# ANNUAL REPORT

## 2001-'02



**KERALA AGRICULTURAL UNIVERSITY**

KAU P.O. 680 656, Vellanikkara, Thrissur

**ANNUAL REPORT 2001 -'02**

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# CONTENTS

# GENERAL REPORT

The Executive Committee of the Kerala Agricultural University presents to the General Council its annual administration report for the year 2001-2002 (1st April 2001 to 31st March 2002).

The report pertains to the general administration, education, research, extension, library and information service, students welfare, engineering works, estate and campus development and finance and accounts. The lists of members of the statutory authorities, staff at various campuses, projects operated under Directorate of Research are also appended.

**Officers of the University**

| *Designation* | *Name* | *Period* |
|---|---|---|
| Vice Chancellor | Dr. R. Gopinathan (i/c) | 1.4.2001 to 19.6.2001 |
| | Dr. K.V.Peter | 20.6.2001 to 31.3.2002 |
| Pro Vice Chancellor | Dr.R.Gopinathan | 1.4.2001 to 25..12.2001 |
| Registrar | Sri. K.R.Muraleedharan, IAS | 1.4.2001 to 29.11.2001 |
| | Dr. A.I. Jose (i/c) | 30.11.2001 to 16.12.2001 |
| | Sri. K.R.Muraleedharan, IAS | 17.12.2001 to 31.3.2002 |
| Comptroller | Sri.K.P.Raveendran | 1.4.2001 to 31.10.2001 |
| | Smt. V.M.Lalithakumari (i/c.) | 1.11.2001 to 11.11.2001 |
| Dy. Comptroller | Smt. P. Chandramathy Amma | 12.11.2001 to 31.3.2002 |
| Director of Extension | Dr.A.I.Jose | 1.4.2001 to 31.3.2002 |
| Director of Research | Dr.K.V.Peter | 1.4.2001 to 19.6.2001 |
| | Dr. K. Kumaran (i/c) | 20.6.2001 to 31.3.2002 |
| Director of Physical Plant | Sri. P.R.Govindan (i/c) | 1.4.2001 to 31.3.2002 |
| Director of Students Welfare | Dr.V.S.Balakrishnan (i/c) | 1.4.2001 to 4.5.2001 |
| | Dr. Jose John Chungath (i/c) | 5.5.2001 to 10.9.2001 |
| | Dr. T. Sreekumaran (i/c) | 11.9.2001 to 1.10.2001 |
| | Dr. Jose John Chungath (i/c) | 2.10.2001 to 31.3.2002 |
| Director (Acad.& PG Studies) | Dr. M.Mohandas i/c | 1.4.2001 to 6.6.2001 |
| | Dr. P.A.Wahid | 7.6.2001 to 31.3.2002 |
| Dean (Agri.) | Dr. P.A. Wahid | 1.4.2001 to 6.6.2001 |
| | Dr. R. Vikraman Nair (i/c) | 7.6.2001 to 31.3.2002 |
| Dean(Ag.Engg) | Dr.K. John Thomas | 1.4.2001 to 31.3.2002 |
| Dean (Vety.) | Dr.K.N.Muraleedharan Nayar (i/c) | 1.4.2001 to 15.11.2001 |
| | Dr. P.P.Balakrishnan (i/c) | 16.11.2001 to 31.3.2002 |
| Dean (Fisheries) | Dr.D.Manikantan Thampi | 1.4.2001 to 1.2.2002 |
| | Dr.D.Damodaran Namboodiri (i/c) | 2.2.2002 to 31.3.2002 |

| *Designation* | *Name* | *Period* |
|---|---|---|
| Associate Dean (Horti) | Dr. A. Sukumara Varma | 1.4.2001 to 31.3.2002 |
| Assoc.Dean (Forestry) | Dr. Luckins C. Babu (i/c) | 1.4.2001 to 31.3.2002 |
| Assoc. Dean, CCB&M, Vellanikkara | Dr. M. Mohandas (i/c) | 1.4.2001 to 31.3.2002 |
| Assoc. Dean, College of Agriculture, | Dr. U. Ramachandran (i/c.) | 1.4.2001 to 2.1.2002 |
| Padannakkad. | Dr. M. Abdul Salam (i/c.) | 3.1.2002 to 31.3.2002 |
| Special Officer, College of Vety. & Animal Sciences, Pookode | Dr. P.P.Balakrishnan | 1.4.2001 to 31.3.2002 |
| Special Officer, College of Dairy Science & Tech., Mannuthy | Dr. V. Prasad | 1.4.2001 to 31.3.2002 |
| University Librarian | Smt.M.C.Lalitha (i/c.), (Assistant Librarian) | 1.4.2001 to 31.3.2002 |

## EDUCATION

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

| *Name of 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 and Animal Sciences Mannuthy | B.VSc &A.H.,M.Vsc and Ph.D |
| College of Fisheries, Panangad | B.F.Sc and M.F.Sc |
| Kelappaji College of Agri. Engineering & Technology, Tavanur | B.Tech(Agrl.Engg) and M.Tech(Agrl.Engg) |
| College of Co-operation,Banking and Management, Vellanikkara | B.Sc. (C & B ) and M.Sc. (C&B) |
| 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 Vety. & Animal Science Pookode, Waynad | B.V.Sc & A.H. |

### Admission

Students are admitted to the U.G. courses of the university on the basis of the rank obtained in the common entrance examination conducted by the Government of Kerala. For the PG Courses, selections are made based on entrance examination conducted by the Kerala Agricultural University. Semester system of instruction continued in all the colleges:

**The number of students admitted:**

| | |
|---|---|
| *A(i) UG Pogramme* | |
| B.Sc(Ag) | 122 |
| B.VSc&AH | 112 |
| B.Sc.(Forestry) | 18 |
| B.F.Sc | 43 |
| B.Sc(C&B) | 39 |
| B.Tech (Agrl. Engineering) | 22 |
| B.Tech(DS) | 28 |
| Total | 384 |
| *A(ii) PG Programmes* | |
| Agronomy | 9 |
| Plant Pathology | 6 |
| Plant Breeding & Genetics | 7 |
| Ag.Extension | 2 |
| Ag. Entomology. | 5 |
| Soil Science & Agrl. Chemistry | 1 |
| Horticulture | 18 |
| Ag.Economics | 5 |
| Plant Physiology | 1 |
| Forestry | 8 |
| Co-operation & Banking | 6 |
| Fisheries | 4 |
| Veterinary Sciences | 56 |
| Ag.Statistics | 3 |
| M.Sc. (H.Sc.) | 8 |
| M. Tech. | 1 |
| Total | 140 |
| *A(iii) Ph.D Programmes* | |
| Agriculture | 34 |
| Veterinary | 3 |
| Total | 37 |

**Number of students passed out from 1.4.2001 to 31.3.2002**

| | | |
|---|---|---|
| 1 | B.Sc(Ag) | 193 |
| 2 | B.VSc & AH | 114 |
| 3 | BFSc | 35 |
| 4 | B.Sc(C&B) | 30 |
| 5 | B.Tech(Ag.) Engg) | 18 |
| 6 | B.Sc(Forestry) | 17 |
| 7 | B.Tech.(D.Sc&Tech) | 26 |
| 8 | M.Sc(Ag) | 37 |
| 9 | M.Sc(Hort) | 19 |
| 10 | M.Sc(Ag stat) | 2 |
| 11 | M.Sc(Forestry) | 5 |
| 12 | M.Sc(C&B) | 1 |
| 13 | M.Sc(F.S&N) | 3 |
| 14 | M.Tech(Ag.Engg) | 7 |
| 15 | M.VSc | 39 |
| 16 | M.FSc | |
| 17 | M.Sc. H.Sc. | 8 |
| 18 | Ph.D(Ag) | 12 |
| 19 | Ph.D(Vet) | 3 |
| 20 | PhD (C&B) | 1 |

A two-year diploma course in Dairying started at the College of Veterinary and Animal Sciences, Mannuthy in October 1999 with 30 Dairy Farm Instructors of the Dairy Development Department of the State Government continued during the report year. All of them came out successfully.

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 inter-collegiate 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 Agricultural Universities Association, New Delhi.

## RESEARCH

The Kerala agricultural University undertakes fundamental, applied and adaptive research to develop technologies for the establishment of sound and viable farming systems suitable for the homesteads and other farming situations of Kerala. Research work is concentrated on thrust areas identified. In addition to State funds, the University receives assistance from ICAR, World Bank, Departments of Electronics, Science and Technology, Biotechnology, STED, GoK, Commodity Boards and various other agencies.

The research programmes of the university are channelised through Regional Agricultural Research Stations so as to conduct location-specific, production-oriented works in different agro-climatic zones of the state. The following are the six RARSs functioning in the University.

| *Zone* | *Regional Station* |
|---|---|
| Northern Zone | RARS, Pilicode, Kasaragod District |
| Central Zone | RARS, Pattambi, Palakkad District |
| Southern Zone | RARS, Vellayani, Thiruvananthapuram District |
| Special Zone of Problem Areas | RARS, Kumarakom, Kottayam District |
| High Range Zone | RARS, Ambalavayal, Wynad District |
| Onattukara Zone | RARS, Kayamkulam, Alappuzha District |

Dr. K. V. Peter continued as the Director of Research till 20-6-2001. Consequent on his appointment as the Vice Chancellor of Kerala Agricultural University, Dr. K. Kumaran took charge of the post of Director of Research on 20-6-2001. Dr. K. Kumaran was also holding the charge of ADR (M&E), ADR (Farms) and ADR (Planning). Dr. R. Sundaresan Nair took charge of the post of ADR (AR&T) on 27-7-2001.

