-98	Mushroom Trg. - Dept. Agri. - Marayoor	„
24-10-98	IPM in coconut - Agriculture seminar organised by Rashtradeepika at Kumarakom	„
27-10-98	Mushroom training - RATTC, Kozha	„
12-11-98	IPM in rice -Agricultural Seminar , Krishi Bhavan , Nattakom	„
18-11-98	IPM in rice - Agricultural seminar , Krishi Bhavan , Aymanam	„
23-11-98	IPM in coconut-Agricultural seminar , FACT , Kangazha	„
28-11-98	IPM in coconut - Agricultural seminar , FACT, Vaikom	„
30-11-98	IPM in pepper - Agricultural seminar, FACT, Kangazha	„
5-12-98	IPM in coconut- Agricultural semi-	„

	nar , Rashtradcepika at Moolamattom	
7-12-98 & 8-12-98	Mushroom training - RATTC, Kozha	„
12-12-98	Mushroom training - VDS Thodupuzha	„
14-12-98 & 15-12-98	Mushroom training - RATTC, Kozha	„
19-12-98	Mushroom training - V.D.S, Pannimattom	„
21-12-98	IPM in Vegetables and banana- Agrl. Seminar, RACT, Kangazha	„
23-12-98	IPM in Coconut, Agrl. Seminar - FACT, Vaikom	„
29-12-98 - 30-12-98	Mushroom training, RATTC, Kozha	„
31-12-98	IPM in Vegetables - Agrl. Seminar, Krishi Bhavan, Manarcad	„
11-1-99 to 13-1-99	Mushroom training at RARS, Kumarakom	„
14-1-99	IPM in Rice - Agrl. Seminar, Krishibhavan, Kumarakom	„
21-1-99 - 11-1-99	Mushroom training _ PASS, Adoor	„
4-2-99	Mushroom cultivation _ NSS College, Vazhoor	„
15-2-99	Recent advance in plant pathology and Terminator Gene Technology - St. Dominic College, Kanjirappally	„
24-2-99 to 25-12-99	Mushroom training at PASS, Adoor	„
5-3-99	Mushroom growing _ IFFCO, Training Programme for farmers at Kottayam	„
20-3-99	IPM in rice and vegetables - Seminar conducted by ECF, RRS, Kayamkulam	„
24-3-99	Mushroom farming - Agrl. Seminar, Krishibhavan, Valavoor, Palai	„
25-3-99 to 26-3-99	Training on coconut mite control Agrl. Department, Pathanamthitta	„
30-3-99	Mushroom training - VDS. Kumily	„



8/10/06

Dr. K. Geetha		100
25-2-99	Mithra kissan training, RARS	In person
3-3-99	Agricultural seminar, Kallara	„
10-3-99	Agricultural Seminar, Pampady	„
17-8-99	Agricultural Seminar, Ayarkunnam	„
Dr. Joseph Philip, Associate Professor		110
29-6-98	To handle class in the farmers seminar at Kodungoor	<i>In person</i>
17-8-98	Agricultural seminar, Vaikom	„
27-1-99	Agricultural seminar, Pathanad	„
30-1-99	Agricultural seminar, Mundathanam	„
11-2-99	Agri. Seminar at Attipeedika, Kumaarakom	„
8-3-99	Agri. Seminar, Kallara	„
20-3-99	Agri. seminar, Pulickal Kavala	„
27-3-99	Agri. Kanjirappally	„
27-3-99	Agri.seminar, Kodungoor	„
Dr. K.G. Padmakumar		225
23-7-98	Talk on Integrated Farming-Training for officers of Dev. Departments organised by Institute of mgt. in Government, Trivandrum	In person
5-9-98	Open House Seminar 'Jubilee Celebrations, Kerala University, Trivandrum'	„
12-11-98	Farmers Seminar organised by Nattakom Krishi Bhavan	„
18-11-98	Farmers Seminar organised by Aymanam Krishi Bhavan	„
20-11-98	Farmers seminar organised by FACT at Karyipadom, Alappuzha	„
23-11-98	Talk in the Training for officers of Development Dept. organised by Institute of Management in Govt., Trivandrum	„
8-12-98	Farmers Seminar organised by Arpookkara Krishi Bhavan	„

17-12-98	Fisheries seminar Janakeeya Matsyakrishi organised by FFDA, Kottayam (Kottayam)	„
18-12-98	Agri. seminar - farm and Home Jubilee celebrations organised by All India Radio, Calicut at Thriprayar, Thrissur	„
31-12-98	Talk on integrated farming in the seminar organised by Mathrubhoomi at Alappuzha	„
25-1-99	Seminar 'Oru Nellum Oru Meenum' organised by State Bank of Travancore & MPEDA & Kuttanad Vikasana Samithy at Nedumudy, Alappuzha	„
1-3-99	Seminar in connection with Nel-kera Karshaka convention at Ramankary	„
2-3-99	Training programme for Entrepreneurs organised by Pazhakulam Social Service Society (PASS) Adoor	„
5-3-99	State level seminar for Co-Operative Bank Nominees and farmers organised by IFFCO, Sophia Centre, Kottayam	„
16-3-99	Seminar on Aquaculture organised by Marine Products Export Devt. Authority and Kuttanad Vikasana Samithy, Pallikkootumma, Kuttanad	„
20-3-99	Seminar - Karshika - Organised by KAU, ECF Unit, RRS Kayamkulam	„
Smt.Asha Joseph		50
6-10-98	Training class on Farm mechanisation at RATTC Kozha	In person
8-10-98	Training class on Farm mechanisation at RATTC Kozha	„
25-2-99	Mittra Kisan Training Programme at RARS	„
3-3-99	Mittra Kisan Training Programme at RARS	„

Participation of scientists in 'People's Campaign' for decentralised planning
RARS Kumarakom

Name and designation	Nature of participation	Venue	Date
Dr.K.G.Padmakumar	Chairman, Fisheries Task Force, Kottayam district	Kottayam	27-7-98
			9-9-98
			1-12-98
			17-2-99

“	Resource Person (Participation of KAU in Peoples Plan campaign)	Thrissur	15-12-98 8-2-99
Dr.K.J.Joseph	Faculty Meet at Planning Board	Trivandrum	6-4-98
“	State Level workshop at KILA, Thrissur	Thrissur	16-4-98 to 23-4-98
“	Dist. level meeting organised by Dist. Planning Office	Kottayam	23-5-98
“	Block level training to Panchayat task force	Kaduthu- ruthy	8-6-98 to 9-6-98
“	“	Vaikom	11-6-98 to 12-6-98
“	“	Ettumanoor	16.12.98

Farm advisory services:

All scientists of the station carried out regular farm advisory services for various field problems of the farmers. Advisory services are being given over telephone and letters also. Whenever field problems are informed at the Station, Scientist visit the fields, recommended suitable measures after diagnosing the problem.

Consultancy: Nil

RARS-AMBALAVAYAL

Extension and other activities

Dr.T. Pradeepkumar, Assistant Professor attended agricultural seminars organized nearby Krishi Bhavans, Meppadi and took classes on vegetable cultivation. Dr. K.C. Aipe, Associate Professor & Head attended the All India Radio Advisory Committee meeting at RCRS, Chundale and served as a member in the evaluation team of the Central Sector Scheme on pepper implemented in the State during 1992-'98. Dr. K.N. Anith took class on Biofertilizers in the Agrl. Seminar organized by Nenmeni Krishi Bhavan on. The station participated in the Wayanad Flower show '99 organized at Kalpetta during 22-26 January, 1999 and bagged several prizes.

Demonstration : Nil

Training Programme

Name and Designation of Scientist	Topic	Duration	No. of participants	No. of batches	Amount spent
Dr.T.P. Manomohan Das,	Mushroom	2 days	150	4 batches	

Visits to farmers' fields

Scientists of the station regularly visited the NWDPPRA experimental plots of pepper, ginger, rice & fodder in the three watersheds of Wayanad district. Field visits were also made by scientists along with the officers of the Department of Agriculture.

Extension services

Dr. K.C. Aipe, Associate Professor & Head acted as resource person in the DLEC and BLEC meetings and Chairman subject committee (Agri). at Block level of Peoples' campaign for decentralized planning. Dr.T. Pradeepkumar functioned as state level resource person in decentralized planning and participated in the IX Plan project implementation workshop at K AU, Vellanikkara.

Participation of Scientists in the Peoples' campaign for decentralized planning

Name & designation	Name of participation	Venue	Date
Dr.K.C.Aipe	DLEC meeting	District Collectorate, Kalpetta	18.4.1998
Dr.T.Pradeepkumar	BLEC meeting	Block Office, S.Bathery	
Dr.K.C.Aipe and Dr.T.Pradeepkumar	IX plan project implementation workshop	KAU	14.12.1998
	BLEC	Block Office, S.Bathery	13.01.1999
Dr.K.C.Aipe and Dr.T.Pradeepkumar	DLEC	Block Office, S.Bathery	14.01.1999
Dr.K.C.Aipe and Dr.T.Pradeepkumar	Subject Committee Meeting	Block Office, S.Bathery	03.02.1999

Farm Advisory Services

The station had rendered agromet advisory service based on the forecast received from NCMRWF, New Delhi.

CRS – PAMPADUMPARA

Report in brief

Dr. N Mini Raj, Asst. Professor and Head and Sri. M Murugan, Asst. Professor (Soil Sci.) took classes on various aspects of cardamom cultivation at CMC, Vandanmedu on 10.07.98.

Dr. N Mini Raj, Asst. Professor and Head, attended the drought assessment meeting of spices board at Spice Board office, Vandanmedu on 24.07.98.

Sri. M Murugan, Asst. Professor (Soil Sci.), handled classes for planters on quality improvement of spices organised by the Spices Board on 15.10.98

Sri. M Murugan, Asst. Professor (Soil Sci.), visited Vandiperiyar and Vandanmettu areas to select the best farmers to give cardamom award on 30.12.98.

Sri. M Murugan, Asst. Professor (Soil Sci.), took class on organic farming for cardamom planters at CGA, Vandanmedu on 29.01.99.

Demonstrations: Nil

Training programmes: Nil

Visits to Farmer's fields

Field visits were made by Sri. M Murugan, Asst. Professor, (Soil Sci.) to cardamom and black pepper estate, for suggesting remedial measures to their field problems like thrips and Azhukal out break in cardamom and Pulianmala, Anniyarthozhu, Vashathoppu, Valiathovala etc.

Extension services:

Farmers were educated on upgradation of technology and drought management strategies through extension activities.

Participation of scientists in the peoples campaigns for decentralised planning: Nil

Consultancy : Nil

KHDP – VELLANIKKARA

Demonstrations:

Conducted 89 Participatory Technology Development experiments in the farmers fields.

Training programmes

Name and Designation of Scientists	Topic	Duration	
		From	To
Dr. T.R. Gopalakrishnan		29.6.98	
		18.9.98	
		22.9.98	
		16.10.98	
		6.1.99	
		29.3.99	
Prof. P. Reghunath		16.4.98	18.4.98
		25.4.98	
		13.6.98	
		29.6.98	
		20.7.98	
		28.7.98	
		30.7.98	
		6.8.98	
		11.8.98	13.8.98
		9.9.98	
		18.9.98	
		4.12.98	
		7.12.98	
		10.12.98	
		8.2.99	
22.2.99			
24.2.99			
7.4.99			
Dr. C. Gokulapalan		16.4.98	18.4.98
		25.4.98	
		13.6.98	
		29.6.98	
		20.7.98	
		28.7.98	
		30.7.98	
		6.8.98	
		11.8.98	13.8.98
		9.9.98	
		18.9.98	
		4.12.98	
		7.12.98	
		10.12.98	
		22.2.99	
7.4.99			

Visits to Farmer's fields

Dr. T.R. Gopalakrishnan

No	Date	Site
1.	3.4.98	Vazhakulam
2.	22.4.98	Vazhakkumpara
3.	28.4.98	Kanjani
4.	30.4.98	Kochi
5.	6.5.98	Neezhur, Kottayam
6.	23.5.98	Chelakara, Thrissur
7.	25.5.98	Mulavamthuruthy
8.	26.5.98	Vazhakkumpara
9.	1.7.98	Trivandrum
10.	2.7.98	Trivandrum

11.	3.7.98	Trivandrum
12.	12.7.98	Varanthrappilly
13.	22.7.98	Vadakarapathi
14.	24.7.98	Kalloor
15.	25.7.98	Pananchery
16.	18.8.98	Elevenchery
17.	29.8.98	Chelakara
18.	31.8.98	Kodakara
19.	10.9.98	Chelakara
20.	13.10.98	Kottai
21.	14.10.98	Manjeri
22.	19.10.98	Trivandrum

23.	8.12.98	Alathur
24.	4.1.99	Chelakara
25.	5.1.99	Elevenchery
26.	16.1.99	Mattathur
27.	10.2.99	Elevenchery
28.	23.3.99	Koduvayoor

Dr. Maicykuty P. Mathew

No	Date	Site
1.	24.4.98	Kundur, Tricur
2.	30.4.98	Kochi
3.	28.4.98	Kalloor, Trichur
4.	17.6.98	Kalloor, Trichur
5.	17.6.98	Kalloor, Trichur
6.	24.6.98	Vandoor
7.	1.7.98	Vazhukkumpara
8.	21.7.98	Nenmara
9.	21.7.98	Nenmara
10.	24.7.98	Kalloor, Trichur
11.	24.7.98	Kalloor, Trichur
12.	24.7.98	Kalloor, Trichur
13.	27.7.98	Mannarkkad
14.	27.7.98	Edakurissi
15.	27.7.98	Thachampara
16.	27.7.98	Viyyamkurissi
17.	5.8.98	Kundur
18.	8.9.98	Kochi
19.	8.9.98	Kochi
20.	25.11.98	Malappuram
21.	25.11.98	Malappuram
22.	25.11.98	Puzhakavu
23.	3.2.99	Peruvayal, Calicut
24.	3.2.99	Peruvayal, Calicut
25.	11.2.99	Devagiri, Kochi
26.	11.2.99	Shankarakuzhy
27.	11.2.99	Ayyampuzha
28.	11.2.99	Ayyampuzha
29.	11.2.99	Chendamangalam
30.	11.2.99	Ayyampuzha
31.	26.3.99	Alathur
32.	29.3.99	Manjeri

Prof. P. Reghunath & Dr. C. Gokulapalan

1.	15.4.98	Kollayil, Trivandrum
2.	15.4.98	Balaramapuram
3.	16.4.98	Nedumangadu
4.	16.4.98	Nedumangadu
5.	16.4.98	Aryancode
7.	20.4.98	Aryancode
8.	20.4.98	Malayinkil
10.	20.4.98	Kunnathukal
11.	20.4.98	Perumkadavila
12.	13.5.98	Kunnathukal
13.	13.5.98	Chenkai
14.	13.5.98	Thempamuttam
15.	13.5.98	Oorutampalam

16.	13.5.98	Malayinkil
17.	14.5.98	Venganoor
18.	18.5.98	Venganoor
19.	23.5.98	Valiyarathala
20.	26.5.98	Aryancode
21.	27.5.98	Maravanthuruthu, Kottayam
24.	27.5.98	Udayapuram, Kottayam
25.	27.5.98	Velloor, Kottayam
26.	27.5.98	Udayapuram, Kottayam
27.	27.5.98	Udayapuram, Kottayam
28.	9.6.98	Kollayil
29.	9.6.98	Karode
30.	10.6.98	Maranelloor
31.	10.6.98	Marackal
32.	10.6.98	Nedumangadu
33.	1.7.98	Ottasekharamangalam
34.	1.7.98	Aryancode
35.	3.7.98	Koliyancode
36.	3.7.98	Pothencode
37.	3.7.98	Kazakuttam
38.	3.7.98	Karode
39.	13.7.98	Balaramapuram
40.	16.7.98	Maravanthuruthu, Kottayam
41.	16.7.98	Velloor
42.	16.7.98	Perumpadavu, Kottayam
43.	16.7.98	Vaikom, Kottayam
44.	20.8.98	Balaramapuram
45.	22.8.98	Balaramapuram
46.	24.8.98	Malayinkil
47.	24.8.98	Aryancode
48.	24.8.98	Kollayil
49.	24.9.98	Kazhakuttam
50.	14.9.98	Ettumanur, Kottayam
51.	14.10.98	Manjoor, Kottayam
52.	20.10.98	Karode
53.	21.10.98	Vedivachankoil
54.	27.10.98	Sreekariyam
55.	27.10.98	Pothencode
56.	28.10.98	Balaramapuram
57.	29.10.98	Balaramapuram
58.	11.11.98	Maulakulam II, Kottayam
59.	11.11.98	Mavelloor, Kottayam
60.	5.12.98	Pallichal
61.	5.12.98	Balaramapuram
62.	19.12.98	Manickal
63.	19.12.98	Ayroopara
64.	23.12.98	Kunnathukal
65.	23.12.98	Maranelloor
66.	23.12.98	Malayinkil
67.	23.12.99	Kunnathukal
68.	26.12.99	Nedumangadu
69.	2.1.99	Maranelloor
70.	13.1.99	Vakathanam, Puthupally & Kuravilangad
71.	14.1.99	Kaduthuruthy, Kottayam

72.	14.1.99	Kaduthuruthy, Kottayam
73.	14.1.99	Ettumanoor, Kottayam
74.	14.1.99	Mulakulam, Kottayam
75.	14.1.99	Kaduthuruthy, Kottayam
76.	2.2.99	Malayinkil
77.	2.2.99	Malayinkil
78.	27.2.99	Vembayam
79.	9.3.99	Perumpazhathoor
80.	10.6.98	Marackal
81.	1.7.98	Ottasekharamangalem
82.	3.7.98	Koliyacode
83.	3.7.98	Kazakuttam
84.	6.7.98	Balaramapuram
85.	14.7.98	Venganoor
86.	16.7.98	Udayapuram, Kottayam
87.	20.8.98	Neyatinkara
88.	21.8.98	Nedumangadu
89.	24.8.98	Mylachal
90.	24.8.98	Malyinkil
91.	24.8.98	Kunnathukal
92.	24.8.98	Mylachal
93.	14.9.98	Kanakkari, Kottayam
94.	14.9.98	Kuravilangad, Kottayam
95.	21.10.98	Vedivachankoil
96.	23.10.98	Valathankara
97.	27.10.98	Nedumangadu
98.	27.10.98	Malayinkil
99.	28.10.98	Kattaikonam
100.	30.10.98	Mylachal
101.	5.12.98	Balaramapuram
102.	12.12.98	Ayrooppara
103.	19.12.98	Ayrooppara

104.	23.12.98	Kunnathukal
105.	23.12.98	Aryancode
106.	23.12.98	Malayinkil
107.	23.12.98	Malayinkil
108.	26.12.98	Kattaikonam
11	2.1.99	Malayinkil
8.		
11	2.1.99	Kunnathukal
9.		
12	9.3.99	Perumpazhathoor
0.		
121.	9.3.99	Athiyannur
122.	11.2.99	Manickal
123.	18.3.99	Udayapuram, Kottayam
124.	18.3.99	Manangattupally, Kottayam
125.	9.3.99	Chembu, Kottayam
126.	11.3.99	Maravanthuruthu, Kottayam
127.	18.3.99	Udayapuram, Kottayam
128.	18.3.99	Maravanthuruthu, Kottayam
129.	9.3.99	Athiyannur
130.	9.3.99	Chenkai
131.	11.3.99	Kazhakuttam
132.	18.3.99	Chembu, Kottayam
133.	2.2.99	Malayinkil
134.	27.2.99	Vembayam
135.	27.2.99	Nedumangad
136.	9.3.99	Perumpazhathoor

Extension services:

Participation in farmers seminars as resource persons:

Name and Designation	Name of participation	Venue	Date
Dr.T.R. Gopalakrishnan			11.4.98
			11.5.98
			17.8.98
			19.9.98
			17.10.98
			20.12.98
			23.12.98
			26.12.98
			5.1.99
			16.1.99
			1.2.99
			3.2.99
			16.2.99
			11.3.99
			12.3.99
Dr. Maicykutty P. Mathew			7.10.98
			6.11.98
			3.12.98

Prof. P. Reghunath			16.6.98
			to
			19.6.98
			26.6.98
			28.6.98
			17.7.98
			8.12.98
			31.12.98
			10.1.99
			12.1.99
			17.2.99
			20.2.99
Dr. C. Gokulapalan			26.2.99
			28.2.99
			12.3.99
			24.3.99
			27.3.99
		10.1.99	
		to	
		12.1.99	
		26.2.99	

Participation of Scientists in the peoples campaigns for decentralised planning

Dr. T.Radha, Associate Professor and Smt.Omana Ravunni, Assistant Professor participated in the peoples campaign meetings

Farm advisory services:

KHDP Scientists were actively involved in the farm advisory service activities like problem identification in the farmers fields, consultation etc. Quite a large number of farmers visited the KHDP research fields.

Consultancy : Nil

CV & AS MANNUTHY

Extension and other activities

Details of Artificial Insemination and Infertility Treatment

Species	Total A.I Carried out	Infertility Treatment	Revenue Collected
Cow	4671	1550	57015.00
Byffallo	302	105	4295.00
Goat	858	73	5670.00
Mobile unit	261	143	16134.00
Total	6092	1871	83064.00

Details of rabbit breeding units

No. of animals sold - 444
Income generated - 41898.00

Details of preventive vaccinations done by the preventive medicine department

F & M :1795
H.S :686
Sheep pox :40
Brucellosis :75
Tuberculosis :524
Johne's disease :20
No. of radiograph taken :404
Receipts from X Ray :5705
Referred surgical cases attempted :161

Veterinary Hospital, Mannuthy
Cases treated
Equines :66
Bovine :5059

PIG PR & RESEARCH MANNUTHY

Extension and other activities

Other :5490
Castration done :131
Major surgical operation :320
Minor surgical operation :1813
Vaccinations :7734
Clinical examination :1565
Details of postmortem
Large animal :944
Poultry :4496
Rabis diagnosis :352
Histopathology :1418
Nasal smears :61
Food samples analysed :225

About 363 food samples received from both private and Government agencies of KAU were analysed for proximate principles and mineral contents during the period.

A total of 663 clinical specimen from various species of animals and birds received were subjected to Bacteriological/virological/Myceological investigation and the results communicated suitable control/treatment measures were also suggested to the suceptive conditions.

Demonstrations: Nil

Visits to Farmer's fields

For implementation of village adoption programme 10 families were selected from Ollukkara. They have been given training for housing and management of backyard poultry rearing. They were supplied with 5 desi cross birds of 2-3 months of age. Monitoring of this programme is in progress.

Participation of scientists in the peoples campaigns for decentralised planning

Experts from various fields participated on BLEC DLEC and state level as resource persons.

Farm advisory services

Promptly attends the calls from farmers as and when required.

Consultancy

The centre provide technical advise to progressive pig farmers and helped them to start project on pig-gery enterprises.

Demonstrations

	Topic	Duration		No. of batches	No. of participants	Amount spent
		From	To			
Dr. T.V. Viswanathan Associate Professor	Pig Farming	11-9-98	11-9-98	One	4	N.A
Dr. Joseph Mathew Assistant Professor	"					
Dr. A.P. Usha Assistant Professor	"					

Training programmes

Name and Designation of Scientists	Topic	Duration		No. of participants	No. of batches	Amount spent
		From	To			
Dr. T.V. Viswanathan Associate Professor	Pig Production	16-7-98	25-2-99	1	6	N.A
Dr. Joseph Mathew Assistant Professor						
Dr. A.P. Usha Assistant Professor						

Visit to Farmer's fields

One field unit has been established under the technical guidance of the scientists in the centre, at Kozhukully, Thrissur and the Scientists i/c visit the unit periodically.

Extension services

Technical advice & preparation of project reports
Veterinary service in special circumstances.
Provision of marketing facilities through M.T.U.

Participation of scientists in the peoples campaigns for decentralised planning

Name and Designation	Name of participation	Venue	Date
Dr. T.V. Viswanathan Associate Professor	State Faculty Training A.H	K.I.L.A	23-4-98 to 25-4-99
Dr. Joseph Mathew Assistant Professor	State Faculty Training A.H	K.I.L.A	23-4-98 to 25-4-99
Dr. T.V. Viswanathan Associate Professor Dr. Joseph Mathew Assistant Professor	Model project Faculty workshop	COV & AS	22-25 March 1999, 5-3-99, 12-3-99, 9-2-99 & 29-3-99
Dr. Joseph Mathew Assistant Professor	State Fisheries Faculty Training	K.I.L.A	2-4-98 to 4-4-98

Farm advisory services:

Providing technical advice
Preparation of project report for financial assistance.
Expert veterinary service.

Consultancy : Nil

CV & AS MANNUTHY

Extension and other activities

Details of Artificial Insemination and Infertility Treatment

Species	Total A.I Carried out	Infertility Treat-ment	Revenue Col-lected
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Details of preventive vaccinations done by the preventive medicine department

F & M :1795

H.S :686

Sheep pox :40

Brucellosis :75

Tuberculosis :524

Johne's disease :20

No. of radiograph taken :404

Racepts from X Ray :5705

Referred surgical cases attempted :161

Veterinary Hospital, Mannuthy

Cases treated

Equines :66

Bovine :5059

Other :5490

Castration done :131

Major surgical operation :320

Minor surgical operation :1813

Vaccinations :7734

Clinical examination :1565

Details of postmortem

Large animal :944

Poultry :4496

Rabis diagnosis :352

Histopathology :1418

Nasal smears :61

Food samples analysed :225

About 363 food samples received from both private and Government agencies of KAU were analysed for proximate principles and mineral contents during the period.

A total of 663 clinical specimen from various species of animals and birds received were subjected to Bacteriological/virological/Mycological investigation and the results communicated suitable control/treatment measures were also suggested to the suceptive conditions.

Demonstrations: Nil

Visits to Farmer's fields

For implementation of village adoption programme 10 families were selected from Ollukkara. They have been given training for housing and management of backyard poultry rearing. They were supplied with 5 desi cross birds of 2-3 months of age. Monitoring of this programme is in progress.

Participation of scientists in the peoples campaigns for decentralised planning

Experts from various fields participated on BLEC DLEC and state level as resource persons.

Farm advisory services

Promptly attends the calls from farmers as and when required.

Consultancy

CBF - THUMBURMUZHI

Artificial insemination to the cattle of the local farmers using semen from ICAR progeny testing Schemes.

Treatment and health care of animals of the local farmers.

Demonstration and providing advices to the farmers undergoing training in Milma during their visits to this farm.

Demonstrations: Nil

Training programmes : Internship training to BVSc. & A.H. students

Participation of scientists in the peoples campaigns for decentralised planning

Participation in the Faculty Workshop to prepare a comprehensive model project under animal husbandry sector held at Directorate of Extension, Kerala Agrl. University from 22nd to 25th March 1999.

Consultancy : Nil

LIVESTOCK FARM MANNUTHY

Extension and other activities: Nil

Demonstrations: Nil

Training programmes

Name and Designation of Scientists	Topic	Duration		No. of participants	No. of batches	Amount spent
		From	To			
Dr. Ally K.	Dairy	One day		25	2	-
Dr. A. Kannan	Farming Fodder Production	One day		25	2	-

Visits to Farmer's fields: Nil

Extension services

Supply of fodder seeds/slips to farmers

Participation of scientists in the peoples campaigns for decentralised planning

Name and Designation	Name of participation	Venue	Date
Dr. A. Kannan	Dairy Development	Chalakkudy at Kattoor	Nov. '98

Farm advisory services**Feed manufacturing**

1. Improving the efficiency of milk production
2. Prevention and control of diseases
3. Routine Farm Management practices

Consultancy : Nil

MTU-MANNUTHY**Report in brief**

Utilisation of culled and unproductive animals of KAU farm and KLD Board farm for valuable meat

COF- PANANGAD

Demonstrations: Nil

production. Diseased animals were utilised in the rendering plant and protein rich meal cum bone meal was prepared which is widely used by pig farmers, poultry farmers and kennel owners.

Participation of scientists in the peoples campaigns for decentralised planning

Name and Designation	Name of participation	Venue	Date
Dr. P. Kuttinarayan	Peoples campaigns for the 9th year plan under KAU orientation training for project preparation	Veterinary College	03.03.99
Dr. M Sunil			26.03.99
			29.03.99

Farm advisory services

Undertaken as and when demanded.

Consultancy

Giving technical advice to local bodies of Kerala regarding modernisation of slaughter houses.

Training programmes

Name and designation of scientists	Topic	Duration		No. of Batches	No. of Participants	Amount Spent (Rs.)
		From	To			
Dr.D.D Nambudiri Assoc.Professor	Additives in sea food pro- cessing	5.06.98	19.06.98	19	1	9077
Dr.K Jayasree Vadhyar, Assoc.Professor	Commercial culture fisheries	20.07.98	25.07.98	17	1	8264
Dr.K.K Varma Assoc.Professor	Fishery Oceanogra- phy	14.12.98	19.12.98	2	1	1733
Dr.M.V Mohan Assoc.Professor	Ornamental fishes	07.12.98 14.12.98	09.12.98 16.12.98	23	2	5000 3000
Dr. T. M Jose, Dr. M.V Mohan, Dr. K. G sunny, Assoc. Professors	Ornamental fish culture	18.03.98	-	80	1	-

Visits to Farmer's fields: Nil

Participation of scientists in the Peoples campaign for decentralised planning

Name and Designation	Nature of participation	Venue	Date
Dr.D.D Nambudiri, Dr.K.V Jayachandran, Assoc.Professors Dr. M.S Raju, Asst.Professor Sr.Gr	State level Faculty Training	KILA	02.04.98 – 04.04.98
Dr. D.M Thampy, Dean	Member DLEC. One day work shop organised by Planning Board.Implementation of programme in fisheries	Town Hall, Ernakulam	28.08.98
"	Member DLEC Preparation of block Panchayat plan for 1998-99	Collectorate Conference Hall	20.10.98
"	Member DLEC General Body Meeting	Collectorate Conference Hall	24.12.98
Sri.T.M Sankaran, Assoc.Professor	Member Corporation level expert committee, Cochin (CLEC)		
"	State level faculty meet-Planning board	rivandrum	04.04.98
"	Task force member's meeting-as a member	Cochin	06.06.98
"	State level faculty members meeting-as a member	Ernakulam	23.05.98 & 25.05.98

”	Member CLEC (Cochin Corporation) Edn. Task force meeting	Dist. Panchayat Presidents Chamber	27.07.98
”	Member district level task force(Education) & Vice Chairman Edn.Sub Committee, Cochin Corpn.Preparing projects under education subject group	Town Hall Ernakula	30.07.98
”	Project clinic at Integrated Rural Technology Centre, Mundur as Faculty	IRTC, Palghat	05.08.98 06.08.98
”	Member CLEC preparation of Plan Project	Corporation Council Hall, Cochin	09.10.98
”	Head Master Workshop organized by Cochin Corporation Education Subject Committee as Resource Person Subject Committee meeting as Vice chairman	BTH Conference Hall, Ernakulam	09.11.98
”	Subject Committee as resource person	Cochin Corp.	-
”	CLEC meeting as a member	Cochin Corp.	20.11.98
”	Meeting on People's campaign for 9th plan	KAU HQ	15.12.98
”	Project on fisheries- discussion as an expert.	Trichur	18.12.98
”	Citizen education programme-training	KILA, Trichur	28.12.98 – 02.01.99
”	Meeting on People's campaign for 9th plan	KAU HQ	08.02.99
Dr. M.S Raju, Asst.Professor (Sl. Gr)	Member BLEC Vyttila Block Panchayat & Chairman Fisheries Subject Committee. On day workshop by State Planning Board	Town Hall Ernakulam	28.07.98
	Participated in district level fisheries faculty members meeting.	ADAK, Ernakulam	22.04.98 23.04.98 04.05.98 18.05.98
	Meeting of Vyttila Block Panchayat-discussion related to fisheries		01.09.98

Dr.K. V Jayachandran Assoc.Professor	Chairman of fisheries subject Committee participated in the appraisal of projects submitted by Kumbalam Maradu Panchayat		26.10.98 27.10.98 28.10.98 30.10.98
	Training programme on project implementation-District planning board EKM	Mulanthuruthy ytila block	23.11.98 24.11.98 26.11.98
	BLEC meeting	Vyttila block	28.01.99 05.02.99 25.02.99
	Model project faculty workshop	IMG Trivandrum	22.03.99 24.03.99
	Meeting on Peoples Campaign for IXth Plan	KAU HQ	08.02.99

Farm advisory Services:

A number of farmers and entrepreneurs who came to the College were advised on fish and prawn culture, ornamental fish culture and aquarium setting and freshwater prawn hatchery.

Consultancy

The College of Fisheries has been chosen by the Gujarat Fisheries Central Co-operative Association Limited(a, Gujarat Govt. Concern) as consultants for setting up of two Freshwater Prawn hatcheries at Surat and Bharuch Districts of Gujarat, in a turn key basis for a total sum of Rs.8.89lakhs.

FISH – PUDUVEYPU

Extension and other activities

Demonstrations: Nil

Training programmes: Nil

Visits to Farmer's fields

Periodic field visits were undertaken to the homesteads of ten farm families selected under Village Adoption Programme. Under the programme fish seed, fish feed, vegetable seeds and fertilisers were distributed and the programme was subject to monitoring and evaluation.

Extension service rendered

Agricultural input items distributed to ten farm families as per V.P.P. guidelines. In addition the following quantity of commercially important fish seed was also supplied.

Item	Quantity(No.)
Chanos chanos	53,235
Mugil cephalus	75
Mullet	42,695
Shrimp	500
Others	25
Total	96,530

Participation of scientists in the peoples campaigns for decentralised planning

Name and Designation	Name of participation	Venue	Date
Dr. K.S Purushan, Assoc. Professor	BLEC Meeting	Edavanakad Grama Panchayat	29.04.98
"	Training Programme for resources persons under the auspices of State Planning Board	Girls H. S. Ernakulam	25.05.98
"	Peoples' Planning Meeting under the auspices of Planning Board	Thiruvananthapuram	15.05.98
"	BLEC Vypeen Block Meeting	Block Office, Kuzhippilly	04.06.98

"	BLEC Vypeen Block Meeting		24.06.98
"	Training Programme for BLEC/DLEC members under the auspices of Dist. Planning Office, Ernakulam	Town Hall, Ernakulam	10.07.98
"	Workshop for BLEC Chairpersons on project verification under the auspices of state Planning Board., Trivandrum	I.M.G , Trivandrum	15.07.98 to 17.07.98
"	Meeting of Fisheries Task Force for project formulation under the auspices of Dist. Panchayat, Ernakulam	-	28.07.98
"	BLEC Meeting of Vypeen Block	Block Office, Kuzhippilly	7.10.98
"	BLEC Meeting of Vypeen Block		17.10.98
"	Vetting & Verification of People's Plan Projects 1998-99 of Panchayats under Vypeen Block		21.10.98 to 23.10.98
"	Processing & Clearance of People's Plan Projects 1998-99 of Panchayats under Vypeen Block		25.10.98 to 29.10.98
"	State Faculty Training at Panchayat association Hall, as requested by the State Plg. Bd., in connection with Peoples Planning Programme	Panchayat Asson.Hall, Trivandrum	16.11.98 to 17.11.98
"	Planning seminar	Mangalya auditorium, Nayarambalam	25.11.98
"	BLEC Meeting at Vypeen Block	Block Office, Kuzhippilly	8.12.98
"		"	30.01.99
"	People's Planning Programme Meeting conducted by director of Extension, K.A.U	Vellankkara	8.02.99
"	BLEC Meeting of Vypeen Block	Block Office, Kuzhippilly	12.02.99
"		"	23.02.99
"	DLEC Meeting	Ernakulam	04.03.99
"	BLEC Meeting	Kuzhippilly	09.03.99
"	People's Planning Programme Meeting	Kakkanad	12.03.99

Farm advisory services

1. Technical advice on shrimp and fish farming.
2. Distribution of fisheries extension literature.

Consultancy: Nil

KCAET – TAVANUR

Demonstration and trials of tools and implements developed/modified in the College were conducted at various parts of the state. Field trials of Yanji transplanter at different paddy fields of Malappuram Palakkad and Trichur districts were conducted. Training in budding and nursery preparation were imparted to unemployed youth.

Training in the use of plastics in agriculture and the use of different farm implements was given to Agrl. Officers, farmers and Panchayat Presidents. Dr. M Sivaswamy, Assoc. Professor, Prof. C. P

Muhammad, Dr. P. V Habeeburrahman, Asst. Professor and other officers handled classes on various subjects in connection with the People Campaign Programme. Farm Products and seedlings were distributed to Farmers. Paddy seeds, vegetable seeds, seedlings of pepper wine etc. were sold to farmers. The College participated in Tirunavaya Sarvodaya mela, Trichur Pooram Exhibition, Exhibition held at Alappuzha in Karshika programme of Mathrubhoomi, the Kerala State Agri. Fair held at Kanakakunnu Palace, Trivandrum during 7th to 11th January, 1999 and IASLAIC conference held at Vellanikkara.

Meeting of the Farm Advisory Committee, of Farm and Home Programme of AIR, Calicut, were hosted in the College on 25.08.98.

The faculty participated in the planning and execution of check dam at Thranagali.

Training programmes

Name and designation of scientists	Topic	Duration		No. of Participants	No. of Batches	Amount spent
		From	To			
Dr. K John Thomas, Dean Dr. U Sreelatha, Asst. Professor	Training on use of plastic in Agriculture to farmers	27.01.99 12.02.99 23.02.99		37 60		
Smt. Gilsha Bai Sri. Joby Joseph Sri. Biju Kumar (Research Associates)	Training to Officers	18.02.99	19.02.99	23 27		

Participation of scientists in the Peoples campaign for decentralised planning

Name and Designation	Nature of participation	Venue	Date
Prof. C. P Muhammad Dr. P. C Antony, Assoc. Professor Dr. M Sivaswamy, Assoc. Professor Dr. V Ganesan, Assoc. Professor Dr. Noble Abraham Asst. Professor Sri. Xavier Jacob, Asst. professor	Training resource Persons in Ponnani Municipality	KCAET, Tavanur	02.06.98 – 05.06.98
Dr. K John Thomas, Dean Smt. P. Suseela Asst. Professor	Construction of check dam in Thrangali, Ottappalam	Visits to Ottappalam	different occasions

Consultancy : Nil

TECHNOLOGIES FOR TRANSFER

Varieties recommended for release

Crop	Particulars
Rice	
Pavithra, Panjami, Uma, Karishma, Krishnanjana	Tolerant to gall midge biotype 5
Remanika	Short duration variety
Revathi	Medium duration
Karishma, Krishnanjana	For kari soils in Kuttanad
Karuna	Widely adaptable photo sensitive variety
Deepthi	For high ranges of Kerala
Makarom, Kumbham	For eastern lateritic belts during munda-kkan
Sesame	
Thilathara,	Average yield 582 kg/ha
Bittergourd	
Priyanka	Selection
Snakegourd	
-Kaumudi	Selection
Cowpea	
Vyjayanthi	High yielding wine red podded
Cucumber	
Soubhagya	Small to medium size, high yielding
Brinjal	
Neelima	First brinjal hybrid of KAU bacterial wilt resistant
Haritha	High yielding bacterial wilt resistant long duration variety
Sugarcane	
Madhumathi	High yielding mid late maturing, high jaggery quality and recovery
Cocoa	
CCRP I, IV, V, VI and VII	Hybrids
greater yam	
Indu	high yielding

Among the new fungicides, Carpropamide was observed to be effective in controlling rice blast disease.

Ocimum trap plus Malathion 0.1% at monthly intervals is recommended for control of mango fruit flies.

Studies on crop competition in banana conducted in the high ranges revealed nutrient sharing between mats.

For guinea grass, farm yard manure was found to be superior to vermicompost with respect to yield.

Acceptability trials in okra revealed that Thamara-venda was more acceptable than Pusa sawani.

Storage of cashew apples at 150 C in polythene lined containers was found to prolong the shelf life to two weeks.

The Agro Advisory Services Unit at Vellanikkara catered to the needs of the farmers of the five Panchayaths viz. Panancherry, Ollukkara, Cherpu, Madakkathara and Porathissery. Weekly Agro- Advisory Bulletins were prepared based on the medium range weather forecast received from the Super Computer Centre, NCMRWF, New Delhi and distributed to the Krishi Bhavans.

Developed equipment and tools such as tender coconut punch, tender coconut cutter, black pepper thresher, fruit plucker and papaya plucker.

Ivermectin was found to be the most effective drug (@ 0.3mg/kg 5/C) followed by Karangi oil in the treatment of psoroptes and notoedruscati in rabbits.

Chaff grain meal, a byproduct of rice mill industry, could be effectively and economically substituted for yellow maize, the costly energy supplement in rations of swine.

Carcass meal could be effectively included in the diets of pigs. Blood as a feed supplement in growing desi pigs was found to be economic.

Swill is recommended for full replacement of concentrate pig feed.

Etroplus suratensis seeds could be produced in large numbers by providing egg attaching materials (coconut leaf petiole) in *pokkali* ponds during the breeding season of October-February.

Silver carp could be successfully grown in *pokkali* ponds during the low saline phase from June to October.

Library and Information System, Vellanikkara Introduction

Kerala Agricultural University Library and Information System (KAULIS) was formally inaugurated by Honourable Minister for Agriculture Sri. Krishnan Kaniyamparambil on 24th December 1998 at the valedictory session of the All India conference of the Indian Association of Special Libraries and Information Centres and the National seminar on right to Information. The Honourable Minister dedicated the University Central Library to the nation on that day; in the presence of Library and Information science experts from all over the country.

The development of the system KAULIS was based on studies done by a high level committee of experts. University constituted a high level committee consisting of members of the legislature and experts in various aspects which visited a number of universities in India and gave recommendations for the planned development of the Library and Information System of KAU and establishment of a Central library which is to be the central hub of the system.

On the basis of the recommendations of the high level committee and discussion and reviews made by various committees it became possible to prioritise areas of Library and Information System Development. In the Eighth Plan and in Annual Plans for 1995-96, 1996-97 and 1997-98 priority was given to establishment of the physical facilities required for the Directorate at the Headquarters, establishment of central facilities like electronic library, database development division, training facilities, Central Library and modernising library and information services in stations. The Library of the College of Agriculture, Vellayani was also modernised and a Building LAN was established there. The libraries of the College of Panangad and KCAET, Tavanur were also automated during this period

Mandate

The unit for Library and Information Services was established in 1995 at KAU as per provisions of the KAU Act 1971. With the changing scenario of library and information service environment, the mandate of the unit will be to 1) provide library and information service network consisting of electronic information stores of the university, central library, libraries in the headquarters of other units, libraries and information service divisions in the colleges, and research stations under the university, specialised information systems available to the university, and other information service or documentation units, 2) build up a repository of information on subjects mandatory to KAU (3) to develop Central Library as

an advanced centre for information science (4) undertake research in current information technology and develop relevant information handling tools and techniques (5) evolve standards and guidelines for various aspects of library and information systems and networks. (6) prepare computerised database of agricultural sciences and (7) provide advisory and consultancy services.

Resources

Human Resources and the potential

For a system which is based on Information Technology, trained and experienced employees are the most valuable appreciating asset. The unit recognises that harnessing the intellectual capital, of its people is crucial to creating and sustaining the units efficiency in the emerging knowledge era. The unit believed that development is dependent on the growth of its staff and that quality of its staff will determine the success of the unit. Human resource development was accordingly given highest priority. The staff at managerial level and lower levels of the system at University Library who have to manage various aspects of the development of the high tech system got unique training worth lakhs of rupees during the development process. Staff members at the headquarters as well as stations were given opportunities for continuous training and learning. Specialised training programmes for the unit staff have been designed and implemented. A human resource valuation done for the unit as part of a study has placed the value at 1.36 crores. The average value per employee works out to be 19.5 lakhs for professionals at lower levels and 39 lakhs for professionals at managerial level.

Staff Position:

Name of post	Sanctio- ned	In position	Va- cant
Scientific Librarian	1	1	-
Technical Library Assistant	4	3	1
Administrative & Supporting Staff			
Steno to Librarian	1	1	-
Sr. Gr. Assistant	1	1	-
Typist	1	1	-
Clerical Assistant	1	1	-
Class IV	2	2	-

Building: The headquarters of the Library and Information Services Unit is at the University Library Building. The unit has also established an Electronic Library and information technology lab, and IT training facilities at the headquarters which are housed in the university library building.

IT Laboratories: An Information Technology Lab with facilities for customising library and

information service packages, database development and for generating information products according to the requirement of users functions under this unit. The unit can provide software support for various library and information management applications.

Electronic Library: An Electronic Library has already been developed by the unit with the support of various national and international institutions. Joining with IT solution providers the unit has customized some search engines according to the systems requirement which will enable automatic pooling of resources in a subject group and retrieving information from that at a single stroke of the key. This is the first electronic library for agriculture envisaged in India under any SAU or ICAR research Institute.

Power: For sophisticated library equipment that need high power protection UPS back ups for twenty four hours are available. A back up generator is also available for the library when it is not used by the nearby auditorium.

Central Library: The University Central Library functions in the Headquarters. It serves as the main library for the colleges and stations in the main campus. All costly reference books, foreign journals and other documents which are required for more than one station will be acquired and maintained by University Library for common use and to avoid duplication.

College Libraries: There are ten college libraries coming under the unit. All of them have required minimum infrastructure like building, equipments and collections of print and non print documents. Library at College of Agriculture Vellayani was automated with a college library LAN and information resources in EM to serve the campus and nearby stations. Equipments for automation had already been acquired for the College of Fisheries, Panangad, College of Agricultural Engineering, Tavanur etc. Library modernisation programs are on the anvil in other colleges.

College of Agriculture Library, Vellayani, Trivandrum forms one of the major subsystems of KAULIS. It has a collection of about 25000 books, 6500 back volumes of journals and 1500 PG and Doctoral Dissertations. The complete database of these collections are computerised and a LAN also has been implemented here for online information retrieval. Internet facility is also provided at his library for searching world wide databases on agriculture and allied areas.

Department Libraries: Various Departments of the Colleges are served by Department Libraries having small collection of specific books on the subjects specific to those departments which are required for day to day use.

RARS / Research Station Libraries: Regional Agricultural Research Stations are served by libraries established in the concerned RARS with collections on subjects specific to that agro-climatic region and projects managed by them. Research stations are served by small libraries established in those stations with collections on topics on which their projects are carried out.

Particatory Development Approach: For inter unit participation in development an Advisory Committee with the following heads of institutions/directorates was constituted at University Level in 1995.

Vice-Chancellor	Chairman
Registrar	"
Comptroller	"
Director of Research	"
Director, Academic & PG Studies	"
Director of Extension	"
Director of Physical Plant	"
Dean (Veterinary & Animal Sciences)"	"
Dean (Agriculture)	"
Dean (Fisheries)	"
Dean (Agricultural Engineering)	"
Assoc. Dean	
(Co-op., Banking & Management)	"
Assoc. Dean (College of Horticulture)"	"
Assoc. Dean (College of Forestry)	"
Chairman	:Dean/Assoc. Dean of the college
Vice-Chairman	:One professor/Assoc. Prof. to be nominated by the Chairman for a period of two years
Members	:Three Heads of Departments of the College to be nominated by the chairman for a period of two years.
Student Member	:P.G. Student Representative of the year (In the colleges where PG Courses are not offered, One U.G. Representative nominated by the Chairman)
Member Secretary:	Library Professional in-charge of the Library.

Intra - departmental participation is ensured by an informal management council consisting of officers in charge of libraries in various institutions under KAU at university level and management councils consisting of all staff members of the library at institutional level.

So the Unit has required mechanism which can ensure full participation of all directorates and subject fields as well as all staff and users in need based development of library and information system and networks and information resources on subject areas mandatory to KAU.

Book collection Development: Book collections are developed at all College libraries, Regional Agricultural Research Station and Research Station

Libraries. Due to non availability of staff at the headquarter of the unit, terms and conditions of book acquisition and list of titles to be acquired at various stations are approved by the Librarian for purchase at the concerned station.

Journals : Journals are subscribed for various stations avoiding duplication between stations on very costly foreign journals. Such journals required by different stations are detained at Central Library; and information service based on them is to be provided by Central Library to all stations which require that journal. Journals available in electronic medium are subscribed in that medium only which is cost effective and convenient for speedy and efficient service. This policy enabled the university to subscribe to an additional 60 Indian and Foreign journals without increasing total recurring expenditure. Change to CD ROM versions have reduced the recurring expenses towards subscription to some foreign journals by 60%.

Computerized Information Service: The unit offers computerised information services using the electronic documents as well as resources existing outside shared under various MOUs, through Internet. Experimentally, a nominal fee that covers consumable, telephone charges and part of maintenance is charged.

Centre for LIS: A Centre for Library and Information Science functions at the unit for providing training programmes and consultancy services on information handling particularly in agriculture and science and technology areas and offers courses on Library and Information Technology and Information handling in agricultural sciences. Evaluating the facilities available at this unit NISSAT, under DSIR, Government of India had already offered to meet partial expenses for offering courses at subsidised rate. INFLIBNET, and Information Service Package Division of NIC, under planning Commission have also agreed to support the unit for conducting training programmes for which university have already signed MOUs. It is also obligatory for this unit to train three apprentices in library and information science for which Board of Apprenticeship, Government of India is providing Financial support. The unit has in association with District Library Council and Bharat Yuvak Samaj organised a workshop and IT familiarisation programs for librarians working in village libraries under District Library Council. More than 250 librarians and social activists participated in the programme which was inaugurated by Justice Sri. V. R. Krishna Iyer.

Service Statistics:

	Total Books	Books added during the year	Journals	No of users to be served	Books issued	On line records given	Reference queries answered
University Library			302		50	21000	350
College of Ag Library, Vellayani	25267	137	75	1191	NA	NA	NA
College of Vet & An Sciences, Mannuthy	21375	149	82	950	7563	NA	500
College of Horticulture Library, Vellanikkara	29315	193	135	798	14000	NA	650
College of Cooperation Banking and Management, Library, Vellanikkara	8292	490	40	170	4500	NA	1600
College of Forestry Library, Vellanikkara	9489	062	37	184	1750	NA	400
College of Agriculture Library, Padannakkad	1349	372	15	128	200	Nil	Nil
College of Dairy Science & Tech Library, Mannuthy	NA	NA	NA	NA	NA	NA	NA
College of Agricultural Engineering and Tech Library, Tavanur	NA	NA	NA	NA	NA	NA	NA
College of Veterinary and Animal sciences Library, Pookodu	NA	NA	NA	NA	NA	NA	NA
RARS Library, Kumarakom	1425	005	005	160	150	Nil	200
RARS Library, Pattambi	2721	019	011	110	122		097

Reprography: Some of the libraries under this unit are already offering reprographic services at subsidised rate which generates the resources required for maintaining that service.

Farmers Division: A Farmers Division functions at the headquarters. The division has reading materials specially prepared for the farmers, facility for offering video programmes, interactive multimedia programmes, and conducting exhibitions. An exhibition on *Traditional Wisdom on Water Conservation* was organised by that division.

Information Technology: The unit has the most modern IT environment with Information Technology Lab, electronic library, a building LAN for Central Library and computer based training facilities. A temporary E-mail using ERNET connectivity has been established for use till getting an independent VSAT or leased line for the library which will ensure 24 hours accessibility to the information resources held by the library from any location. All divisions of the unit have been provided with computers and specialised packages for automation of the works related to that division and for providing services to users. Various Abstract and Index databases are available on computers for Selective Dissemination of Information. An OPAC catalogue has been provided for the users. Textual, graphical and video access terminals have been provided at various points at the Central Library for users.

Kerala Agricultural University, hosted the IASLIC Conference and National Seminar on Right to Information from 21st to 24th December, 1998 at Trichur. The seminar provided a forum for appraisal of the Information Technology related activities and addressed the issues involved and suggested possible solutions to current problems.

An Information Technology Exhibition was organised by the unit in connection with the IASLIC Seminar. The major exhibit was the high tech library of KAU with facility for storing about five crore digitized pages, and a building LAN with Windows NT and Digital Unix platforms, CD Servers, Juke Boxes and a Building LAN into which 65 work stations for users can be plugged in. Videsh Sanchar Nigam Ltd under Government of India Connected the University Library and Information System to worldwide libraries during the period and maintained an information centre on various types of Internet connectivities and other services of the VSNL to educational and research institutions. Various packages for automation of library and information systems, as well as books and electronic publications from national and international groups were displayed at the exhibition.

Software Development: The unit has customised various library packages by the research and development activities undertaken during the last three years.

Standards for various library and information processing activities have already been formed in consultation with INFLIBNET and other standards are under preparation. A database of the holdings of the central library has been developed. Database project for developing a union catalogue of documents available on all stations under KAU had already been initiated. Standards were also developed for Serial and Ph.D. dissertation databases. Assistance was provided to Law College, Institute of Advanced Studies, Thrissur, St. Mary's College, Thrissur and Public Library for Automation and customisation of various packages for library application.

Linkages: In order to successfully maintain various library and information technology projects, close collaboration and appropriate linkages have been established with many national and international agencies specializing in this specific field like NISSAT under DSIR, Govt. of India, Information and Library Network Programme (INFLIBNET) of University Grants Commission, National Informatics Centre (NIC) under Planning Commission, Informatics Division of UNESCO, Paris and institutes under Consultative Group on International Agricultural Research (CGIAR). The projects have received their technical support. The unit has resource sharing programmes with various national and international agricultural research institutes.

Workshops/Seminars/Short term courses attended by the staff

As part of the human resource development programmes, library professionals of KAU have been sent to various workshops/seminars/short term courses related to library and information technology.

Sri. R. Raman Nair, Librarian:

Programme on Internet organised by Documentation Research and Training Centre, Bangalore and National Information System for Science and Technology, DSIR, Government of India at Bangalore.

Internet for Agricultural Information communication organised by National Institute of Agricultural Extension Management under ministry of Agriculture, Government of India at Hyderabad.

Federation of International Documentation Congress conducted at Delhi and Jaipur, 4) Workshop on Information Infrastructure organised by Indian National Scientific Documentation Centre, Government of India at CSIR, Madras.

Conference on 'Roadmap To An Intelligent Kerala' which evolved the action plan for developing the State Information Infrastructure.

Smt K.S. Ambili, Assistant Librarian

IASLIC National Seminar on Right to Information held at Trichur from 21st to 24 th December 1998.

Eradication of Illiteracy in the electronic Information era

Smt. M.C. Lalitha, Assistant Librarian

IASLIC National Seminar on Right to Information, held at Trichur from 21st to 24 th December 1998.

UGC Refresher Course, Mysore University

Smt. C.K. Shylaja

IASLIC National Seminar on Right to Information, held at Trichur from 21st to 24 th December 1998.

Sri. Abdul Razak, C, Assistant Librarian

IASLIC National conference on Right to Information, held at Trichur from 21st to 24 th December 1998.

UGC Refresher Course< Bharathi dasan University

Sri. R. Manohar, R, Assistant Librarian

Workshop on CDS/ISIS organised by KILA

Workshop on Library Automation organised by Indian Institute of Tehnology, Kharagpur

Sri. Satyan, K, Reference Assistant

IASLIC National Seminar on Right to Information, held at Trichur from 21st to 24 th December 1998.

2)Workshop on Library Automation organised by Indian Institute of Tehnology, Kharagpur

Sri.A.T.Francis, Library Assistant

1)FID Conference and Congress at Delhi

Sri.P.J.Wels, Sri.Cherian K George, Sri.E.K.Mohanlal and Ms. K.J.Jessy, Library Assistants acted as Joint Convenors of various functional committees of IASLIC 98 Conference

Involvement in Academic Programmes

Library Science Course: The University Library conducted Library Science course as part of post graduate programme for College of Co-operation, Banking and Management and College of Forestry.

Video Lectures: The University Library organised video lectures periodically on agriculture, forestry, environment and related areas during the period, as per details given below:

Apprentice Training in Library & Information Science: The Board of Apprenticeship Training, Govt. of India has approved the University Library as an institution for providing Apprentice Training in Library and Information Science. The training programme has already been started at the University Library and three apprentices were trained during the period.

Familiarisation Programmes in Information Technology: University Library has offered programmes to provide familiarisation and training programmes on current information technology to the staff in the field of library and information science and also to the users of the library. It has conducted tailor made programmes on "Information Technology and Automated Library Operations" to library staff working at different stations of the university.

Training for Rural Librarians/Participation in Peoples Planning: KAU is actively participating in training programmes conducted by the State Library Council and Grama Panchayats for Rural Librarians and Library Activists. In association with District Library council and Bharat Yuvak Samaj; the unit organised a one day workshop on Library management and IT familiarisation programme for librarians of the village libraries in Trichur District. About 250 librarians and social activists participated in the programme.

Journals: As part of the Centralised Document Procurement Policy of KAU, Journals Division has renewed 284 journals recommended by the Constituent Colleges and Research Stations for the Calender year 1999. The journals available in computer readable medium have been procured in that medium for ensuring cost-effectiveness and service efficiency.

Video Library: A good collection of educational video cassettes on agriculture and related fields has been developed in the University Library.

Information Dissemination

Database Services: The University Library has provided information services to the users on experimental basis, based on electronic databases available in the Library. 211 scientists and students of the Colleges and Research Stations have utilized this service and downloaded about 21,000 records from various databases.

Journal Services to Colleges: The University Library has subscribed journals requested by the colleges and these journals are being sent to the colleges on regular basis.

Reference Services: The Reference Division of the University Library was kept open to the users of KAU within the limitations of available manpower. Scientists and students are using this limited facility for urgent needs.

Library Extension Activities: The Office of the Librarian and the University Library has continued to undertake several programmes to enhance the utility and quality of library and information activities and services.

Regional Cooperation of Libraries: The University Library initiated action to establish effective Co-operation among the libraries in the region. Action to strengthen the Co-operation in information services and also to establish a Library Network in Thrissur area is continuing. Preliminary discussions were made on resource sharing with Kerala Forest Research Institute Library for mutual benefit.

Library Automation Projects: Two Library Automation Projects as follows have been undertaken by the University Library: Project of "Integrated LMS" having programmes for library systems and special subsystems, carried out under resource sharing programme with IHRDE, institutes and package named, "Visual Basic Library Automation System (VBLAS)", has been developed in association with School of Technology and Applied Sciences, Mahathma Gandhi University, Edappilly, Cochin under the resource sharing programmes were further tested on selected library applications.

Consultancy in IT Application: The University Library has offered technical and project advices on Library Automation, Information Technology Applications and other aspects of library management to various educational institutions. During this period, the University Library has continued to provide technical help to Institute of Advanced Study in Education, Thrissur, Kerala Sahitya Academy etc.

Library Revenue: Library received a sum of Rs.35,710/- from services provided on experimental basis for a period of two months.

Important Visitors

1. Sri. Krishnan Kaniyamparambil, Hon Minister for Agriculture, Government of Kerala
2. Dr. S. L. Mehta, DDG, Education, Indian Council of Agricultural Research, New Delhi
3. Dr. Anwar Alarm, DDG, Engineering, Indian Council of Agricultural Research, New Delhi
4. Sri. P. Govinda Pillai, Chairman, Kerala State Film Development Corporation.
5. Dr. T. Viswanathan, Director, Indian National Scientific Documentation Centre, CSIR, Govt of India, New Delhi.

DIRECTORATE OF STUDENTS WELFARE

Staff position

Category	No of posts		
	Sanctioned	In position	Vacant
Director of Students Welfare i/c	1	1	Nil
Dy. Director of students welfare	1	1	Nil
Asst. Professor	1	1	Nil
Steno to D.S.W	1	1	Nil
Section Officer	1	1	Nil
Assistants	3	3	Nil
Typist	1	1	Nil
Peons	2	2	Nil
Dirvers	8	8	Nil
Bus Attendant	7	7	Nil

The following activities were undertaken by the Directorate during the period under report.

Sports and games activities

Students union activities

Works related to NCC unit of KAU

Works related to the Employment and Guidance Bureau Mannuthy.

Other student welfare activities of the staff.

Moreover transport facilities of the staff and students were also being carried out by this unit.

Sports and Games activities

Inter collegiate tournaments

Table Tennis Tournament

The KAU Inter Collegiate Table Tennis Tournament was organised on 20.06.98 at the KCAE & T, Tavanur and University team selected.

Shuttle Tournament

The KAU Inter Collegiate shuttle badminton tournament was organised from 31st August to 1st Sept. 99 at the College of Vety. & Animal Sciences, Mannuthy.

Basket ball, Volley Ball and Ball Badminton

The KAU Inter Collegiate Tournaments in these three events were organised from 17th to 20th September 1998 at the COA, Vellayani.

Cricket

The KAU Inter Collegiate Cricket Tournament was organised from the 16th to 20th December 98 at the College of Vety. & Animal Sciences, Mannuthy.

Foot Ball

The KAU Inter Collegiate Football Tournament was held at the College of Agri. , Padanakad on the 4th & 5th of March 99.

KAU Athletics

The KAU Inter Collegiate athletic competitions were organised by this unit from 15th and 16th March 1999 at the College of Vety. & Animal Sciences, Mannuthy.

II. Inter University Tournaments

South Zone Table Tennis

The KAU Table Tennis Team participated in the Inter University south zone table tennis tournament held at Annamalai University from the 16th November, 98.

South zone foot ball

KAU foot ball team participated in the south zone inter University foot ball tournament held at Karaikkudy from 9th November 1998 organised by Alagappa University.

South zone cricket

The KAU Cricket team participated in the south zone inter University cricket Tournament held in January '99 at Gulberga University.

III Students Union Activities

The 1996-97 KAU union organised the KAU Arts Fest at University Hqrs. from 24th to 27th May 98. The Hon'ble Chief Minister of Kerala formally inaugurated the function on 25th May 98 at the Central Auditorium, Vellanikkara.

The 1996-97 union have also conducted various cultural activities like seminar/workshops, short story and poem writing competitions and theatre competitions etc. The valedictory function was also conducted during the period under review.

A KAU team of five student participated in the south zone inter university elocution competition held on 15th July 98 at TNAU and Dr. E Soman, Dy. Director of students welfare i/c accompanied the team. Kum. Sethulakshmi K. R, B.Sc. (Ag.) student of college of Agri., Vellayani became the 1st runner up in the elocution on "Agrl. education in the next Millennium Student's perspective." She participated in the zonal competitions held at New Delhi on August 98 and got 1st runner up position.

Kum. Sethulakshmi and Sri. Bency Babykutty, students from COA, Vellayani participated in Dr. K. N Memorial National Inter University Quiz competition during the period ie. from 29th to 30th July 98 at the University of Kerala, Thiruvananthapuram.

A KAU team participated in the Kerala University Youth Fest held at Alappuzha and got prizes.

Niphy Deena Cherian and Sri. Jaffer K. of the College of CB&M participated in the National Debate Competition at Bhuvaneswar on 28th to 30th December '98.

The University Union for the academic year 1997-98 was constituted in December 98.

The 1997-98 KAU union was inaugurated on 8.1.99 at the College of Agril., Vellayani and started functioning during the year under review.

IV Other activities

The Independence Day '98' was celebrated in a colourful manner on 15th August 99 at the University Hqrs.

The Student's Insurance Scheme was implemented by this unit in February 99 so as to provide the respective benefits to the KAU students. The new admissions will also come under this scheme.

About 20 students from KAU participated in the Inter Agril. University Youth Fest held at Dharwad in Karnataka from 12th to 16th March 99. Some of them won prizes in collage, cartooning, debate, election, light music, one act play etc.

V. National Cadet Corps

Usual NCC parades were conducted including equitation, horse riding and jumping. 75 cadets were imparted training with the help of Mannuthy police in traffic control for two weeks from July 8th to 21st 98. 42 cadets visited Kochi Naval Base. 8 Cadets attended the annual day camp at Trichur, Kuttanellur and KAU main campus. On the occasion of Independence day 1998, 38 cadets attended guard of honour parade at University Hqrs. 64 cadets took part in social activities viz. Cleaning of campuses at Mannuthy and Vellanikkara. 10 cadets proceeded on a cycle expedition to Thekkady and back covering a distance of 625 Kms with spirit of adventure and propagating a message against drug addiction.

Sgt. Anoop K. R, College of Forestry, Vellanikkara and CPL Pulari K Nair, College of Vety & Animal science, Mannuthy were awarded the Chief Ministers Scholarship of Rs. 1200/- each for one year for the last academic year. 6 cadets including 2 horses and 2 pl staff participated in the Republic day camp 1999 held at New Delhi in January 1999 and Sri. Harisankar was awarded a silver medal on this occasion. 83 new cadets were enrolled to this unit in place of the cadets who left on completion of their course.

VI Employment Information Bureau

During this period the Employment Information Bureau has actively imparted necessary guidance on the various job opportunities and conducted group discussions etc. Paper clippings of important informations were also displayed in the bureau.

Employment News Bulletin was published during this period.

Usual activities such as registration, individual guidance etc have also been carried out. Conveyance facilities.

This Directorate provided conveyance facilities to the students of Veterinary Colleges, Horticultural College, College of Forestry, College of Co-operation, Banking & Management, College of Dairy Sciences, Students of KAU School and conducted regular staff trips to different local stations and places. These included regular practical classes, field visits, study tours (including south India), sports and games programme, excursions and such other programmes of the KAU School.

This Directorate also undertook the maintenance and repairs of the vehicles attached to it.

ENGINEERING WING

The Engineering wing of Kerala Agricultural University consists of the Directorate of Physical Plant with its Headquarters at Vellanikkara, one Engineering Division at Fisheries College (Panangad) and four Civil Sub Divisions one each at Tavanur, Mannuthy, Vellanikkara and Vellayani. The Mechanical Sub Division at the Main Campus, Vellanikkara and two Electrical Sub Divisions one each at Vellanikkara and Vellayani also come under the purview of the Directorate.

Sri. P Sreekumaran continued as the Director of Physical Plant during the period under report. Mr. P. O Thomas (1.4.98 – 31.4.98) and Dr. K John Thomas (1.6.98 – 10.11.98) were officers in charge of the DPP prior to the present Director.

Development and improvement of the existing buildings, providing additional facilities, repair and maintenance etc. were paid special attention.

KAU Estate, Vellanikkara

Introduction

The KAU Estate was established in 1973 by acquiring an area of 379.56ha. An area of 11.83 ha. was additionally acquired during 1977-1981. The total area of the Estate was thus 391.44 ha.

Out of the total area of 391.44 hectares, 253.30 ha. has been allotted to other schemes.

The area in possession is 138.14 ha.

Campus Development, Vellanikkara

The Campus Development programme at Vellanikkara was established in the year 1990. In addition to the prime responsibility of developing the entire campus comprising of 396.79 ha., this unit now undertakes various activities like arranging Agri. fairs at various parts of the state, participation in flower shows and providing farm advisory services.

As a part of the Campus Development Programme the Central Nursery started its function in the main campus with effect from 31st December 1991. This sub unit provides services to the farming community by way of production and distribution of quality seeds and planting materials.

Tappers engaged for slaughter tapping : 12 Nos

There were 153 casual labourers on rols. They were allotted to various schemes/ projects and stations in the Vellanikkara Campus.

Total area of the Estate is 391.44 ha. Out of this 233.30ha has been allotted to other schemes.

Farm revenue for the year 1998-99: Rs.17,34,513/-

Staff Position

Category/ Designation	No. of posts		
	San- ctiond	Inposi- tion	Vacant
Administrative/ supporting/ technical			
Estate Officer	1	1	-
Section Officer	1	1	-
Assistant	2	2	-
Typist	1	1	-
Class IV	4	2	2
Sr. Farm Supervisor	1	1	-
Technical Officer	1	1	-
Driver LDV			
Plantation Staff	1	1	-
Field Officer	1	1	vacant w.e.f 29.12.98
Asst. engine Driver	1	1	-
Spl. Gr. Miller	2	1	1
Tapping Supervisor	5	5	-
Factory worker	16	14	2
Tappers	1	-	vacant w.e.f 10.09.97
Peon			

FINANCE AND ACCOUNTS

Sri.A.Basil, Finance Assistant to the Director of Physical Plant was in full additional charge of the Comptroller with effect from the after noon of 31.2.98, consequent on the relief of Sri. P. M. Chandran, Sr. Dy. Registrar (Admn), who was holding full additional charge of the Comptroller. Sri.K.P. Raveendran, Joint Secretary, Finance Department assumed charge as Comptroller from 1.3.99 and continued during the period under report.

The three Internal Audit Circles – Northern, Central and Southern – headed by the Assistant Comptrollers functioned during 1998-99 also.

Budget Estimates:

The University had adopted a budget estimate for Rs.8135.423 lakhs for 1998-99 in anticipation of a grant-in-aid of Rs.5553.65 lakhs from State Government (Rs.3828.65 lakhs under Non-plan and Rs.1725 lakhs under Plan), ICAR Assistance of Rs.499.035 lakhs, specified scheme-tied assistance of Rs.153.547 lakhs, internal sources of Rs.635.425 lakhs and Rs.1292.766 lakhs from pension fund, loans, advances and income from investment, opening balances etc.

Though an amount of Rs5553.65 lakhs was anticipated, the State Government released Rs.5125 lakhs (Rs.3400 lakhs under Non-plan, Rs.1500 lakhs under plan and Rs.225 lakhs for New College) only as grant-in-aid to the University.

Receipt and Expenditure for 1998-99 are as follows.

Receipts (in lakhs)

Grant-in-aid from Govt. Non-Plan	-3400.00000
Plan	-1725.00000
ICAR	- 523.72507
Other agencies	- 716.62598
Internal sources	-1117.84935
Opening balance	- 659.83411
Total	-8143.03451

Expenditure (in lakhs)

Non-plan	-3519.78090
Plan	- 815.36481
ICAR	- 496.85979
Others	- 201.53336
Pension	- 696.00000
Loans & Suspense	-1224.17708
Closing balance	-1189.31857
Total	-8143.03451

Statutory Audit

The accounts of KAU have been subjected to concurrent audit as per the decision contained in HO - LF No.3626/Estt. 85/96 dtd 3.9.96 of the Local Fund Audit Department Act 1994. Report on the audit of accounts up to 1996-97 has already printed/published. Audit report for the accounts of KAU for the year 1997-98 is in the printing stage. Audit of accounts of the schemes sponsored by the ICAR, Govt. of India, Govt. of Kerala and other financing agencies were taken up with priority.

Audit report in respect of the period from 1992-93 to 1995-96 is a pending issue.

Accounts Committee:

Meeting of the Accounts Committee of KAU to examine the audited report for 1990-91 and 1991-92 progressed. Accounts Committee held 5 sittings during the period under report.

Finance Committee:

Finance Committee of KAU met during March 1999: examined the budget and advised the Executive Committee to approve the same.