The Associate Directors of Research in charge of the various zones were:

| | |
|---|---|
| Southern Zone, Vellayani | : Dr. R. Vikraman Nair |
| Special Zone of Problem Areas, Kumarakom | : Dr. P. J. Joy |
| Central Zone, Pattambi | : Dr. P. V. Balachandran |
| High Range Zone, Ambalavayal | : Dr. K. C. Iype |
| Northern Zone | : Dr. Sumangala S. Nambiar till 26-4-2001 |
| | : Sri. K. P. Mammootty from 26-4-2001 |

Dr. D. Alexander, Associate Professor continued as the Project Director and Head of the ORARS, Kayamkulam.

The thirty project co-ordination groups in the Faculty of Agriculture, ten in the Faculty of Veterinary and Animal Sciences, five in the Faculty of Fisheries and four in the Faculty of Agrl. Engineering continued to function. During the year, a total number of four FRC meetings were conducted i.e. Agriculture–1, Veterinary and Animal Sciences–2 and Fisheries–1.

Faculty wise details of EAP implemented as on 31-03-2002 are given below.

| Funding agency/ Faculty | Agriculture | Agrl. Engineering | Fisheries | V & AS | Total |
|---|---|---|---|---|---|
| ICAR Co-ordinated | 36 | 3 | 1 | 13 | 53 |
| ICAR Ad-hoc | 3 | 1 | 1 | 1 | 6 |
| NATP/Network | 15 | 4 | 5 | 10 | 34 |
| Other EAP | 82 | 2 | 1 | 6 | 91 |
| Total | 136 | 10 | 8 | 30 | 184 |

**Important meetings/conferences/discussions/ attended by Dr. K.V. Peter/Dr. K. Kumaran, Director of Research**

During the report period, Director of Research visited all the institutions under KAU. Besides the frequent visits to the colleges attached to the KAU and Regional Agricultural Research Stations, the Director of Research also visited all the other Research Stations and farms under the University on many occasions. Other important places of visit include CPCRI Kasargode, IARI, New Delhi, Coir Board, Kochi, Spices Board, Kochi, MSSRF, Chennai etc.

Director of Research attended several high level committees during the period which includes 5th Agricultural Science Congress at Assam Agricultural University, Gauhati during April 2001, Micromission meeting at Chennai and National Steering Committee meeting of Coconut Eriophid Mite held at Lal Bagh Gardens, Bangalore. Director of Research also attended the National Conference on Rabi 2001 organised by the Ministry of Agriculture, Govt. of India, at Vigyan Bhavan, New Delhi from 27th to 29th September 2001.

A workshop to review all the ongoing projects under NATP in the Kerala Agricultural University was held on 21-7-2001. The meeting was chaired by Dr. P. L. Gautham, National Director, NATP. Director of Research, KAU attended the full session of the workshop. The Principal Investigators of the projects presented the highlights and project reports of their respective projects.

The XVIth National Workshop on AICRP on spices was held in KAU main campus at Vellanikkara from 1-11-2001 to 3-11-2001. Scientists from various centres especially from outside the state participated in the three days workshop.

## RESEARCH HIGHLIGHTS

### 1. Rice and rice based cropping system

Two rice cultures viz., 4003-3-1 and P22 are found suitable for cultivation in the first and second crop seasons respectively. These varieties are recommended for release from ORARS, Kayamkulam.

The pre-release cultures viz. Cul.1009, Cul-1007, CIRJ-3 and CIRJ-9 are promising under Pokkali situation.

Studies on integrated nutrient management for rice based cropping system showed that application of cattle manure along with recommended inorganic fertilizer was superior.

Application of rice hull ash along with POP recommended manures help to improve grain yield of rice. Application of silica also is beneficial.

The experiments on long range effect of continuous cropping and manuring on soil fertility and yield stability revealed that with decrease in phosphorus levels from 80 kg per ha to no phosphorus, significant decrease in grain yield and straw yields were observed during both *Kharif* and *Rabi* seasons. Similar trend was observed for nitrogen level on grain and straw yields.

A study on integrated weed management in upland rice revealed that application of butachlor @ 1.5 kg a.i.ha$^{-1}$ followed by one hand weeding three weeks after sowing and application of pendimethalin @1.5 kg a.i.ha$^{-1}$ followed by one hand weeding three weeks after sowing were effective in controlling grasses, sedges and broad leaved weeds.

Butachlor and Pretilachlor were effective in controlling weeds in dry sown rice.

Post emergence application of Aniloguard plus is effective for controlling weeds in direct sown rice under puddled condition.

The drum seeding techniques in rice were found effective in reduction of cost of production without sacrifice in yield.

### 2. Coconut and coconut based cropping system

Quantitative and qualitative analysis and standardisation procedure for preservation of toddy was conducted. It was found that biotic as well as abiotic factors influence toddy yield. Wide variation is observed among palms grown under identical soil and climatic conditions. Spadix to spadix variation in toddy yield within a palm was also high.

In a trial to evaluate the performance of coconut hybrids, WCT x CGO was the top (50.81 nos.) followed by WCT x COD (44.86 nos.) for nut yield. With regard to root (wilt) disease incidence, there was not much variation between treatments including the control, WCT.

### 3. Vegetables

The following cultures were found suitable for recommendation

| | |
|---|---|
| CM 346 – Pumpkin | CA 752 – Chilli |
| A 225 – Amaranths | AE 286 – Okra |

Application of ethephon (200 ppm) recorded the highest fruit yield, seed yield and net returns in cucumber.

Twenty seven F1 hybrids of tomato were evaluated under poly house and open field conditions along with 12 parents. The hybrid Sakthi x CLN 657 recorded the highest yield per plant. Plants in open field condition were subjected to heavy incidence of leaf spot and blight diseases.

Selection 909 and Arka Komal varieties of french bean (bush type) and PES-1, a cauliflower variety were recommended for farm trial in the 18th Zonal workshop.

The bhindi hybrids $P_1 \times P_4$ gave the highest yield (15 tonnes/ha) which was on par with $P_1 \times P_6$, $P_2 \times P_3$, $P_3 \times P_5$, $P_2 \times P_1$ and $P_4 \times P_1$ and were significantly superior to the check variety Kiran (5.80 tonnes/ha) based on the pooled analysis of the data from three CYTS.

Three shade tolerant genotypes of chilli viz. CA 38 (*C.annuum*), CF 51 (*C. frutescens*) and CC 63 (*C.* chinense) were identified.

Studied the cross compatibility of the genus *Abelmoscus* and standardised the protocol for embryo rescue in the interspecific cross of *Abelmoscus.*

Sugar Baby was found as the best watermelon variety for growing in the rice fallows of Southern regions of Kerala.

Cucumber plants trailed on mulches were earlier in male and female flower opening while the highest yield was on pandal system.

Amaranthus dubius was completely resistant to the leaf blight caused by Rhizoctonia solani and was low in oxalate content. The highest yield was recorded by genotype A 61 cv. CO-1.

## 4. Commercial Crops

A fertilized cashew crop returns to the soil nutrients equivalent to 32 kg N, 1kg P, 36 kg K, 11 kg Ca and 9.5 kg Mg through litter fall.

A hybrid cashew progeny H-8-6 was identified and recommended for release for commercial cultivation. This type has good yield, bold nut size and high shelling percentage.

## 5. Fruits

Evaluation of six indigenous mango varieties of Kerala showed that Velleikolumben was the most dwarfing rootstock. For early and enhanced rate of germination, splitting the endocarp was advantageous.

Twelve elite, Mauritius pineapple accessions were identified by a survey conducted in Ernakulam, Kottayam and Idukki districts.

In 'Nendran' banana, spacing of 1.8m x 3.6m with 2 suckers/pit and 75% of recommended dose of fertilizers applied as fertigation had significantly higher values for leaf area, bunch weight, no. of hands etc. Application of organic inputs recorded higher bunch yield than application of inorganic fertilizers alone.

Out of 206 pickling type of mangoes identified in the northern districts of Kerala as well as north and South Kanara districts of Karnataka, 68 are promising. 44 types were located and described.

## 6. Pulses and Oil seeds

The grain cowpea cul.502 -2-2-2 was released as variety 'Shubhra' by the state seed sub committee at its XX meeting. It is a high yielding variety suitable for cultivation in summer rice fallows in southern region of Kerala.

The black gram cultivar 'Culture-1' was released as variety 'Sumanjana'. It is a high yielding (692 kg/ha) early maturing variety suited for cultivation in the rice fallows during summer season.

Spraying thiourea (500 ppm) at vegetative stage significantly increased yield of cowpea.

One sesame culture viz., cul-4 was found suitable for the summer fallows of Onattukara. This culture is recommended for release. Pendimethalin @ 0.75 kg/ ha + 1 hoeing at 20 DAS is recommended for weed control and highest yield in Sesamum.

## 7. Spices

Two promising black pepper varieties, Panniyur 6 and Panniyur 7 developed in Pepper Research Station, Panniyur were released for cultivation in Kerala by the State variety release committee held on 15.12.2000 at Trivandrum.

Multiple inoculations of AMF and N fixing bacteria were showing better results in black pepper. *Glomus fasciculatum and Azospirillum lipoferum* are more promising under Vellanikkara conditions.