Appendix I

MEMBERS OF THE STATUTORY AUTHORITIES

31-1-98 to 30-1-2001

LIST OF GENERAL COUNCIL MEMBERS

EX-OFFICIO MEMBERS

His Excellency The Governor of Kerala, Raj Bhavan, Thiruvananthapuram.	The Director of Dairy Development Thiruvananthapuram
The Hon'ble Minister for Agriculture, Thiruvananthapuram.	The Director of Fisheries Thiruvananthapuram
The Vice-Chancellor, Kerala Agricultural University, Vellanikkara, Trichur.	The Chief Conservator of Forests, Thiruvananthapuram
The Pro-Vice Chancellor Kerala Agricultural University, Trichur.	The Registrar of Co-operative Societies, Thiruvananthapuram
The Agricultural Production Commissioner, Government Secretariat, Thiruvananthapuram.	The Dean Faculty of Agriculture, College of agriculture, Vellayani P. O, Thiruvananthapuram
The Secretary to Government Department of Agriculture, Government Secretariat, Thiruvananthapuram.	The Dean, Faculty of Fisheries, College of Fisheries, Panangad, Ernakulam.
The Secretary to Government Department of Animal Husbandry, Thiruvananthapuram.	The Dean Faculty of Veterinary & Animal Sciences, College of Veterinary & Animal Sciences, Mannuthy P. O, Trichur
The Secretary to Government Department of Co-operation, Thiruvananthapuram.	The Dean Faculty of Agricultural engineering & Technology Kelappaji College of Agricultural Engineering and Technology, Tavanur, Malappuram.
The Secretary to Government Department of Development, Government Secretariat, Thiruvananthapuram.	The Director of Extension Kerala Agricultural University, Mannuthy P. O., Trichur
The Secretary to Government Department of Finance (Expenditure) Government Secretariat, Thiruvananthapuram.	The Director of Research Kerala Agricultural University, Vellanikkara P. O, Trichur
The Secretary to Government Department of Fisheries, Thiruvananthapuram.	The Director of Students Welfare Kerala Agricultural University, Mannuthy P.O., Trichur
The Secretary to Government Department of Forest, Thiruvananthapuram.	ELECTED MEMBERS (Members of Legislative Assembly (5 members, one from SC/ST))
The Director of Agriculture, Thiruvananthapuram.	Sri. N. R Balan, M.L.A Nalupurakkal Veedu, Poomur P. O, Trichur Dist.
The Director of Animal Husbandry Thiruvananthapuram	

Sri. Johny Nelloor, MLA
House No. 8, Nelloor House,
Housing Board colony, Muvattupuzha, Ernakula.

Sri.K. P. Rajendran, MLA
Kuttankulangara, P.O Poonkunnam, Trichur.

Smt. Rosamma Chacko, MLA
Kondodical House, Thekkekara
P.O. Thottakkad, Puthupally, Kottayam

Sri. C. P. Balan Vaidyar, MLA
Sumathy Nivas, Kannankara P. O
(Via) Chelannur, Kozhikode Dist.
Pin-673 616.

Representatives of Students of Post Graduate Courses (2 Nos.)

Ranjith D. (96-12-22)
P. G. Student, College of Horticulture
Vellanikkara, Trichur.

Sini Thomas (96-13-27)
P. G. Student, P. G Hostel, College of Veterinary &
Animal Sciences, Mannuthy P. O , Trichur

Representatives of the Students of the Doctorate Degree course (one member)

V. R Shajan (96-21-09) (upto 11-02-99)
II Ph.D. Student, College of Agriculture
Vellayani, Thiruvananthapuram

Representatives of the students Graduate Courses (2 member)

Avish J. Kuzhimattathil (94-08-09)
B.Sc. (DSc. & Tech.) Programme
College of Veterinary Animal Sciences
Mannuthy P. O, Trichur

Biju K. Rajan (94-01-38)
III Year B.Sc. (Ag.), College of Agriculture
Vellayani, Thiruvananthapuram

Representatives of Teachers of Faculties (other than Deans) (Not more than four – one from each faculty)

Faculty of Agriculture
Dr. C. Bhaskaran, Assoc. Professor
Training Service scheme, College of Agriculture
Vellayani, Thiruvananthapuram

Faculty of Veterinary & Animal Sciences
Dr. P. C. Alex; Asst. professor (Sln. Gr.),
College of Veterinary & Animal Sciences, Mannuthy
P. O, Trichur

Faculty of Fisheries
Dr. C. G. Rajendran, Assoc. Professor
Rice Research Station, Vyttila, Ernakulam Dt.

Faculty of Agricultural engineering & Technology)
Dr. P. C. Antony, Assoc. professor
Kelappaji College of Agricultural Engineering &
Technology
Tavanur, Malappuram.

Representative of Non-teaching staff(2 nos.)

M. V. Premarajan, Sr. Gr. Farm Assistant
Pepper Research Station, Panniyur, Kannur

V. S. Skandakumar, Section Officer
College of Horticulture, Vellanikkara, Trichur

Representatives of Gramapanchayat presidents (seven members) (5. General, 1 women, 1 SC/ST)

P. K. Krishnan, President
Manaloor Panchayat, Puvassery House
P. O. Manaloor, Trichur Dt., Pin- 680 617.

Najeeb Muhammed Hussain, President
Pathanapuram Panchayat, Mankode P. O, Kollam Dt.

V. S. Padmakumar, President
Uloor Panchayat, Thiruvananthapuram Dt.

P. P. Swathandriam (Expired on 21-12-98), President
Kanjikuzhi Panchayat, S. N. Puram P. O Alappuzha
Dt.

U. Thampan Nair, President, Kodambelur Panchayat,
Kodambelur.P. O, Attenganan, Kasaragod Dt.

Reservation – One Women

Goury P.P, President
Panangad panchayat, P. O. Panangad, Kozhikode

Reservation one SC/ST

A. Sreedharan, President, Noolpuzha Panchayat
Athikuni veedu, P. O. Muthenja, Wayanad Dt.

Representatives of Block Panchayat President

Sri. M. M Avarachan, President, Ollukkara Block
Panchayat
Muttathusseery, P. O. Kurichikkara, Trichur.

Sri. B. K. Kadhar, President, Irritty block Panchayat
Bazhuthukandi, P. O. Kezhur, Kannur Dt.

Sri. P. A. Sekharan, President
Puzhakkal Block Panchayat, Pandiyathu Veedu
P. O. Kaiparambu, Trichur Dt.

Representative of District Panchayat (One)

Sri. K. V. Vijayadas, President
Palakkad District Panchayat, Palakkad Dt.

Representatives of Mayors of Municipal Corporations and Chairman of Municipal Councils in the State (one)
Sri. K. K. Somasundara Panicker, Mayor
Kochi Corporation, Kochi, Ernakulam.

Representatives of the Permanent labourers of the University
N. V. Chandran, Permanent labourer
Cashew Research Station, Madakkathara, Trichur

P. Maniyan Keezhoor, Permanent labourer
Instructional farm, Vellayani, Thiruvananthapuram

**Nomination by the Chancellor
Two Agricultural Scientists**
Dr. Thomas Varghese, College of Agriculture
Vellayani, Thiruvananthapuram

Dr. V. A. Sukumara Pillai, Kairali House, Pulluppara
Eramam desom P. O, Payyannur, Kannur 670 307.

Five farmers of whom one shall be a member belonging to a scheduled Caste or a Scheduled Tribe
Sri. C.K.P. Padmanabhan
Thekkumpatt, Kunjimangalam P. O, Kannur Dt. 670 309.

Sri. V. Parameswaran Nair,
Thengumpettil Puthen Veedu, Vazhamuttam East P. O
(Via) Mallassery, Pathanamthitta Dt.

Sri. K. Prakashkumar
Gaurisankaram, Maruthamkuzhi, Kanjirampara P.O
Thiruvananthapuram-30

Sri. M. Venugopala Kurup
'Suchithra', Iringanoor P. O, (Via) Tineri,
Kozhikode Dt.

Sri. Syriac John,
P. O. Kattippara, (Via) Thamarassery,
Kozhikode Dt.

One non-official representative from each of the following Sectors

Co-operation
Sri. A. P Abdul Rahiman, President
Service Co-operative Bank, Porur, Porur
P.O, Malappuram Dt.

Fisheries

Sri. N. Sajeevan, Kunnumpurath Veedu,
Valiyazheekal P. O, Kandallur (via),
Alappuzha Dt.

Animal Husbandry

Dr. P. V. Mohanan, Veterinary Surgeon
Veterinary Dispensary, P. O Parasinikadavu, Kannur
Dt.

One non-official representative of the Plantation Industry in the State

Sri. C. J. Mathew
Chengalath, Kottayam Dt.

Two Women

Smt. P.P. Sudha Devi
Rachana, Onakkoor P. O, Pampakkuda, Ernakulam
Dt.

Smt. E. S Bijimol, President, Block panchayath,
Arutha Block, Peerumadu P. O, Idukki 685 631.

One Engineer who has specialised in Agricultural Engineering or Irrigation

Sri. U. Mani, Bishara, TC 5/1653, Ambalamukku
Kowdiar P. O, Thiruvananthapuram-695 003.

One Educationallist

Sri. K. P. Aravindakshan, Ex-MLA
Choondal P.O, Trichur Dt.

Four members to represent agricultural labour, of whom one shall be a member belonging to a Scheduled Caste

Sri. P. M. Kunjambai, Pullolikkal,
Palakkathakidi, P. O
Kunnanthanam, Pathanamthitta Dt.

Sri. K. R. Sodaran, Kanjiramukalil,
Kattappana South P. O, Mettukuzhi, Idukki Dt.

Sri. K. P. Sreedharan, Kalarikkal,
South Paravur P. O, Udhayamperur, Ernakulam Dt.

Smt. Valliyadan Santha, W/o C. D Murali, A. K
Nivas, Mambaram P. O, Kannur Dt.

One member to represent the Plantation labour in the State

Sri. Y. Natarajan, Thalayar estate,
Kadukumudi division, Thalayar P. O. (via) Munnar
Idukki Dt.

Two members belonging to the S.C and one member belonging to a S.T of whom one shall be a member of the Legislative assembly of the State.

Sri. T. Nanu Master, MLA, Charinjavila Puthen
Veedu, Ayikunnam, Sasthamkotta, Kollam Dt.

Sri. P. V. Velayudhan, Mankutty Poolappura, P. O
Puthenkunnu, Sultan Batery, Wynad Dt.

Sri. P. K. Kannan
Thottakkad P. O Alli, (via) Mukkam, Kozhikode Dt.
673 602.

**The Chairman or the Managing Director of
The Chairman**

State Farming Corporation of Kerala Ltd.
Nellippally P. O, Punalur, Pin-691 305.

The Chairman, Plantation Corporation of Kerala,
Ltd., Kottayam Dt. 686 004.

The Chairman
Kerala Agro Machinery Corporation Ltd.
Athani P. O, Ernakulam 683 585

The Chairman, Kerala State Horticulture Products
Development Corporation Ltd.
Thiruvananthapuram 695 012

Sri. K. Govinda Pillai, Chairman
Oil Palm India Ltd., 134/Bhadralayam
P.T.P. Nagar, Thiruvananthapuram-38

The Chairman, Kerafed
Aristo Junction, Thiruvananthapuram-695 014.

The Chairman, Kerala Agro Industries Corporation
Ltd., Thiruvananthapuram 695 023.

The President
Kerala State Co-operative Agricultural Development
Bank, Thiruvananthapuram

**One Farmer who shall be a winner of an award
for Agriculture, Instituted by the Government of
Kerala.**

Sri. C. M. Gopi
Cherukunnel, Adimali, Idukki Dt.

**Five eminent Scientists in the field of agriculture
and allied subjects, not being employees of the
University**

Dr. P. C. Sivaraman Nair, Rtd. Director of Research
'Aiswarya', P. O. Thachinganadam, Malappuram –
679 325.

Dr. A. G. G. Menon, Rtd. Director of Extension
TC 15/435 (1) Smrithi, Althara Road,
Vellayambalam
Thiruvananthapuram –10.

Dr. K. P. Prabhakaran Nair, 1/4171, Akshaya East
hill
Kozhikode – 673 005.

Dr. K. U. K. Namboodiri, Director
Central Plantation Crops Research Institute
Kasaragod 671 124.

Dr. M. S. Jayasooriyan, Jyothis,
Ashok Nagar Housing Colony, Kanjani road,
Trichur Dt.

Other members

*Representatives of University Senates (3 Nos.)
University of Kerala.*

Sri C.S. Sasikumar, Anjana Chinappara, V.Jhuva
P.O. TVM upto 8.6.98

Cochin University of Science & Technology
Sri. V. V. Joshy, Advocate, Market road, Lucky Star
Building, Cochin –35, Ernakulam Dt. Upto 13.8.99

Calicut University
Vacant

*Representative of ICAR (one member0 upto
13.03.2000)*

Dr. Arun Varma, Asst. Director General (Ani. Sci.)
ICAR , Krishi Bhavan, New Delhi 110 001.

*The M.L. A Representing the Constituency in which
the Headquarters of the University is situated (one)*

Sri. C. N. Jayadevan, M.L.A
Chirukandath House, P. O. Manalur, Trichur Dt.

Appendix II

SUB COMMITTEES OF EXECUTIVE COMMITTEE

I Finance Committee		Dr. P.C. Antony	Member
Vice-Chancellor	Chairman	Dr. P.C. Alex	"
Sri. K. P. Rajendran, MLA	Member	Dr. C. Bhaskaran	"
Secretary(Finance)	"	Smt. P. P. Sudhadevi	"
Secretary(Agriculture)	"	Sri. M. M. Avarachan	"
Comptroller	Convenor	Sri. V. R. Shajan	"
		Dr. P. V. Mohanan	"
II Planning and Development Committee		(upto 11.2.99)	
Sr. E. K. Pillai	Chairman	Sri. K. P. Sreedharan	"
Sri. K. P. Aravindakshan	Member	Smt. Ramani George	
Dr. C. Bhaskaran	"	(Chairperson Kerala state Horti-	
Sri. Cyriac John	"	Development Corp. Ltd.)	"
Dr. A G.G. Menon	"	Sri. M.V Premarajan	"
Director of Extension	Convenor	Registrar	Convenor
III Research Review Committee		II. Assurance Committee	
Vice-Chancellor	Chairman	Sri. K. V. Vijayadas	Chairman
Sri. C. K. P. Padmanabhan	Member	Sri. T. Nanumaster, M.L.A	"
Dr. C. Bhaskaran	"	Sri. E. K. Pillai(Chairman	"
Sri. K. P. Rajendran, MLA	"	Kerafed)	"
Sri. C. N. Jayadevan, MLA	"	Sri. Johnny Nelloor, M.L.A	"
Smt. Bijimol	"	Smt. Valliyadan Santha	"
Sri. Cyriac John	"	Sri. P. P. Swathandriam	"
Registrar	Convenor	(Expired on 21.12.98)	
		Sri. P. K. Kannan	"
		Sri. Cyriac John	"
		Sri. N. Sajeewan	"
IV Establishment Committee		Sri. P. M. Kunjanbai	"
		Sri. N. V. Chandran	"
V Students Welfare Committee		Sri. Biju K. Rajan	"
Sri. C. K. P. Padmanabhan	Chairman	(Ceased on 3.9.99)	
Sri. V. S. Padmakumar	Member	Sri. P. C. Joseph (Chairman, Kerala Agro-Industries	
Sri. Avish J. Kuzhimattathil	"	Corporation Ltd.	"
Sri. E. K. Pillai	"	Smt. P. P. Gouri	"
Dr. M. S. Jayasooriyam	"	Registrar	Convenor
Director of Students welfare	Convenor		
		III Accounts Committee	
VI Works Committee		Sri.K. Govinda Pillai	Chairman
Sri. C. N. Jayadevan, MLA	Chairman	(Chairman, Oil palm India Ltd.)	
Smt. E. S. Bijimol	Member	Sri.N. R. Balan, M.L.A	Member
Sri. K. P. Aravindakshan	"	Smt. Rosamma Chacko, M.L.A	"
Sri. V. S. Padmakumar	"	Sri. C. K.P. Padmanabhan	"
Prof. V. Sukumara Pillai	"	Sri. M. Venugopala Kurup	"
Director of Physical Plant	Convenor	Sri. U. Thampan Nair	"
		Sri. P. K. Chithrabanu, (Chariman,	
SUB COMMITTEES OF GENERAL COUNCIL		Plantation Corporation	
		of Kerala, Ltd.)	"
I. Statute sub Committee		Sri. P. K. Krishnan	"
Sri. C. P. Balan Vaidyar M.L.A	Chairman	Sri. Avish J. Kuzhimattathil	"
Sri.K.P. Rajendran, M.L.A.	Member	Sri. U. Mani	"
Sri. C. N. Jayadevan, M.L.A	"	Sri. Y. Natarajan	"
Sri.K.P. Aravindakshan, Ex.M.L.A	"	Sri. P. Maniyan Keezhoor	"
Sri. V. S. Padmakumar	"	Comptroller	(Convenor)
Sri. N. C. Mammatty(Chairman,	"		
Kerala Agro-Machinery Corp.Ltd.)	"		
Dr.C.G. Rajendran	"		

FACULTY RESEARCH COMMITTEE

i. Agriculture

Director of Research, KAU Chairman
 Director of Extension, KAU Member
 Dean, College of Agriculture, Vellayni
 Assoc. Dean, College of Horticulture, Vellanikkara
 Assoc. Dean, College of Co-operation, Banking and Management, Vellanikkara
 Assoc. Dean, College of Agriculture, Pilicode
 Assoc. Director of Research (AR & T), Directorate of Research, KAU
 Assoc. Director of Research, (M&E), Directorate of Research, KAU
 Assoc. Director of Research, (Plg.), Directorate of Research, KAU
 Assoc. Director, High range Region, RARS, Ambalavayal
 Assoc. Director, RARS, Pattambi
 Assoc. Director, NARP Southern Region, College of agriculture, Vellayni
 Assoc. Director, RARS, Kumarakom
 Assoc. Director, RARS, Pilicode
 Special Officer, College of Forestry, Vellanikkara
 Heads of Departments in the Faculty of Agriculture

Project Co-ordinators

Dr. L. Rema Bhai, Professor & Head, RRS, Monkompu

Dr. P. C. Balakrishnan, Assoc. Professor, RARS, Pilicode

Dr. L. Rajamony, Head, Dept. of Olericulture, College of Horticulture, Vellanikkara

Dr. P. K. Rajeevan, Assoc. Professor & Head, Dept. Pomology, College of Horticulture, Vellanikkara

Dr. E. V. Nybe, Assoc. Professor & Head, Dept. of Plantation Crops, College of Horticulture, Vellanikkara

Dr. V. Muraleedharan Nair, Professor, College of Agriculture, Vellayani

Dr. R. Gopimony, Professor & Head, Dept of Plant Breeding and Genetics, College of Agriculture, Vellayani

Dr. G. Raghavan Pillai, Assoc. Director (Farms), College of Agriculture, Vellayani

Dr. G. Sreekantan Nair, Professor & Head, College of Agriculture, Vellayani

Dr. V. K. Venugopal, Professor, College of Agriculture, Vellayani

Dr. A. Visalakshy, Professor & Head, Dept of Agril. Entomology, College of Agriculture, Vellayani

Dr. K. Rajmohan, Assoc. Professor, College of Agriculture, Vellayani

Dr. Jacob John, Assoc. Professor & Head, Dept of Processing Technology, college of Horticulture, Vellanikkara

Dr. C. Bhaskaran, Head, Dept. of Extension, College of Horticulture, Vellanikkara

Dr. S. K. Nair, Professor, College of Agriculture, Vellayani

Dr. M. Oommen, Professor & Head, Farming Systems Research Station, Kottarakkara

Dr. P. Balakrishna Pillai, Assoc. Director of Research (M&E), Main Campus, Vellanikkara

Dr. B. Mohanakumar, Assoc. Professor, College of Forestry, Vellanikkara

Smt. N. K. Vimalakumari, Assoc. Professor, College of Agriculture, Vellayani

Dr. K. Sudhakara, Professor, RARS, Pattambi.

ii Veterinary & Animal Sciences

Director of Research, KAU Chairman
 Dean, Faculty of Vety. & AS Member
 Director of Extension
 Assoc. Director of Research (V&AS), KAU
 Heads of Depts in the Faculty of Vety. & AS
 Professor (Farms)
 Director, Vety. Research & Education
 Professor, Co-ordinated Project on Agrl. Byproducts
 Professor (Project Co-ordination, Cattle & Buffaloe Secretary
 Professor (Research Co-ordination) Convenor

Project Co-ordinators

Dr. K. M. Ramachandran, Professor & Head, Dept of pathology, (Project Co-ordinator)

Dr. Sosamma Iype, Professor & Head, Dept. of Animal Breeding, & Genetics

Dr. A. Jalaludeen, Sr. Scientist, AICRP on Poultry

Dr. Kunjukutty, Professor & Head, Dept. of Vety. Public Health

Dr. Prabhakaran Nair. K, Professor & Head, Dept. of Animal reproduction

Dr. P. J. Rajkamal, Asst. Professor, Dept. of Extension

Dr. P. C. Saseendran, Assoc. Professor, Dept of Livestock Production management

Dr. K. P. Punnoose, Professor, Dept. of Microbiology

Dr. K. S. Sebastian, Assoc. Professor, Dept of Livestock Production management

iii. Agricultural Engineering

Director of Research , KAU

Dean, Faculty of Agrl. Engg. & Technology

Director of Extension, KAU

Director (Acad. & PG Studies), KAU

Professor, Research Co-ordination (Faculty of Agrl. Engg.)

Project Co-ordinator, Farm Power Machinery & Energy

Project Co-ordinator,

Soil & Water, Engg.

Project Co-ordinator, Post Harvest Technology & Agrl. Processing

Project Co-ordinator, T.O.T

Head of Dept. of Land & Water Resources and Conervation Engg.

Head of Dept. of Irrigation and Drainage Engg.

Head of Dept. of Farm Power, Machinery & Energy

Head of Dept. of Post Harvest Technology & Agrl. Processing

Head of Dept. of Supportive and Allied courses

Assoc. Director of Research (Monitoring Agrl. Engg. Projects), Directorate of

Research , KAU Headquarters, Vellanikkara

Project Co-ordinators

Prof. C. P. Muhammed, Head of Dept. of FPME, KCAET, Tavanur

Chairman Dr. A. N. Remadevi, Head, Dept. of Agrl. Engg. Member College of Agriculture, Vellayani.

”

”

”

Dr. V. Ganesan, Assoc. Professor, KCAET, Tavanur

”

Appendix III

**LIST OF STAFF AT KAU HEADQUARTERS
FROM 1-4-1998 TO 31-3-1999**

Assistant Registrar (Admn.I):
Sri. A. Kuriakose 1-4-1998 to 31-3-1999
Assistant Registrar (Admn.II):
Smt. P. N. Sudhadevi 1-4-1998 to 31-3-1999
Labour Officer:
Sri. M. N. Sasidharan 1-4-1998 to 31-3-1999
Recruitment Officer:
Sri. T. Aravindan 1-4-1998 to 30-6-1998
Sri. K. K. Subramonian 1-7-1998 to 31-3-1999
Deputy Registrar (Admn.):
Smt. D. A. Syamala 1-4-1998 to 31-3-1999
Joint Registrar (Admn.):
Sri. C. Sasikumaran Nair 1-4-1998 to 21-3-1999
Assistant Comptroller (DD & A):
Smt. V. V. Radhamma 1-4-1998 to 31-3-1999
Assistant Comptroller (B&P):
Smt. L. Syamala 1-4-1998 to 31-3-1999
Senior Deputy Comptroller:
Sri. V. Venugopalan 1-4-1998 to 30-6-1999
Deputy Comptroller:
Sri. T. Aravindan 1-7-1998 to 31-3-1999
Joint Registrar (Acad.):
Sri. V. Balagopalan 1-4-1998 to 31-3-1999
Administrative Officer
(Directorate of Research)
Sri. K. Ravikumar 1-4-1998 to 31-3-1999
Asst Comptroller (IAC CCR)
Smt. V. R. Vijayamma 1-4-1998 to 31-3-1999

Section Officers from 01.04.98 to 31.03.99

Name	From	To
M. Leela	01.04.98	31.03.99
K. I. Chakunny	01.04.98	31.05.98
P.E. Haleema Beevi	01.06.98	31.03.99
C. C. Rosily	01.04.98	31.03.99
K. R. Dilcep Kumar	21.04.98	25.08.98
N. K. Achuthan	29.05.98	31.03.99
V. S. Skandakumar	19.05.98	31.03.99
E. K. Prabhavathy	01.04.98	31.03.99
V. Narayanan	01.04.98	12.05.98
Lilly Kutty Thomas	13.05.98	31.03.99
K. V. Sugunan	01.04.98	15.05.98

K. Thankom	16.05.98	31.03.99
Abdulkarim	01.04.98	31.03.99
Susy Mathew	01.04.98	21.05.98
P. M. Cherukutty	22.05.98	31.03.99
K. P. Mary	01.04.98	31.03.99
K. P. Narayanikutty	01.04.98	31.03.99
V. M. Sarada	01.04.98	31.03.99
V. Viswambaran	01.04.98	19.05.98
N. V. Thankamany	20.05.98	31.03.99
K. P. Saramma	01.04.98	15.05.98
M. K. Shailaja	16.05.98	31.03.99
S. Vanaja	01.04.98	01.06.98
K. V. Sugunan	02.06.98	31.03.99
R. Thankamony	01.04.98	31.03.99
P. T. Thankamony	01.04.98	31.03.99
K. S. Nirmala	01.04.98	31.03.99
Shirly Bai George	01.04.98	31.03.99
C. M. Omana	01.04.98	13.05.98
K. K. Radhakrishnan	14.05.98	31.03.99
Ramadevi T.	01.04.98	31.03.99
Zainaba Beevi T. A.	01.04.98	31.03.99
V. Leela	18.05.98	31.03.99
V. A. Achuthan	01.04.98	31.03.99
C. V. Santha	01.04.98	13.03.99
N. Usharani	14.05.98	31.03.99
Subbaki Lakshmy Ammal	01.04.98	13.05.98
P. V. Sreekumaran	14.05.98	31.03.99
Vincent Pereira	01.04.98	03.05.98
A. Santha Kumari	04.05.98	31.03.99
P. V. Nalini	01.04.98	31.03.99
Urmila Devi M. A.	01.04.98	31.03.99
Mercy John	01.04.98	31.03.99
Kuttappan Achari	01.04.98	31.03.99
Directorate of Extension, Mannuthy		
N. Usha Rani	01.04.98	14.05.98
K. P. Saramma	15.05.98	31.03.99
P. V. Sreekumaran	01.04.98	14.05.98
C. M. Omana	15.05.98	31.03.99
Directorate of Students Welfare, Mannuthy		
K. K. Sadeesan	01.04.98	31.03.99
Directorate of Research, Vellanikkara		
K. I. Chakunny	01.06.98	31.03.99
N. Vijayakumar	01.04.98	19.05.98
A. K. Kamala Bai	20.05.98	31.03.99

List of Assistants

Alamelu K. V.
Ambika T. K.

Baby Saroja
 Girija M.
 Girindra Babu K.
 Jagadeesan T.
 Krishnaprakash P.
 G. V. Kumar
 Latha T. B.
 Mathew K. F.
 Mohanan P. K. (from 03.07.98 on working arrangement at SCRC, Konni)
 Mary Joseph N.
 Sethumadhavankutty O.
 Sreejith P.
 Suneetha K. K.
 Tony P. L.
 Sujatha M. A. (from 08.06.98)
 Sasikumar T. (from 03.06.98)
 Remony P. V.
 Vasanthakumari K. P.
 Vijayalekshmi K. S.

Senior Grade Assistants

Ambika P. V.
 Amminikutty P. V.
 Anithakumari A.
 Babychan T. J.
 Davis G. O.
 George P. A. (from 18.06.98)
 George K. M.
 Georgekutty A. (from 29.05.98)
 Hemalatha K.
 Jose T. C.
 Jose Jabes Justus (from 08.06.98)
 Jayasankar K. V.
 Liza K. L.
 Madhusoodanan P. G.
 Mary Joseph
 Mohini P.
 Meera K.
 Pradeep A.
 Piusa Felix (from 15.06.98)
 Radhakrishnan K. N.
 Rajeswary A.
 Ramesh P. N.
 Raphi C. P.
 Saraswathy P. A.
 Sheela A. Attokkaran
 Sheela I. C. (from 19.06.98)
 Shajikumar A. K. (from 01.06.98)
 Sureshkumar P. S. (upto 21.09.98)
 Subaidabeevi M. (from 25.05.98)
 Sreekumar P.
 Sathuaseelan V. S. (from 01.01.99)
 Vijayalekshmi P.
 Valsalakumari M. S.
 Wilson Raj M. W.

Grade I Assistants

Asokan P. V. (from 27.05.98)

Abdul kader P. B.
 Ajayakumar M. K.
 Ally T.
 Anju M. L.
 Ananthakumari P. K. (from 08.06.98)
 Baburaj T. P.
 Babu Varghese M. (upto 12.05.98)
 Indira I (from 02.06.98)
 James K. D.
 Joy M. U.
 Kochupaul P. K.
 Leela K. N.
 Kumaranandan N. S.
 Maria John C. K.
 Reghu A.
 Saradha P. M.
 Sathy V. C.
 Shaibu E. M. (upto 22.06.98)
 Sivadasan C.
 Sujathabai K.
 Sudharma K. K.
 Saradha T. K. (from 03.10.98)
 Ullas M. A.
 Venugopal I. K.

Grade II Assistants

Anitha M. P. (from 18.11.98)
 Baby Chacko M. (from 03.12.98)
 Baby K. P. (Kolengadan) (from 04.02.99)
 Denny C. V. (from 11.06.98)
 Joseph Susan (from 14.12.98)
 Joy Paul (from 14.12.98)
 Kanthi T. R. (from 19.12.98)
 Manojkumar K. C. (from 18.11.98)
 Santhosh P. (from 03.08.98)
 Valsala P. V. (from 30.11.98)

Directorate of Research, Vellanikkara

Rajalekshmi C. (from 03.08.98)	Sr. Gr. Assistant
Santhakumari V. R.	Sr. Gr. Assistant
Unni V.	Sr. Gr. Assistant
Naveen Narayan	Assistant Gr. I
Rathidevi A. V.	"
Jayakumari C. (from 30.11.98)	Assistant Gr. II
Sobha K. S. (from 07.04.98)	"
Liakath Ali Khan (upto 14.05.98)	Assistant Gr. I

Directorate of Extension, Mannuthy

Pushpaja P. K.	Sr. Gr. Assistant
Vijayakumari P (from 22.05.98)	"
Boby Abraham	Sr. Gr. Assistant
Mohammad Iqbal K. M.	Assistant Gr. I
Santhamma K. N. (from 31.08.98)	"
N. Vidyanani	Assistant Gr. II

Directorate of Students Welfare, Mannuthy

Jayaraj T. K.	Assistant Gr. I
Thankam N. V.	" (Hr. Gr.)