Evaluation of 14 pepper cultivars revealed that Panchami, PN-4 and PN-5 were promising in the high ranges of Kerala.

Based on the results of farm trials, the ginger variety Acc. 204 was recommended by the ZREAC for intercropping in coconut gardens.

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

XVI National AICRP workshop recommended the release of PS-44 re-christened as PV-2 as a state cardamom variety suitable for high ranges of Idukki district. This is a bold capsuled vazhukka variety with a potential yield of 1500 kg/ha. The variety is relatively tolerant to biotic stresses with a dry recovery of 23.8%.

**8. Aromatic and Medicinal Plants**

A lemongrass chemotype containing 80% geranyl acetate in essential oil has been identified.

A high eugenol yielding cinnamon type has been identified.

Methyl eugenol was identified as an efficient attractant for melon fruit flies.

**9. Beverages**

Two high yielding cocoa clones (CCRP II & CCRP III) were released for cultivation in the major cocoa growing belt of Kerala.

**10. Forage crops**

In the project "Development of bajra-napier hybrids", 21 crosses were developed.

Five superior cross combinations were identified from the evaluation of 21 crosses in fodder cowpea.

Application of 200:100:200 kg NPK/ha to guinea grass along with 100 kg/ha of Mg and 1 kg/ha of B and the recommended dose of fertilizers (0.5:0.32:1.2 kg NPK/palm) to coconut produced the highest fodder yield, nut yield and BCR in coconut based fodder production system in the homestead of Kerala.

**11. Sugar crops**

Co Tl 93116 (Culture 85/85) evolved in the Sugarcane Research Station, Thiruvalla was accepted for advanced varietal trial at the national level under AICRP on Sugarcane.

Sugarcane hybridization work was carried out with the active collaboration of Sugarcane Breeding Institute, Coimbatore and 39 crosses were made with superior parents for better yield and quality.

'Madhumathi' recorded the highest cane and jaggery yield in the fifth ratoon showing maximum ratooning efficiency.

The highest cane and sugar yield was associated with sulphur nutrition at 80kg/ha and it was on par with 60kg/ha. In the black soils of Kerala, sulphur application at 60kg/ha is preferable.

**12. Soils and Agronomy**

Yields significantly increased in tapioca and banana following the dipping of the tapioca setts and banana rhizomes in vermicompost suspension

Application of rock phosphate primed with vermicompost halved the fertilizer requirement of cowpea compared to the POP recommendation of KAU.

Based on the fertility gradient experiment conducted, the nutrient requirements of ginger variety Maran were estimated to be 2.1, 0.3 and 5.6 kg N, $P_2O_5$ and $K_5O$ respectively to produce one kg of rhizomes.

Sub surface dyke was demonstrated as an efficient water conservation technique for watershed management.

Bubbler Irrigation system was significantly superior to channel irrigation both in the case of use efficiency and yield. Application of fertilizer through bubbler can save upto 50 percent of fertilizer nitrogen in ladies finger.

50% Potassium chloride can be effectively substituted by Sodium chloride (Common salt) without affecting the yield of tapioca in laterite soils of Alappuzha District.

**13. Floriculture**

Flower yield and sucker plant yield increased considerably in anthurium, by the application of GA. GA application was economically viable over kinetin and TIBA.

*In vitro* rooting and *ex-vitro* establishment of orchid plantlets (*Dendrobium* sp.var.Sonia 17) could be enhanced by high concentration of sucrose in the culture media (40 $g.ha^{-1}$ in rooting media). Triazole dip of in-vitro derived plantlets during planting out (5 mg/l) and maintaining the plantlets during hardening process at 50% light and 70-90% RH showed better establishment and enhanced growth rate of plantlets.

In Gladiolus, Paclobutrazol reduced plant height, induced early flowering and higher spike longevity and

improved size of the floret. CCC improved plant spread and vase life of the spike. Bulb size was improved by BA 50 $mg^{-1}$ applied at the flowering stage.

In Gomphrena and celosia, full bloom and half bloom stage were ideal for dry flower production.

Standardised the *in vitro* multiplication technique in tuberose.

**14. Plant protection**

Trichoderma koningii, T. viride and T. longibractiatum from Pathanamthitta, Kottayam and Idukki districts respectively were identified as the efficient antagonist against *P. palmivora* infection in black pepper nursery.

Research activities pertaining to the management of mite infesting coconut was intensified. Field trials in Ernakulam district revealed that neem and garlic (2%), dicofol (0.1%), monocrotophos (0.1%) and sulphur (0.4%) reduced mite damage. Neem and garlic (2%) and dicofol, (0.1%) were recommended for the first round of massive spraying against coconut eriophyid mite in the state while micronised wettable sulphur (0.4%) or Neem oil - garlic emulsion (2%) was recommended for the second round spraying. Evaluation of chemicals and botanicals indicated that the botanical pesticide Azadirachtin 1 % (Neemazal) and the synthetic chemical pesticides Tafethion (0.1%) and Fenpropathrin (0.02%) were effective in reducing the mite infestation.

Front line demonstrations on the management of mite was successfully done in Alleppey, Kottayam, Ernakulam and Thrissur districts in collaboration with State Agricultural Department. Predatory mites and promising pathogens were obtained from mite colonies.

While evaluating leaves of Clerodendron infortunatum, Hyptis suaveolens, Vitex negundo, Andrographis paniculata, Cocos nucifera and Artocorpus integrifolia were identified as good substrates for growing the entomopathogenic fungus Fusarium pallidoroseum. The fungal pathogen and the predator Chrysoperla carnea were mass-produced and distributed to farmers in Trivandrum district. A simple technique for mass production of the pathogen using rice gruel was developed.

Application of bio-agents like Pseudomonas fluorescens and Glomus fasciculatum and neem cake along with solarization of nursery beds checked nematode infestation and improved the vigour of brinjal seedlings.

Identified Trichoderma longibrachiatum as an effective species for the management of foliar blight in amaranthus.

Identified an isolate of fluorescent Pseudomonas having *in vitro* inhibitory effect on growth of the pathogen, Rhizoctonia solani inciting sheath blight of rice.

One new isolate each of *Pleurotus* sp. and *Volvariella* sp. were obtained from natural flora.

12 insecticides were tested for their efficacy against major pests of rice. Among them Upacy @500 g ai/ha was effective in controlling stemborer, gallmidge and leaf folder . Confidor @ 20 g ai/ha were effective in controlling whorl maggot. Maximum grain yield was obtained from Confidor Ultra @30 g ai/ha treated plots.

The neem formulations, neem oil (2%) & Achook (2%) and neem oil+garlic (3%) were effective for the management of stem borer, gall midge and leaf folder in rice

One hymenopteran larval-pupal parasitoid and one dipteran parasitoid were recorded against cardamom pseudostem borer, Conogethes punctiferalis. Two entomopathogenic fungi identified as *Aschersonia placenta* (orange coloured) and *Verticillium* sp. (white coloured) were found infecting nymphs as well as pseudopupae of cardamom whitefly, *Kanakarajiella cardamomi.*

Three species of scale insects viz., mussel scale, soft scale and coconut scale caused more than 30% yield loss in black pepper. Two sprayings of either Dimethoate (0.05%) or Monocrotophos (0.05%) at fortnightly intervals after the harvest of berries were effective in the management of mussel scale.

Carbendazim (2g/l) followed by Saaf (2g/l) (Carbendazim + Mancozeb) were effective in the management of pollu disease. Karimunda variety is found tolerant to the disease.

For management of Bruchus beetle in cowpea, spraying with Quinalphos (0.03%) in the field at 60 DAS and thereafter need based together with treatment using dried and powdered *Acorus calamus* @ 1kg/ 100kg seed in storage was effective.

**15. Bio technology**

Genetic diversity among Ralstonia solanacearum was assessed using RAPD analysis. A unique band was identified for Race 3 isolate. It exhibited homology

with gene encoding capsular polysaccharide in *Haemophilus influenzae.*

Hairy root induction was possible in *Holostemma ada-kodien*, useful in conservation of the plant and also to explore possibilities for in vitro production of the active chemicals in Holostemma.

### 16. Transfer of technology

After the implementation of NARP, the productivity of tapioca, solanum and coconut increased while that of rice and banana did not show much improvement. Even after 15 years of implementation, farmers were unaware of the project and its objectives. But their knowledge about improved practices and extent of adoption were fairly good.

The important constraints in adoption of improved technologies identified were poor linkage mechanism among research extension- farmer-input system, lack of people's participation and less attention to income generating occupations. According to farmer, important constraints were high wage rate, high cost of inputs and scarcity of labourers.

Economics of teak plantations in the Southern circle were done. The initial expense of Rs. 5232/ha includes the cost of survey of planting site, site clearance and preparation, aligning and staking, planting and proportionate cost of nursery. The financial analyses at 5% discount rate gives the BCR at 10.14 and NPW at Rs. 2,49,448.95.

### 17. Food science and nutrition

M/s. Udiyanoor Industries, Trivandrum and KAU have jointly signed a MOU for manufacture and marketing of dehydrated banana powder based weaning foods for a period of 5 years.

Significant variation in the nutrient content was observed between the different banana byproducts. Pickles made from banana peel and vattals made from banana pseudostem were more acceptable. Vattals and pickles had good keeping quality.

Quality evaluation of kernels of different cashew varieties revealed that among the twenty three cashew varieties 'Priyanka' was the best in terms of nutritional composition, physical and processing characters.

Anaemia was found to be the common nutritional deficiency disease among adolescent girls and none of the girls had good or excellent endurance capacity. The habitant physical activities of the adolescent girls had a positive effect on their endurance capacity.

Different degrees of chronic energy deficiencies and upper body obesity were found in elderly persons. None of the socio-economic factors studied as well as the place of residence had any influence on the nutritional status of the elderly.

### 18. Post harvest technology

*Ethrel vapour dipping and smoke filling treatment were effective to induce early ripening of Nendran banana. Ethrel treated fruits were organoleptically superior in all quality parameters listed.*

Pre cooling in cold water of 15°C for 10 minutes and hot water (50°C) for 10 minutes improved the marketability of Nendran banana stored at 13°C.

Among the different varieties studied, Madakkathara-I was a stable variety, retaining the nut characters throughout different zones of Kerala.

Nutritional qualities of nuts from Northern region of Kerala were better than the nuts from other regions.

### 19. Agrl. Meteorology and Remote Sensing

A detailed analysis was carried out to understand the effect of weather on, tea mosquito incidence in cashew. It appears that a range of minimum temperature between 13°C and 18°C is optimum for triggering pest population in cashew. A technical bulletin entitled "Climate and cashew" was prepared based on the work done since last one decade in the field of cashew climatology.

### 20. Fishery

#### *Freshwater aquaculture*

Fish culture in net cages and pens were undertaken in open waters of Vembanad lake. Fish yearlings of catla, rohu and etroplus were stocked and fed with commercial pellets. The very high rate of growth of etroplus ie. 210 mm/250 g. in 175 days in open water conditions indicate the commercial possibilities of culture of etroplus in large public water bodies.

Establishment of a fish sanctuary in a selected location of Vembanad Lake was taken to promote natural recruitment of indigenous species. Ranching of Macrobrachium rosenbergii was taken up on scientific lines.

Captive breeding techniques for *Horabagrus brachysoma* was standardized with ovaprim @ 1 ml/ mg body weight.

A low cost feed was developed for culture of *Cyprinus carpio* and *Labeo rohita* utilizing locally available low cost ingredients. Out of the different protein sources tried, prawn head meal based gave the best results in terms of growth rate and conversion efficiency.

A 30% protein diet incorporating soya, prawn shell, fish meal, gingelly and coconut oil cake as protein sources showed superior performance. Blue gourami hatchlings could be successfully reared on a SCP incorporated artificial diet.

An indigenous feed was developed for culture of *M. rosenbergii* in collaboration with CIFT. The prawn stocked @ 3 Nos./$m^2$ gave a gross production of 830 mg/ha/175 days with a survival of 79.16%. The cost of the feed was worked out to only Rs.15/ kg.

**Fishery Management**

***Fishery Technology***

A project was undertaken for developing suitable technology and production of a formulated feed. A feed was developed using clam meat as the major source of protein, ground nut oil cake, tapioca as binder and squid as attractant. A feed extruder was developed for the production of the feed on a pilot plant scale.

***Fishery Biology***

Role of a putative male pheromone in the ovarian maturation of the freshwater prawn, *Macrobrachium idella* (Hilgendorf) was carried out. Results of study indicated presence of a chemical factor (pheromone) from male, which is necessary for advancement of ovarian maturation beyond stage IV.

The prioritised species of fishes that could be bred in captivity during the period are:

1. *Garra mullya*
2. *Pristiolepis marginata*
3. *Puntius melanostigma*

Under the ICAR sponsored project on cage and pen culture, fabrication of raft was standardised for use in open waters in the Vembanad lake. Among the sizes tested, growth performance of fish in the one square meter cages was the most promising. The performance of pearl spot was found better than the Indian major carps, catla and rohu.

A fishery survey conducted in Vembanad lake and surrounding wetlands have clearly indicated the adverse impact of the salinity exclusion barrage at Thanneermukkom on the open lake fishery.

A 10 ha fish sanctuary was set up off the RARS campus for native fish species, particularly the commercially important pearl spot. Preliminary surveys have indicated the presence of brood fish and young ones.

Under a NATP sponsored project on Fish germplasm inventory, evaluation and gene banking on freshwater fishes, seven fish species endemic to the region have been short listed for ex situ conservation. Broodstock of these species are being maintained in the station.

An electric motor operated aquatic weed chopper was designed and fabricated at the station. The chopper can be used for mincing floating weeds such as *Eichhornia crassipes.*

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

In areas of lower tidal amplitude where the traditional prawn filtration is less lucrative, the selective stocking of *Paneus monodon* at the rate of half a lakh per hectare was economical.

Silver carp was the ideal fresh water choice in pokkali ponds during the low saline phase and attained a marketable size within four months.

**21. Poultry**

A study was conducted to find out the microbial agents associated with conjunctivitis in chicken. The bacterial agents isolated from these cases include Mycoplasma and the fungal agents included organisms like Ascomycetes, Zygomycetes, Deuteromycetes and pathogens associated with subcutaneous mycoses.

During 2001, S-19 generation of IWN and IWP strains were raised and tested. This centre has entered in Random Sample Laying Test conducted by the Govt. of India at Bhubaneswar & Hessarghatta Centres of which the preliminary results are set out from Hessarghatta centre recently. The performance of ILM 90, the entrant from this centre was exemplary.

A study on the keeping quality of quail egg pickle showed that addition of potassium sorbate resulted in significant reduction in yeast and moulds.

## 22. Animal Science

Mycotoxins, even though present in small quantities in the feed, their combined effect produces synergistic effect. Combined effect of AFB and OA produced embryo mortality, reduced hatchability, developmental abnormalities and degenerative changes in the liver, kidney and lymphoid organs.

Experimental cystoplasty in rabbits using canine and fish collagen sheets suggest that the collagen sheets

1. Readily accepted and caused very little adverse tissue reaction.
2. Meeting is satisfactory and anatomical and functional integrity of urinary bladder could be well established.

Clinical studies in dogs suggested that both the collagen sheets were well tolerated and accepted. The study also proved the beneficial use of collagen sheets for construction of defects on hollow visceral organs.

Investigation to evaluate the efficiency of PG-PMSG combination at different dose levels to enhance fertility and prolificacy in malabari goats showed that the double dose regiment of PG combined with PMSG at a dose level of 200IU can be used for enhancing litter size without affecting the reproductive efficiency.

It was observed that peripubertal goats could be successfully superovulated using FSH of ovine and porcine origin. A high incidence of premature regression of corpus luteum was observed in Malabari goats. Transfer of two good quality embryos resulted in the birth of two female kids.

Viability of fresh and frozen embryos was comparable in peripubertal and adult goats on *in vivo* and *in vitro* studies. The results revealed that both peripubertal and adult Malabari goats can be used successfully as donors for embryo transfer studies.

Under conservation and evaluation of Malabari goats procedure for cytogenetic characterization of Malabari goats is standardized. The use of RPMI 1640 medium with PHA as mitogen is useful for karyological analysis.

Under development of molecular genotyping techniques for the diagnosis of genetic diseases in Dairy cattle, blood samples were collected from the animals and DNA was isolated from a total number of 608 samples, including 11 semen samples. Three hundred and eighty eight samples were analyzed by PCR-RELP for Bovine Leukocyte Adhesion Deficiency and 338 samples were analyzed for citrullinemia. All the animals screened had normal CD18 gene and no Homozygotes or Heterozygotes for BLAD could be detected. For citrullinemia, RELP was carried out with the restriction enzymes Ava. II. Among 338 animals screened, one appears to be heterozygous for citrullinemia.

A feeding trial was conducted in cross bred female calves to study the effect of ionophore-monensin sodium on mineral bio-availability and growth. The study indicated that monensin sodium supplemented at 25 ppm in concentrate mixture favours growth and feed efficiency as well as utilization of major and trace elements in calves.

An investigation was carried out to study the feasibility of wood ash and eggshell powder as calcium supplement in the rations of calves. Mineral mixture incorporating 50% wood ash and 50% egg shell powder was tried at a level of 2% in basal concentrate mixture in group I calves against a commercial mineral mixture at 2% level in the concentrate mixture in group II calves. Results of the study revealed higher growth rate, feed efficiency and percentage retention of various major as well as trace minerals in-group I calves.

The maximum draught developed by the elephant in timber mills was 4500kg, which is equivalent to 85% of its body weight. The comparison of mechanical power using the crane with elephant favoured the elephant usage in the net income.

Comparative study of growth, carcass characteristics and economics of crossbred indigenous and exotic pigs revealed that large White Yorkshire had higher growth rate, better feed conversion efficiency, average daily weight gain and higher values for carcass traits when compared to crossbred and desi pigs.

Four isolates of *Chlamydia psittaci* (CM-28, M-430, M-121 and P156) obtained from ruminant abortion cases were subjected to restriction enzyme analysis using ECORI, Hae III and Bam H1. All the enzymes were useful in the differentiation of isolates as these enzymes produced variation as well as similarity in the restriction fragment sizes. Plasmid profiling revealed absence of plasmid in all. The present study revealed that genotyping and plasmid profiling could be used as an adjunct with other typing method to differentiate the strains of *C. psittaci* in epidemiological studies.

Seroprevalence of *Chlamydia psittaci* was assessed by passive haemagglutination and ELISA. Isolated three *C.psitttaci* strains from cases of abortion and they were characterized by morphology, biology and immunological methods. The isolates were propagated in chicken embryos and Mc coy cell lines and growth characteristics were studied in detail and were compared with a reference strain.