James K. D.(from 30.05.98) Assistant Gr. I

University Library, Vellanikkara

Akbar Ali K. M. Sr. Gr. Assistant

List of Typists from 01.04.98 to 31.03.99

I. KAU Headquarters, Vellanikkara

P.O. Elsy Pool Officer

K. Sadasivan Nair, Sr. Office Supdt.

K. K.Ramachandran Nair "

V. P. Asokan "

P Haridasan "

V. T. Kurien "

R. Sadan "

P. R. Sarojini "

K. Sathiavathi Bai "

P. Subhasini "

K. K. Damodaran (upto 31.08.98) Sr. Office Supdt.

M. A. Bhargavi Office Supdt.

K. A. Valsala "

P. K. Kousallia "

P. Sarada Sln. Gr. Typist

P. K. Easwary "

Mancy A. C. Sr. Gr. Typist

K. R. Nirmala "

K. U. Selmath "

E. Sathi devi "

P. A. Mumtaz "

M. A. Rajini Typist Gr. I

T. A. Vincent "

Sareena Z "

Lcena T. J. "

Mary A. J. "

Sajany M. K. "

K. S. Xavior "

C. C. Babu Typist Gr. II

Seema B. "

K. A. Geetha (from 04.06.98) Sr. Gr.

Typist

P.K. Sreedeviamma (from 29.05.98) "

K. T. Vijayalekshmi (from 28.05.98) "

L. Sobhanakumari (from 04.06.98) "

P. Lathika O. S. (from 04.06.98) "

I. A. Surendran (upto 30.04.98) "

P. Sreemathikumari (upto 11.05.98) "

S. Indira Amma (upto 10.05.98) "

Abdul Azeez M (upto 12.05.98) "

Ushakumari P. (upto 11.05.98) Typist

Gr. I

III Directorate of Research, Vellanikkara

K. N. Santhakumari S.O. S

G. Shanmughan S.O.S

K. Saraswathi Amma O. S

B. Shiras Sr. Gr.

Typist

S. Geetha Bai "

S. Fathima Beevi Typist

Gr. I

P. K. Radhakrishnan Typist

Gr.II

V. Lathika (from 25.05.98) Typist

Gr.I

P. Baby (from 19.05.98) Sr. Gr.

Typist

A. Vasantha (from 01.06.98) Sln. Gr.

Typist

K. Chandrakumar (from 26.05.98) Sln. Gr. Typist

V. Salilakumar(upto 08.05.98) Typist

Gr. II

Radhamony K. (upto 02.05.98) Sr. Gr. Typist

B. Retnavally Amma (upto 02.05.98) Typist

Gr. I

III Directorate of Extension, Mannuthy

T. D. Jose S.O. S

V. C. Mariamma O. S

Remany S. "

IV Directorate of Students Welfare, Mannuthy

S. Sudhakaran Nair O.S

I. A. Surendran (from 01.05.98) Sln. Gr. Typist

V. Central Library, Vellanikkara

K. M Mary O.S

P. Remony Typist Gr. II

LDV Driver Gr. P. K. Mohandas

III K. M. Abubacker

T. M. Chacko

M. Xavier

A.N. Sukumaran

K. C. Chinnan

LDV Driver Gr. II K. O. John Steph en

K. A. Jebbar (on

LWA)

V. R. Chandran

LDV Driver Gr. I C. P. Karunakaran

Nair

K.M. Subramoni an

HDV Driver P. V. Sudhakaran

P. K. Sasidharan

V. N. Sankarankutty

T.K. Govindan

K. V. Kochappan

I. T. Rappai

V. R. Kochu

Gr. III

Sri. Aravindakshan

Smt. V. Sreedevi

Smt. A. N. Saraswathy

Smt. K. Thankamani

Smt. V. M. Baby

Sri. T. Sasi

Smt. M. S. Bhavana

Sri. V. A. Ittiara

Sri. K. T. Rajan
Sri. P. Christy John

List of Class-IV Employees in KAU Headquarters

Smt. C. P. Kousallya
Sri. E. K. Padmanabhan
Smt. I. R. Vilasini
Sri. M. N. Vasu
Smt. P. A. Mary
Sri. P. S. Retnakumar
Smt. P. A. Santhakumari
Sri. K. M. Ponnunon
Sri. T. R. Ravindran
Sri. K. K. Ramankutty
Sri. C. G. Suresh
Sri. P. Ethankappan
Sri. M. Somasekharan
Smt. M. K. Mukami
Sri. V. R. Unni
Smt. A. Kochammu
Smt. P. D. Annamma
Sri. P. B. Abdul Rahim
Sri. T. A. Unnikrishnan
Smt. K. S. Prema
Sri. A. Ramachandra Bahadur
Sri. Sreedharan
Smt. T. V. Santha

Smt. K. Santhakumari
Sri. T. K. Abdulla
Smt. P. S. Indira
Sri. Shibu Themothy
Smt. O. G. Santha
Smt. M. Lakshmikutty
Smt. K. K. Chandru
Smt. P. N. Indira
Sri. C. Govindan
Sri. M. Santhoshkumar
Sri. T. P. Noushad
Sri. P. Chandran
Sri. J. Alexander
Smt. K. K. Nabeesa

Duplicator Operator

Sri. C. A. Divakaran
Sri. A. V. Poullose
Sri. R. G. Babu

Bus Attendants

Sri. V. A. Abdul Rasheed
Sri. Beer Bahadur Singh
Sri. V. V. Vasu
Sri. C. R. Velayudhan
Sri. M. Jabbar
Sri. A. G. Rajendran
Sri. T. G. Radhakrishnan

COH-VELLANIKKARA

List of members of staff as on 01-01-1998

Name of post	Name of staff member
Associate Dean	Dr. A.I.Jose
Dept. of Agronomy Professor & Head Associate Professor	Dr. N.N.Potty Dr. P.S.John Dr. Jose Mathew Dr. R.Gopinathan Dr. K.E.Savithri Dr. Mercy George
Assistant Professor	
Department of Agrometeorology Associate Professor Assistant Professor	Dr. A.V.R.K.Rao Dr. E.K.Lalitha Bai
Department of Soil Science & Agrl. Chemistry Professor & Head Professor Associate Professor	Dr. N.P.Chinnamma Dr. G.Santhakumari Dr. K.C.Marykutty Dr. Jacob John Dr. P.K.Sushama Dr. M.A.Hassan Dr. Saifudeen Sri. C.S.Gopi Dr. Sam T.Kurumthottickal Dr. P.Suresh Kumar
Assistant Professor	
Department of Agrl Entomology Associate Professor	Dr.Jim Thomas Dr.A.M.Ranjith Smt. Ushakumari.
Assistant Professor	
AICRP on Ornithology Assistant Professor	Sri. M.V.Satheesan
Department of Agrl Extension Associate Professor	Dr. R.M.Prasad Dr. Ranjan S.Karippai Dr.F.M.H.Khallel Dr. P.S.Geethakutty
Assistant Professor	
Department of Agrl Economics Professor & Head Associate Professor Assistant Professor	Dr. K.Mukundan Dr.E.K.Thomas Dr. Indira Devi, P. Dr. Jessy Thomas, K. Dr. Satheesh Babu
Department of Home Science Associate Professor	Dr. V.Indira Dr. V.Usha

Assistant Professor

Smt. Norma Xavier
Smt. Omana Pavunny

Department of Agrl. Staistics
Professor & Head

Dr.P.V.Prabhakaran

Associate Professor

Dr.V.K.G.Unnithan

Assistant Professor

Sri. Abdul Rassack
Smt. P.Soudamini
Smt. Graceamma Kurien
Sri. S.Krishnan

Department of Agrl. Engineering

Associate Professor

Dr. Jobi V.Paul

Assistant Professor

Sri.M.R.Sankara Narayanan

Sri.K.V.Leven

Department of Plant Pathology

Professor & Head

Dr. James Mathew

Associate Professor

Dr. A.Sukumara Varma

Assistant Professor

Dr.M.V.Rajendran Pillai

Dr.T.N.Vilasini

Dr.S. Beena

Dr. Anitha Cherian

Sri.K.Surendra Gopal

Department of Plant Breeding & Genetics

Associate Professor

Dr. K.Pushkaran

Dr.Achamma Oommen

Dr.Ibrahim, K.K

Assistant Professor

Dr. Nandini

Dr. Elsy, C.R

Dr. Tessy Joseph

Department of Plantation Crops & Spices

Associate Professor

Dr. E.V.Nybe

Dr.S.Prasannaumari Amma

Dr.Alice Kurien

Dr.P.A.Valsala

Dr.P.C.Rajendran

Assistant Professor

Dr.V.S.Sujatha

Dr.M.R.Shylaja

Smt. Lissamma Joseph

Department of Pomology & Floriculture

Associate Professor

Dr. P.K.Valsalakumari

Dr.Lyla Mathew

Dr.N.K.Pameswaran

Dr. Sajan Kurien

Dr. Sarah T.George

Smt. A.Sobhana

Dr. C.K.Geetha

Assistant Professor

AICFIP

Associate Professor

Dr. P.K.Rajeevan

Dr. A.Suma

Asst. Professor

Dr. T.P.Murali

Department of Olericulture

Associate Professor

Assistant Professor

Dr. S.Rajan
Dr.Salikutty Joseph
Dr. Baby Lissy Markose
Dr. K.P.Prasanna
Dr. Mini.C
Dr. Suresh Babu K.V.
Dr. Megle Joseph

AICVIP

Associate Professor

Asst. Professor

Dr. Saly K.Mathew
Dr. P.G. Sadhan Kumar
Dr. S. Nirmala Devi

Department of Processing Technology

Associate Professor

Assistant Professor

Dr. Jacob John
Dr.V.K.Raju
Dr. K.B.Sheela
Dr. Asha Shankar
Smt . P.B.Pushpalatha

Department of Physical Education

Associate Professor

Dr. E.Soman

Centre for Biotechnology and Plant Molecular Biology

Associate Professor

Assistant Professor

Dr. P.A.Nazeem
Dr. R.Keshavachandran
Dr. D.Girija

CCRP

Professor

Associate Professor

Dr. R.Vikraman Nair
Dr. V.K.Mallika
Dr. Koshy Abraham

DISC

Assistant Professor

Smt. T.K.Ajitha

BCCP

Associate Professor

Dr. Pathummal Beevi
Dr. K.R.Lyla

AICRP on M& AP

Associate Professor

Dr. K.T.Presannakumari
Dr. A.Augustin
Dr. A.S.Anilkumar

Asst. Professor

Instructional Farm, Vellanikkara

Assistant Professor

Sri.K.P.Pradeep

Radio Tracer Laboratory

Associate Professor

Smt. N.V.Kamalam
Dr.P.V. Balachandran

Instrumentation Centre

Associate Professor

Sri. K.Madhavan Nair

Technical & paratechnical staff attached to departments

Assistant Engineer

Farm Supervisor

Sri. Rajendra Prasad
Sri. K.V.Natarajan
Sri.V.N.Gopi
Smt. N.J.Eliamma
Sri.P.M.Paulose

Farm Assistant

Lab Asst.

Technical Supervisor

**Technical & paratechnical staff attached to schemes
BCCP**

Tech. Asst.

Farm Asst

LDV Driver

Instructional Farm

Administrative Assistant

Assistant

Typist

Farm Supervisor

Technician

AICRP on Ornithology

Tech. Asst.

AICRP on M& AP

Technical Assistant

Clerk/Typist

Field man

Lab Assistant

Sri. K.S.Thankappan
Sri. T.C.Sidharthan
Sri. T.Ravindran
Sri. P.K.Kumaran
Sri.Rajendra Babu
Sri. V.C.M.Das
Smt. B.Radha
Smt. M.Santhakumari
Sri. Haridas, P.K
Sri.Rajendran A.G
Smt. Valsamma George
Sri. M.Ananthakrishnan
Sri. Biju Kuruvila
Sri. C.K.Santhosh
Smt. P.K.Savithri
Sri.P.K.Velayudhan
Sri.K.G.Krishnan
Sri. Parameswaran T.V
Sri.K.M.George
Sri. K.Govindankutty
Sri K.G.Muraleedharan
Sri.M.D.Roy
Smt. K.V.Ruckia
Sri. P.Unnikrishnan
Sri.K.K.Prabhakaran
Smt. P.K.Kamalakshy
Sri.P.K.Narayanan
Sri. V.Nandakumar
Sri. K.P.Augusthy
Sri. Gopalakrishnan, K.R
Smt.K.Santhakumari
Sri. Sivadasan
Sri. M.Santhakumar
Sri. Ismail T.K.
Sri. K.V.Johny

Sri. K.V.Dinesan
Sri. T.R.Radhakrishnan
Sri. A.X.George
Sri.E.S.Chandran

Sri. K.N.Pushpangadan
Smt. E.K.Devika
Sri. V.Y.Abdul Rasheed
Sri. A.K.Salim
Sri.V.J.Paul
Sri.P.K.Ramachandran
Sri.K.G.Satheesan
Sri.K.O.Porinchu

Smt. Joicy T.John

Sri. C.A.Mathew
Sri.T.R.Radhakrishnan
Sri.K.Balakrishnan
Sri. Johnson, M.K
Smt. K.V.Padmavathy

AICFIP
Mali
.RTL
Typist
Driver
CCRP
Farm Supervisor
Farm Assistant

Asst. Sr. Gr.

Asst. Gr.I

Asst. Gr.II

Sr. Office Superintendent

Office Superintendent
Typist Sr Gr.

Typist Gr. I

Typist Gr. II

Lab. Asst/ Clerical Asst.
Peon

Class IV

Driver LDV

Driver HDV
Duplicator Operator

Hostel Manager
Matron
Asst. Librarian

Smt. C.P.Elsy
Sri. C.A.Muthu

Smt. K.Padmavathy
Sri.T.R.Manjithkumar

Sri. C.B.Sugathan
Smt. C.V.Santha
Smt. P.R.Sreedevikutty
Smt. S.Valsala
Smt. G.Santhakumari
Sri. K.S.Natarajan
Smt. P.P.Prema
Smt. K.B.Sudha
Smt. Ammalukutty, K. V
Smt. K.K.Valsa
Sri. P.R.Murali
Sri. Venugopalan
Sri. Radhakrishnan
Sri. Arun Shankar
Sri. Devalal
Smt. K.S.Beena
Smt. M.C.Chandrika
Smt. Sujatha, M.A
Sri. Noushad
Sri. Abdul Hakkim
Sri. K.Vijayan
Smt. Razia Beevi
Smt. K.M.Mary
Sri. K.A.Joy
Smt. A.N.Malathy
Smt. Sobhana
Smt. Rema
Smt. Mariamma Mathew
Sri. Noel Thomas
Smt. Padmavathy
Sri. P.B.Joshy
Sri. T.S.Krishnankutty
Smt. T.D.Baby
Smt. K.P.Reetha
Sri. K.V.Ramachandran
Sri. N.P.Chandran
Sri. P.M.Ouseph
Smt. Sali. P.A
Smt. S.V.Sujatha
Smt. Kunhikutty
Smt. K.V.Ambika
Sri. A.N.Mohanan
Sri. P.R.Karthikeyan
Sri. M.K.Sundaram
Sri.K.Kuttikrishnan
Sri. K.K.Thankappan
Sri. A.Jayagovindan
Sri. M.Gopinathan
Sri. N.P.Chandran
Smt. Mary Bhamini
Smt. M.C.Lalitha
Sri. C.Abdurazac

COF-VELLANIKKARA

Name of post	Name of the member of staff	Remarks if any
Administrative	Dr. Luckins C. Babu	In-charge
Assoc. Dean		
Admn. Officer	Mr. P.K. Nataraja Pillai	
Section Officer	Mrs. K. M. Mary	
Assistant Gr. I	Mrs. M. Lyla	
Assistant Gr. II	Miss. K.K. Remani Mrs. Narayani	
S O S	Mrs. R. Sarada Devi	
Stenographer	Mrs. M.L. Sosanna	
Supporting		
Class IV	Mr. K. N. Santhosh	
HDV Driver	Mr. K. K. Devassy	
LDV driver	Mr. K.K. Santhosh	
Para- technical	Nil	
Ministerial	Nil	
Department of Silviculture and Agroforestry		
Scientific		
Assoc. Professor	Dr. B. Mohan Kumar Dr. K. Sudhakara	
Administrative	Nil	
Supporting	Nil	
Para technical	Nil	
Ministerial	Nil	
Department of Tree Physiology and Breeding		
Scientific	Dr. Luckins C. Babu	Hold- ing charge of Assoc. Dean
Professor		
Assoc. Professor	Dr. N.K. Vijayakumar	
Administrative	Dr. P.K. Ashokan	
Supporting	Nil	
Para technical	Nil	
Ministerial	Mrs. Sathi Devi Nil	
Department of forest Management and Utilization		
Scientific		
Assoc. Professor	Dr. K. Gopi Kumar Dr. Sonney George	
Asst. Professor	Mr. K. Vidyasagaran Nil	
Administrative	Nil	
Supporting	Nil	
Para technical	Nil	
Ministerial		
Department of Wood Science		
Scientific		
Asst. Professor	Mr. E. V. Anoop	

Administrative	Nil	
Supporting	Nil	
Para technical	Nil	
Ministerial	Nil	
Department of Wildlife Science		
Scientific		
Asst. Professor	Mr. P. O. Nameer Mr. M.M. Animon Dr. Ambika Varma	
Administrative	Nil	
Supporting	Nil	
Para technical	Nil	
Ministerial	Nil	

CCBM-VELLANIKKARA

Department of Rural Marketing Management		
Name of post	Name of the member of staff	Remarks if any
Scientific		
Assoc. Prof. & Head	Sr. A. Sukumaran	
Asst. Prof. (S.G)	Sri. Philip Sabu	On ML
Asst. Professor	Sri. M. Mohanan Smt. Vanaja Menon	
Asst. Professor	Sri. Philip Thomas	
Co-Operative Management		
Assoc. Prof.	Dr. Philip Thomas	Dr. N. Ravindra- nathan Assoc. prof. (QM) is now incharge of HOD
Asst. Professor	Sri. E. Vinai Kumar	
Asst. Professor	Sri. E. G. Ranjith Kumar	
Asst. Professor	Sri. G. Veerakumar	
Asst. Professor	Sr. A. Sakeer Hussain	
Dept. Of Economics		
Assoc. Prof. & HOD	Dr. M. Mohandas	Also Assoc. Dean i/c
Assoc. Prof.	Dr. K. A Suresh	
Assoc. Prof.	Dr. K.P. Mani	
Asst. Prof. (S.G)	Sri. Jacob Thomas. M	
Asst. Prof.	Smt. P. Shaheena	
		Now on LWA for study purpose
Asst. Prof.	Smt. K.A Sunanda	
Asst. Prof.	Sri. P.J Boniface	

Dept. Of Rural Banking & Finance Management		
Assoc. Prof. & Head	Dr.N Ravindranathan	
Asst. Prof.(SS)	Smt E.V.K Padmini	
Asst. Professor	Dr.MollyJoseph	
Asst. Professor	Sri. K.M George	
Asst. Professor	Dr. Jaya S.Anand	LWA for taking employment at IMG
Asst. Professor	Dr. M.A Lizy	LWA for taking employment abroad
Administrative & Supporting Admn.Officer	Sri. V. C Bharathan Pillai	
Sn. Officer	Smt. E. K Prabhavathy	
Sn. Officer	Sri. P.V Sreedharan	
Seln.Gr. Asst.	Smt. S. Sushama	
Seln.Gr. Asst.	Sri. M.E Rajan	
Sr. Gr. Asst.	B. Ajithkumar	On working arrangement in PVC's office
Assistant. Gr. I	Smt. K. Sudharma	
Assistant. Gr. I	Smt. A. R Sheela	
Assistant. Gr. II	Sri. P.J Cleetus	
Office Supdt.	Sri. V. M Sulaiman	
Seln. Gr. Typist	Smt. T. K	

Asst. Librarian	Sukumari Smt. C. K. Shylaja	
Duplicator	Sri.N. V	
Operator	Santhoshkumaran	
Driver	Sri. C. L. Antony	
Hostel Manager	Sri. Radhakrishnan	
Peon	Smt. P.J. Kunjumol	
Peon	Smt. K.Saroja	
Per. Labourer	Smt. K.P. Thanka	
Per. Labourer	Smt. K.K. Thanka	
Per. Labourer	Smt. K.K.Baby	On working arrangement
Other positions		

COA- PADANAKKAD

List of members of Staff as on 01.04.1998:
Not reported

CV &AS- MANNUTHY

List of members of staff as on 01-04-1998

Category/Designation	No. of posts			Remarks
	Sanctioned	In position	acant	
<p>a) Scientific</p> <p>Dept. Of Anatomy Dr. K. R. Harshan, Assoc. Prof. & Head i/c Dr. Sreedharan Unni, Assoc. Prof. Dr. Jose John Chungath, Assoc. Prof. Dr. Shyla Prakash, Dr. N. Ashok, Assoc. Prof. Dr.S. Maya, Assoc. Professor Dr.K.M. Lucy, Assoc. Professor</p> <p>Dept. Of Microbiology Dr. S Sulochana, Professor & Head i/c Dr. K.T.Punnoose, Professor Dr. V.Jayaprakash, Assoc. Professor Dr. G.Krishnan Nair, Assoc. Professor Dr. M. Mini, Asst. Professor Dr. Koshy John, Asst. Professor Dr. Anil Kumar, Asst. Professor</p> <p>Centre Of Excellence In Pathology Dr. K.M. Ramachandran, Director Dr. K.V.Valsala, Professor Dr. C. R. Lalithakunjamma, Assoc. Professor Dr. C. B Manomohan, Assoc. Professor Dr. N. Divakaran Nair, Asst. Professor Dr.B.Gangadharan, Asst. Professor Dr. T. Leena Devi, Asst. Professor Dr. Mamman J Abraham, Asst. Professor Dr. S.Manumohan, Asst. Professor Dr. P.K.Ismail, Assoc. Professor</p> <p>Dept Of Extension Dr. P.S Pushkaran, Professor & Head Dr. M. R Subhadra, Asst. Professor Dr. P.J.Rajkamal, Asst. Professor Dr. S.S. Anil, Asst. Professor Dr. Giji, Asst. Professor</p> <p>Dept. Of Parasitology Dr. C. George Varghese, Professor & Head Dr. K. Madhavan Pillai, Professor Dr. C.Pythal, Professor Dr. H. Subramoniyam, Assoc. Professor Dr.Lucy Sabu, Asst. Professor Dr. K.Devada, Asst. Professor</p>				<p>On study leave</p> <p>On leave On leave</p>

<p>Dept. Of Epidemiology & Preventive Medicine Dr.M.R. Saseendranath, Assoc. Prof. & Head i/c Dr. K.Vijayakumar, Asst. Professor Dr. Tresamol, Asst. Professor</p> <p>Dept. Of Pharmacology & Toxicology Dr. Jacob. V. Cheeran, Professor & Head Dr. Zacharias Cherian, professor Dr. P. Marykutty, Professor Dr.N. Gopakumar, Assoc.Professor Dr A.M Chandrasekharan Nair, Assoc. Prof. Dr. K.Venugopalan, Assoc. Professor Dr. K.D Joy, Assoc. Professor Dr. C.M Aravindakshan, Assoc. Professor Dr. Usha, PTA, Asst. Professor Mr. V.R Raghunandan, Assoc. Professor</p> <p>Dept. Of Physiology & Biochemistry Dr. K.P Surendranathan, Professor & Head Dr. P.T.Philomina, Assoc. Professor Dr.K.P Sreekumar, Asst.Professor Dr. Sisilamma George, Asst.Professor Dr. Girish Varma, Asst. Professor, Dr. Jayavardhanan, Asst. Professor Dr. K. Karthiyani, Asst. Professor</p> <p>Dept. Of Nutrition Dr. N. Kunjukutty, Professor Dr. P.A Devassia, Professor & Head Dr. C.S James, Professor Dr. George Mathan, Assoc. Professor Dr. A.D. Mercy, Assoc. Professor Dr. P.Gangadevi, Asst. Professor Mr. M. Nandakumar, Professor Dr. K Syama, Asst. Professor</p> <p>Dept. Of Dairy Science Dr. M. Mukundan, Assoc.Prof. & Head i/c Dr. P.I.Geevarghese, Assoc. Professor Dr. Rajendrakumar, Assoc. Professor Dr. C.T.Sathian, Asst. Professor Dr. Beena, Asst Professor</p> <p>Dairy Plant Dr. V. Prasad, Assoc. professor Dr. Sudheer Babu, Asst. Professor Dr. Rajkumar, Asst.Professor Dr. Sreeja Ramachandran Dr. Geetha. C.Jayan</p> <p>Centre Of Advanced Studies In Animal Breeding Genetics Dr. Sosamma Iype, Director Dr. K.V Raghunandan, Assoc. Professor Dr. M.R. Rajan, Assoc. Professor Dr. Stephen Mathew, Assoc. Professor Dr. P. Nandakumar, Assoc. Professor Dr. Anilkumar, Asst. Professor Dr. T.V. Aravindakshan, Asst. Professor Dr. Thirupathy, Asst.Professor Dr. Joseph Mathew, Asst. Professor</p> <p>Dept. Of L.P.M Dr. C. K. Thomas, Professor & Head Dr. P.C. Saseendran, Assoc. Professor Dr. K.S. Sebastian, Assoc. Professor</p>				<p>On leave</p> <p>On leave</p> <p>On study leave On study leave</p>
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Meat Technology Unit Dr. J Abraham, Professor Dr. Kutty Narayanan, Assoc. Professor Dr. George T. Ommen, Assoc. Professor Dr. M. Sunil, Asst. Professor LRS, Thiruvazhamkundu Dr. Francis Xavier, Assoc. Professor Dr. Vahida, Asst. Professor Dr. Sasikanth, Asst. Professor Dr. Ajith Jacob George, Asst. Professor KCAE & T, Tavanur Dr. Bindu, Asst. Professor Cattle Infertility Scheme, Kozhikode Dr. P.P Balakrishnan, Professor ARS, Ambalavayal Dr. Radhamma Pillai, Assoc. Professor RARS, Pilicode Dr. K.C. Raghavan, Assoc. Professor RARS, Pattambi Dr. Koshy Varghese, Assoc. Professor College Of Agriculture, Vellayani Dr. R. Vijayan, Assoc. Professor Dr. Ani S. Das, Asst. Professor Dr. M.O. Kurian, Assoc. Professor AICRP Unit On Poultry, Mannuthy Dr. Elizabeth, Asst. Professor Dr. N Vijayan, Asst. Professor Dr. Laly John, Asst. Professor Physical Education Mr. O.K. Paul Mrs. Molley Cherian				On leave
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b) **Administrative and Supporting Staff:** Nil

c) **Technical and Administrative Staff**

Name of post	Sanc ioned	In position	Vacant
Sri.K.R. Sivaraman, Farm Supervisor			
Sri. K.A. Vinod, Class IV			
Sri. V.K.Sahadevan, Permanent labourer			
Sri. V.M. Jacob, Farm Supervisor, Gr.I			
Sri.K.K. Sasidharan Nair, Farm supervisor Gr.I			
Sri. A.P.Peter, Farm Assistant			
Sri.K.K. Pushpam			
Sri. T.G. Mohanan, Driver			
Sri. Kunjan. T.A., Lab Assistant			
Smt. K.V Thressia, Class IV			
Sri. M. Divakaran, Attendant			
Smt. S. Seemanthini, Sr. Office Supdt.			
Smt. K. Soudamini, Typist, (upto 11.05.98)			
Sri. MuraleedharaKaranavar, (from 15.05.98)			
Smt. T.D. Annie, Assistant			
Sri. K.Krishnankutty, Farm Supervisor, Gr. II			
Sri. I.M. Gopinathan, Permanent labourer			
Sri. V.L Lonappan, Permanent labourer			
Smt. P.Remani, Farm Supervisor, Gr.II			
Smt. K.P. Sobhana, Class IV			
Sri. K.T. Sivasankaran, Farm Assistant			
Smt. O. Premakumari, Farm Assistant Gr. II			

<p> Sri. K.M Muraleedharan, Technician, Gr.I Sri.K.C. Varghese, Sr. Gr. Assistant Sri. V. Mohandas, Typist Gr.I Sri.P.V. Prabhakumar, Class IV Sri. I.N. Sreekumar, Supporting Sri. V.S. Rajesh, Supporting Sri. M.S. Suresh, Supporting Sri. M.J. Devassikutty, Supporting Sri. M.S. Radha, Supporting Smt. P.K. Ammini, Farm Assistant Sri. K.Chacko, Farm Assistant Smt. P.C. Mary, Farm Supervisor(till19.02.99) Sri. K.L. Jose, Farm Supervisor Sri. K.I. Ittoop, Sr. Office Supdt. Sri.S. Chandran (From 18.02.99) Smt. K.O. Rosakutty, Attendent Sri. P.N. Raghavan, Attendent Sri.P.Krishnan kutty, Permanent labourer Sri. M. Gangadharan, Permanent labourer Sri. K.K. Sanjayan, Trainee for Electron Microscope Smt. Jalaja Menon, Research fellow Smt. Seema, Research fellow Sri. C.N. Soman, Lab Assistant Smt.Jolly D. Karakkattil, Lab Assistant P.J. Mary, Class IV P.D. Selvi, labourer Sri. O.K. Sukumaran, Farm Supervisor Sri. Mohammed Shaji, Class IV Smt. Valsala .T, Steno to Director Smt. V.Indira, Farm Assistant Sr. Gr. Sri. N. Gopinathan, Farm Assistant Gr. ii Sri. N.M. Surendran, Farm Assistant Gr.I Sri. E. T. Paul, Sr. Gr. Technician Sri. K.V.Purushothaman Nampoothiri, Section Officer Sri. Tony. P.D, Assistant Gr. I Sri. K.S Jayan, LDV Driver Sri. T.P.Narayanan, Typist Sri. P.T. Varghese, Peon Smt. M.K Vilasini, Class IV Smt. Rodily, Farm Assistant Smt. Mary, Permanent labourer Smt. P.G. Thankom, Farm Assistant Sri. A.I Thomas, Class IV Kum. V.P. Sindu, Class IV Smt. K.Indira Devi, Radiographer Sri. Jayesh N.J., Class IV Smt. K.P. Santhabai, Jr. Progremmer Sri. K.V. Prasadana, Technical Assistant Smt. M.J. Rosily, Class IV Mrs. Mary K.A, Farm Assistant Sri. K.R Sundaran, Permanent labourer Sri. N.Sugathan, Farm Supervisor Smt. M.Baby, Section Officer Sri. T.K. Narayanan, Farm Supervisor Sri. K.R. Kumaran, Artist Sri. M.R. Gopinathan, A.V Operator Sri. Suryanarayanan, Driver </p>			
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Sri. T.Krishnankutty, n Class IV Smt. K.K. Madhavi, Class IV Smt. M.V Kumari, Lab Technician Kum. Lakshmy N.T, Class IV Smt. T.K Chandramathy, Permanent labourer Sri. M.G Vasu , Lab Technician (till 31.01.99) Sri. T.R Viswambaran, Technician, (till 31.03.99) Sri. K.K. Ramachandran, Class IV Smt. Rosy P.K; Class IV Sri. K.V. Kumaran, Driver Smt. P.N. Madhavi, Lab Technician			
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CENTRE FOR PIG PRODUCTION & RESEARCH

List of members of staff as on 01-04-1998

Name of post	Name of the member of staff	Remarks if any
Scientific		
Associate Professor	Dr. T.V.Viswanathan	On maternity leave
Assistant Professor	Dr. Joseph Mathew	
	Dr. A.P. Usha	
Administrative		
Administrative Assistant	Smt. A.D. Omana	
Senior Grade Assistant	Smt. Indira Kumari	
Senior Grade Assistant	Sri. C.T. William	
Typist Gr II	Sri. Sandeep Kumar. V.C	
Assistant Grade II	Smt. Joseph Susan	
Supporting		
Class IV	Sri. Kuttan	
Pump Operator	Sri.K.V. John	
Para-technical		
Senior Farm Supervisor	Sri. K.P. George	
Farm Supervisor Gr II	Sri.K.K. Sasidharan Nair	
Farm Assistant II	Smt. R. Thankamony Amma	
Farm Assistant	Sri. T.K. Haridasan	
	Sri.C.G.Varghese	
Ministerial		
Other positions		
Pig Attendant	Sri. V. Puspangadhan	
Technical Assistant	Smt. N.Latha	
Permanent Labouers	22 Nos.	

VET. COLLEGE HOSPITAL

List of members of staff as on 01-01-1998

Name of post	Name of the member of staff	Remarks if any
Scientific		
Professor	Dr. Santha E. George	
Assoc. Professor	Dr.P.G. Baby	
Asst. Professor	Dr. Syam K. Venugopal	
Supporting	-	
Farm Supervisor(Gr.II)	Sugathan N.	

LRS-THIRUVAZHAMKUNNU

Name of post	Name of the member of staff	Remarks if any
Scientific		
Asst. Professor(ABG)	Dr. M. R Rajan Dr. Sasikanth	Upto 06.06.98 From 24.06.98
Asst. Professor(Path.)		Vacant
Asst. Professor(AM)	Dr. Francis Xavier	From 29.05.98
Asst. Professor(DS)		Vacant
Asst. Professor(AR)	Dr. A. M Vahida	Upto 11.05.99
Administrative		
Admn. Assistant	M. P. Balan	
Section Officer	P. Rajagopal	From 30.04.98
Assistant Sr. Gr.	T. G. Deenaina	
Assistant Gr. I	V. Mohammed N. Radhakrishnan	
Assistant Gr. II	Mohammed Iqbal C.M. Ahmed Abbas	Upto 06.06.98
Typist Sr. Gr.	P. Souminidevi	
Typist Gr. II	M. Geetha	
Peon	K. Narayanan K. Manukuttan P. Veerankutty	Upto 30.09.98 From 01.10.98
Sweeper	K. Aysha	
Supporting		
Para-technical		
Sr. Farm Supervisor	P. C. Mary	On working arrangement at Vet. College upto 16.02.99
	P. Ramachandran Nair	On working arrangement at Vellayani Agri. College from 18.02.99
Farm Supervisor Gr. I (Vet.)	M. K. Vijayakumar	
Farm Supervisor Gr. II (Vet.)	C. Mohammed Usman P.A. Francis	
Farm Assistant (Vet.) Sln. Gr.	V. Bhaskaran K. Velayudhan	Upto 13.05.98 From 12.06.98
Farm Supervisor Gr. I (Agri.)	K. Aboobacker	
Farm Supervisor Gr. II (Agri.)	M. Ummer	
Farm Assistant (Agri.) Sln. Gr.	Sreenivasan Palasseri V. M George	
Farm Assistant (Agri.) Gr. II	T. P Gangadharan K. V. Shaji	Upto 10.06.98 and lying vacant from 11.06.98

Technical Supervisor Gr. I L. D. V. Driver Pump Operator	Sankaran. A P.M. Mohamed N. Appunni N. Raman M. Ramachandran	Upto 31.07.98 From 22.08.98
Field Supervisor	M. Narayanan C. Chellamma	Upto 30.09.98 From 01.10.98
Maistry	C. Kumaran K. Mammed K. Mohammedali	Upto 30.09.98 From 01.10.98
Watchman	P. Rajagopalan K. Sunil	Upto 30.09.98
Mazdoor	C. Chellamma K. Sunil K. Mohammedali	Upto 30.09.98 From 01.10.98 Upto 30.09.98 and lying vacant
Ministerial Other positions		
Aicrp On Agroforestry		
Scientific Assoc. Professor	T. K Kunhamu (Asst. Prof.)	Asst. Prof. is working against this post from 17.08.98
Asst. Professor	K. K Sathian V. Jamaludheen	From 24.08.98
Technical Technical Assistants(2) Farm Assistant	Thomas Chirakandathil C. Aboobacker P. Vijayalakshmi V. Sunilkumar N. Sunderan	Lying vacant
Lab assistant		
Driver Administrative & supporting Assistant Gr.II	G. Sudheer M. S. Noble P. Veerankutty K Mammed	Upto 12.05.98 From 29.05.98 Upto 30.09.98 From 01.10.98
Peon		

CBF – THUMBURMUZHI

List of members of staff as on 01-04-1998

Name of post	Name of the member of staff	Remarks if any
Scientific Associate Professor Assistant Professor	Dr. K.S. Anil Dr.N.Kumaravelu Dr.K.M.Syam Mohan	Vacant (relieved on 31.5.98) (relieved on 23.6.98) (from 26.6.98 onwards)
Administrative Administrative Assistant Assistant Sln.Gr.	V.K.Pathumma K.K.Kuttappan P.V.Asokan T.A.Sadanandan	(joined on 19.5.98) (relieved on 19.5.98)
Assistant Gr.I Typist Sr.Gr.	SaraP.K. Salomi Silas	(relieved on 12.5.98) (joined on 1.6.98)
Supporting Para-technical Farm Supervisor (Agri)	V.Ummikrishnan	

Farm Supervisor (Vety) Farm Assistant (Agri) Farm Assistant (Vety)	V.Sukumarannair M.N.Anilkumar Polson Varghese P.K.Sukumarán K.Ramanan C.O.Mercy K.K.Padmanabhan	
Pump Operator Lab Asst. Gr.III LDV Driver Ministerial Other positions Class-IV	K.P.Jose T.N.Sasi E.S.Yesoda K.S.Dharmajan	(joined on 2.3.99)

RRS-KAYAMKUKLAM

List of members of staff as on 01-04-1998

Name of post	Name of the member of staff	Remarks if any
Scientific Professor Associate Professor	Dr. Shyam.S.Kurup 1. Sri.N.Ramachandran Nair 2. Sri.K.P.Jagan Mohan 3. Dr.Sumam George	
Assistant Professor	1.Dr.P.Sushama kumari 2.Smt. Suja.G 3.Smt.M.Indira 4.Dr.Meenakumari	On study leave from 26/10/97 to 26/10/98
Administrative/Supporting Para-technical Farm Supervisor	Sri.R.Satheesan Sri.G.Shaji	Transferred to farming systems Research Station Sadanandapuram
Farm Assistant (Sel.Gr.)	Sri.N.Vasudevan Sri.D.Prasannakumar Sri.T.K.Vijayan	
Lab Asst. Gr.III	1. Sri.N.Padmakaran Pillai 2. Sri M.G. Thomas 3. Smt. V.Sindhur	
Ministrial Administrative Assistant Assistant (Sel.Gr) Typist (Sr.Gr.)	Sri.K.P.Rajendra Prasad Sri. K.Govindan Sri.M.P.Vijachandra Babu Smt.K.Sobhana	
Other positions Peon(Hr.Gr.) Regular Mazdoor	Sri.T.Balakrishnan Sri.N.Raveendran Sri.N.Viswanathan	
Driver Gr.III	Sri.T.R. Manjith kumar Sri.P.S. Babu	(upto 24/1/98) (upto 22/4/97) (from 22/5/97)
Tracter Driver (Hr.Gr.)	Sri.R.Thankappan	

CSRC-KARAMANA

List of members of staff as on 01-01-1998

Name of post	Name of the member of staff	Remarks if any
Scientific Professor	Dr. G. K. Balachandran Nair	
Assoc. Professor	Dr. K.K. Sulochana	
Assoc. Professor	Sri. R. Balakrishnan Asan	
Assoc. Professor	Dr. Suman George	
Administrative Adm. Assistant	Smt. S. Saraswathy Amma	
Seln. Gr. Assisat	Sri. M. Abdul Nujum	
Typist Gr. i	Smt. V. Jayamani	
Supporting Lab. Assistant	Sri. G. V. Saju	
Para-technical Farm Assistants	Sri. K.V. Valsan	
	Sri. V. T. Bose	
Ministerial Peon (2)	Smt. P. Chinnamma	Unauthorised absence from 01.04.99
Messenger	Sri. K. Maniyan	
Part-time sweeper	Smt. P.Bharathy	
Other positions Tech. Assistants(2)		Vacant

CEP-CV &AS

List of members of staff as on 01-04-1998

Name of post	Name of the member of staff	Remarks if any
Scientific Director	Dr. K. M. Ramachandran	
Professor	Dr. K. V. Valsala	
	Dr. T. Sreekumaran	
Assoc.Professor	Dr. P. K. Ismail	
	Dr. C. R. Lalithakunjamma	
	Dr. C. B Manomahan	
Asst.Professor	Dr. N. Divakaran Nair	
	Dr. Koshy Varghese	
	Dr. Mamman J Abraham	
	Dr. T. V. Anilkumar	
Administrative Supporting Para-technical Ministerial Farm Supervisor	Smt. P.C. Mary	
	Smt. P. C. Lilly	
Farm Assistant Gr. 2	Sri. A. P. Peter	
Office Supdt.	Sri. K. I. Ittoop	
Class IV	Smt. K. O. Rosakkutty	
	Sri. P. N. Raghavan	
Permanent Labourer	Sri. M.Gangadharan	
	Sri. P.K. Krishnankutty	
	Smt. Jalaja Menon	
	Smt. Seema Jayaprakash	
	Sri. K. K. Sanjayan	

CRS-BALARAMAPURAM

Name of post	Name of the member of staff	Remarks if any
Scientific Professor & Head	Dr. G. Padmakumari	Holds the post of Asst. Prof. (Pl.Path.)
Assoc. Professor	Dr. N Purushothaman Nair Dr. K Viswambaran	Holds the post of Asst. Prof. (Agro.)
Administrative Admn. Assistant	Smt. G. Joice	
Supporting Peon(Hr. Gr.) Watchman	Sri. K. Mohanan	Vacant
Para-technical Sr. farm Supervisor	Smt. B. Indira Bai Amma	On working arrangement from Kumarakom
Sel. Gr. Farm Assistant Farm Asst. Gr. II	Sri. L Mohandas	Vacant
Ministerial Sel. Gr. Assistant Sr. Gr. Assistant Sel. Gr. Typist	Sri. M. S. Sanalkumar Smt. B. Sobhana Smt. A. Vasantha	
Other positions		

COF-PANANGAD

List of members of staff as on 01-04-1998: Not reported

FSRS-SADANANDAPURAM

Name of post	Name of the member of staff	Remarks if any
Scientific Assoc.Professor (Hort.)	Sri. Ajithkumar, Asst.Professor Smt. R. S. Shehana	
Assoc.Professor (Soil.Science)	Asst. Professor Sln. Gr. DR. S. Ravi, Assoc. Prof Dr. S. Regeena Asst.Professor	
Asst.Professor(Pl.Path)	Dr. Kumari Swadija O.	
Asst.Professor Agrl.Eco.	Asst.Professor	
Asst.Professor(Agron)		
Asst.Professor(Agron) Asst.Professor Entamology	Dr. M. S. Hajilal, Assoc. Professor	Vacant Vacant Vacant
Asst.Professor Ani. Management	Smt.Mary Philomina A. Sri. P. K. Mohanan	On working arrangement
Asst.Professor Soil. Management	Sri. T. F. Ignatious Smt.Bhamini amma B.	
Administrative Admn. Assistant Assistant Gr. I Assistant Gr. II Typist Gr. I Peon (2)	Sri. M. Rajendran Sri. P. G. Ajayakumar Sri.E.N. Raveendran Nair (FS Gr.I)	Vacant

Supporting Farm Asst. Agri. Gr.I Farm Asst. Agri. Gr.I Farm Asst. Agri. Gr.I Farm Asst. Vcty. Gr.II Lab Assistant Para-technical Ministerial Other positions	Smt. Sarojam A. (Sel.Gr.)	Vacant
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PRS - PANNIYUR

Name of post	Name of the member of staff	Remarks if any
Scientific Professor Assoc. Professor Asst. Professor Administrative Admn. Assistant Supporting F. S Gr. II F. A. Sl. Gr. F. A. Sr. Gr. F. S F. S. Gr. II F. S. Gr. II F. A. Sr. Gr. F. A. Sr. Gr. Para-technical Pump Operator LDV Driver Ministerial Sl. Gr. Assistant Assistant Gr. II Typist Gl. Gr. Other positions Peon Hr. Gr. Peon Hr. Gr. Peon Hr. Gr. Peon Hr. Gr.	Sri. P.K. Unnikrishnan Nair Dr. A. Rajagopalan Dr. Arya. K Merly Sarojini T. Mohammed Haneefa K Lakshmanan M. V. Premarajan P. J. Joseph Sasidharan.A K. A. Kurian P.P. Muralidharan N. K. Muralidharan T. V. Madhavan J. K. Justin Lakshmikutty K. M. Joseph K. Pushpavalli M. P. Narayana T. Kunhiraman P. Janaki V. Kunhiraman	From 27.04.98

RARS-AMBALAVAYAL

Name of post	Name of the members of staff	Remarks, if any
Associate Director of Research	Dr. K. Kumaran	Headquarters shifted to KAU, Vellanikkara
Professor (Horticulture)		Vacant
Associate Professors Agronomy Pathology Plant Breeding Asst Prof.	Dr. K. C. Aipe Vacant Smt. Susamma P. George,.	