For developing farm plan models under different economic and technological production environment, it was found that service period, pregnancy period and intercalving interval are 164.06 ± 111.66, 275.52 ± 41.26, 442.84 ± 111.21 respectively.

A parasite in cats (*Haemomartonella* felis) was reported for the first time in Kerala.

### 23. Dairy Science

Eighty bifidobacterial strains were isolated from faecal samples and gut of honeybee samples. Preliminary characterisation studies on strain incorporated into skimmed milk was done. Biochemical tests were also done. Based on sugar fermentation test, 11 strains were identified and further characterisation studies are in progress.

Under the project "Determination of Real Standard of milk marketed in Kerala", samples were collected from two districts (Ernakulam and Thrissur). So far a total number of 4284 samples were analysed.

## EXTENSION EDUCATION

Extension mandate of the University is realized through testing and evaluation of the technologies and innovations under farmers field conditions, analyzing the potentials for sustainable income and employment and the constraints inhibiting their adoption, training of extension personnel, bringing about institutional and organizational innovations and making available good quality planting and breeding materials. These extension functions are operationalized through a network of institutions spread throughout the state. The five Krishi Vigyana Kendras, one in each of the major agro-ecological zones, serve as a major vanguard of the technology transfer commitment. The Central Training Institute, the Training Service Scheme and the CET for Plantations Crops co-ordinate and facilitate inservice training on new innovations, technologies and extension management to the grass root as well as middle level functionaries of the development departments. The Communication Centre comprising Farm Advisory Service, Information Unit, Extension and Graphic Unit and the Publications Unit is another organisation involved in the extension activities of the University. Publications include many titles (books and booklets), the bimonthly farm periodical Kalpadhenu with primary focus on farmers, the monthly *KAU News, the Journal of Veterinary and Animal Sciences* and the *Journal of Tropical Agriculture* published twice in a year targeted at Scientists and professionals and occasional pamphlets and brochures on specific innovations and problems. The University provides news and materials to all types of media and formulates recommendations for the production and management of crops and livestock. Three Agromet Units provide advisory services on weather status, warning on weather related stress factors and timely farm operations appropriate to weather conditions. Good quality planting and breeding materials are produced and made available to the farming community through nurseries, poultry hatcheries, prawn hatchery, cattle and livestock farm units and information and sales centres.

Some of the important publications brought out under the Publication Unit during the period are:

- Thodi niraye kozhi, madi niraye labham
- Maavu – rogangalum keedangalum
- Mulla Krishi
- Jeeva Valangal
- Kamuku
- Ushnakaala Ilakkary Vilakal
- Vegetable varieties of KAU 2000
- Vegetable varieties released from KAU
- Farm Machinery and Modern Agricultural implements
- Climate and Cashew
- Booklet - Malabari Aadukalude Vargodhaarana Padhathikal

The Exhibition and Graphic Service Unit participated in various exhibitions conducted throughout the State. The participation at Thrissur Poorm Exhibition was worth mentioning.

Information cum Sales Centre which was established under KAU at Mannuthy was upgraded as Agricultural Technology Information Centre (ATIC) under NATP Project funded by ICAR and World Bank. The official operations of ATIC commenced with effect from 1.1.2000. Quality planting materials, livestock products, KAU publications, etc. are made available to the public through this centre.

A new initiative is in progress at KAU wherein the research findings are translated into technologies worth for income generating Agri business Enterprises by Rural Unemployed Youth. Conceptually, Agro Bio Technology Agency for Rural Employment Development (ABARD) is an initiative to translate scientific findings and technology prescriptions into Agri Enterprises/Agri Business.

The Central Training Institute catered to the training requirements of Government Departments/Quasi Government Bodies/Village Level extension workers, unemployed youths, Bank Officers in the field of agriculture and allied subjects. During the report period 71 training programmes were conducted,

## LIBRARY AND INFORMATION SERVICES UNIT

Library and Information Services Unit of the KAU is the statutory division responsible for library and information services management in areas mandatory to the University as well as undertaking applied research leading to new developments in agricultural information handling for bridging the gap in the application of current information technologies to problems in agricultural education, research and extension.

The University Central Library functions at the Headquarters. It serves as the main library for the colleges and research stations. All costly reference books; foreign journals and other documents are acquired and maintained by the University Library for common use.

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

An electronic library which is the first of its type for agriculture envisaged in India has been developed with support from various National and International Institutions.

There are ten college libraries, with infrastructure like building, equipments and collection of print and non print documents.

## WORKS

The total expenditure incurred during the period under report was Rs. 5,44,61,366.

## KAU ESTATE

Out of the total area of 391.44 ha., 253.30 ha. has been allotted to other schemes. The area in possessions is 138.14 ha. A total quantity of 24207.36 kg. latex was produced during the year and will bring Rs. 8,73,006 as receipts. Total expenditure was Rs.24,42,157/-.

## KAU SCHOOL

A total number of 755 students were in the roll during the period. The strength of teaching staff was 31 and that of non teaching staff 9. Nine students of this School were awarded prizes in the National level, Southern India Science Fair, State Level and District level competitions.

## FINANCE

The University has formulated a Budget Estimate for Rs.11,510 lakhs as receipts and Rs.13,366 lakhs as expenditure for 2001-2002 in anticipation of grant in aid of Rs.6,550 lakhs, from the State Government, ICAR assistance of Rs.1,007 lakhs, Rs.475 lakhs towards UGC package 1.1.1996 from the State Government, Rs.75 lakhs from other EAPs, Rs.701 lakhs from Internal sources – Rs.355 lakhs from institutional funding and Rs.100 lakhs from other sources. Though the Budget was formulated with an expectation of Rs. 7,025 lakhs as grant from State Government, the release was only Rs.5,475 lakhs. The total receipts were Rs.10,635.22 lakhs against a total expenditure of the same with a closing balance of Rs.439.388 lakhs (the figures are subject to change on completion of Annual Accounts).

CHAPTER I

# GENERAL ADMINISTRATION

The Kerala Agricultural University came into existence on 1st February 1972 under the KAU Act 1971 (Act 33 of 1971)

The Main Campus of the University at Vellanikkara is 13 km east of Thrissur-Palakkad Highway (NH-47). The College of Horticulture, College of Forestry and the College of Co-operation, 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, Padannakkad, College of Agriculture, Vellayani, Kelappaji College of Agricultural Engineering and Technology, Tavanur, 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, Waynad and College of Diary Science 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. ORARS, Kayamkulam was started on 12.4.2000 so as to continue the works in root wilt disease of coconut and to implement a comprehensive coconut care programme.

The University received financial assistance mainly from the State Government and ICAR. Financial assistance was also received from outside agencies like NATP, Department of Science & Technology, DBT, Department of Atomic Energy, Spices Board 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 (upto 25.12.2001).

The Vice-Chancellor is also the ex-officio Chairman of the General Council, Executive Committee and Academic Council. The Vice-Chancellor is the principal executive and academic officer of the University who is assisted by the Pro-Vice Chancellor (upto 25.12.2001), the Registrar, the Comptroller, Deans of Faculties, the Directors of Research, Extension, Physical Plant, Students Welfare, and the Librarian holding tenurial positions, and recognised as the Officers of the University. In addition, the Director of Academic and Post Graduate Studies assists the Vice-Chancellor in Academic affairs.

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 the custodian of the University properties and 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 X General Council was constituted on 31.1.2001 for a period of 3 years. Ordinarily the Council meets once in four months.

### The Executive Committee

The Executive Committee is the chief executive authority of the University. Consequent on the amendment of KAU Act (Act 16 of 2001) the strength of the committee has been reduced from 23 to 12 w.e.f. 26.12.01. During the period under report, 4 meetings were held.

### Academic Council

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 upon it by statutes. During the year 2001-2002, three meetings 85$^{th}$, 86$^{th}$ and 87$^{th}$ were held.

*Major decisions taken by the Academic council were the following:*

a) 85$^{th}$ meeting held on 22.5.01 - Decided to revise the syllabi of all U.G. Courses including B.V.Sc. & AH in accordance with the approved general guidance.

b) 86$^{th}$ meeting held on 7.8.01 - Approved the Work Experience programme in Fisheries.

c) 87$^{th}$ meeting held on 4.12.01 - Decided to constitute a Committee to furnish a report regarding the permission to PG/Ph.D. students of other Univer-sities to conduct dissertation work in Kerala Agricultural University.

### Accreditation

A Peer Review Team of the ICAR under the Chairmanship of Dr.J.B.Choudhary, Vice Chancellor GBPUAT, Pant Nagar, visited the KAU and its constituent Colleges from 3$^{rd}$ to 7$^{th}$ February 2002 for the validation of the self study report and on the spot assessment of University and Colleges.

### Establishment of Examination Wing under the Directorate of Acad & PG studies

One Assistant each from Acad B & C sections were redeployed and Examination Wing was constituted under a Section Officer. The Semester final exams of all the U.G. programmes except BVSc & A.H are being conducted by this section. Nearly 240 Examinations were conducted under various U.G. Programmes.

### Sub Committees of GC and EC

The Details of Sub Committees of General Council and Executive Committee are included in the Appendix.

### Faculty Research Committee

The main duties of the Faculty Research Committee are to scrutinize the research proposals received from different co-ordinators and to review the progress of research periodically. The Committee met four times during the report period.

### Co-ordination Groups

The various project co-ordination groups organised are authorities to critically examine the research proposals received from Project Leaders, Principal Investigators and to review the progress in the concerned group. The number of such groups under each faculty are Agri-30, Vet-10, Fisheries-5 and Agri Eng-4

### 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 postgraduate courses was given on the basis of performance in the written test, 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 labourers constitute 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. Total labour strength in the report year is 2102. (Permanent labourer - 1685 and Casual labourer - 417)

## ENGAGEMENTS/ACTIVITIES OF THE VICE-CHANCELLOR

Dr. R. Gopinathan was acting as Vice Chancellor upto 19/6/01. Prof. K.V. Peter took charge as Vice Chancellor from 20/6/01 and is continuing.

**Major programmers of the Vice-Chancellor**

The Vice-Chancellor attended to his primary commitments of presiding over the meetings and guiding the proceedings of the statutory bodies of the University viz. the General Council, the Executive Committee and the Academic Council. During the period under reference, the Executive Committee met four times ie 12th July, 27th August, 13th November 2001 and 27th March 2002. The Academic Council met three times during the same period on 22nd May, 7th August and 4th December 2001.

**KAU Events**

The important events in which the Vice-Chancellor participated are

1) Study visit of Parliamentary Committee on 19th September and presentation of the theme paper on "Prospects of Medicinal Plants".

2) Attended Monitoring Committee meeting of the research project on "Use of Geo-textiles" at Coir Board, Cochin on 6th September

3) Technical Committee meeting of CSRSC, Vadakkenchery on 24th September

4) Inaugural session of the workshop of AICRP on Poultry Breeding on 4th October

5) Inaugurated Regional meeting of KVKs at RARS, Ambalavayal on 11th October

6) Inaugurated Network programme on Micro-nutrients in Animal Feed at College of Vety. & Animal Sciences, Mannuthy on 13th October

7) Addressed the World Food Day organised by the Centre for Gender Studies at College of Horticulture on 16th October

8) Presided over the inaugural session of Group meeting of AICRP on Spices at Vellanikkara on 1st November

9) Inaugurated the Training on "Women in Agriculture" on 12th November

10) Presided the inaugural session of AICRP on Cropping Systems Research at College of Agriculture, Vellayani on 23rd November

11) Presided the Technical Review Committee meeting of NATP on Ergonomics at KCAET, Tavanur on 16th December 2001.

12) Organised AGRIUNIFEST 2001 from 21-25th January 2002 , which was attended by students of 12 Universities.

13) Inaugurated the One-day Seminar on Ornamental Fisheries at Communication Centre, Mannuthy on 30th January 2002

**Campus visits**

During the period under reference, the Vice-Chancellor visited several campuses in the University and held discussion on programme implementation.

**National Seminars/Workshops/Summer School**

The Vice-Chancellor participated in a number of important national level seminars, workshops and summer schools, a few of which are organised or hosted by the University, by either inaugurating or delivering the keynote address. They include inauguration of one-day seminar of the AICRP on Mushrooms on 27th August at College of Agriculture, Vellayani, workshop of AICRP on Poultry Breeding on 4th October, NATP combined workshop on Ducks and Pigs on 17-18 December at College of Veterinary & Animal Sciences, Mannuthy and DAE-BRNS Regional Workshop on "Impact of Application of Radiation on Food and Agriculture at KAU from 27-28 December 2001, inaugurated the National Workshop on Watershed Management at Centre for Water Resources Development & Management, Calicut on 4th March 2002.

**Engagements outside the state**

Engagements outside State included Task Force meeting of Department of Biotechnology, selection committee meeting for the selection of Jawaharlal Nehru Awardees, selection committee meeting at Agricultural Service Recruitment Board, Advisory Panel meeting of NATP. Executive Council meeting of National Academy of Agricultural Sciences, New Delhi, Screening Committee meeting of NATP/CGP at ICAR, New Delhi, Convention of Indian Agricultural Universities Association, "Changing Scenario in the production Systems of Horticultural Crops" at TNAU, National Seminar on 'Recent Developments in Entomology' at Chennai, two-day workshop on Bio-diversity organised by National Bureau of Plant Genetic Resources (NBPGR), New Delhi, and Apex Committee meeting to select "Karshakashree" of Malayala Manorama

**State level engagements**

A talk on Globalization of Agriculture and its aftermath, ENT State Annual Conference of Kerala Chapter at Thrissur, High Level Committee meeting at Coconut Development Board, Kochi, World Coconut Day Celebration organised by Coconut Development Board at Vellanikkara, discussion with Padmasree Dr. P.K. Warrier, Kottakkal Arya Vaidyasala regarding prospects of medicinal plants; seminar on Education and Guidance organised by Lions Club of Thrissur, Silver Jubilee Celebration of Indian Institute of Spices Research, Calicut, Executive Committee meeting of Kerala Forest Research Institute at Thiruvananthapuram, Inaugural session of the Trichur Chapter of the Association of Veterinary Surgeons, "Bio-diversity - Prospects and Use" before the Swadeshi Science Congress organised by KFRI, Peechi, Valedictory function of the "Whter School on Micro organisms in Fish" at Central Institute of Fisheries Technology, Kochi, Seminar on "Bio-diversity - Use and Prospects" at MSSRF Agro Bio-diversity Centre, Kalpetta, "Crisis in Farming Sector - Solutions" organised by Malayala Manorama, Kottayam, VIII Regional Committee meeting of ICAR at Central Tuber Crops Research Institute, Thiruvananthapuram, Delivered a lecture on "Plant Bitechnology in Agriculture" at School of Marine Sciences, Cochin University of Science & Technology, Kochi, One - day seminar on Ornamental Fisheries organised by Department of Fisheries, Govt. of Kerala at CMFRI, Kochi, Agricultural Exhibition at CPCRI, Kasaragode and Coconut Technology Mission meeting convened by Agricultural Production Commissioner, Govt. of Kerala.

CHAPTER II

# EDUCATION

## FACULTY OF AGRICULTURE

### COLLEGE OF AGRICULTURE, VELLAYANI - 695 522

**Introduction**

The primary objective of agricultural research in the state of Kerala is to maximise production of crops per unit land area. Attempts have to be made to increase productivity by utilising the recent advances in the field of science and technology. The students undergoing agriculture programme both undergraduate and postgraduate are exposed to the latest technologies developed in the field of agriculture so as to equip them to achieve the goal of higher productivity. The college of agriculture, Vellayani was established in 1955 by the erstwhile Travancore-Cochin state government with the objective of producing trained agricultural graduates, which was felt as a dire necessity for the successful implementation of the rural development programmes of the state, which are largely based on agriculture. The agricultural college and research institute started functioning in the senior maharani's palace building at Vellayani and the institute provides sufficient practical training to students, demonstrates the scientific methods of cultivation of different crops, carries out field experiments and supplies good quality planting materials to farmers. The farm of the college has a total area of 243 hectares consisting of wetland, dry land and garden land. Almost all the tropical crops are grown in the farm.

The college has in addition to imparting postgraduate education and offering avenues of research, entered in a big way in the dissemination of agricultural information and knowledge.

Only 50 students were admitted to the B.Sc. (Ag.) Programme during 1955 and from 1956 onwards the students' strength was raised to 80. Total intake capacity for PG programme (Masters and Ph.D.) is 68 under 12 disciplines.

The institute is actively engaged in the extension linked farm advisory programme. Members of the staff are also participating in the extension education activities like training programmes, village adoption programmes, correspondence course, tribal development programmes, exhibitions, seminars and workshops, publications, radio talks, TV broadcasts etc.

The establishment of an information centre, recording centre to provide support to air and cinematographic facilities for preparing TV programmes at field level are also contemplated, with a view to strengthen the extension education system of the college.

Adequate infrastructure to provide necessary physical facilities for the new academic programmes has to be built up. The facilities for extra curricular activities of the staff and students have to be strengthened.

**Mandate of the Institution**

1. Making provision for imparting education in different branches of study particularly Agriculture, Horticulture, Agrl. Engineering, Animal Husbandry including veterinary and dairy science, home science and other allied branches of learning and scholarship.
2. Furthering advancement of learning and prosecution of research particularly in agriculture and allied courses.
3. Undertaking extension education programme.
4. Such other purposes as the university may from time to time determine.

**Lead functions**

Providing basic instructional facilities for the UG and PG students in the agricultural field.

Providing research facilities for MSc. (Ag), PhD and other research projects.

**Auxiliary functions**

Production and distribution of quality seeds and seedlings through the Instructional Farm

Production and distribution of earthworms, vermicomposts, coir pith compost and mushroom spawn.

Participation in exhibitions and State Agricultural Fairs.

Liaison with Development Departments and other Government Departments.

Formulation, Implementation of Research Projects funded by K.A.U, STEC and other external agencies.

**Faculty Improvement Programme**

Dr.Anith, Asst.Prof. Dept. of Agrl: Microbiology was deputed to Florida,USA on Boyce Scholarship.

**Seminars / Summer Institute / Symposia/ Training Attended**

The scientists participated in 23 seminars, 9 trainings, 9 symposia, 8 workshops, 2 group meetings and 2 discussions on agricultural and allied subjects of National and International importance.