Assistant Professors Horticulture	Dr. K. Vasanthakumar, Assoc. Professor Dr. T. Pradeepkumar	
Botany Plant Breeding Entomology Soil Science Plant Pathology		Vacant
Microbiology Supporting Staff Administrative Officer	Dr. K.N. Anith Sri. E. George	
Section Officer	Smt. P. Sulochana Smt. T. Lakshmykutty	
Sr. Grade Assts/Gr. II Assts.	Vacant - (3 posts)	
Assistant Grade II	Sri N. Raveendran Sri T. A. Thilakan	
Typist Grade II	Sri. Sudhakaran. A., Typist Gr.I. Vacant	
Steno Typist	Smt. P. V. Brizitha (Senior Office Superintendent)	On Working arrangement at KAU Headquarters
Driver (L. D. V.)	Sri S. Anilkumar	
Peon (Higher Grade)	Sri V.Kunhipokku Sri E. Kunhiraman Sri. E. Alavi	
Supporting Staff -KAU (Non-Plan) Senior Farm Supervisor	Sri K.M. Vijayakumaran	
Farm Supervisor Grade I	Smt. P. Padmavathy Sri. V. K. Kumaran Sri A. Imbichiali	
Farm Assistant Grade I	Sri C.T. Jacob Sri K. M. George	On Working arrangement at Vellimadukunnu
Farm Assistant Grade II	Sri. A. Abdulrahiman Sri. P. Krishnan	
Field Supervisor	Sri. K. Raghavan	
Lab. Assistant Grade II/Grade III	Sri K.K.Velayudhan Sri C.R. Balakrishnan	
Tractor Driver	Sri M. Mohammedkutty	
Regular Mazdoor (Hr.Gr.) with Special pay Class IV	Sri P. Saidu Sri . E. Ayamu Sri. A. T. Mohammed Sri. K. Koya Sri. T. Saidalavi Sri O. Asokan Sri E. Abu	
Budder	Sri. K. Ramakrishnan	
Watchman	Sri. N. Chandu Sri. V. Alikutty(Upto 28.2.1999) Sri M.C. Krishnan	
Class IV (On working arrangement)	Smt. K.K. Nabeesa Sri. M. Kunhikrishnan Smt. K.S. Prema Sri K.P. Mukundan	
NARP - Phase I Farm Assistant Grade I	Sri. S. Prabhakaran	

Lab. Assistant Grade III	Sri. M. Vasu	
Technician (Selection Grade)	Sri. K. Vasudevan	
Central Sector Scheme Farm Assistant Grade II	Sri T.T. Jacob	

ARS-MANNUTHY-

Name of post	Name of the member of staff	Remarks if any
Scientific		
KAU		
1. Assoc. Prof. & Head	Dr. U. JaiKumaran	
2. Asst. Prof. (Agron)	Smt. T. Sajitharani	
3. Asst. Prof. (Hort)	Dr. C. Narayanankutty	
ICAR/NARP		
(a) AICRIP Double cropping Sub Centre (306-31-627)		
1. Assoc. Prof. (Pl. Br.)	Dr. V. V. Radhakrishnan	
(b) NARP- I Central Zone (306-31-035)		
1. Asst. Prof. (Pl. Br.)	Dr. Rosamma C. A.	
2. Asst. Prof. (pl. Br.)	Dr. Kanakamany M. T.	
Administrative staff		
A. KAU (306-31-043)		
1. Administrative Asst.	Sri. P. Aliyar	
2. Sr. Gr. Asst.	1.Smt. Chellamma	
3.	2.Smt. K. N. Sarojini	
4. Selection grade asst.	Smt. Vijayalakshmi. T.	
5. Typist sl. Gr.	Sri. R. Noel	
6. Peon	1. Sri. Radhakrishnan Nair	
	2. Smt. Saraswati	
6. Jeep Driver	Sri. U. Ravichandran	(vacant)
7. Watchman		
Para-technical		
KAU (306-31-034)		
Sr. Farm Supervisor	Smt. R. V. Balamani	(on leave upti 31.5.98)
Farm Asst. Sl. Gr.	Sri. P. R. Sathian	
Farm Asst. Sr. Gr.	Sri. A. A. Abdulla	
Farm Asst. Sr. Gr.	Sri. C. K. Santhosh	
Farm asst. Gr. II	Sri. K. V. Babu	
Lab Asst.	Sri. K. K. Ramachandran	Vacant
Tractor Driver		
NARP I- Central Zone (306-31-035)		
Technician		
Overseer	Sri. P. M. Ramesh Chandran	(on working arrangement from Directorate of Physical Plant, Sub Division Office, KCAE&T, Tavanur)
	Sri. Ambujan. C. V.	(Relieved on 27.3.98)

KCAET-TAVANUR

Name of post	Name of member of staff	Remarks if any
<p>Scientific Dean(Ag.Engg.) LWRCE Asst.Professor(Sr.Scale) Asst. Professor</p> <p>IDE Asst. Professor (Sr.Scale) Asst.Professor(Sr. Scale) Asst.Professor Asst.Professor Asst.Professor Asst.Professor Asst.Professor</p> <p>PHT & AP Assoc.Professor Assoc.Professor Asst.Professor</p> <p>FPME Professor Asst.Professor</p> <p>SAC Professor Assoc.Professor Assoc.Professor Asst.Professor (Sr.Scale) Asst.Professor(Sr.Scale) Asst.Professor(Sr.Scale) Asst.Professor Asst.Professor Asst.Professor Asst.Professor Asst.Professor</p> <p>AICRP ON FIM Assoc.Professor</p> <p>AICRP ON ERAS Assoc.Professor Asst.Professor</p> <p>PDC Asst.Professor Assoc.Professor</p> <p>I.F Asst.Professor(Sr.Scale)</p> <p>Administrative & Supporting Sr. Administrative Officer Section Officer(Hr. Gr.) Section Officer(Hr. Gr.)</p>	<p>Dr. K. John Thomas</p> <p>Noble Abraham Renuka Kumari J K. P. Rema Xavier K. Jacob Leven K. V</p> <p>Alexander Seth Sasikala D. E. K. Kurien P Suscela Mary Regina F V. M. Abdul Hakkim</p> <p>Dr. Ganesan Dr. Santhi Mary Mathew Prince M. V.</p> <p>Prof. C. P. Muhammad Dr. V. R. Ramachandran Hamna Mullakkadavath Jayan P. R. Joby Bastian Sreekala G.</p> <p>Dr. K. I Koshy Dr. P. C. Antony Dr. E Komala amma V. P. Lakshmi Kutty Dr. P. V. habeeburrahman M. Velayudhan Kutty Dr. K. M. Valsamma Dr. K. A. Bindu Josephina Paul Dr. V Anilkumar</p> <p>Dr. M Sivaswamy</p> <p>Jippu Jacob Sathyajith Mathew</p> <p>Dr. U. Sreelatha Dr. Jobi V. Paul</p> <p>P. Rajendran</p> <p>D. P. Koyamu C Arumughan K. Leelamma</p>	<p>(on study leave)</p>

Section Officer(Hr. Gr.)	K. U. Prabhavathy	
Section Officer(Hr. Gr.)	P. Janardanan	
Sr. Officer Superintendent	K. P. Abdurahiman	
Sln. Gr. Assistant	K. J. Kuruville	
Sr. Gr. Assistant	V. K. Sobhana	
Sr. Gr. Assistant	A. Radhakrishnan	
Sr. Gr. Assistant	M. Rajan	
Sr. Gr. Assistant	C. gopi	
Assistant Gr. I	P. radha Gopan	
Assistant Gr. I	M. Muraleedharan	
Assistant Gr. II	P Sivaprasad	
Assistant Gr. II	K. Velayudhan	
Assistant Gr. II	Johnson P. I.	
Assistant Gr. II	Bibndu P	
Sr. Gr. Typist	Balasubramanian R.	
Typist Gr. I	P. Ratmalaram	
Typist Gr. I	M. K. Thankamani	
Typist Gr. I	V. M. Muraleedharan	
Typist Gr. II	T. Kamalam	
Typist Gr. II	Varghese V. O.	
Matron	T. P. santhamma	
Hostel Manager		Vacant
Class IV	C. Narayanan	
	T. Gangadharan	
	K. Kuttikrishnan	
	A. Burhanudeen	
	P Amina	
	K. P. Ayyappan	
	K. V. Moideenkutty	
	K. Kunhumon	
	N. P Thankamoni	
	T. Rugmini	
	Yasoda A. P	
	P. Krishnan	
	A.V. Dasan	
Technical & Supporting		
Jr. Programmer		Vacant
Reference Assistant	K. P. Sathian	
Library Assistant	K. Harris	
Technical Supervisor (Gr.I)	C. Velayudhan	
	T. P. aboobacker	
	K. T. Ramachandran	
Technical Supervisor Gr.II	V. K. asokan	
	K. Aravindan	
	P Balakrishnan	
	N Narayanan	
	T. Surendran Pillai	
	P Krishnakutty Nair	
	P. V Kumaran	
	K: abdul rahiman	
	I Jayaprakash	
	K. K. subramanian	
	M. K. Balakrishnan	
Pump Operator		Working against the post of Trade Asst.
	A.P. Ayyappan	
	A Kotha	
Driver (LDV)	N. V. Krishnan	
	M. V. Ramachandran	
	M. K. Narayanan	

Farm Supervisor (Agri)Gr. I	M. V. Raveendran	
Farm Supervisor(Vety)Gr. I	K. Sethumadhavan	
Farm Supervisor(Vety)Gr.II	P. Balakrishnan	
Farm Asst. Sr.Gr.(Agri.)	K. Shanmughan	
Farm Asst. Sr.Gr.(Agri.)	T. P. Aboobnacker	
Farm Assistant Gr.-I (Agri.)	K Mohammed	
Audio Visual Operator	C. P. Alikutty	
Workshopmate	Abdul razak	
Gardener	T. N. Balan	
Other positions	K Mammikutty	

SCRC-KONNI

List of members of staff as on 01-04-1998

Name of post	Name of the member of staff	Remarks if any
Scientific		SCRS,Konni was handed over to the University only on 1/7/1998
Administrative		
Supporting		
Para – technical		
Ministrial		
Other positions		

VETY. HOSP. KOKKALAI

Name of post	Name of the member of staff	Remarks if any
Scientific		
Professor	Dr. E. Madhavan	On working arrange- ment from Vety. College, Mannuthy
Assoc.Professor	Dr.K. M Jayakumar	“
Assoc.Professor	Dr. John Martin K. D	“
Administrative		
Section Officer	Mrs. M Baby	
Supporting		
Farm Supervisor	Mr. M. Narayanankutty	
	Mr. M. V. Chandran	
Para-technical		
Pharmacist	Mr. C. K. Alias	
Ministerial		
Assistant Gr. I	Mr.Liakhat Ali Khan, L. A	On working arrangement
Other positions		
Lab attendant	Mr. A. A Krishnan	
Peon	Mr. K. S Radhakrishnan	
Sweeper cum Scavenger	Mr. A. K Shylan	

SRS-THIRUVALLA

Name of post	Name of the member of staff	Remarks if any
Scientific		
Assoc. Professor(Agron)	Dr.D Alexander	Head of the station
Assoc. Professor (Pl.Path)	Dr. Babu George	
Assoc. Professor (Hort.)	Dr. Jessy M. Kuriakose	

Assoc. Professor(Pl.Br.) Asst. Professor(Agron.) Asst. Professor (Agron.) Administrative Supporting Admn. Assistant Assistant Gr. I Assistant Gr. I Typist Peon Para-technical Farm Supervisor Gr.I Farm Assistant Gr. Farm Assistant Gr. II Lab Assistant Gr.II Driver Ministerial Other positions	Dr. K Sreekumar Dr. R Ilangovan Sr. Thomas Mathew Sri. K. P Rajan Sri. P. B Anilkumar Sri. S Gopakumar Smt. A. K Indiradevi Amma Sri.K. Lalu Sri.E. K Sukumaran Sri.E. M Eldo Sri.T. K Omanakuttan Sri.V.R Lates Sri.C. A Chacko	Posted at SRC, Menonpara
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RRS-VYTTILA

Name of post	Name of the member of staff	Remarks if any
Scientific Professor (Pl.Br.)& Head Assoc. Prof(Pl.Br.) Assoc. Prof. (Aqua.) Assoc. Prof(SS & AC) Assoc. Prof(Agron) Asst.Prof(Pl.Br.)	Dr. K. Sivan Pillai Sri. K. C. Chandy Dr. C. G. Rajendran Dr. K. Anilakumar Dr. V. Sreekumaran Smt. K.S Shylaraj	Till 31.05.98 From 06.06.98
Administrative Administrative Asst.	Smt. L.Syamaladevi	
Supporting Farm Supervisor Gr.I Farm Asst. (Sel.Gr.) Farm Asst.(Sr.Gr.)	Sri. Haridas Sri.P.N. Sadasivan Smt.PadmaNarayanaPillai Sri.Abdul Majceed Sri. K.K. Raghuraj	Till 09.06.98 From 09.06.98
Para-technical Lab. Asst. Pump operator	Sri. P.M Gopi Sri.I.R.Balan Sri. A. Narayanan Sri. N. Raman Sri. T.P Jose Mathew	Till 8.05.98 From 01.06.98 to 25.07.98 From 29.07.98 to 21.08.98 From 24.08.98 to 31.12.98
Fisherman Driver	Sri. K. G Gopi Sri. T.Y Daniel	
Ministerial Sel.Gr.Asst.	Smt. K.R. Santha Smt. M. D. Kunjamma	From 25.05.09 From 02.11.98 to 07.11.98
Sr. Gr. Asst.	Sri. A. S. George Kum. Annamma Scaria	Till 28.05.98 From 16.11.98
Asst.(Gr.I) Typist(Gr.I)	Smt.V.A. Suprabha Smt.V.K. Rema	Till 19.05.98
Other positions Class IV	Sri. K.J.Jose Sri. K. B. Prasad	

RARS-PATTAMBI

Name of post	Name of the member of staff	Remarks if any
	Dr. K. A Mariam ADR I/c Dr. L Natarajan Dr. T. E George Dr. P Ahammed Dr. I Johnkutty Dr. S Leenakumari Dr. T. J Rehmathniza Gracy Mathew E Sreenivasan Gregory Zacharia Jyothi M. L G Valarmathi Dr. T Girija Dr. C Beena Prema A Saidalikutty N C.PM. A Azeez E. L Raichel C Subramanian V. P Ramakrishnan T. Veelayudhan T. P Gangadharan P.R Karthikeyan P.K Rajasekharan K. Radhakrishnan M. V Yusuf M.M George Jolly Joseph G Jayakumar K. V Mohanan E. Abdul Hakkim P Surendran C. Kunhan V. P Balasubramanian T. Ramakrishnan K Divakara Panikker K.S Chandrasekharan N Safiya P Suresh Babu M. V Arumukhan K. Parameswaran Beg Bahadur C Ramakrishnan M.P Mohanan K Kumaran P Rayankutty P Mohammed K. C Suryabahadur A Unnikrishnan C Mohammedkutty C Parukutty P Kunhilakshmi N Hamna M Narayananan A Mohammedkutty P C Koya N Rugmini	

Administrative	E. K Bharathy	
Admn. Officer	M. P Ahammed	
Section Officer	K Rangaswamy	
Section Officer	T. V Raveendramohan	
Section Officer	K. P Killiyani	
Assistant	B Venugopal	
Assistant	K Surendran	
Assistant	A. V Sreenivasa Raghavan	
Assistant	P. M Suresh	
Assistant	N Indu	
Assistant	M S Ramakrishnan	
Assistant	P Ramdas	
Assistant	M Harigovindan	
Assistant	P. V Girija	
Assistant	G. Sudheer	
Office Suprnt	Sukumari Amma B.	
Typist	Krishnakumari K	
Typist	Santhakumari V	
Typist	Gopinathan E	
Typist	Vijayalakshmi K	
Peon	Krishnankutty M	
Peon	P Mohammed	
Peon	P. K. Aboo	

RARS-PILICODE

Name of post	Name of member of staff	Remarks if any
Scientific		
Professor	Smt. Sumangala.S.Nambiar	
Assoc. Professor	Dr. G.S.L.H.V. Prasada Rao	
	Dr. T.M. Kurian	
	Dr. K.C. Raghavan	
	Dr. M Govindan	
Asst. Professor	Sri. K.P. Mammootty	
	Dr. V. Jayaprakash Naik.	
	Dr. M.P. Giridharan	
Administrative		
Admn. Officer	Smt. T.A. Zainaba Beevi	
Section Officer	Smt. S. Droupathy	
	Sri. V. Narayanan	
Sr. Office Supdt.	Smt. P. Radha	
Sln. Gr. Assistant	Sri. E.V. Sasidharan	
	Smt. Suma Varghese	
Assistant Gr.II	Sri. K.K. Assootty	
	Sri. S. Sunil Dutt	
Steno to ADR	Sri. K. Raveendran	
Typists	Smt. P. Sarasu	
	Sri. M.P. Damodaran	
	Smt. V. Anitha	
Driver	Sri. A.P. Pavithran	
	Sri. K. Surendran	
Peon	Sri. K. Cheriyaambū	
	Sri. T. Damodaran	
	Sri. P. Appukkuttan	
	Sri. K. Ambu	
Class IV	Sri. T.P. Balakrishnan Nair	
	Sri. K. Pokkan	
Regular Mazdoor	Sri. P. Cheriya Kannan	

Class IV	Sri. K. Cheriambadi Sri. P. Kariambu Sri. P. Raghavan Sri. K. Chandan Sri. P. Pokkan Sri. P. Kumaran Sri. K. Ambadi Sri. K. V. Ambu Sri. K. V. Narayanan Sri. V. Chirukandan Sri. K. V. Kunhiraman Sri. Vellayi Ambu	
Technical		
Farm Supervisor	Smt. K. Rugmini Amma	
Farm Supervisor Gr.I	Sri.M.M. Sankaran	
Farm Supervisor Gr.II	Sri.K.K. Vijayakumar	
Farm Assistant (Agri)	Sri. A.Ramakrishnan Sri. Surendran P. V. Sri.K.Pradeepkumar Sri. N.K. Muralidharan Sri.P. Ratheesh Sri.P. Ajithkumar	
Farm Assistant (Vety.)	Sri.P. Kunhiraman Sri.V.Bhaskaran Smt. P.Santhakumari	
Technical Assistant	Sri. P. Vijayakumar	
Lab Assistant	Sri. T. Raghavan Sri.V.Narayanan Sri.M.V. Radhakrishnan	
Technician/Electrician	Sri. Stijo George	
Pump Operator/Oil Engine Driver	Sri. P.V.Mohanan Sri. M.L. Ramakrishnan	
Ministerial		
Other positions		

DAIRY SCIENCE & TECHNOLOGY

Name of post	Name of the member of staff	Remarks if any
Scientific Administrative & Supporting staff	Dr.V.Prasad, Special Officer. Smt.E.R.Vilasini, (steno) Sri.C.C.George, Sr.Gr.Asst. Sri.E.A.Md. Shereef. Asst.Gr.II Sri.Manoj.T.R. Gr. II	
Dairy Asst.		temporarily filled from Employment Exchange
Driver		on daily wages

KHDP-VELLANIKKARA

Name of the member of staff	Name of post	Remarks if any
Scientific KHDP Funds Dr. T.R. Gopalakrishnan	Assoc. Professor & Head Assoc. Professor	
Dr. K. Aravindakshan	Assoc. Professor	
Dr. P. Maicykutty Mathew	Assoc. Professor	
Dr.V.S. Devadas	Professor	

Sri. P. Reghunath Dr. Gokulapalan KAU Funds- Posted in the College of Horticulture, Vellanikkara and allowed to work at KHDP field	Assoc. Professor	
Dr.T.Radha	Assoc. Professor	
Dr.A.K.Babylatha	Assoc. Professor	
Dr.Sheela Paul	Assoc. Professor	
Dr.Nandini.K	Assoc. Professor	
Smt. Omana Pavunni	Assoc. Professor	
Administrative		
Mr. K.R.Chakkunny	Admn. Assistant	Joined on 12.6.98 & Relieved on 17.6.98
Mr.N.K. Unnikrishnan	Admn. Assistant	Joined on 17.6.98
Mrs.S. Vasanthakumari	Assistant Sel. Gr	Relieved on 12.5.98
Mr.Babu varghese	Assistant Gr. I	Joined on 12.5.98
Mrs. P.J. Elizabeth	Typist	
Technical Staff		
Smt.N.J. Eliamma	Farm Supervisor	Joined on 5.6.98
Mr. P.K Kumaran	Farm Assistant	Relieved on 5.6.98
Mr.M.J. Joseph	Farm Assistant	Joined on 14.5.98
Supporting		
Mr. Mathai Kurien	Driver	
Mr. O.R. Sasidharan	Driver	Relieved on 1.6.98
Mr. P.M. Sudhakaran	Driver	Joined on 1.6.98
Smt.T.K. Indira	Research Associate	
Sr. T.S. Joseph	Research Associate	
ICAR Ad-hoc		
Ms. K.R. Valsalkumari	Research Associate	Joined on 2.11.98
Mr.M. Kausalingam	Research Associate	Joined on 3.11.98

RARS – VELLAYANI

Name of post	Name of the member of staff	Remarks if any
Scientific		
Assoc Director	Dr. R. Vikraman Nair	
Assoc Professor		
Soil Science	Dr. Babukutty	
(Plant Breed.)	Dr.P. Manju	
Dr. Abdul Khader (Assoc. Professor)	(Assoc. Professor)	
)	Dr. Abdul Khader	
	(Assoc. Professor)	
	Dr. P. Saraswathi (Professor)	
Statistics		Post shifted to RARS
Asst. Professor		Kumarakom
Soil Science	Smt. C. Lekharani	(Study Leave)
	Smt. Susan Thomas (Comp. Sci.)	
Plant Breed.		Vacant
Statistics	Dr. L. Rajamony (Assoc. Prof.)	
Extension	Smt. Sreelathakumari	
Horticulture	Dr. Hebsy Bai (Assoc. Prof.)	
	Dr. Arthur Jacob (Assoc. Prof.)	
	Dr. Meenakumari (Asst. Prof.)	
Entomology	Dr. Hajilal. M.S. (Assoc. Prof.)	
Plant Pathology	Sri. D. Sulochanan F.S. (Gr.II)	
Agrl. Engg.	Sri. Jones Charles F.A (Gr. I)	
Farm Assistant	Smt. S. Indirakumari	

Lab. Assistant (Gr. II) Driver (Gr.II) Sri. P. S. Vijayakumaran Nair	Sri. V. Sudhakaran Sri. P. S Vijayakumaran Nair Sri. V.P. Madhukumar Smt. M.N. Sreedevi Smt. P. Lalithakumari Amma Smt. S. Saraswathy Amma Sri. N. Haridas Smt. P. Sarojini Ammal Sri. S. Vallinayakom Pillai (Sel.Gr.) Smt. Mridulakumari. T.A (Sel.Gr.) Sri. Saleel M.E. (Sr.Gr.) Sri. N Hrishikesan Nair (Sel. Gr.) Smt. B Sulekha	
Admn. Officer Section Officer		
Sr. Office Supdt Typist (Gr.I) Steno Assistants		Vacant
Typist (Gr.I)	Smt. P. Radha(Off.Supdt.) Smt. B Savitha devi Sri. C. Madhusoodanan Nair (Hr.Gr.)	Vacant
Duplicating Machine Operator Photographer Class IV	Sri. S. Manikantan Sri. M Nagappan	
Other positions		
AICRP on Forage Crops		
Assoc. Professor Agronomy Asst. Professor Pl. Breed. Agronomy Farm Assistant (Gr.I)	Dr.S. Janardhanan Pillai Dr. D. I. Suma Bai (Assoc. Prof.) Dr. S. Lekshmi (Asst. Prof.) Sri. David Dharmakumar(Gr. I) Sri. K. Justin (Gr. I) Sri. Sajeev. K.S. Smt. Vijayakumari. D. Smt. Indirakumari. K. Smt. Rosemary. S.	
Farm Assistant (Gr.II) Lab. Assistant (Gr.III) Assistant (Gr.II) Typist (Gr.II)		
AICRP (Nematode pests)		
Assoc. Professor Asst. Professor	Dr. M. S. Sheela Dr. Jiji. T Smt. K.S. Prameela Sri. Tony Abraham Sri. Sanilkumar. S.	
Farm Assistant (Gr.II) Lab. Assistant (Gr.III)		
AICRP (Pesticide Residue)		
Assoc. Professor Asst. Professor	Dr. T. Nalinakumari Dr.S.Naseema Beevi (Assoc. Professor) Sri. Rajan Asari (Assoc. Professor) Dr. Thomas Biju Mathew (Assoc. Professor) Sri. R. Raveendran Nair	
Lab. Assistant (Gr.III)		
AICRP (Honey Bees)		
Assoc. Professor Technical Asst. Lab. Asst. (Gr. II) Farm Asst. (Gr. I)	Dr. S. Devanesan (Asst. Prof.) Dr. R. Krishnakumar (Asst. Prof.) Smt. S. Santha Sri. C.S. Vijayakumar	
DST project "Experimental Agromet Advisory Service"		
Technical Officer	Smt. L. Girija devi	

	(Asst. Professor)	
Providing Information base for the region (Data base system) - Plan		
Technical Assistant	Sri. P. Sreekumar	
AICRP on Tillage		
Asst. Prof. (SS&AC)	Dr. P.B. Usha (Asst. Professor)	
Class IV Employee Lab. Assistant	SriM. Anilkumar Smt. Prasannakumari	
Breeding for interspecific & intergenetic hybrid of orchids		
Lab. Assistant	Sri. Gopalakrishnan. C	
Bio control of Aphids and Mites infesting crops		
Lab. Assistant	Smt. Sreelatha. R.	

RARS – KUMARAKOM

Name of post	Name of the member of staff	Remarks if any
Scientific - 341-31-0034		
Associate Director\Professor of Agronomy	Dr. PJ Joy Professor	Holding charge from 26-11-98
Professor (Ag. Bot.)	Alice Antony Associate Professor	
Associate Professor (Agrl. Ento.)	Dr. PJ Joy Professor	
Assistant Professor (Agri. Stat.)	P. Gangadharan Associate Professor	
Assistant Professor (Agron)	Dr. Elizabeth K. Syriac Asst. Professor (Sr. Scale)	
Assistant Professor (Animal Reproduction)	Vacant	
Assistant Professor (SS & Agrl. Chem)	Vacant	
Assistant Professor (Extn.)	Vacant	
Assistant Professor(SS & Agrl. Chem)	Vacant	
Assistant Professor (Plant Breeding)	Vacant	
Assistant Professor (Bio-Chem.)	S. Mini Asst. Professor	
Assistant Professor (Fish)	Dr. Anuradha krishnan Assoc. Professor (Aqua)	
Assistant Professor (Pl. Physiology)	KA Inasi Asst. Professor (Sci. Gr.)	
Assistant Professor (Weed Sci.\Agron)	KC Rajan Associate Professor	
Assistant Professor (Agrl. Engg.)	Asha Joseph Asst. Professor	
Assistant Professor (Hort)	Dr. Joseph Philip Associate Professor	
Assistant Professor (Agrl. Eco.)	Dr. K.J. Joseph	

Dr. KG Padmakumar
Assoc. Professor (Aqua)

NARP Phase II

Associate Professor (Agrl. Engg.)

Vacant

Assistant Professor (Micro)

Dr. A.V. Mathew
Associate Professor

341-31-2285

Associate Professor (Pl. Path.)

Dr. K.J. Alice
Professor

Associate Professor (Agron.)

Dr. K. Geetha
Asst. Professor (Sr. Scale)

Administrative and Technical Staff 341-31-0034

Farm Assistant (Agri.)

CV Kuttappan
FA. Sl. Gr.

PP Philip
F.A. Sr. Gr.

PS Sanalkumar
F.A. Sr. Gr.

Mathew Thomas C.
F.A. Gr. I

KC Varghese
F.A. Sl. Gr.

Lab Assistant

VK Vasu
Lab Asst. Gr. I

Pump Operator

PN Mohanakumaran

Bus Attendant

KK Raghavan

Driver LDV

TM Francis

Assistant

CP Jayakumar
(Asst. Sr. Gr.)

KP Sajan (Asst. Sr. Gr.)