**Academic Programme**

Admission (No. of Students as on 31.3.2002 )

| Year | M | F | Total | SC | | | ST | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **U. G. on Rolls** | | | | M | F | Total | M | F | Total | M | F |
| 1997 | 17 | 31 | 48 | — | — | — | — | — | — | — | — |
| 1998 | 23 | 45 | 68 | — | — | — | — | — | — | — | — |
| 1999 | 17 | 56 | 73 | — | — | — | — | — | — | — | — |
| 2000 | 11 | 37 | 48 | — | 1 | 1 | — | — | — | — | — |
| 2001 | 9 | 33 | 42 | — | 3 | 3 | — | — | — | — | — |
| **P. G. on Rolls** | | | | | | | | | | | |
| 1999 | | | | | | | | | | | |
| Agronomy | 2 | 6 | 8 | | 1 | 1 | — | — | — | — | — |
| Entomology | 1 | 1 | 2 | | | | | | | | |
| Extension | 1 | 3 | 4 | | | | | | | | |
| Pl.Breeding | 1 | 4 | 5 | — | — | — | — | — | — | — | — |
| Pathology | - | 3 | 3 | — | — | — | — | — | — | — | — |
| S.S and Ag.Che: | 1 | 1 | 2 | — | - | — | — | — | — | — | — |
| Horticulture | 1 | 7 | 8 | — | — | — | — | — | — | — | — |
| Plant Physiology | — | 2 | 2 | — | — | — | — | — | — | — | — |
| Home Science | — | 3 | 3 | — | — | — | — | — | — | — | — |
| **2001 P.G** | | | | | | | | | | | |
| Agronomy | 0 | 4 | 4 | — | — | — | — | — | — | — | — |
| Entomology | — | 5 | 5 | — | 1 | 1 | 2 | — | — | — | — |
| Extension | — | 3 | 3 | — | — | — | — | — | — | — | — |
| Plant Breeding & Genetics | — | 4 | 4 | — | — | — | — | — | — | — | — |
| Pathology | 1 | 4 | 5 | — | — | — | — | — | — | — | — |
| Soil Science | — | — | 0 | — | — | — | — | — | — | — | — |
| Horticulture | 2 | 6 | 8 | — | 1 | 1 | 2 | — | — | — | — |
| Home Science | — | 3 | 3 | — | — | — | — | — | — | — | — |

| Year | M | F | Total | SC | | | ST | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | M | F | Total | M | F | Total | M | F |
| **Ph.D Programme** | | | | | | | | | | | |
| 1998 | | | | | | | | | | | |
| Plant Breeding & Genetics | 1 | 1 | 2 | 1 | — | 1 | — | — | — | — | — |
| 1999 | | | | | | | | | | | |
| Agronomy | — | 2 | 2 | — | — | — | — | — | — | — | — |
| Plant Breeding & Genetics | — | 1 | 1 | 1 | — | 1 | 1 | — | — | — | — |
| Entomology | — | 2 | 2 | — | — | — | — | — | — | — | — |
| Pathology | — | 2 | 2 | — | — | — | — | — | — | — | — |
| Soil Science & Ag.Che. | — | 1 | 1 | — | — | — | — | — | — | — | — |
| 2000 | | | | | | | | | | | |
| Extension | — | 1 | 1 | — | — | — | — | — | — | — | — |
| Plant Breeding & Genetics | 2 | — | 2 | — | — | — | — | — | — | — | — |
| Soil Science & Ag.Che: | — | 1 | 1 | — | — | — | — | — | — | — | — |
| Home Science | — | 1 | 1 | — | — | — | — | — | — | — | — |
| 2000 | | | | | | | | | | | |
| Agronomy | — | 2 | 2 | — | — | — | — | — | — | — | — |
| Plant Breeding & Genetics | — | 2 | 2 | — | — | — | — | — | — | — | — |
| Pathology | — | 1 | 1 | — | — | — | — | — | — | — | — |
| Home Science | 2 | 2 | 4 | — | — | — | — | — | — | — | |
| 2001 | | | | | | | | | | | |
| Extension | | — | 1 | 1 | — | — | — | — | — | — | — |
| Plant Breeding & Genetics | | 2 | — | 2 | — | — | — | — | — | — | — |
| Soil Science & Ag.Che: | | — | 1 | 1 | — | — | — | — | — | — | — |
| Home Science | — | 1 | 1 | — | — | — | — | — | — | — | |
| 2001 | | | | | | | | | | | |
| Agronomy | — | 2 | 2 | — | — | — | — | — | — | — | |
| Plant Breeding & Genetics | — | 2 | 2 | — | — | — | — | — | — | — | |
| Pathology | — | 1 | 1 | — | — | — | — | — | — | — | — |
| Home Science | 2 | 2 | 4 | — | — | — | — | — | — | — | — |

**Study Tours**

Dr. Wilson, Assoc. Professor and Dr. Roy Stephen, Asst. Prof, accompanied the II B.Sc (Ag) students (2000 Admn.) on South Indian tour ( for 22 days).

**Students Union activities :**

Dr.M. Subramonia Iyer, Assoc.Prof. continued as the staff advisor of students union, planning forum.

**N.S.S activities**

Dr. D. Wilson, Assoc.Profesor, Department of Plant Breeding attended the state level meeting of NSS co-ordinators at south conference hall, Secretariat, Trviandrum on 7.11.2001.

Palappur village continued as the NSS adopted village during the year.

N.S.S Volunteers organised a one day Agricultural Mela at Peringamala

Aids Awareness Programme, World Environment Day Celebrations, Chlorination of wells, World Food Day Celebrations, etc. were some of the important programmes organised by the NSS volunteers.

**Sports activities**

Inter- college tournaments in basket ball, volleyball and ball badminton and shuttle badminton and table tennis were conducted in our campus.

Inter-University participation - Sri. Vinesh, V represented KAU in cricket and Shying Mathew and Saritha Bindu represented KAU in table tennis and Rodney Nicholas Pereirah represented KAU in foot ball from our college.

## Research programme

**Major Research Achievements**

***Agronomy***

The substitute of chemical fertilizers with organic manures such as neem cake, green leaf, poultry manure and enriched compost was beneficial for increasing the yield and quality of vegetable crops viz.brinjal. In vegetable cowpea,. micro sprinkler irrigation was better in saving water and improving yield as compared to surface irrigation or pot watering. Dual inoculation of arbusular mycorrhizal fungi and phosphate solubilising micro organisms was also found optimum for vegetable cowpea.

A study on integrated weed management in upland rice conducted revealed that application of butachlor @ 1.5 kg a.i.ha-1 followed by one hand weeding three weeks after sowing and application of pendimethalin @1.5 kg a.i.ha-1 followed by one hand weeding three weeks after sowing were found to be effective in controlling grass, sedges and broad leaved weeds.

Effect of harvesting and growth regulators on seed yield, quality and vigour in cucumber was studied and found that the growth regulator application with 200 ppm ethephon recorded highest fruit yield and seed yield.

***Plant Breeding and Genetic***

The grain cowpea cul.502-2-2-2 was released as a variety 'Shubhra' by the State Seed Sub committee as its XX meeting held at CTCRI, Sreekariyam, Tvm . 'Shubhra' is a high yielding grain cowpea variety suitable for cultivation in summer rice fallows in southern region in Kerala.

The black gram cultivar 'culture-1' was released as the variety 'Sumanjana' by the State Seed Sub committee at its XX meeting held at CTCRI, Trivandrum on 15th December, 2001.

The bhindi hybrid P1 x P4 (6.2 kg/plot) was significantly superior in yield to all other hybrids in an evaluation of 30 hybrids, six parents and a check variety.

In an evaluation of 50 yard long bean cultivars the type vz.42 was the highest yielder with tolerance to legume pod borer.

In the DBT project on orchids, about 40 novel hybrid combinations mainly involving the sympodial genus Dendrobium have been obtained. More than 60 hybrids belonging to 10 combinations have flowered during the period, some of which appear to have commercial characters suitable for development into new varieties.

Based on the anthocyanin contents, the probable spathe colour genotypes of five selected parents and their 10 F1 hybrids of the present study have been worked out for the first time in anthurium by correlating the total average anthocyanin content of the spathe of each variety to the incremental effect of the two anthocyanin producing genes M and O. The study highlights the feasibility of producing commercially viable indigenous anthurium hybrids for commercial cultivation in Kerala.

*Soil Science and Agrl: Chemistry*

Significant accumulations of Cu in soils and plants were observed in rubber plantations sprayed with Cu fungicides compared to virgin lands.

In cowpea, application of rock phosphate primed with vermicompost reduced the requirement of chemical fertilizers to half the package of practices recommendations of KAU.

*Entomology*

Research activities pertaining to the management of mite infesting coconut was intensified Field trials in Ernakulam district revealed that neem and garlic (2%), dicofol (0.1%), monocrotophos (0.1%) and sulphur (0.4%) reduced mite damage. Neem and garlic (2%) and dicofol (0.1%) were recommended for the first round of massive spraying against coconut eriophyid mite in the state while micronised wettable sulphur (0.4%) or neem oil - garlic emulsion (2%) was recommended for the second round spraying. Evaluation of chemicals and botanicals indicated that the botanical pesticide azadiractin 1% (neemazal) and the synthetic chemical pesticides tafethion (0.1%) and fenpropathrin (0.02%) were effective in reducing the mite infestation.