Typist

Mini Joseph
(Typist Gr. I)

Peon (HG)

KK Thankappan

Peon

MG Ponnappan

MK Sivaraman

Watchman

Vacant

Sr. Office Superintendent

KK Gopikuttan Nair

CB Merlin

Section Officer

MR Ramachandran Nair

K. Govindan

341--31-0035

Duplicator Operator

CG Mohanan

Lab Asst. Gr. II	PS Retnam
Lab Asst. Gr. III (Hr.Gr.)	Mary Sebastian
Lab Asst. Gr.III	George Murikan
	TP James
Drive (HDV)	G Balachandran Nair
Technician	Thomas Scaria (Sln. Gr.)
Assistant	PG Sreekantha Pai (Sln. Gr. Asst.)
	N Gopinathan Kartha (Sl. Gr. Asst.)
	PN Shylaja Devi (Gr. I)
Office Superintendent	MC Jayakumar
Typist	K Radhamany (Sr.Gr.)
	PT Ajith (Gr. I)
Class IV (Watchman)	Anoop Sankara Pillai
	EP Sasidharan
Administrative Officer Gr. II	KI Chakkunny
Tractor Driver	Vacant
341-31-2285	
Farm Assistant (Agri.)	MK Vijayan Farm Supervisor (Gr. II)
	MV Sasidharan Nair Farm Assistant (Sl. Gr.)
Driver (LDV)	OR Sasidharan
341-31-2286	
Farm Assistant (Vety.)	PA Francis Farm Supervisor Gr. II
Assistant	TK Thankamma
Watchman	Vacant
Fisherman	Vacant
341-31-8028	
Field Investigator (on Daily wages)	G. Pramod Leena Kurian
Research Associate\Sr. Research Fellow\Fisherman	
Evaluation of Kuttanad Ecosystem for possible contamination	
Research Associate	Lekha P Nair
Exploitation of genetic variability in Garcinia Cambogia	
Research Associate	Manoj Sebastian
Pathobiology of diseases of Fresh water Fishes with special Ref. EUS	

Sr. Research Fellow	PV Yeldose	
	Saju MS	
	Manu PS	
	Dileepkumar V	
Fish culture in cage and pen enclosures in Kuttanad lake		
Sr. Research Fellow	Shilja Joetreson	
Fish Ranching in Vcmbranad lake		
Research Associate	Radhika R.	
	PS Manu	
	KJ Roychan	
Data Entry Assistant	Vacant	
Driver	CP Karunakaran Nair	on working arrangement
Fisherman	Bahulayan P	
	Kunjumon PM	
	KK Vijayan	

RCIRC-KOZHICODE

Name of post	Name of the member of staff	Remarks if any
Scientific		
Professor	Dr. P.P.Balakrishnan	
Administrative		
Sel. Gr. Assistant	N.Kunhilakshmi	
Supporting		
Peon Hr. Gr.	C.Kunhikrishnan	
Para-technical		
Farm Supervisor(Vety.)	T.P Balakrishnan Nair	
Farm Assistant (Vety.)	T. Venu	
Lab Assistant	K.Chardran	
Attendant	P.Devakaran	

BRS & PRS

Name of post	Name of the member of staff	Remarks if any
Scientific		
AICRP(TF)		
Assoc.Professor(Hort)	Dr. Rema Menon,	
Asst.Professor(Hort)	Smt. Premalatha	
Asst.Professor(Pl.Path.)	Dr. Anitha Cherian.K	
Asst.Professor(Ento)	Dr. J. S. K Charles	Relieved on 30.11.98
NARP		
Assoc.Professor(Agron.)	Dr. S. J Pillai (Assoc Prof. & Head)	Relieved on 04.06.98
Asst.Professor(Hort.)	Dr. P.K. Sudhadevi	
Administrative & Supporting		
AICRP(TF)		
Typist Gr.2	K.K Parameswaran	
Peon	K. Sarada	
Admn. Assistant	A. K Kamala Bai	
Assistant Gr.1	Jojo Paul (Gr. 2)	

Lab Attendant Messenger NON PLAN Pump Operator Ploughman(Class IV) NARP Lab Assistant Para-technical ICAR Farm Supervisor Farm Assistants	Sri. T. K Velayudhan Sri. V. Gopinathan Sri. K. A Subran Sri. P.K Subran Sri. P.K Anandan Smt. T. A Vasanthy Sri. R. Reghu Sri. P.K Reghu Sri. A. R Venu Sri. P. G Satheesh	
NON PLAN Farm Supervisor NARP Farm Supervisor Farm Assistant Ministerial ICAR Assistant Gr. I	Sri. M. T Varghese Sri. N. M Mohanan Sri.M.C Sachithanandan Smt. K. S Jitha	
NON PLAN Assistant	Sri. P.L Tony Smt. M. N Jayanthi	Till 18.07.98 From 18.07.98
NARP Typist	Smt. T. C. Ajitha Smt. P.K Sara Sri. M. C. Devassy	Till 16.05.98 From 21.05.09
Other positions Field Investigator	Smt. Jayasree	On daily wages

AMPRS - ODAKKALI

Name of post	Name of the member of staff	Remarks if any
Scientific Associate Professor (Agronomy) Associate Professor (Entomology) Associate Professor (Agri. Chemistry) Associate Professor (Agronomy)	Dr. J Thoma Dr. Baby P. Skaria Dr. Samuel mathew Sri. P.P.Joy	
Administrative & Supporting Administrative Assistant Asst. Sr. Grade	Smt. P.K Elsy Sri. K.C. Varghese Sri C. C. George	
Typist Gr. I Peon Class IV	Smt. T. G.Jalaja Sri. K.B.S.Sivarama Kurup Smt. K.A.Ponnamma Sri. M. R. Sudhakaran Sri. P.V. Ayyappankutty	
Para-technical Farm Supervisor Gr. I	Sri. E. N Sudhakaran Nair Sri. V. Jaims	
Farm Supervisor Gr.II Farm Asst. Sel. Gr.	Sri. John Varghese Sri. N. R. Rajan	
Other positions		

PRS – VAZHAKULAM

Name of post	Name of the member of staff	Remarks if any
Scientific Asst. Professor(Pl.Br.)	K.P Kuriakose	Head of Station
Administrative	-	
Supporting	-	
Technical	-	
Research Associate	-	
Ministerial		
Other positions		

CRS - PAMPADUMPARA

Name of post	Name of the member of staff	Remarks if any
Scientific AICRP on Spices KAU(Non-plan)	Dr. Hebsy Bai N Mini Raj Sri. M Murugan	One Asst. Prof(Extn.) & one Asst. Prof.(Pl.Br.) Posts under NARP were vacant One Asst. Prof.(Pl.Path) and one Assoc.Prof.(Bot.) Posts under KAU(Non-plan-were vacant
Administrative	Smt. Vijayamma Smt. P Valsala, A.K Sri. Shaji, K. T	
Supporting	Sri. Sasikumar .P Sri. Alikhan C. A Sri. Antony M. T Sri. Paulose Mathew Smt. Aleykutty K Smt. Radhamony	One typist of Gr. II post was vacant under NARP
Para-technical	Sri. Pradeep C. G Sri. Prasadu V. P Sri. Mohandas K. G Sri. Kuttichan T. V Sri. Joseph P. V	On eFarm supervisor Gr. I & one Farm Asst. Sr. Gr. post were vacant
Ministerial	-	
Other positions	-	

RRS – MONKOMPU

Name of post	Name of the member of staff	Remarks if any
Scientific		
Professor	Nil	
Associate Professor & Head	Dr. N.Remabai	Posted against the post of Asst. Prof.
Assoc. Professor	Dr.Sosamma Jacob	Posted against the post of Asst.

Assoc. Professor	Dr. P.Santhakumari	Prof. Posted against the post of Asst. Prof.
Assoc. Professor	Dr.Sumam Susan Varghese	Posted against the post of Asst. Prof.
Assoc. Professor	Dr.D.Ambikadevi	Posted against the post of Asst. Prof.
Assistant Professor	Sri.P.H.Latif	
Assistant Professor	Smt.R.Devika	
Assistant Professor	Smt.Annie Koruth	
Assistant Professor	Smt.Bridgit, T.K.	Posted against the post of Assoc.Prof. till 31-8-98
Technical staff		
Farm Assistant (Agri.)	CV Kuttappan FA. Sl. Gr.	till 9-6-99
	K.S.Pratapam F.A. Gr.II	
	Pratheepan, K. F.A. Gr.I	30-5-97
	K.C.Varghese, F.A. Sel. Gr.	31-8-98
	Mathew Thomas, Farm Asst.Gr.II	Joined 22-9-98
	T.J.Mathew F.A. Sl. Gr.	Joined 10-6-98
Lab Assistant	G.Vasudevan Lab Asst. Gr. III (HG)	
	K.Kunju Pillai, Lab.Asst.Gr.I	
	V.Viswanathan, Lab.Asst.Gr.II	
	P.G.Balakrishnan, Lab.Asst.Gr.III	
	Joseph Peter, Lab.Asst.Gr.III	
Admn. & Supporting staff		
Admn. Assistant	B.Sarasamma D. Vijayamma	till 17-5-98 from 18-5-98
Assistant Sel. Gr.	V.Govindarajan	
Assistant Sel. Gr.	N.V.Unnikrishnan Nair	
Assistant Sel. Gr.	M.Mohamined Basheer	from 20-6-97
Assistant Gr.I	P.B.Santhoshkumari	from 19-5-98
Typist Sel.Gr.	P.K.Sreedeviamma	till 19-5-98
Typist	Sreemathi Kumari	from 20-5-98
Peon	K.G.Krishnakumari	

LDV Driver

C.C.Chacko

Boat Driver (Hr.Gr.)

M.D.Janardhanan

CRS - ANAKKAYAM

Name of Post	Name of the member of staff	Remarks if any
Scientific Asst. Prof. Sr.Gr Asst. Professor Assoc. Professor	Dr.P.V. Nalini M.C. Narayanan Kutty M.P. Abdurazak	On working arrangement
Administrative Asst. Sln. Gr Typist Sln. Gr.	C.Rajagopal K.T. Vijayalakshmi	
Supporting Class IV Full Time Sweeper Mali	K.V. Balakrishnan	Vacant from 1.3.98 Vacant Vacant
Technical Farm Sup. Gr. II Farm Asst. Sln Gr.	K. Mohammedali A. Abdurahiman	
Ministrial Other positions Permanent Labourers	T.Ali M.Mohammed C.K. Aboobacker T.Nabeesa C.K.Pathumma	
Security Guards	P.P. Vijayan T.P. Narayanan Kutty	

AICRP-KARUMADY

Name of post	Name of the member of staff	Remarks if any
Scientific Associate Professor (Agril. Engg.) Asst. Professor (Agron) Asst. Professor (Agril. Engg)	Sri. M.S. Hajilal Sri. Madhusudan Nair Sri. T. D. Raju	- Asst. Prof. (Sel. Gr.)
Administrative/Supp. Staff Assistant Gr. I Typist Gr. I Peon Watchman	Smt. E. V. Ambily Smt. V. Lathika Sri. K. Krishnankutty Sri. K.K. Sreekumar Sri. Mohanan Smt. B. Thankamany	- Security Guard (P/L) Security Guard (C/L)
Section Officer Technical Staff Farm Asst. (Agl.) Sr. Gr. Farm Asst. (Agr.) Gr. II	Sri. G. Udayakumar Sri.K.O.Shahul Hameed Smt. I. Krishnakumari	KAU Post Farm Asst.(Agr) Sel Gr. Farm Asst.(Agr.)Sr. Gr. "
Draughtsman Gr. II Overseer Gr. I Lab Asst. Gr. II	Sri. M. Mohammed Haneef	Vacant Vacant

Technician Gr. II Pump Operator Driver Gr. III	Sri.P.E.Rajappan	Vacant Vacant -
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CSR-VADAKKANCHERRY

Name of post	Name of the member of staff	Remarks if any
Scientific Assoc. Professor	Dr. Abraham Varghese	
Administrative Supporting Para-technical Farm assistant Sr. Gr.	Mr. V.J Rajendran Mr. K.C. Sanuprasad Mr. Sasidharan Nair Mr. P.C. Girijavallabhan Mr. T. J Mathew Mr. P.S. Sanalkumar Smt.S. Kaladevi	
Typist Sr. Gr.		
Ministerial Other positions Driver Watchman	Mr. T. M. Francis Mr. N. Viswanadhan	

CRS - MADAKKATHARA

Name of post	Name of the member of staff	Remarks if any
Scientific	Dr. M Abdul Salam Dr. Susannamma Kurien Ms. Suma B	
Administrative Supporting	Smt. P.A Remani, Lab Asst. Sri. S. Sasi, Class IV Sri. P.I Rappai, LDV Driver	
Para-technical	Sri. T. C Sidharthan, FS, Gr. I Sri. K. S Thankappan, FS, Gr. I	
Ministerial Other positions	Sri. K. V Subramanian, Asst. Gr. I	

COH-VELLANIKKARA

a) Research papers

- Abraham, C.T., Devi, K.M.D and Sudheesh, M.V. 1998. Residues of pesticides applied in cardamom fields. *Spice India*. 11 (2) : 13 -14
- Chacko, R.S. Babu. S.K.V. and Rajan, S.1996. Chromosome number of semi wild form of Okra. *J. Trop. Agric.* 34 : 138 -139
- Chandrika C. and Unnithan, V.K.G. 1998. Clustering genotypes based on genotype - environment interaction when error variances are heterogenous. *Biometrical J.* 40
- Chandralakha, K., Rajendran, P.C and Indu, C.N. 1998. In vitro response and callus recalcitrancy in coconut(*Cocos nucifera* L) *National Sem. Plant Biotechnology for sustainable hill agriculture*. Pithoragarh, UP.
- Elsy, C.R and M.Rangaswamy. 1999. Characterisation and utilisation of alternate source of male sterility for hybrid rice programme. *Proc. 11th Kerala Science Congress*, CPCRI, Kasraragode, 27 Feb-1st March 1999
- Geethakutty, P.S. 1998. Social commitment expected roles of women professionals in higher education *Proc. Sem. Women participation in higher education* , Alagappanagar, Karaikudy
- George, S.T., Mathew, K.L. and Mridula, K.R. 1998. Standardisation of vegetative propagation in mangosteen (*Garcinia mangostana* L.) *Abstr. Nat. Sem .on new horizons in production and post harvest management of tropical and subtropical fruits*. New Delhi. p. 13 -14
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- Girija, D., Malathy, V.G and Magu, S.P. 1999. Molecular aspects of γ - HCH degradation by bacteria. *Abstr. Natl. Symp. Role of Biochemistry and Biotechnology in twenty first century*, UAS, Bangalore, p.191-192
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- Gopalakrishnan, T.R., Indira. P. and Peter K.V. 1998. Ujjwala - a chilli variety resistant to bacterial wilt. *Spice India* 11 (2): 10 -13
- Indira, P., Rajalekshmy, V.S and Peter, K.V. 1998. All about *Capsicum* Spp. *Indian Spices* 34(3): 10 - 11, 17 -20
- Indira, V. and Udaya, P.K. 1999. Nutritional status of farm women in Thrissur district . *Proc.11th Kerala Science Congress*. CPCRI, Kasraragode, 27 Feb-1st March 1999
- Jessy Thomas, K. Indira Devi, P. and Thomas E.K. 1998. Economic analysis of crop loan for banana in Thrissur district . *Agricultural Banker*. 22(4): 13 - 16
- John, J. and Narasimham, P. 1998. Shelf life and acceptability of minimally processed butter fruit pieces. *J. Fd. Sci. Technol.* 35 (1) : 69 -71
- John, J. and Narasimham, P. 1998. Quality of blast frozen and cryo frozen ripe jack fruit bulbs.. *J Fd. Sci. Technol.* 35 (1) : 59 -61
- Jose, M.P. and Indira, V. 1998. Diet and cancer. Amrutha '98 . Association of Food Scientists and Technologists (India) Thrissur Chapter. p.47- 49
- Kesavachandran, R. Shelja, P.B and Daisy Jacob. 1998. *In vitro* micrografting in cashew (*Anacardium occidentale* L.) *PLACROSYM XIII*, Coimbatore, p7
- Kesavachandran, R. and Jelly Louis. 1999. In vitro callus induction in *Coscinium fenestratum*, an endangered medicinal plant. *Proc.11th Kerala Science Congress*. CPCRI, Kasraragode, 27 Feb-1st March 1999
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- Kesavachandran, R., Jelly Louis and Daisy Jacob. 1998. Conservation of rare and endangered medicinal plants through *in vitro* culture. *Abstr. Natl. Dialogue Issues in Management of Plant Genetic Resources*. New Delhi, December 1998, p.70
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b. Technical bulletins

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Sheela, K.B., Peter, K.V and Krishnakumari, K. 1998. *Nutrition Garden.* Directorate of Extension, Kerala Agricultural University, Mannuthy

c. Popular articles

Anil Kumar A.S and Augustin, A. 1998. *Medicinal Plants.* Agri Horti Society, Thrissur

Elsy, C.R. 1998. 'Asuravithile terminator gene technology' *Kerala Karshakan* November, 1998p 7-8

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Geethakutty, P.S. 1998. 'Asuravithukalum Janmatharasapangalum' *Mathrubhoomi Weekly*

Indira, P. 1998. 'Adukkalathottathinu Yojicha Mulinangal' *Kerala Karshakan 43(24): 25-27*

Mini, P.Jose and Indira, V. 1998. Diet and cancer. *Amritha 98. Assn of Food Scientists and Technologists (India), Thrissur Chapter*

Mini. C. and Megle Joseph. 1998. 'Pachakkariyithu sekharanam Karuthalode, Venum' *Karshakan Varshika pathippu* 114-118

Norma Xavier, C.1998. Sugar cookery and confectionery. *Amritha 98. Assn of Food Scientists and Technologists (India), Thrissur Chapter*

Prabhakaran, P.V. 1998. 'Keralathile thozhilinteyum vikanathinteyum rashtreeya sambad vyavastha' *Sasthragathi* September 1998

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Presannakumari K.T, Rose Mary Francis and Suma V.A. 1998. 'Thrikadukkakalil thiri neetiya thippali' *Spice India* 11(6):3

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Raju, V.K.and Mini.C. 19979. 'Pazhavargangalude vikanathinu oru margarekha' *Karshakan Varshika pathippu*, 130-135

Rose Mary Francis and Presannakumari K.T. 1998. Improved agrotechniques for cultivation of lemon grass. *Indian farmers Digest* xxxi (2) 21-23

Salikkutty Joseph 1998. *Sammisra Pachakkari krishi* (In) *Prakruthi*- April 1998

Sheela, K.B. and Pushpalatha, P.B. 1998. 'Quality products from papaya' *Kalpadhenu*, May - June 1998

Sona Thampi , K and Indira V. 1998. Cassava- health implications *Amritha 98. Assn of Food Scientists and Technologists (India), Thrissur Chapter*

Valsala. P.A. 1999. Experiments in ginger. *Spice India* 9(11): 4, 18-19

Valsala, P.A.1999. Scientific ginger cultivation- *Aloor Service Co-operative Bank Ltd.*

Valsala P.A. Organic cultivation of ginger. *Spice India* 3(2):6, 17-18

Radio talks

Name of scientist	Topic	Date	Station
Dr. S.Pathummal Becvi	Effective management of BPH in rice	3.1.99	Thrissur
Dr. K.P.Prasanna	Brinjal- varieties and their cultivation	22.4.98	"
Smt. Megle Joseph	Bitter gourd cultivation	15.4.98	"
Dr. Baby Lissy Markose	Tomato cultivation in kitchen garden	22.4.98	"
Dr. K.V.Suresh Babu	Terrace Cultivation of vegetables	23.5.98	"
Dr. P.Indira	New chilli varieties for kitchen garden	23.6.98	"
Dr. Salikutty Joseph	Pulses varieties suitable for the season	9.7.98	"
Dr. Baby Lissy Markose	Wilt disease in vegetables	22.7.98	"
Dr. Salikutty Joseph	Nutrition garden	5.9.98	"
Dr. Baby Lissy Markose	New brinjal varieties	24.2.98	"
Smt. Megle Joseph	Cultivation of amaranthus	24.2.98	"
Dr. Mini. C.	Papaya varieties and cultivation	30.3.98	"
Dr. A.Sukumara Varma	Disease management in rice	11.7.98	"
Dr. A.Sukumara Varma	Yellow leaf disease of arecanut	18.3.99	"
Dr. Sally K.Mathew	Stem bleeding in coconut	20.6.98	"
Dr. Sally K.Mathew	Preparation of bordeaux mixture	25.2.99	"
Dr. Alice Kurien	Intercrops for coconut garden	28.5.98	"
Dr. V.S.Sujatha	Cuttings-selection and planting of pepper	10.6.98	"
Dr. V.S.Sujatha	Oil palm	4.3.98	"
Dr. E.V.Nybe	Maintenance of pepper garden		"
Dr. P.Indira	Commercial cultivation of amaranthus	6.10.98	"

Doordarshan

Name of scientist	Topic	Date	Station
Dr. Jim Thomas	Coconut Mite - discussion	Aug 98	Trivandrum
Dr. Jim Thomas	BPH in rice - discussion	Sept 98	Trivandrum
Dr. Ranjan S.Karippai	Different topics	1998	Trivandrum

COA-PADANNAKKAD

Radio talks

Name of Scientists	Topic	Date	Statio
Dr. T. Premanathan, Assoc. Professor	Bud rot of coconut-causes and control	12.05.98	A.I.R., Kannur
	Grades and Grading in Black Pepper	27.10.98	"

COF-VELLANIKKARA

Publications

Scientific articles	: 13
Technical bulletins	: 2
Popular articles	: 4
Radio talks	: Nil
Doordarsan	: Nil

RARS VELLAYANI

Papers published

Sheela, M.S. and Rajani, T.S. 1998. Status of phytonematodes as a pest of medicinal plants in Kerala. Paper presented in the Third International symposium on Afro-Asian society of Nematologist held at Coimbatore from April 16 to 19, 1998. Abstract page - 1.

Sivaprasad, P. and Sheela, M.S. 1998. Distribution of phytonematodes and VAM fungi in the rhizosphere of pepper and its impact on nematode management. Paper presented in the Third International symposium on Afro-Asian society of Nematologist held at Coimbatore from April 16 to 19, 1998. Abstract page - 39.

B. Rajani and P. Manju. 1997. Variability studies in okra (*Abelmoschus esculentus* L. Mocuch) *South Indian Hort.* 45(1&2): 61-62

Jiji, T. and D. Dale (1999). Vermiculture for Sustainable agriculture and waste management. Abstract p. 44. National Seminar Hortindia 99 conducted at Thiruvananthapuram from 8-9 Jan., 99.

Jiji, T., Reghunath, P. and Bindu, V.M. (1999). Management of pests of rice using biopesticides *Proc. XI Kerala Sci. Congr.* 237-238.

Sheela, M.S. and Jiji, T. (1999). Effective utilisation of different nematode management techniques for vegetable production. Abstract p. 17. National Seminar "Hortindia 99".

Sheela, M.S., Jiji, T. and Hebsy bai (1999). Integrated nematode management strategy - A case study in brinjal. *Proc. XI Kerala Sci. Congr.* 227-229.

Popular articles

Susamma Mathai and S. Naseema Beevi. "Fugus to check Pea aphid". *Hindu daily.* 21.5.1998.

S. Naseema Beevi, Thomas Biju Mathew and T. Jiji. "Pollu beetle in pepper". *Hindu daily.* 1.1.1998.

M.S. Sheela. "Nematode management in banana". *Hindu daily.* 19.2.1998.

S. Pushkala. "Mannile jalam". *Kerala Karshakan.* 25.2.1998.

S. Naseema Beevi. "Sasthra Jalakam". *Kerala Karshakan.* 25.2.1998.

"ഇറ്റാലിയൻ തേനീച്ചകളെ ബാധിക്കുന്ന മണ്ഡലികളെ എങ്ങനെ നിയന്ത്രിക്കാം" by S. Devanesan published in Mathrubhoomi daily in 10-11-1998.

"ഇറ്റാലിയൻ തേനീച്ചകളെ ബാധിക്കുന്ന മണ്ഡലികളെ എങ്ങനെ നിയന്ത്രിക്കാം" by S. Devanesan published in "Karshkan" December 1998 Volume 10, Book 6.

"Top shoot borer of black pepper" on *Hindu daily* by T. Nalinakumari.

Dr. M.S. Sheela - "Nimavira Niyanthranam Vazhayilum Pachakkarikalilum" - Released in "Hortindia 99 National Seminar" on 8.1.99 published by KHDP Cochin.

"Kacholam a valuable medicinal plant" published in *Hindu Daily* 22nd May, 99 by Dr. M.S. Sheela. *The Hindu* May 2.

RADIO BROADCAST AND DOORDARSHAN PROGRAMMES

Dr. Thomas Biju Mathew. "Contamination of vegetables with pesticides". AIR broadcast was on 17.2.1998.

Dr. T. Nalinakumari. "Ecofriendly management of pests of rice". AIR broadcast were on 16.5.1998 and 19.5.1998.

Dr. T. Nalinakumari. "Question and answer programme of Ecofriendly management of pests of rice". AIR broadcast were on 24.5.1998 and 26.5.1998.

Dr. S. Naseema Beevi. "Pesticide residues in milk and milk products". AIR broadcast was on 8.6.1998.

Recorded a talk on pests of cashew and their management in Krishpadam series on 9.10.1998 and the Question Answer Programme on pests of cashew and their management on 16.10.1998 by Dr. S. Naseema Beevi.

Recorded a Doordarshan Programme on mite infestation in coconut by Dr. S. Naseema Beevi on 5.10.1998 and telecasted on 12.10.1998.

A question answer programme was broadcasted in AIR, Thiruvananthapuram by Dr. K. M. Abdul Khader on 25.10.1998 in Vayalum Veedum, Karshaka vedi programme

Dr. T. Nalinakumari, Associate Professor (Entomology) delivered a radio talk on "Household pests and their management" and broadcasted on 12.1.99 and question and answer section broadcasted on 19.1.99.

Sri. P.A. Rajan Asari delivered a talk on "Plant Protection equipments" - Question answers programme, AIR.

Radio talk on "Modern trends in IPM" by Dr. Thomas Biju Mathew, Associate Professor (Entomology) on 9/3/1999 and 18/3/99.

CSRC-KARAMANA

Scientific articles

Sulochana K K& Balakrishnan S (1997). Seed borne mycoflora of sesame (*Sesamum Inducum L.*) *Journal of Tropical agriculture* 35: 64 -66

Technical bulletins:

Popular articles:

Radio talks:

Doordarsan:

Nil

CRS-BALARAMAPURAM

Publications

Scientific articles

Technical bulletins

Nil

Popular articles

Radio talks

Name of Scientists	Topic	Date	Station
Dr. K. Viswambharan	Drip irrigation in coconut		

Doordarsan: Nil

FSRS-SADANANDAPURAM

Scientific articles

Ravi S and S Rejeena, 1999-"Bio diversity and seasonal variations in the crops and land species in the homesteads of Kerala"- in the International Conference on Environment and Bio ethics at Loyola college, Chennai: 14th-16th January 1999.

Technical bulletins: Nil

Popular articles

Bini Sam - "Power tillertinte Aayussu Koottan" - Karshakasree September 1998.

Radio talks: Nil

Doordarsan: Nil

RARS - KUMARAKOM

Scientific articles

Scientific articles - 4 No.

KC Manorama thampatti and KG Padmakumar 1999. Rice bowl in turmoils - The Kuttanad wetland Ecosystem Resonance, Vol 4 (3) pp.62-70.

KG Padmakumar 1999. Integrated Agriculture - Aquaculture : Alternative system and approaches Proc. Workshop on Research Extension Interface 6-7, April, 1999. Govt. of Kerala, Dept. of Agriculture Trivandrum (In Press).

KG. Padmakumar 1998. Karshika Valarchakku Samyogitha Krishi - *Mathrubhoomi, Agrl. Annual*, pp. 19-25.

Elizabeth K. Syriac 1999. Nutrient - growth regulator interaction in snakegourd under drip irrigation system. National Seminar on 'Hortindia' 99, 8-9 January, KHDP, Thiruvananthapuram.

Technical bulletins

Popular articles

Sverup John 1998. Souvenir of Association of Agrl. Officers, Kerala. 'Pachakkari Vithulpadanathil Naam Sradhikkendathu'

P.Sushamakumari, T.K.Vijayan 1998. Souvenir of the Associate of Agrl. Officers, Kerala. 'Chakirichoril ninnum Prakruthidatha raasavalam'.

Sverup John 1999. 'Cheradi Karshakarkku Rakshaykayi makaravum 'kumbhavum' -Kerala Karshakan 44 (12) : 17-20.

Radio talks

Name of Scientists	Topic	Date	Station
Inasi K.A.	"Kudampuliyude kruzhiyum sampathika pradhanyavum"	2-8-99	Thiruvananthapuram
Dr. Geetha. K.	"Kamukin thoppile idavilakal"		Thiruvananthapuram
Dr.K.G.Padmakumar	'Valarthukulangalil Malsyangalkku theettayum paricharanavum'	16-2-99	Thiruvananthapuram
Dr. P.J. Joy	"jaivika keeda niyanthranam"		Thiruvananthapuram

Doordarsan

Name of Scientists	Topic	Date	Station
Dr. Anuradha Krishnan	Integrated Farming		Doordarshan, Thiruvananthapuram

RRS – MONKOMPU

Publications

Scientific articles

Sumam Susan Varghese, Indira, M. Annie Koruth and Joseph, C.A. 1977. Effect of ammonium polyphosphate as a carrier for zinc in low land rice. *J. Trop. Agric.* 35 : 23-25

Sosamma Jacob and Remabai, N. 1999. Black Bug on rice in Kuttanad, Kerala. *Insect Entomon* 4 (3) : 79.

- Santhakumari, P. 1999. Leaf blight on lesser yam. *Ind. Hort.* 43 (3) : 34.

Technical bulletins: Nil

Popular articles: Nil

Radio talks

Name of Scientists	Topic	Date	Station
Dr.Sosamma Jacob	Gall fly	6-4-98	AIR Trivandrum
"	Question and answers	6-5-98	"
Dr.D.Ambikadevi	Stem borers of rice	2-4-98	"
"	Question and answers	2-5-98	"
Sri.P.H.Latif	Rice transplanting	27-4-98	"
Dr.N.Remabai	Fertiliser application	2-5-98	"
Sri.P.H.Latif	Rice varieties for virippu	24-3-99	"

Doordarsan: Nil

RRS-KAYAMKULAM

Scientific articles

1. Syam.S.Kurup, S.Sukumaran Nair and S.Bhavani Devi, 1998.

'Nidhi' - a high yielding short duration variety of cassava Indian Tuber crops journal.

Technical bulletins : Nil

Popular articles

Radio talks

Name of Scientists	Topic	Date	Station
Dr. Syam. S. Kurup	Prospects of Marigold cultivation	23.12.98	AIR, Trivandrum
Dr. P. Sushamakumari	Sesamum cultivation	20.01.99	"
Dr. Lulu Das	Mashroom recipes	09.03.99	"
Smt. M Indira	Moisture conservation	10.03.99	"
Dr. Sverup John	Areca nut cultivation	24.03.99	"

Doordarsan: Nil

RRS-VYTTILA

Scientific articles

Anilakumar. K and Gracy Mathew(1996) Response of rice to Phosphorus solubilizing bacterial culture for its P Utilization under waterlogged condition. J Trop. Agric.34:112-114

Technical bulletins : Nil

Popular articles : Nil

Radio talks

Name of Scientists	Topic	Date	Station
Dr. K. Sivan Pillai	Group discussion on problems paddy	20.07.98	AIR, Trichur
Dr. C. G. Rajendran	Cultivation in Kerala. Composite fish culture	24.07.98	"

Doordarsan : Nil

SRS-THIRUVALLA

Publications

Scientific articles:

Technical bulletins: Nil :

Popular articles: -

Radio talks

Name of Scientists	Topic	Date	Station
Dr.D Alexander Assoc.Professor	Question answers in Karshakavedi	25.11.98	AIR, Thiruvananthapuram
Dr.Jessy M Kurakose Assoc. Professor	Venalkala pachakkrikrihiyil sradhikkenda chila karyangal	05.12.98	"
Sri. Thomas Mathew Asst. Pffessor	Question answers in Karshakavedi	21.02.99	"

1. Sverup John 1998 Souvenir of the Association of Agrl. Officers, Kerala.

2. പച്ചക്കറി വിത്തുല്പാദനത്തിൽ നാം ശ്രദ്ധിക്കേണ്ടത്

Sushamakumari P.K Vijayan 1998 Souvenir of the Association of Agrl. Officers, Kerala.

3. ചകിരിച്ചോനിൽ നിന്നും പ്രകൃതിദത്ത രസവളം Sverup john 1999

ചേറാടി കുർഷകർക്ക് രക്ഷയായി മകരവൃം കുറവ്.

കേരളകർഷകൻ 44 (12) 17-20

Doordarsan: Nil

AICRP - KARUMADY

Publications :

Radio talks :

Name of Scientists	Topic	Date	Station
Sri. E.K. Mathew	രി നിലങ്ങളിലെ നൽകൃഷിക്കനുസൃണമായ നിർവാർച്ചാ സമ്പ്രദായങ്ങൾ	10.02.99	AIR, Trivandrum

Doordarsan: Nil

RARS-PATTAMBI

Publications

Scientific articles

1. Valarmathi G and S Leenakumari (1998): Pre harvest sprouting and seed quality in rice. Ad. Plant. Sci. 11(2): 259-262
2. Valarmathi G and S Leenakumari (1998): Performance analysis of high yielding rice varieties of Kerala under direct seeded and transplanted conditions. Crop Res. 16(2): 284-286

3. Gracy Mathew and E Sreenivasan (1998): Effect of weed control methods on yield and economics of rainfed and rice fallow summer cowpea. The Madras Agri. Journal 85(1): 50-52.

4. Gracy Mathew and E Sreenivasan (1998): Grain yield, protein content and seed characters of cowpea genotypes in summer rice fallows. The Madras agricultural Journal 85(1): 52-53.

Technical bulletins: Nil

Popular articles

Leenakumari (1998): High yielding Rice Varieties suited for Kerala in Malayalam, Mathrubhoomi, Karshikapathippu.

Radio talks

Name of Scientists	Topic	Date	Station
Dr. I Johnkutty	Management practices for virippu crop	06.06.98	AIR, Trichur
Dr. K.A. Mariam	Weeding in second crop	09.11.98	AIR, Kozhikode
	Efficiency of urea fertilizer in rice field	26.05.98	AIR, Trichur
	Nutrient management for 1st crop rice	28.05.98	AIR, Trichur
Gracy Mathew	Nursery management in 2nd crop rice	02.09.98	AIR, Trichur
	Cultivation of papaya in homesteads	28.09.98	AIR, Kozhikode

Doordarsan: Nil

ARS-MANNUTHY

Publications

Scientific articles

1. Narayanankutty, C; Indiradevi, P and Jaikumaran, U (1998) Economics of vegetable production in Kerala state- Acase study. Seed Research 26(1) 47-52
2. Veeraputhran, R; Joseph, P. A; Nair, R. V. Jaikumaran, U and Unnithan, U. K. G (1998) Effect of soil moisture conservation techniques and levels of irrigation on soil moisture retention on yield of oriental pickling melon. Madras Agric. J. 85 (56) 215-230

3. Beena, T and Jaikumaran, U (1999) Performance of evaluation of 8 row power operated rice transplanter. Oryza. 36(1) 94-95

Technical bulletins

Mechanisation of rice cultivation in Kerala by Dr. U. Jaikumaran

1. Options before kerala farmers
2. A review of research work done in Kerala
3. Future perspective

Popular articles

Monthly Agricultural practices - Karshakasree (Dr. P. A. Joseph)

Radio talks

Name of Scientists	Topic	Date	Station
Dr. U. Jaikumran	Rice mechanization	23.6.98	AIR, Trichur

Doordarsan :Nil

CRS – MADAKKATHARA

Publications

Scientific articles

Abdul Salam M (1998) Region Specific Production Technologies for Cashew for different agro Climatic Zones of Kerala. Presented in the National Seminar On Cashew Development In Indian-“Challenges And Opportunities.” 1st & 2nd May 1998—Goa.

Abdul Salam M (1998) “Cashew and pepper live in harmony” sent to DCCD on 04.12.98

Abdul Salam M (1998) High yielding cashew (*Anacardium occidentale L*) varieties for sustainable export” sent to NAAS 4th Agricultural Science Congress, February 21-24, 1999, Jaipur on 22.12.98

Suma, B., Abdul Salam, M., Suma, A., George, T. E (1998) High density Planting in Cashew (*Anacardium occidentale L*). *The Cashew* Vol. XII(2), PP 33-36

Technical bulletins

Abdul Salam M (1998) Cashew “A Crop Plough” and a saviour of degraded environments, *Cashew bulletin* 34(12) December 98

Popular articles

Abdul Salam M (1998) Amrutha (H-1597), A New High Yielding Cashew Hybrid sent to Directorate of Cashew and Cocoa Development, Cochin

Abdul Salam M (1998) Cashew competes well with Rubber-(Malayalam)- Sent to Malayala Manorama.

Radio talks

Name of Scientists	Topic	Date	Station
Dr. M. Abdul Salam	Different Cashew Varieties available for planting	23.04.98	AIR, Trichur
	Effective control of tea mosquitoes in cashew	24.09.98	AIR, Trichur
Dr. Susamma Kurian	New varieties of Cashew	23.05.98	AIR, Trichur
	Pest management in Cashew	29.07.98	AIR, Trichur
	Ksasumavine Akramikkunna keedangal	29.10.98	AIR, Trivandrum

N. BRS & PRS

Publications

Scientific articles

- Muniyappa, V., Cheriyan, A.K., Venkatesh, H.M., Nagaraju, N., Maruthi, M.N., Czosnek, H., Green, S. K. and Colvin, J. (1998). Tomato Leaf Curl Virus in Southern India and its sustainable management. Paper presented in the Second International Workshop on *Bemisia* and Gemini Viral Diseases. June 7-12. San Juan, Puerto Rico.
- Anitha Cherian, K. and Susamma Philip (1999). Post harvest fungal spoilage of oranges and its management. Abstract in the Proceedings of the national Seminar Hort India-99.8-9 January 99, Thiruvananthapuram, pp.66

- Rema Menon, Anitha Cherian, K. and Jyothi Bhaskar (1999). Evaluation of some introduced Banana varieties. Abstract in the Proceedings of the National Seminar Hort India-99. 8-9 January 99, Thiruvananthapuram, pp.17

- Susamma Philip and Anitha Cherian, K. (1999). Post harvest spoilage of common fruits and their management through physical, chemical and biological means. Abstract in the Proceedings of the National Seminar Hort India-99.8-9 January 99, Thiruvananthapuram. Pp.64.

Technical bulletins: Nil

Popular articles

Dr. Jyothi Bhaskar, Rema Menon and Anitha Cherian 1999. *Kalpadhenu* 26(3-4)

Radio talks

Name of Scientists	Topic	Date	Station
Dr. Rema Menon, Assoc.Professor	Pseudostem borer in banana	18.01.99	AIR, Trichur
Dr. Anitha Cherian K, Asst. Professor	Kokkan disease of banana	23.02.99	'
Dr. Jyothi Bhaskar, Asst. Professor	New Banana varieties suited for the area	17.03.99	'

Doordarsan: Nil

AMPRS – ODAKKALI

***Publications**

Scientific articles

Joy. P.P., Thomas J., Mathew. S. and Skaria B.P. 1998. *Tropical Aromatic and Medicinal Plants*. Aromatic and Medicinal plants Research Station, Odakkali, Asamanoor P.O., Kerala, India.

Joy. P.P., Thomas J., Mathew. S. and Skaria.B.P 1998. *Zingiberaceous Medicinal and Aromatic Plants*. Aromatic and Medicinal Plants Research Station, Odakkali, Asamanoor PO., Kerala, India.

Joy. P.P., Thomas J. and Mathew.S 1998. Cinnamon(*Cinnamomum verum Presl.*) for flavour and fragrance. *PAFAI Journal*,20(2):37-42

Radio talks

Name of Scientists	Topic	Date	Station
Joy P.P	Scope of cultivation of aromatic plants in Kerala	19.09.98	Trichur
Sr. Baby P. Skaria	Pest management in aromatic plants	12-12-98	Trivandrum

Doordarsan :Nil

Joy P.P, Thomas .J, Mathew S., and Ibrahim K.K. 1998 .Growth, leaf oil yield and quality investigations in cinnamon (*Cinnamomum verum .*) *J. Med. Arom Pl.Sci.*, 20(2):401-106

Joy P.P., Thomas J and Mathew. S 1998. Growth and yield correlations in cinnamon (*Cinnamomum verum Presl.*) Proc. 10th Kerala Science Congress, 2-4 Jan 1998, Kozhikode, pp 196-198.

Thomas J., Joy P.P., and Mathew S.,1998. Subsurface dike for ground water conservation. *Proc. 10th Kerala Science Congress*, 2-4 Jan 1998, Kozhikode, pp 510-512.

Thomas J., Joy P.P and Mathew, S. Skaria B.P 1998. Indigenous less-known essential oils-A perspective. *PAFAI Journal*, 20(1):13-20

Technical bulletins : Nil

Popular articles

Special feature on aromatic plants in Karshakasree 1998 December issue, 4(4);10-17

Publications:

Scientific articles

Technical bulletins Nil

PRS – VAZHAKULAM

Popular articles

Radio talks

Name of Scientists	Topic	Date	Station
-	Pineapple Cultivation	23.02.99	AIR, Trichur

(*Anacardium occidentale.L.*) Proc.XI Kerala Science Congress, Feb. 27 to March 1, 1999, CPCRI, Kasaragod.

Doordarsan: Nil

RARS-PILICODE

Technical bulletins : Nil

Publications

Scientific articles

Jayaprakash Naik B& Giridharan M P. Character association studied for kernel weight in cashew

Popular articles

Author	Title	Journal
Dr. M.P.Giridharan	കാർഷികസ്യ ശ്രമം എങ്ങനെ വേണം	Desabhimani daily dt.6/11/98
Sri. K.P. Mammooty	മാതൃവളി മുൻകൂട്ടി തിരഞ്ഞെടുക്കുക	Spice India 12(1) Jan. 1999
	കുരുമുളക് വിളവെടുപ്പ് സംസ്കരണം	Spice India 12(3) March 1999

Radio talks

Name of Scientists	Topic	Date	Station
Dr. M.Govindan	Vermi compost	04.06.98	AIR Kannur
Dr. B. Jayaprakash Naik	Manuring of cashew	20.06.98	AIR Kannur
Sri. K.P. Mammooty	Integrated Disease Management	08.07.98	AIR Kannur
	Management of Pollu beetle	13.11.98	AIR Kannur
	Bud rot of coconut	10.01.98	AIR Kannur
Dr. K.C. Raghavan	Rabbit rearing	07.12.98	AIR Kannur
Dr. M.P. Giridharan	Cashew apple processing	24.02.99	AIR Kannur

Doordarsan : Nil

PRS-PANNIYUR

Publications

Scientific articles

Rajagopalan .A., Nair, P.K.U and Ibrahim, K.K. 1999. Evaluation of different materials for drying of black pepper(*Piper nigrum L*) Spice India 12(1): 9-10

Technical bulletins: Nil

Popular articles

"Panniyur Kurumulaku Gaveshana Kendram- Panniyur Inangalude Savisheshathakal". Spice India(Malayalam) 11(4): 08.09.1998-P.K Unnikrishnan Nair, Panniyur Kurumulaku Gaveshana Kendram.

Radio talks

Name of Scientists	Topic	Date	Station
Sri.P.K Unnikrishnan Nair	Manuring of pepper	12.04.98	AIR, Kannur
	Management of pepper garden	15.03.99	AIR, Kannur
R. A Rajagopalan	Control of Phytophthora foot rot disease of black pepper	14.07.98	AIR, Kannur
Dr. Arya K	Planting pepper in homesteads & techniques of bush pepper cultivation	22.07.98	AIR, Kannur
	Harvesting & processing of pepper	19.12.98	AIR, Kannur

Doordarsan: Nil

RARS-AMBALAVAYAL

Publications

Scientific articles: NIL

Technical bulletins :NIL

Popular articles

സ്റ്റാബിൾ രേഖപ്പെടുത്തലുകൾ - ഡോ.പ്രദീപ്കുമാർ. ഡോ.കെ.സി.എച്ച് - കർഷകശ്രീ ഏപ്രിൽ -1998.

കുരുമുളക് നെത നെതെത്തെടുക്കുമ്പോൾ ഡോ.കെ.വസന്തകുമാർ - മലയാള മനോരമ കാർഷികരംഗം 1998 - ജൂൺ. 24.

ശീതകാല പച്ചക്കറികൾ - ഡോ.ടി.പ്രദീപ്കുമാർ,
 ഡോ.കെ.സി.എച്ച് - മാത്യുജി - കാർഷികരംഗം
 -13.10.1998.

Radio Talks

Name of Scientist	Topic	Date	Station
Dr.T. Pradeepkumar	Cultivation of cool season vegetables	06.05.1998	AIR, Calicut
Dr.T. Pradeepkumar	Selection of rose for our garden	22.07.1998	"
Susamma P. George	Preparation for growing a good second crop	24.08.1998	"
Dr.K.C. Aipe	Strawberry cultivation and processing	14.09.1998	"
Dr.K. Vasanthakumar	Cultivation of subtropical fruit plants	05.10.1998	"
Dr.T.Pradeepkumar	Indoor plants & their up-keep	20.10.1998	"
Dr.K.C.Aipe	Cool Season vegetables suitable for Wayanad (Interview)	06.12.1998	"
Dr.T.Pradeepkumar	Orchid cultivation	08.01.1999	"

Doordarsan : Nil

CRS - PAMPADUMPARA

Publications

Scientific articles

Mini Raj, N. and Nybe, e. V. 1998. Plant environment interactions in a moist deciduous forest ecosystem. *Proc. Xth Kerala Sci. Congress.* Pp. 366-369.

MiniRaj, N. and Nybe, E. V. 1998. Ethno-medicines practised by the malayans of Peechi forests in Kerala. *Golden Jubilee Symposium on Spices, Medicinal and aromatic plants- biodiversity, conservation and utilisation.* Abstr. P.30

MiniRaj, N. and Nybe, E. V 1998. Endemic, rare endangered and threatened medicinal plants of Peechi forests in Kerala. *Golden Jubilee Symposium on Spices, Medicinal and aromatic plants- biodiversity, conservation and utilisation.* Abstr. P.16.

Technical bulletins: Nil

Radio talks

Name of Scientists	Topic	Date	Station
M. Murugan, Asst.Professor(Soil Sci.)	Soil erosion and its control measures for Idukki District	19.06.98	AIR, Devikulam
Dr. Mini Raj, Asst. Professor & Head i/C	Possibility of growing subtropical fruits in the highranges	20.06.98	AIR, Devikulam

Doordarsan: Nil

Popular articles

M. MiniRaj and Carmel Rani Joseph. 1999. "Chaming roses"(Mal.) *Karshakshree.* 4(5):58-59

M. MiniRaj and Carmel Rani Joseph. 1999. "Chow chow - a promising vegetable for the high ranges.(Mal.) *Karshakan* 11(6): 21-22

M. MiniRaj and Carmel Rani Joseph. 1999. "Cultivation package for fennel.(Mal.) *Karshakan* 11(7): 26-27

M. MiniRaj and Carmel Rani Joseph. 1999. "Vegetables for the high ranges (Mal.) *Karshakshree.* 4(7): 28-31

M. MiniRaj and Carmel Rani Joseph. 1999. "Rose varieties suited for Kerala (Mal.) *Karshakan* annual issue P. 26-28

KHDP- VELLANIKKARA

Publications

Scientific articles

Singh, P.K and Gopalakrishnan, T.R. 1997. Grafting for wilt resistance and Productivity in Brinjal. *The Hort J.* 10 (2): 57-64

Singh, P.K. and Gopalakrishnan, T.R. 1998 Evaluation of brinjal genotypes for yield and bacterial wilt resistance *J. appl. Bilo.* 8 (1): 70-74.

Gopalakrishnan, T.R. Indira P and Peter. K.V. 1998. Ujwala-A mosaic resistant pumpkin line. *South India Hort.* 44 (1 &2): 12-14

Latha, P and Gopalakrishnan, T.R. 1996. Improvement of CM-214, A mosaic resistant pumpkin line. *South India Hort* 44 (1 & 2): 12-14.

Gopalakrishnan, T.R. Varghese, C.A. Giritharan, M.P and Devadas, V.S. 1996. Evaluation cabbage varieties for the high range zone of Kerala. *J.Tropic. Agr.* 34: 17-20

Suresh Babu V.Gopalakrishnan, T.R and Peter K.V. 1996. Variability and divergence in pumpkin *Cucurbita moschata Poir.* *J. Tropic. Agr.*

Gopalakrishnan T.R Salikutty Joseph and Peter K.V. 1998. Vegetable (in) *The Natural Resources of Kerala Publ. WWF India.* P.227-286

Singh P.K. and Gopalakrishnan T.R. 1998. Evaluation of Brinjal genotypes for yield and bacterial wilt resistance. *J. Applied Biol* 8: (1): P 70-74

Mathew.P and Ramakrishnan U. 1998. A new leafhopper pest on bittergourd. *Insect Environment* 3(4): 94-95.

Devadas.V.S Rani T.G Kuriakose K.J Seena P.G and Gopalakrishnan T.R. 1998. Effect of fruit grading on seed quality in Snake gourd. *The Hort.J.* 11 (1): 103-108

Devadas V.S. Rani T.G.Kuriakose K.J. and Nair S.R. 1998. A note on fruit and seed development in Okra. *Veg. Sci* 252): 187-189

Radha T and Aravindakshan K. 1998. Field performance of tissue culture vis-à-vis sucker planted Pineapple Var.Kew. Abstract in National Seminar on Plant Bio-technology for sustainable hill Agriculture held at DARL, Pithoragarh 24

Radha.T, Nair S.R. and Jaikumarán U. 1998. Response of mango varieties to Paclobutazol application. Abstract in the National symposium on Mango

of Production and export at Central Institute for Sub-tropical Horticulture at Lucknow.

Radha T. and Aravindakshan.K. 1998. Epicotyl grafting a successful propagation method for commercial mango varieties in Kerala. Paper presented in National seminar on New Florizoos in production and post harvest management of Tropical and Sub Tropical seed at IARI New Delhi.

Radha.T. and Nair S.R. 1998. Physico-chemical analysis of some important mango varieties under Kerala conditions. Abstract in the National Symposium on mango productions and export at Central institute for Sub-tropical Horticulture at Lucknow.

Jo Jose.C. Radha.T. and Aravindakshan.K. 1999. In vitro multiplication of Pineapple using lateral bud explants. Paper Presented in Hort. India 99 at Thiruvananthapuram

Babylatha A.K. Patel B.H. and Shah R.R. 1998. Ex Vitro establishment and growth of in vitro cultured banana Cc.Basrai Abstract published in the Souvenir of National seminar on Plant Bio-Technology for sustainable Hill Agriculture at DARL Pithoragarh (UP)P. 13-14

Babylatha A.K Patel B.H and Shah R.R. 1998. In vitro propagation studies on banana Cv. Basrai Abstract of National Seminar on development in Tissue Culture Technology at GAU Navsari P 11-12

Babylatha A.K, Sathya Varma P.C. and Ramachandran.S. 1998. Quality attribute of pineapple variety Mauritius as influenced by time of planting. Proceeding of the XI th Kerala Science Congress p.273-275

Paul.T.S Mathew M.P Louis, V.Sivaraman.S and Nair S.R. 1998. Integrated disease management in bittergourd. Abstract of papers-symposium on integrated disease management and crop loss assessment held on 10th to 12th December 1998 at Hebbel Indian Phytopathological society (Southern Zone) Dept of Pathology UAS.

Paul T.S. Mathew M.P. Louis V.Sivaraman.S. and Nair S.R. 1998. Integrated disease management in Cowpea Hort India 99. National seminar on participatory approaches for Horticulture Development 8th & 9th January 1999, Trivandrum.

Reghunath.P. and Gokulapalan C (1998) Ecofriendly pest management strategies for vegetables. Accepted for publication in ILEA Centre for Research and information on Low External Input and Sustainable Agriculture.

Gokulapalan.C. and Reghunath P. (1999) IPDM in chillies Experiences in participatory approaches for Horticulture Development held Seminar on participatory approaches for Horticulture Development held on 8,9 January 1999 at Trivandrum. Abs of papers p-16.

Balagopal.G. Sheeja Mathew, Rehhunath.P. and Gokulapalan (1999). Participatory approaches for integration of technology. A case study. Paper presented at HORT-INDIA 99 National Seminar on Participatory approaches for Horticulture Development held on 8,9 January 1999 at Trivandrum. Abs of papers p-26

Reghunath P and Gokulapalan C (1999). IPDM in bittergourd experiences in participatory approaches. Papers presented at HORT INDIA 99 National Seminar on participatory approaches for Horticulture Development held on 8,9 January 1999 at Trivandrum. Abs on Papers p-15.

Technical bulletins

Payarinte Sasthreeya paripalanmurakal (1998)

Mulakinte sasthreeya paripalanamurakal (1998)

Nenthrevazhayude sasthrya paripalanamurakal (1998)

Cheerayude sasthreeya paripalanamurakal (1998)

Vendayude sasthreeya paripalanamurakal (1998)

Churakka, pecchil yennivayude sasthrya paripalanamurakal (1998)

Vazhuthunayude sasthreeya paripalanamurakal (1998)

Niravira niyanthranam vazhayilum pachakarikalilum (1998)

Vellari, Kumbalam, Mathan Ennivayude sasthreeya paripalanamurakal (1998)

Samyojita sasyasamrakshanam (1998)

Popular articles

Gopalakrishnan T.R "Nelvayalukalilae pachakarikrishi". Mathrubumi Karshaka Varsha Pathippu 1998. P 35-39

Aravindakshan K. "Nalla kulakku nalla kanmu naduka". Karshakasree Oct-1998. 4(2) p 6-8

Aravindakshan.K. "Nendran vazhayude Sasthriya paripalana murakal". KHDP Publication No 11. 1998

Devadas V.S " Saubhagya-Cheriyay kaykalulla velariyanam" Aug 10-1998

Devadas.V.S "Arunayum, Salkaerthiyum-Puthiya vendayinangal". Karshkan Aug-1998.

P 27

Devadas V.S and T.R.Gopalakrishnan "Karshika sarvakalasalayil ninnulla puthiya kaykari inangal" Karshakasree Aug-1998. P 50-51

Devadas V.S. "Vilavum vilayum erunn manjukala pachakkari" Karshakasree Sep-1998. P 20-22.

Devadas V.S "Thengin thoppil pineapple idavila". Kalpadhenu Oct 1998 4(2)

Devadas V.S "Keralathilekku yogicha Mauritius" Kalpadhenu April-June 1998.24 (4)

Regunath P and Gokulapalan "Pavalinte keedangale akattiya samyogitha niyanthranam reethi" Kerala Karshakam 25.4.98

Regunath P and Gokulapalan "Vazhayude kada cheeyal rogam" Krishyanaganam June -July 1998

Regunath P and Gokulapalan "Mealy bugs makes pine apple wilt" The Hindu 14.5.98

Regunath P and Gokulapalan "Pachakariyil keedabadha kanduvaumbol avayil upayogikkavunnu jaiva keedanasinikal" Janmabumi 14.6.98

Regunath P and Gokulapalan "Vazhayilae kada cheeyal rogam". Kerala karshakan 25.8.98.

Regunath P and Gokulapalan "IPM management for vegetables" The Hindu 8.10.98

Regunath P and Gokulapalan "Pest management for vegetables" Science Express 24.11.98

Regunath P and Gokulapalan "Basal rot and tip over in banana". The Hindu 26.11.98

Radio talks

Name of Scientists	Topic	Date	Station
Dr.T.R. Gopalakrishana	Veg. Cultivation Quiz	11.5.98	AIR. CLT
Dr.Maicykutty P. Mathew	Banana aphids as vectors	20.12.98	AIR, TCR
	Question & Answer talk	27.6.98	AIR TVM
Dr.V.S.Devadas	Commercial cultivation of cucurbits	5.7.98	AIR TVM
		1.12.98	AIR TCR
26.12.98			
Dr.Radha	Pest management in mango	29.1.99	AIR TCR
Dr.Babylatha	Pineapple Var/cultivation	31.3.99	AIR TCR
Smt.Omana Pavunny	Preservation of fruit & vegetables	1.3.99	AIR TCR
Prof. Reghunath	Question Answer programme	30.04.98	AIR TVM
	Krishipatom	10.08.98	AIR TVM
	Questionaire	16.08.98	AIR TVM
	Questionaire	20.08.98	AIR TVM
	Punchakrishiyle	12.03.99	AIR TVM
	Kiidaniyanthranam		

Doordarsan: Nil

CV & AS-MANUTHY

Scientific articles

Technical bulletins

Popular articles

Dr. M.R Saseendranath Foot and Mouth diseases-Malayalam daily 'Express'

Dr. C.K Thomas Bargus- a hill breed of cattle of South India-Draught animal News, CTVM, Edinburgh, No.28, 11-13

Cattle sporting in India, Bullock Cart races Draught Animal News, CTVM, Edinburgh, No.29, 6-8

Radio talks

Name of Scientists	Topic	Date	Station
Dr. P.S Pushkaran	Milk, How its quality should be		
Dr. M. R Subhadra	Feeding and Management of Cows in pregnancy		
Dr. P.J Raj Kamal			
Dr. E. Nanu			
Dr. P.C Saseendran	Causes of repeated occurrence of F M D		
Dr. Lee Joseph	Backyard farming		

Doordarsan: Nil

PRS, MANNUTHY

Yorkshire and Desi Pigs of Kerala. (1998). Poster abstracts 4th International Food Convention 23-27 Nov. 1998 Mysore. Pp-183,

Scientific articles

Joseph Mathew, Usha A.P & Kuttinarayan. P (1998). Incidence of pale soft exudative meat in Large White

Joseph Mathew, Viswanathan T.V. & George T. Oommen. Acceptability of Cross bred pig meat in

Kerala. (1998). Poster abstracts. 4th International Food Convention 23-27 Nov, 1998, Mysore. Pp-183.

Joseph Mathew. (1998). Educational Systems – certain revolutionary concepts. (1998). Amrita 98, Association of Food Scientists and Technologist (India): Souvenir, pp-17-18.

Joseph Mathew. (1998). Educational Systems – certain revolutionary concepts. (1998). Amrita 98, Association of Food Scientists and Technologist (India). Souvenir pp-17-18

Joseph Mathew, T.V. Viswanathan & A.P. Usha A. Model Integrated Farming System for Self-Reliant Family (1998). Paper presented in the second National Congress on Medicinal Plants. 17th Oct. 1998, Thrissur.

Joseph Mathew, T.V. Viswanathan, A.P. Usha & others, Feasibility of an earn while you learn students project in Professional Institutions. (1998). Abstracts, 8th Swadeshi Science Congress, 5-7 Nov. 1998. Alappuzha. Pp-27-28.

Joseph Mathew, T.V. Viswanathan, C.K. Thomas & A.P. Usha Incidence of halothane sensibility and its effects on the performance of Large White Yorkshire and Desi (Nondescript indigenous) pigs in Tropics. Paper presented in National Symposium on Nuclear and Related Techniques for Human and Animal Welfare in the next Millenium. Feb. 9-10, 1999, Mannuthy Symposium Brochure, pp-64.

K.M.Syam Mohan & Joseph Mathew. Evolving appropriate technology in animal nutrition for livestock production systems. Journal of Indian Veterinary Association, Kerala pp-8

Technical bulletins: Nil.

Popular articles

“Adayakaram Seemapannikal”
Karshakasree, Sept. 1998. Pp-61

“Pannikuttikalle Paricharikkumbol”
Karshakasree, Oct. 1998. Pp-61

“Thallapannikku kooduthal theeta”
Karshakasree. Nov. 1998. Pp-60-62.

“Pannikalluda Prajananam”
Karshakasree Dec. 98. pp-62-64

“Pannikalkku koodundakkal”
Karshakasree. Feb 99 pp-62-63.

“Pannirogangallum Prathividhiyum”
Karshakasree. March 1999.

Radio talks: Nil.

Doordarsan: Nil.

CENTRE OF ADV ST. IN POULTRY – MANNUTHY

Scientific articles: 3 Nos.

Technical bulletins: Nil

Popular articles: Nil

Radio talks: 15 Nos.

Doordarsan: Nil

CEP-CV & AS

Scientific articles

Ramachandran, K. M. : Aflatoxin contaminated feed – A threat to livestock and poultry industry. NSDVP' 98 Souvenir pp 09 – 13

Valsala, K. V.: Post graduate curricula in Pathology. NSDVP'98 Souvenir pp 147 – 150

Ismail, P. K.: The necessity of a regulation for permissible levels of Aflatoxin in livestock and poultry feeds. NSDVP'98 Souvenir pp 135 – 138

Lalithakunjamma, C. R. and Krishnan Nair, M.: Combined toxicity of Ochratoxin A and citrinin in chick embryos – Ultra structural studies. NSDVP'98 Souvenir pp121

Mohan, S. and Valsala, K. V.: Histological response of the harderian gland of chicken following intraocular administration of vaccine strains of certain avian viruses. NSDVP'98 Souvenir pp 73

Mohan, S. and Valsala, K. V.: Comparative histological response of the harderian gland in chicken and duck following intraocular administration of certain vaccine strains of avian viruses. NSDVP'98 Souvenir pp 73

Jacob Alexander, Valsala, K. V., Manomohan, C. B. and Ramachandran, K. M.: Pathology of ascites syndrome in broiler chicken – Effect of monensin sodium, pure sodium chloride and furazolidone. NSDVP'98 Souvenir pp 87

Jacob Alexander, Valsala, K. V., Manomohan, C. B. and Ramachandran, K. M.; Ascites syndrome in broiler chicken – Effect of furazolidone cephalixin, common salt and two salts of Cobalt. NSDVP'98 Souvenir pp 79

Suresh Kumar, M., Divakaran Nair, N., Ismail, P. K., Krishnan Nair, G. and Ramachandran, K. M.: Immunopathological response of the Japanese quail

in experimental aflatoxicosis. NSDVP'98 Souvenir pp 61

Sara, N.M., Beena, M. K., K. V Valsala, K. M. Ramachandran: Aetiology and invitro sensitivity of isolates of mastitic milk samples from different districts of Kerala. NSDVP'98 Souvenir pp 155

Vigil Anbiah, S., Manomohan, C. B., Ramachandran, K. M., Sreekumaran, T and Raghunandanan, K. V.: Aflatoxin B1 induced hepatopathology in ducks. NSDVP'98 Souvenir pp 124

Vigil Anbiah, S., Manomohan, C. B., Ramachandran, K. M., Sreekumaran, T and Raghunandanan, K. V.: Aflatoxin B1

Aflatoxin B induced hematological exchanges in ducks. NSDVP'98 Souvenir pp 124

Vigil Anbiah, S., Manomohan, C. B., Ramachandran, K. M., Sreekumaran, T and Raghunandanan, K. V.: Aflatoxin B1 induced chromosomal changes in ducks. NSDVP'98 Souvenir pp 125

Vigil Anbiah, S., Manomohan, C. B., Ramachandran, K. M., Sreekumaran, T and Raghunandanan, K. V.: Changes in serum enzymes due to Aflatoxin B1 toxicity in ducks. NSDVP'98 Souvenir pp 124

Beena, M. K. , Sara, N. M., Sreekumaran, T. and K. M Ramachandran. Pathological studies of udder tissues and supramammary lymphnode. NSDVP'98 Souvenir pp 154

Jalaja Menon, Seema Jayaprakash, Lalitha, C. R., Valsala, K. V and Ramachandran, K. M: Aflatoxin B1 induced pathomorphological changes in duck embryo. NSDVP'98 Souvenir pp 126

Seema Jayaprakash, Jalaja Menon, Sreekumaran, T. and Ramachandran K. M.: Assessment of cell mediated immunity in experimental aflatoxicosis in ducks. NSDVP'98 Souvenir pp 126

Latha Kuppuswamy, Mammen, J Abraham, Ramachandran, K. M. and Ismail, P. K.: Ameliorating effect of commercial yeast in experimental aflatoxicosis in ducks. NSDVP'98 Souvenir pp 127

Arulmozhi, A., Koshy Varghese, Ismail, P.K. and Ramachandran, K. M.: ameliorating effect of *Phyllanthus niruri* on aflatoxicosis in broiler chicks. NSDVP'98 Souvenir pp 131

Suresh Kumar, M., Divakaran Nair, N., Sanjayan, K.K., Sreekumaran, T. and Ramachandran K. M.: Bursa of Fabricius in Japanese quail in experimental

aflatoxicosis - A SEM study. NSDVP'98 Souvenir pp 134

Biju, P., Lalithakunjamma, C. R., Valsala, K. V. and Ramachandran, K. M.: An assessment of the immunopathological response in bovine mastitis. NSDVP'98 Souvenir pp 156

LRS-THIRUVAZHAMKUNNU

Scientific articles

Dr. Francis Xavier 4 nos.
Dr. A. M Vahida 2 nos.
V. Jamaludheen 2 nos.

Technical bulletins: Nil

Popular articles

Dr. Francis Xavier 10 nos.
T. K Kunhamu 1 no.

Radio talks

Name of Scientists	Topic	Date	Station
Dr. Francis Xavier	Dog-Care & Management	22.02.98	Trichur

Doordarsan: Nil

MTU - MANNUTHY

Scientific articles: 2

Technical bulletins: Nil

Popular articles: Nil

Radio talks

Name of Scientists	Topic	Date	Station
Dr. P. Kuttinarayanan	Hygienic handling of meat	08.01.99	AIR, Trichur
	Quality of Ice cream	06.11.98	"

Doordarsan: Nil

COF-PANANGAD

Scientific articles -

Rajasekharan Nair, J.R and Sherif, P.M. 1998. Acute toxicity of phenol and long-term effects on food consumption and growth of juvenile rohu, *Labeo rohita* (Ham.) under tropical conditions *Asian Fish Sci.* 10: 179 - 197.

Jayachandran, K.V. 1998. The taxonomic status of *Macrobrachium biranicum* (Schenkel) *M choprai* (Tiwari) with a note on closely related species. *Indian J. Fish.* 45:345 – 348.

Technical bulletins: Nil

Popular articles: Nil

Radio talks

Name of scientists	Topic	Date	Station
Dr. T.V Anna Mercy Assoc.Professor	Alankara Matsyangal Valarthum bol Sradhikkenda Karyangal	23.04.98	Kochi
Dr.D.M Thampi Dean	Commercial Production of Aquarium fishes	04.02.99	Trichur
	Introduction of Exotic aquarium fish varieties	20.08.98	"

Doordarsan: Nil

FRS – PUDUVEYPU

Radio talks

Name of Scientists	Topic	Date	Station
Dr. K.S.Purushothaman	Different aspects of prawn farming-Interview	05.05.98	A.I.R., Trichur
"	Management of prawn fields for better returns	25.08.98	"
Dr. M.M.Jose	Prawn farming in Pokkali fields	29.10.98	A.I.R., Trichur

Doordarsan: Nil

KCEAT-TAVANUR

Scientific articles

Author	Title	Journal
Der. V Ganesan, Assoc. professor	Micro Structure of Spray Dried and Partially Defatted Coconut Skim Milk Powder	Journal of Food Science & Technology-1999
	Technology of Spray Drying	Kissaan World –Sept. 1999

Scientific articles

Purushan, K S (1998) " Prospects of biculture of *Lates calcarifer* (Bloch) with *Oreochromis mossambicus* (Peters) in different stocking ratios in accreted coastal wet lands at Cochin"

Purushan, K S (1998) " integrated fishery based farming system in a coastal wet land area at Cochin" – Abstracts submitted to *JMBA-CMFRI*, Kochi.

Jose M M (1998) "Effect of turbidity on growth and production of Milk fish (*Chanos chanos*) and Grey Mullet (*Mugil cephalus*) in brackish water ponds."

"Jose M M (1998) Seed resources of cultivable carnivorous fishes in the Cochin barmouth area."

Abstracts accepted for presentation in the Fourth International/Sixteenth National symposium on recent trends in life sciences – February 23rd t 25th 2000. Organised by Department of Aquatic Biology & Fisheries, University of Kerala, Thiruvananthapuram.

Technical bulletins –Nil

Popular articles

Dr. K.S Purushan, Associate Professor (Aqa.)

1. " തിരമുദ്ര മത്സ്യകൃഷിക്ക് സാധ്യതയെന്താ" - അശോകിമാനി - 98 ഒക്ടോബർ,8 _pp6.

1. " മത്സ്യമേഖലയെ എങ്ങനെ പുനരുജ്ജീവിപ്പിക്കാം. " - മാതൃഭൂമി - 98 ഡിസംബർ,5

Dr. M.M. Jose, Associate Professor (Aqua.)

"അരുളപ്പാട് മത്സ്യകൃഷിയിലും അമ്പലമുടി അമ്പലത്തിലും മത്സ്യകൃഷിയിലും" - കല്പദ്രുമം - ഏപ്രിൽ - മെയ് - ജൂൺ, 98.

Technical bulletins

Author	Title	Journal
Dr. U Sreelatha, Asst. Professor	Effect of drip irrigation and plastic mulching on the growth of bhindi	Paper presented at XIIIth Inter-national Congress of Agrl. Engineers at TNAU, 23rd to 25th October, 1998
	Effect of drip irrigation and synthetic mulching in growth and yield of bhindi	Paper presented at Xith Kerala Science Congress at CPCRI, Kasaragod during February 28-March 1, 1999

Popular articles
Radio talks

Name of scientists	Topic	Date	Station
Dr. K John Thjomas, Dean	Partial mechanization of paddy	08.06.99	AIR, Calicut
Sri. Prince M. V, Asst. Professor	New capabilities on value addition and packaging technology on 18.02.99	18.02.99	"
Dr. U Sreelatha, Asst. Professor	Green house production of vegetables	Sept. 98	"

Doordarsan: Nil

COMM CENTRE MANNUTHY

Periodical	Kalpa Dhenu	Vol 25	Issues 4 & 3
	Kalpa Dhenu	Vol 26	Issues 1 & 2
Non Periodicals			
Books			
i. Common weeds of Rice Ecosystem in Kerala (July 1998)			
ii. A Monograph on crop pests of Kerala and their control (3rd edition) March 99			
Booklets			
1. Kada (Jan 99) (Mal)			
2. Mulaku Krishi (April 98)(Mal)			
3. Kaikarikal (Jan 99)(Mal)			

Technical bulletins

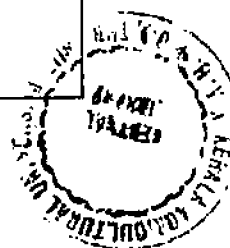
Nutrition Garden (May 98) - K.Krishnakumari

Mandari - Thengukrishikku bheeshani M.K Sheela , Suma Paulose (Mal) Nov 98

Leaflet of Arecanut Yelowining (March 99) - Estelitta & Jayshree Sankar

Popular articles

Name of Scientist	Title	Publication
Dr.A.D. Antony	Ornamental Fish culture in Kerala	Kalpadhenu 26 (1&2) July-Dec 1998
Smt.K.Krishnakumari	Minor fruits (Mal)	Kalpadhenu 25(4)3-6 April-June 98
Dr.Seema.B	On guava (Mal)	Kalpadhenu 25(4)
Dr.S.Estillita & Dr. Jayashree Sankar	Arecanut yellowning (Mal)	Mathrubhumidaily March 1999



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Radio talks

Name of Scientists	Topic	Date	Station
Dr. A.D. Antony	Commercial Production of Ornamental fishes	26.8.98	(AIR TCR)
Dr.A.D. Antony	Ornamental fish breeding as a source of income	26.11.98	(AIR TCR)
Dr.A.D. Antony	Diseases of Aquarium fishes	17.3.99	(AIR TCR)
Smt. Krishnakumari	Pulses cultivation	25.5.98	(AIR TCR)
Smt. Krishnakumari	Capsicum varieties suited for Kerala its cultivation practices	25.7.98	(AIR TCR)
Dr.M.K. Sheela	Pests of Coconut	13.5.98	(AIR TVM)
Dr.M.K. Sheela	Pepper	9.11.98	(AIR TCR)
Dr.M.K. Sheela	Pepper	6.2.99	(AIR Calicut)
Dr.M.K. Sheela	Banana	9.3.99	(AIR Kannur)
Smt.K.K. Santha	Bhindi	6.10.98	(AIR TVM)
Dr. Suma Paulose	Pests of tomato, chilli & brinjal	9.7.98	(AIR TVM)
Dr. Suma Paulose	Question & Answers on the Pests of tomato, chilli & brinjal	6.8.98	(AIR TVM)
Dr. Suma Paulose	Insecticidal residues in vegetables	27.10.98	(AIR TCR)
Dr. Suma Paulose	Brown plant hopper	3.3.99	(AIR TCR)
Dr.Jayasree Sankar	Application of Lime in kole land	22.10.98	(AIR TCR)
Dr.Jayasree Sankar	Sampling for soil testing	1.3.99	(AIR TCR)

CTI, MANNUTHY

Publications: Nil

Radio talks

Name of Scientists	Topic	Date	Station
Dr.Joy Mathew	Varieties of Arecanut and its planting(interview)	10.06.98	AIR, Trichur
	Transplanting and early management of rice(interview)	03.10.98	AIR, Trichur
	Irrigating coconut gardens(interview)	20.01.98	AIR, Trichur

Doordarsan: Nil

KVK, AMBALAVAYAL

Scientific articles: Nil

Technical bulletins: Nil

Popular articlesI. A. Radhamma Pillai *Do's and Don'ts of Poultry farming* - Karshakan, June 98.

2. A.Radhamma Pillai Topic: *Care & management of buffalo calves* - Karshakan July 98

Radio talks

Name of scientist	Topic	Date	Station
Dr. Radhamma Pillai	Preventive vaccination in poultry	14.6.98	Kozhikode (AIR)
Dr.T.P.Manomohan Das	Plant protection in ginger and turmeric	7.10.98	Kozhikode
Sri.C.M.George	Integrated pest management in rice	21.10.98	Kozhikode (AIR)
	Management of rodents	23.1.99	Thiruvananthapuram (AIR)
	Question answer in Krishipadam on rodent management	31.1.99	Thiruvananthapuram (AIR)
Dr. A. Radhamma Pillai	Diseases in chicks & control measures	29.1.99	Kozhikode (AIR)

Doordarshan: Nil

KVK MANJESWAR

Publications: Farm news issued – 20nos.

Scientific articles: Nil

Technical bulletins: Pamphlets & brochures – 10 nos.

Popular articles: Nil

Doordarsan: Nil

KVK, SADANANDAPURAM

Publications

Scientific articles

- Quantitative loss due to nut crinkler (*Parandasynus rostratus* Dist) damage on coconut
C. Nandakumar *Entomon*: 22(34) : 239-241
- Survey of natural enemies in rice eco-system
Nandakumar and M.S.Pramod *Insect environment* 41) : 16

Technical bulletins

Popular articles

Topic	Author	Published in
1. Hydrangea	V.Anilkumar	Vanitha April 1st issue 1998
2. Potash nutrition in coconut	K.R.Sheela, C.Nandakumar & R.Prakash	Farmer and parliament 33(3) : 11-12
3. Managing leaf miner in Cashew	C.Nandakumar & K.R.Sheela	Hindu daily 9.4.98
4. Success story of a bee keeper	R.Prakash	Kerala Karshanan 43 (13) : 24-25
5. Catlya	R.Prakash	Vanitha May Iind issue 1998
6. Phalanopsis	R.Prakahs	Vanitha April Iind issue 1998
7. The zen way of attitude	R.Prakash	Kisan World May 1998
8. Coccinea cultivation in Cheruvathoor	V.Anilkumar	Mathrubhoomi daily 5.5.98
9. Honey nutrients in liquid form.	C.Nandakumar & K.R.Sheela	Karshakan May 1998
10. Marigold	R.Prakash	Vanitha June 1st issue 1998
11. Rot disease of pineapple	C.Nandakumar & K.R.Sheela	Hindu daily 25.6.1998
12. Panam koduthu arivuneduka	R.Prakash	Karshakasree July 1998
13. Floriculture development	R.Prakash	Kerala karshakan 43(19) : 13-14
14. Ulpadanakshemathakku nallayinam kamuku	K.R.Sheela & C.Nandakumar	Mathrubhoomi daily 14.8.98

15. Aaramathinu elacharthu	C.Nandakumar & M.S.Pramod	Vaniitha Sept 1st 98
16. Flush grafting in Cashew	C.Nandakumar & K.R.Sheela	Hindu daily 26.5.98
17. Side effects of fertilizer application	R.Prakash	Karshakasree 4(2) : 26-27
18. Bud rot of coconut	C.Nandakumar & K.R.Sheela	Karshakan November 1998
19. Malabar tamarind a valuable condiment tree	K.R. Sheela & C.Nandakumar	Hindu daily 24.12.98
20. Homestead cultivation of green chillies	R.Prakash	Vaniitha January 1st issue 1999
21. Integrated weed management in rice	K.R. Sheela	Kalpadhenu 25(3) 1998
22. Nattarivukalkku prasakthiyerunnu	R.Prakash	Kerala Karshakan 44(8)
23. Marketing through self help groups	R.Prakash & S.M.Nehru	ILEIA New letter December 1999
24. Managing coconut bud rot	C.Nandakumar & K.R.Sheela	Hindu daily 11.3.99

Radio talks

Name of Scientists	Topic	Date	Station
Dr.R.Prakash, Associate Professor	"Management of mango tree"	8.5.98	The AIR, Thiruvananthapuram
Sri.C. Nandakumar, Associate Professor	"Bio control of coconut pests"	13.6.98	"
Dr.V.L.Sheela, Asst. Professor	"Orchid varieties for commercial cultivation"	17.7.98	"
Dr.R.Prakash, Associate Professor	Water management in coconut	6.10.98	"
Dr.V.L.Sheela, Asst.Professor	Commercially important varieties of Anthurium	16.10.98	"
Dr.R.Prakash, Associate Professor	Significance of KVKs	6.3.99	"

Doordarsan: Nil

KVK, PATTAMBI

Scientific articles: Nil

Technical bulletins: Nil

Popular articles: Nil

Radio talks: Nil

Doordarsan

Name of Scientists	Topic	Date	Station
Sri. K. V. Vijayadas, President, Dist.Panchayat, Palakkad	Kerabandhu Training		Surya T. V
	Women cell activities including "Mahila Goshti"		Asianet

LIBRARY AND INFORMATION SYSTEM

Prof. R. Raman Nair:

CDS/ISIS for DOS, published by Ess Ess Publications, New Delhi, 1999.

Internet for Library and Information Services published by Ess Ess Publications, New Delhi, 1999.

Information and Democracy. Edited jointly with Dr. Ranjan S. Karippai. Trichur, IASLIC Organising committee, 1998.

Research Papers

Prof. R. Raman Nair

Sustainable Management of Library and Information systems in agricultural Universities. Proceedings of National seminar on Sustainable Library and information services. Chandigarh, Punjab University, December 1998.

Establishment of an electronic library to support agricultural research education and extension in India Proceeding of FID Congress, New Delhi, INSDOC 1998.

Nastikanaya Khalil, Malayalam Translation Second

Edition, Kottayam, DC Books, 1998

Strategic Plans for designing Information systems under Local Government for Better Access to Information, Proceedings of the National Seminar of IASLIC on Right to Information, Calcutta, IASLIC, 1998

Development of an Information System for regional Literature and Culture with INFLIBNET Support. Proceedings of the CALIBER 99 held at Nagpur University, Ahmedabad, INFLIBNET, 1998

KAU on the Spring board--to Cyberspace, Information and Democracy, Trichur, KAU, 1998

Shri. A.T. Francis

Integrated agricultural and rural information system (ARIS) an evaluation of the existing information system in Kerala. Proceedings of FID Congress, New Delhi, INSDOC 1998

Quality Circle technique for library management in Kerala in Library Situation in Kerala Thrissur, Kerala Library Association 1998.

Cherian K George.

Organisation of School Libraries in Vidhyaragam, Nov 1998

RESEARCH SCHEMES IN OPERATION UNDER DOR

Research Schemes operated under the Directorate of Research

Project Title	Durn. (Yrs.)	Outlay (in Rs.)	Date of start
Faculty : Agriculture			
<i>ICAR: Co-ordinated</i>			
Agricultural Research Station, Mannuthy			
AICRP - Double Cropping Sub-Centre (Head, ARS, Mannuthy)	9	94,000	1-4-1990
College of Horticulture (CoH), Vellanikkara			
AICRP on Medicinal & Aromatic Plants (K.T.Presannakumari)	10	29,05,000	1-4-1990
AICRP on Weed Control (C.T. Abraham)	10	12,13,000	1-4-1990
AICRP on BCCP (P.J. Joy/Pathummal Beevi)	10	20,38,000	1-4-1990
AIC Vegetable Improvement Project (S. Rajan)	10	13,75,000	1-4-1990
AIC Floriculture Improvement Project (P.K. Rajeevan)	10	11,81,000	1-4-1990
AINP on Agricultural Ornithology (Jim Thomas)	10	6,18,000	1-4-1990
AICRP on Agrometeorology (E.K. Lalitha Bai)	5	7,68,000	1-4-1995
AICRP on Soil Test Crop Response Correlation (M.A. Hassan)	5	-	1-4-1995
College of Agriculture (CoA), Vellayani			
AICRP on Tillage requirement of major Indian soils for different cropping systems (P.B. Usha)	10	3,36,000	1-4-1990
AICRP on Nematode Pests (M.S. Sheela)	10	16,95,000	1-4-1990
AICRP on Honey bee (S.Devanesan)	10	9,71,000	1-4-1990
NARP(SR), Vellayani			
AICRP on pesticide residue (S. Naseema Beevi)	10	25,58,000	1-4-1990
AICRP on Forage Crops (Janardhanan Pillai)	10	7,73,000	1-4-1990
Sugarcane Research Station, Thiruvalla			
AICRP on Sugarcane (Station Head)	10	19,63,000	1-4-1990
Cropping Systems Res. Centre, Karamana			
AICRP - Project Directorate of Cropping Systems Research -Karamana & ECF Unit, Alathur Sub- Centre (Head, Karamana)	10	63,97,000	1-4-1990
Agronomic Research Station, Chalakudy			
AICRP on Water Management (Head, Chalakudy)	10	39,16,000	1-4-1990
College of Forestry (COF), Vellanikkara			
AICRP on Agroforestry (Functioning at LRS, Thiruvazhamkunnu) (B. Mohankumar)	10	26,18,000	1-4-1990
Cashew Research Station, Madakkathara			
AICRP on Cashew - Research on Cashew	8	13,51,000	1-4-1992

(Madakkathara&Pilicode) (M. Abdul Salam)			
Banana Research Station (BRS), Kannara			
AICRP on Fruits (Banana) (Head)	10	32,05,000	1-4-1990
Rice Research Station (RRS), Kayamkulam			
AICRP on Oilseeds for groundnut and sesamum (Sverup John)	10	15,62,000	1-4-1990
Rice Research Station, Moncompu			
AICRP - BHP & GSV Merger - Sub-Centre (Station Head)	9	4,02,000	1-4-1990
AICRP on Agricultural Drainage, Karumady			
AICRP on Agrl. Drainage (Madhusoodanan Nair)	10	42,62,000	1-4-1990
Pepper Research Station, Panniyur			
AICRP on Spices - Research on Pepper (Head, Panniyur)	10	36,15,000	1-4-1990
Cardamom Research Station, Pampadumpara			
AICS & CIP - Research on Cardamom (Head, Pampadumpara)	10	24,17,000	1-4-1990
Regional Agricultural Research Station (RARS), Pattambi			
AICRP on Long term fertilizer experiment (Usha Mathew)	5	6,15,000	1-4-1995
AICRP - Double Cropping Main Centre (Assoc. Director)	10	9,79,000	1-4-1990
AICRP on Arid Legumes (Guar) (Assoc. Director)	10	3,80,000	1-4-1990
<i>ICAR : Adhoc</i>			
RARS, Kumarakom			
Studies on mosaic disease of bittergourd (<i>Momordica charantia L.</i>) (Mathew A. V.)	3	2,86,900	1-4-1995
Pathobiology of diseases of fresh water fishes with special reference to epizootic ulcerative syndrome (Padmakumar K.G.)	3	4,69,900	24-6-1996
<i>In vitro</i> cloning and improvement of orchids (Shyam S. Kurup)	5	15,05,900	1-4-1996
Ecology and management of rice gall midge, <i>Orseolia oryzae</i> , in Kuttanad (K.P. Vasudevan Nair/P.J. Joy)	3	10,79,800	2-5-1996
Evaluation of Kuttanad ecosystem for possible contamination by pesticides, herbicides and toxic heavy metals (Sosamma Cherian)	3	15,99,400	25-11-1996
Fish culture in cage and pen enclosures in Vembanad lake (K.G. Padmakumar)	3	8,64,700	13-3-1998
KHDP, Vellanikkara			
Survey, collection and evaluation of table type mangoes existing in central Kerala (T. Radha)	3	5,29,300	1-10-1997
Heterosis in chilli and brinjal associated with reference to bacterial wilt (Gopalakrishnan T.R.)	4	5,04,400	1-4-1995
Genetic factors affecting nutrient content in vegetable amaranthus (Devadas V.S.)	3	9,46,400	1-6-1995

Screening for sources of resistance and breeding for mosaic resistant vegetable cowpea (<i>Vigna unguiculata</i> var. <i>sesquipedalis</i>) (T.R. Gopalakrishnan)	3	7,13,700	1-9-1998
Research and development and breeder seed production programme of Kerala Horticulture Development Programme (Ramachandran/Gopalakrishnan)	5	156,00,000	1-1-1994
College of C,B&M, Vellanikkara			
An evaluation of group management techniques in Agriculture adopted to enhance production and productivity of paddy in Kerala (Suresh K.A.)	4	6,11,200	18-2-1994
An appraisal of the agricultural input system in Kerala (K.P. Mani)	2	5,61,600	1-1-1997
College of Forestry, Vellanikkara			
Nutritional composition and decomposition of leaf biomass of selected woody leguminous species grown under rainfed conditions (Gopikumar K.)	3	2,17,400	1-7-1995
Micropropagation of matti (<i>Ailanthus triphysa</i>) and bijasal (<i>Pterocarpus marsupium</i>) (N.K. Vijayakumar)	3	8,27,800	1-4-1998
College of Horticulture, Vellanikkara			
Triploid breeding of tetraploid hybrids of Palyankodan (Musa AAB Mysore) x Pisang Lilin (Musa AA Pisang Lilin) for disease resistance (Valsalakumari P. K.)	4	4,75,600	1-8-1994
Traditional and appropriate technologies for <i>in situ</i> rain water harvest under humid tropical situations (Gopinathan R.)	4	9,79,100	20-8-1994
Evaluation and selection of medicinal plants suitable for a coconut based farming system (Alice Kurien)	4	8,95,600	25-10-1995
Survey, collection, evaluation, conservation and standardisation of vegetative propagation in five under-exploited minor fruits of Kerala (Sarah, T. George)	4	7,16,600	10-04-1995
Internat - Intramat and crop competitive studies in banana (cv. Palayamkodan) using tracer techniques. (Sajan Kurien)	4	5,77,900	05-04-1995
Rapid multiplication of rare and endangered medicinal plants (R. Kesavachandran.)	3	8,79,100	25-10-1995
Variability in iron & zinc availability in the laterite & lateritic soils of Central Kerala with reference to rice nutrition (Sureshkumar. P.)	3	4,11,600	2-05-1996
Rapid multiplication of cashew through <i>in vitro</i> methods (R. Kesavachandran)	3	7,47,100	18-12-1995
<i>In vitro</i> propagation and improvement of foliage plants (T.P. Murali/P.K. Rajeevan)	3	10,73,100	4-8-1997
Breeding bacterial wilt resistant tomatoes for processing (S.Nirmala Devi)	5	11,94,600	4-7-1996
Exploration, collection and cataloguing of sacred lotus	3	4,71,500	6-8-1997

(<i>Nelumbo nucifera</i>) on its reproductive biology and seed technology (K.T. Prasannakumari)			
Hybridisation in ginger (<i>Zingiber officinale</i> (Rosc.) through <i>in vitro</i> pollination (P.A. Valsala)	3	6,22,400	1-8-1998
Utilization of indigenous phosphate rock by partial acidulation and other amendments (P.K. Sushama)	3	3,86,600	1-7-1998
College of Agriculture, Vellayani			
Development of improved strains of oyster mushrooms and standardisation of techniques for their commercial cultivation in Kerala (Balakrishnan B.)	3	5,36,200	1-6-1995
Development of soya rice blended food recipes (Prema L.)	4	6,13,200	14-11-1994
Evolving techniques for the <i>in vitro</i> propagation of economically important mono and poly embryonic mango varieties of Kerala (Rajmohan K.)	5	6,35,000	18-8-1994
Collection, conservation and documentation of mushrooms and fleshy fungi of Kerala (S. Bhavani Devi)	3	9,82,000	24-6-1998
Epidemiology of honey bee disease in Kerala and its management (Abraham Jacob/S.Devanesan)	5	9,37,000	1-8-1993
College of Agriculture, Padannakkad			
Price policy models of coconut - An econometric approach (C. Latha Bastine)	2	4,03,400	16-11-1998
RARS, Pilicode			
Influence of weather and soil factors on growth, yield, nut weight and nut quality of cashew in west and east coasts of India (G.S.L.H.V. Prasada Rao)	4	3,92,300	1-4-1995
Evaluation of <i>Azolla pinnata</i> strains from Kerala for growth and nitrogen fixation and their effects on rice as biofertilizer in acid soil areas (M. Govindan)	3	5,17,000	1-4-1996
Survey, collection, conservation and utilisation of pickling type mangoes (B. Jayaprakash Naik)	5	9,06,300	1-6-1995
Nitrogen use efficiency in plantation crops (P.A. Wahid)	4	6,37,900	22-01-1996
ARS, Chalakudy			
Collection and evaluation of germplasm of betel vine and standardisation of agrotechniques in Kerala (V. Sreekumaran)	3	5,62,500	1-1-1998
AMPRS, Odakkali			
Standardisation of agro-techniques in lesser known aromatic and medicinal plants of Zingiberaceae (P.P. Joy)	3	6,37,100	1-11-1995
Integrated management of the banana pseudostem weevil, <i>Odoiporus longicollis</i> Oliv. (Coleoptera, Curculionidae) (Baby P. Skariah)	3	4,15,000	1-11-1997
BRS, Kannara			

Development of a suitable natural bio-control agent against cyst nematode, <i>Heterodera orydicola</i> , infesting paddy/banana (Job Sathyakumar Charles)	3	9,97,300	1-9-1996
Campus Development, Vellanikkara			
Standardisation of agro-techniques for anthurium (Usha. K. E)	4	4,78,000	19-01-1996
RRS, Vyttila			
Rice-fish/prawn components for an integrated farming system for the coastal tract of Kerala (N.K. Sasidharan/V.Sreekumaran)	3	4,20,400	20-1-1998
RS, Moncompu			
Genetic analysis of gall midge resistance in rice and evolving resistant varieties for GM Biotype 5 (N. Remabai)	3	9,50,800	15-11-1997
Evaluation of cultivated and wild rice germplasm for biotic stresses (Professor & Head)	5	4,22,900	1-6-1993
oR, Vellanikkara			
Development and field testing of expert systems as an aid to agricultural extension work (Ramesh Geetha/Sonney George)	3	11,71,800	18-6-1997
ARS, Pattambi			
Development of superior hybrids of rice (<i>Oryza sativa L.</i>) suitable for Kerala (S. Leenakumari)	3	4,96,000	21-3-1998
NSC - Breeder Seed Production Unit NSP - BSP Project (S. Leenakumari)	10	21,10,000	1-4-1990
FSRS, Sadanandapuram			
Value addition for sweet potato by developing different food products (S. Chellammal)		4,64 4,30 0	4-8- 1999
S.T.E.D.			
CoA, Vellayani			
Post harvest studies on processed products made from mango and papaya (L.Prema)	3	75,000	5-12-1995
Development of mycoherbicides for the biocontrol of water hyacinth [<i>Eichhornia crassipes</i> (mart) Solms] (A. Naseema)	5	75,000	28-8-1995
Exploitation of hypovirulence in <i>Rhizoctonia solani</i> Kuhn. for sheath blight disease suppression and growth promotion in rice (V.K. Girija)	3	86,500	31-10-1998
Microflora associated with earthworms and vermicompost and their role in the production and use of vermicompost (Sasikumar Nair)	2	50,000	9-6-1997
Nutrient enrichment of vermicompost using low grade nutrient carriers (K. Ushakumari)	3	98,000	2-5-1998
Utilisation of pepper phylloplane mycoflora for the bio-control of foliar diseases of pepper (P. Santhakumari)	2	89,500	26-3-1999
Management of household waste by vermitechology (K. Ushakumari)	2	1,78,000	25-9-1998
NARP (SR)			
Compendium on crop improvement research in Kerala, accomplishments and future strategies	3	1,00,000	6-2-1996

(V. Gopinathan Nair)			
FSRS, Sadanandapuram			
Management of soil related constraints for increasing production of Cassava in the homesteads of Kollam district (R.S. Shehana)	3	1,00,000	9-3-1999
<i>D.S.T.</i>			
RARS, Pilicode			
Starting of experimental agrometeorological advisory service at RARS, Pilicode (G.S.L.H.V. Prasad Rao)	5	1,23,000	1-4-1995
RARS, Ambalavayal			
Starting of experimental agrometeorological advisory service (AAS) at RARS, Ambalavayal (K.C. Aipe)	4	1,00,000	2-3-1996
CoA, Vellayani			
Nutrient economy through vermicompost application in major upland crops of Kerala (Prabhakumari P.)	2	3,07,400	30-6-1998
CoH, Vellanikkara			
Agrometeorological investigation on summer vegetables (P.Balakrishna Pillai)	3	7,29,700	1-12-1995
Estt. of a Natl. Centre for medium range weather forecasting on experimental basis at KAU main campus- Start. of Agromet Services on exptl. basis under NCMRWF (GSLHV Prasada Rao)	9	98,000	8-3-1991
An assessment of stressed ecosystems of Thrissur District of Kerala (N. Saifudeen)	3	7,01,400	1-7-1996
<i>akti Soya, Coimbatore</i>			
oH, Vellanikkara			
Nutritional and health impact of substituting soya products for green gram in the nutrition intervention programme of the state (V. Usha)	1	4,00,000	5-6-1997
<i>K.R.P.L.L.D.</i>			
CoA, Vellayani			
Goitre incidence in Kerala (Kerala Res. Prog. on Local Level Devt.) (Preparation of status paper) (P.V. Nandini)		0,10,0000	14-11-1998
Impact of dual role played by working women (Mary Ukkuru)	2	1,01,800	13-3-1997
oH, Vellanikkara			
Identification and analysis of endangered skills in the farming systems of Thrissur district (P.S. Geethakutty)	2	1,62,000	12-10-1998
<i>G.O.K.</i>			
CoH, Vellanikkara			
Adaptive research for evolving recommendations for major crop soils in the State (Dept. of Agriculture) (A.I. Jose)	6	3,00,000	15-11-1993
Induction of variation through tissue culture and evaluation of varieties for <i>Phytophthora</i> footrot tolerance/resistance in black pepper (M.R. Shylaja)	3	7,41,000	12-3-1999
Identification of location specific varieties (E.V. Nybe)	4	5,87,600	12-3-1999

Testing of the released pepper varieties in various pepper tracts of Kerala (E. V. Nybe)	4	3,50,000	12-3-1999
Identification of low input responsive varieties in relation to local technology in black pepper (S. Prasannakumari Amma)	4	4,87,600	12-3-1999
Use of organics and biofertilisers in black pepper for yield and quality improvement (Jose Mathew)	4	4,55,000	12-3-1999
Standardisation of low input technology for black pepper (Jose Mathew)	4	4,55,000	12-3-1999
Use of bio-control for checking <i>Phytophthora</i> disease (T.N. Vilasini)	4	21,69,000	12-3-1999
Incorporation of biocontrol in nursery plants for checking <i>Phytophthora</i> disease (Koshy Abraham)	4	21,34,000	12-3-1999
CoA, Vellayani			
Quality aspects of fast or street foods in Thiruvananthapuram city (P.V. Nandini)	2	25,500	17-12-1998
CoF, Vellanikkara			
Conservation strategy for Dipterocarp (<i>Hopea parviflora</i> Bedd) species through storage of seeds using desiccation treatment, synthetic seeds and cryopreservation technique (K. Sudhakara)	4	2,06,400	17-3-1998
Taxonomic inventory of higher plants in selected shola forests of Kerala and development of a computerised herbarium - Dept. of Forests (Sudhakara K.)	2	2,12,000	20-10-1998
Effect of cosmospriming & accelerated ageing treatments on the germination characteristics of teak seeds (K. Sudhakaran)	4	3,27,400	17-3-1998
Phytosociological and litter dynamics studies in the selected Shola forests of Nilgiri Hills of Kerala (Vidyasagaran)	2	2,02,800	1-12-1998
Bird species richness of high altitude grassland Shola forests for Munnar forest division (P.O. Nameer)	2	1,31,600	1-9-1998
RARS, Kumarakom			
Fish ranching and open water fishery management in Vembanad lake (K.G. Padmakumar)	3	62,69,000	29-8-1997
D.B.T.			
CoH, Vellanikkara			
Establishment of distributed information sub-centre at Kerala Agricultural University (P.A. Nazeem)	5	15,25,000	4-5-1995
Tissue culture research on humid tropical plantation crops and spices (R. Vikraman Nair)	5	41,96,000	1-4-1995
<i>In vitro</i> studies on <i>Gymnema sylvestre</i> (Lissamma Joseph)	3	14,30,000	12-6-1997
Triploid production in water melon and Anonas through <i>in vitro</i> endosperm culture (P.C. Rajendran)	3	9,58,000	5-3-1997
Field evaluation of tissue culture derived black pepper plants	3	11,60,000	12-3-1997

(Nazeem P. A.)			
CoA, Vellayani			
Breeding for interspecific and intergeneric hybrids of orchids for commercial cultivation (S.T. Mercy)	3	13,90,000	1-4-1997
Bio-control of aphids and mites infesting crops (K. Sudharma)	3	14,68,000	11-8-1998
<i>I.C.F.R.E.</i>			
oH, Vellanikkara			
Economics of teak plantations in Kerala (P. Indira Devi)	3	6,13,800	16-6-1997
oF, Vellanikkara			
Provenance and species evaluation of certain selected Acacias (E.V. Anoop)	3	5,89,000	30-1-1997
<i>D.S.I.R.</i>			
oH, Vellanikkara			
Evaluation of slow release of fertilizer for important crops of Kerala (A.I. Jose)	4	6,00,000	1-6-1995
<i>M.A.R.I.C.O.</i>			
RARS, Pilicode			
Climate & Coconut M/s Marico Industries Ltd., Bombay (G.S.L.H.V. Prasada Rao)	6	7,82,000	1-6-1994
<i>SPICES BOARD</i>			
RARS, Kumarakom			
Exploiting the genetic variability in <i>Garcinia combogia</i> Desr. for its rehabilitation and mass production of planting materials (K.A. Inasi)	5	19,59,000	22-11-1996
<i>G.O.I.</i>			
RARS, Pilicode			
Strengthening of pig breeding farm - (Dept. of Animal Husbandry & Dairying) (Assoc. Director, RARS, Pilicode)	4	14,35,000	21-3-1996
ARS, Mannuthy			
Development of mulch - cum-drip and sub-surface pad irrigation systems for vegetables (Jaikumaran U.)	3	5,87,600	1-6-1995
College of C,B & M, Vellanikkara			
CoA, Vellayani			
Starting of experimental agrometeorological advisory service (AAS) at Vellayani (V.Muralidharan Nair)	3	3,00,000	17-4-1997
Marketing of poultry products - Study with reference to Kerala (Dept. of Rural Development) (N. Rajan Nair)	1	2,40,000	1-1-1997
<i>R.R.I.I.</i>			
oA, Vellayani			
Impact of continuous application of copper fungicides on ecosystems of the major rubber growing tracts of Kerala and Tamil Nadu (P. Rajendran)	3	15,19,100	3-10-1996
<i>K.C.P.L.</i>			
oH, Vellanikkara			

Organic meals from KCPL effluent slurry (R. Gopinathan)	2	2,86,000	20-5-1997
<i>I.F.F.C.O.</i>			
oH, Vellanikkara			
Padma Shree Paul Pothen IFFCO chair (K.Mukundan/E.K. Thomas)	4	-	12-8-1996
<i>Rajasthan State Mines & Minerals Ltd.</i>			
CoA, Padanakkad			
Trials of rock phosphate tailings in coconut (P.R. Suresh)	2	50,000	30-11-1998
Studies on agronomic efficacy of Rajphos compacted with MAP. (C. Sundaresan Nair)	2	3,83,600	10-3-1997
<i>P.P.I.C.</i>			
oA, Vellayani			
Nutrient requirement of annual spices in coconut gar- dens of Kerala (Meera Bai)	3	3,59,000	27-4-1998
Nutrient management in coconut based fodder produc- tion systems in the homesteads of Kerala (Potash & Phosphate Institute of Canada - India Programme) (S. Lekshmy)	3	3,76,000	27-7-1998
<i>Marson Biocare (P) Ltd.,</i>			
oH, Vellanikkara			
Terracare as an organic soil conditioner in managed commercial production of medicinal plants (K.T. Presannakumari)	1	50,000	6-11-1998
<i>orld Bank</i>			
ARS, Pattambi			
Developing improved banana varieties with pest and disease resistance, post harvest quality and export po- tential for India (N.Krishnan Nair)	3	-	-1-1996
RS, Kannara			
Collection, characterisation and evaluation of Nendran varieties in the University (K. Aravindakshan/Rema Menon)	1	-	-6-1997
<i>CAD India Ltd.</i>			
College of Horticulture, Vellanikkara			
Cocoa research collaboration project between KAU and Hindustan Cocoa Products Limited (V.Mallika/Vikraman Nair)	5	109,00,000	1-4-1997
aculty: Agrl. Engg. <i>CAR : Co-ordinated</i>			
K.C.A.E.T., Tavanur			
AICRP on Energy requirements in Agriculture sector (Jippu Jacob)	10	14,27,600	2-10-1993
AICRP on Farm Implements & Machinery (M. Sivaswami)	10	15,10,000	-4-1990
Design and development of equipment for threshing, cleaning and grading of black pepper (M.V. Prince)	2	5,20,000	0-9-1996
<i>CAR Ad-hoc</i>			
CAET, Tavanur			
Développement, testing and introduction of low and me- dium head high discharge pumps (K. John Thomas)	3	8,27,800	-6-1995
Technology development for decorticating cashewnut	3	11,00,000	-3-1997

(Anacardium occidentale Linn.) (Jippu Jacob)			
Water resources management studies on laterite hill slopes of Kerala (Noble Abraham)	3	7,55,600	5-5-1998
Development of equipment and technology for pre-processing of coconut (<i>Cocos nucifera</i> L.) (C.P. Muhammed)	3	13,06,000	-4-1997
<i>L.D.A.</i>			
Introducing mechanisation programme for harvesting and threshing in kole lands of Thrissur and Malappuram districts (Jippu Jacob)	3	9,22,000	0-7-1995
<i>O.K.</i>			
Development of women oriented implements and technologies (Sub-project: Development and testing of harvesting device for jackfruits) - Dept. of Agriculture (C.P. Muhammed)	2	1,50,000	2-7-1996
<i>O.I.</i>			
CAET, Tavanur			
Establishment of plasticulture development centre at Tavanur - Dept. of Agri. & Co-Op., Min. of Agriculture (K. John Thomas)	5	14,50,000	-4-1995
Weed control and moisture conservation using LDPE (INCID, Min. of Water Resources) (P.V. Habeeburrahman)	3	2,16,200	8-04-1995
Faculty: Veterinary and Animal Sciences			
<i>ICAR Co-ordinated</i>			
College of Veterinary and Animal Sciences, Mannuthy			
AICRP on Poultry (Dr. Jalaludden A)	10	69,92,000	-4-1990
AICRP on Pigs (T.V. Viswanathan)	10	36,86,100	-4-1992
Network programme on micronutrients in Animal Nutrition and production (P. Gangadevi)	10	23,49,000	-4-1990
AINP on Embryo transfer technology in animal production (S.P. Suresh Nair)	5	22,50,000	-1-4-1992
<i>C.A.R. Adhoc</i>			
College of Vety. & Animal Sciences, Mannuthy			
Conservation of germplasm of Vechur cattle of the coastal area and dwarf cattle of the high range of Kerala (Sosamma Iype)	7	6,20,500	-1-1993
Aestiopathology and diagnosis of bovine mastitis (Rajan A.)	3	10,87,900	-8-1995
Fungal mastitis of animals with special reference to yeast mastitis (P.C. James)	2	3,29,100	0-6-1996
Development of cell culture duck plague vaccine for simultaneous vaccination with duck pasteurellosis (S. Sulochana)	3	9,66,600	-7-1995
Field progeny testing project at Mannuthy (Sosamma Iype)	5	22,82,000	-1-1994
Immunological response to selected mycotoxin in ducks and quails with special reference to immunomodulation	3	12,00,100	-1-1997

(K.M.Ramachandran)			
Centre of advanced study in Veterinary Pathology (A. Rajan/K.M.Ramachandran)	8	41,25,000	9-9-1994
Investigations on urinary calculogenic and calculolytic agents in ruminants and monogastric animals (C.S.James)	3	10,01,200	5-2-1997
An investigation on chromosomal damage to the cattle of radioactive areas of Kerala (K.V. Reghunandan)	3	6,30,100	8-11-1996
Chlamydiosis in livestock with special reference to abortions in livestock (V. Jayaprakasan)	3	20,61,500	-10-1998
<i>A.B.A.R.D.</i>			
College of Vety. & Animal Sciences, Mannuthy			
Bioconversion technology to augment the nutrient utilization of agro-industrial by-products for ruminants (C.S. James)	3	9,26,800	-12-1995
Conversion of biodegradable aquatic animal (prawn) waste as livestock feed (D.M. Maggie/A.D. Mercy)	3	10,71,400	-5-1996
<i>D.B.</i>			
College of Vety. & Animal Sciences, Mannuthy			
Development and standardisation of Dairy foods incorporating coconut (U.T. Francis/P.I. Geevarghese)	4	5,00,000	-8-1994
<i>B.T.</i>			
College of Vety. & Animal Sciences, Mannuthy			
Molecular characterisation of duck plague virus (S. Sulochana)	3	23,59,000	9-4-1995
Technology transfer cum demonstration on chick broilers (A.K.K. Unni)	3	18,27,000	-10-1996
<i>S.T.</i>			
College of Vety. & Animal Sciences, Mannuthy			
Introduction of cage system in egg production in the homesteads (A.K.K. Unni)	3	9,39,000	5-7-1995
Formulation of low cost animal feeds using feed stuffs available in rural areas of Kerala (K.M Syam Mohan)	3	1,79,000	0-1-1997
<i>O.I.</i>			
College of Vety. & Animal Sciences, Mannuthy			
Monitoring of health status of elephants in Wayanad wild life reserve-Chief Conservator of Forests(Wild Life) (P.C.Alex)	3	2,65,600	0-3-1998
<i>O.K</i>			
Livestock Farm, Thiruvazhamkunnu			
Establishment of forage & seed production units through effective utilisation of waste lands. (P.Ramachandran)	5	3,36,000	-4-1994
Faculty : Fisheries			
<i>CAR Adhoc</i>			
College of Fisheries, Panangad			
Developing suitable technology for production of a formulated feed based on clam meat for the fresh water prawn, <i>Macrobrachium rosenbergii</i> (D.D. Nambuthiri)	3	4,53,400	6-10-1996
Fisheries Station, Puduveye			

Seed resources and production potential of selected carnivorous fishes in the south west coast of India (M.M. Jose)	4	6,79,000	-5-1995
<i>.O.K.</i>			
College of Fisheries, Panangad			
Induced maturation and spawning penaeid prawns for commercial level seed production (C. Mohanakumaran Nair)	5	3,00,000	5-11-1992
Pesticide induced histopathological changes in selected fresh water fishes of Kuttanad, Kerala (T.V. Anna Mercy)	3	50,000	7-4-1995