Laboratory trials revealed that leaves of *Chlerodendron infortunatum, Hyptis suaveolens, Vitese negundo, Andrographics paniculata, Cocos nucifera* and *Artocarpus integrifolia* were good substrates for growing the entomopathogenic fungus *Fusarium pallidorosum*. The fungal pathogen and the predator *Chrysoperla carnea* were mass-produced and distributed to farmers in Trivandrum district. A simple technique for mass production of the pathogen using rice gruel was developed.

Residues of Alpha HCH was detected in four brands of vegetable oil among the six popular brands analysed for the presence of pesticide residues. Gamma and delta HCH were detected in all the six brands. The range of residues detected were 0.08 to 0.92 (Alpha HCH) 0.4512 to 3.68 (Gamma HCH) and 0.02 to 0.931 mg/kg (Delta HCH).

Studies on the correlation between the aggressions and performance of *Apis mellifera* colonies indicated that aggressiveness is correlated with bee strength, brood development, pollen and honey storage and capacity to carry pollen load.

*Research on Honey Bees*

* *Cuphea ignea* was identified to serve as a minor source of nectar to the Indian bee *Apis cerana indica* thus helping to reduce the length of lean season.
* The mite, *Varrora jacobsoni* caused severe damage to *A.mellifera* colonies. Incidence of the mite was reported for the first time from Kerala.
* Twenty one plants were identified as sources of nectar and pollen to the stingless bee, *Trigona iridipennis*.

*Plant Pathology*

Identified *Trichoderma longibrachiatum* as an affective species for the management of foliar height in amaranthus.

Identified an isolate of fluorescent pseudomonads having *in vitro* inhibitory effect on growth of the pathogen, *Rhizoctonia solani* inciting sheath blight disease of rice.

Mass culturing of hypovirulent isolate of *Rhizoctonia solani* having potential for controlling sheath blight disease has been initiated.

One new isolate each of *Pleurotus* sp and *Volvariella* sp has been obtained from natural flora.

New pathogens of hyacinth have been identified.

*Plant Physiology*

It is found that flower yield and sucker plant yield increased considerably in anthurium, by the application of GA. GA application is economically viable over kinetin and TTBA.

Another study revealed that *in vitro* rooting and *ex-vitro* establishment of orchid plantlets (*Dendrobium* sp. Var. *Sonia* 17) could be enhanced by high concentration of sucrose in the culture media (40 g/ha in rooting media). Triazole dip in *in-vitro* derived plantlets during planting out (5 mg/l) and maintaining the plantlets during hardening process at 50% light and 70-90% RH showed better establishment and enhanced growth rate of plantlets.

It is also found that use of IAA, NAA, Triacontanol and GA in chilli var. Jwalasakhi produced considerable variation with respect to intensity of flowering, flower drop, fruit set and fruit drop.

*Instructional Farm*

- Farm trials conducted with 5 varieties of tapioca indicated that Vellayani selection is the best in terms of yield, no. of leaves and earliness in tuber production.
- Trials on milky mushroom production with coir pith alone and a combination of coir pith and cow dung were found the best casing material in maximising yield.

*Home Science*

M/s. Udiyanoor Industries, Trivandrum and KAU have jointly signed an MOU for manufacture and marketing of dehydrated banana powder based weaning foods for a period of 5 years.

*Plantation Crops*

In a preliminary study on the biodiversity of medicinal plants in oil palm plantations, a total of 85 plant species were identified. Out of this, 74 belonged to indigenous sp. and 11 exotic. The study on the influence of shade on pharmacologically active constituents revealed that the solasodines content in the fruits of *Solanum melongena* var. *insanum* was the highest under open conditions and the lowest in medium mature oil palms.

*Olericulture*

1. Genetic analysis of shade tolerance in chilli (*Capsicum* spp.)

Three shade tolerant genotypes of chilli viz. Ca 38 (*C.annuum*), Cf 51 (*C. frutescens*) and CC 63 (*C. chinense*) were identified.

Sugar Baby was found the best variety for growing in the rice fallow of the southern region of Kerala.

The landraces of brinjal of Kerala were described using the descriptor provided by the IBPGR. Some collections, viz.S.15 (Kundara, Kollam) , S22 (Thiruvakkal, Alappuzha) and S 23 (Cherthala, Alappuzha) were resistant to bacterial wilt coupled with high yield and yield attributes.

Cucurbits trailed on mulches were earlier with respect to male and female flower opening while the highest yield was on pandal system. The highest plant density of 13,333 plants per ha. gave highest yield per plot.

High heritability coupled with high genetic gain were observed for pod yield per plant, pods per kg, inflorescences per plant, pod weight and keeping quality in cowpea. Genotypes viz. VS 15, VS 31, VS 39, VS 5 and VS 3 were found elite types based on yield and yield attributes.

*A. dubius* was completely resistant to the leaf blight caused by *Rhizoctonia solani* and was low in oxalate content. The highest yield was recorded by genotype a 61 cv. Co 1. Plant height, stem girth, length of leaf lamina, leaf width, leaf/stem ratio, total leaf weight and stem weight were high.

*Bio-technology*

Standardisation of protocols for in vitro propagation of medicinal plants is progressing. Hardening of the tissue culture plant is also conducted.

Field evaluation of vanilla plants produced by tissue culture has been initiated. Around 1500 plants have been kept ready and the evaluation will be carried out at Mithranikethan,Vellayani and Ambalavayal.

*In vitro* production of biopesticides from *Annona squamosa*, is underway.

*Soil Science and Agrl. Chemistry*

Soil compaction effected through a combination of farm yard manure and coirpith application complimented mechanically by the passing of a 400 kg roller 4 times over the land resulted in increased paddy yield attributable to the enhanced soil moisture retention, aggregation and uptake of nutrients.

Yields significantly increased in tapioca and banana following the dipping of the tapioca setts and banana rhizomes in vermicompost suspension.

Applicaition of rock phosphate primed with vermicompost halved the fertilizer requirement of cowpea compared to the POP recommendation of KAU for that crop.

*Agricultural Extension*

The important constraints in adoption of improved technologies identified were poor linkage mechanism among research extension-farmer-input system, lack of people's participation and less attention to income generating occupations. According to farmers the most important constraints were high wage rate, high cost of inputs and scarcity of labourers.

Problems and prospect of medicinal plant cultivation in Thiruvananthapuram district were studied.

Techno-socio-economic consequence of national watershed development project for rainfed areas in Thiruvananthapuram district were studied in detail.

**Extension and other Activities**

***Farmers Contact Programme***

As part of the rural agricultural work experience programme (RAWE) of the final year B.Sc. (Ag.) programme, Agro clinics were organised in 14 panchayaths in Thiruvananthapuram District.

Around 700 farmers benefited from these clinics.

Vocational Training programme on Bee-keeping, Handicrafts and Boquet making, Proceesing, Mushroom cultivation etc., were conducted in different locations of the village.

Dr.A.N.Rema Devi, Professor and Head, acted as external expert in the selection committee in the promotion of scientist of agricultural engineers at CTCRI, Sreekaryam, Trivandrum and also in the selection/promotion of scientists of College of Agricultural Engineering, TNAU.

**Farmer's Seminars**

***Demonstration***

Dr. K. Prathapan, Asst. Professor, Department of Agronomy demonstrated the method of sowing of upland rice for the farmers of Panavoor Grama Panchayat, Nedumangad and about hundred farmers participated in it.

Dr. S. Shilaja, Dr.N.P.Kumari Sushama and Dr. B.Seema, Associate Professors, Department of Agrl: Extension, demonstrated preparation of organic pesticides, mushroom cultivation and compost making for three batches of farmers.

**Training Programmes**

Training Programmes in plant tissue culture, Instructional teaching, Nutrition garden, Fruits and vegetable processing, standardisation of food products etc were conducted. 53 farm/field visits were also conducted.

**Farm Advisory Services rendered**

The staff members of all the departments were guiding the students to conduct farm clinics during RAWE programme.

About 1500 farmers visited agro-clinic attached to the sales counter to get solution for their farming problems during the period. 600 students from schools and colleges from the state and outside visited and got technical knowhow in the field of agriculture and allied fields.

Scientific articles - 15 nos., Technical bulletins - 10 nos, Popular articles - 20 nos.

**Consultancy Service**

The instructional farm provided guidance, design and supervision in the renovation of the Kerala Raj Bhavan garden.

The instructional farm was involved in the implementation of the project 'Harithakeralam' by the state government.

M/s. Udiyanoor Industries, Trivandrum and KAU have jointly signed an MOU for the manufacture and marketing of dehydrated banana powder based weaning foods for a period of 5 years.

**Important Visitors**

ICAR accrediation teams.

Dr. P.V.Pandey, Professor and Head, Department of Agricultural Engineering (farm machinery) College of Agricultural Engineering, Maharashtra.

Dr. N.Nadarajan, Professor and Head, Dept, of Agricultural Botany, Agrl. College and Research Institute, Madurai.

Dr. T.S.Raveendran, Professor of Cotton, TNAU, Coimbatore.

Dr. John M Stonehouse, Project Manager, Science Imperial College of Science, Technology & Medicine, London.

**Radio Talk**

The Scientists participated in 15 radio talkes on various agricultural subjects.

Question and answer programme in *Karshakavedi* by Dr. P.Manju, Assoc. Professor was broadcast on 27.6.2001.

**Other details**

Extension club organised a quiz programme as part of commonwealth day celebration on 21.3.2002.

**Finance**

| Head of a/c | Expenditure | Receipts |
|---|---|---|
| Non-plan 202-21 | 49157971 | 43587246.45 |
| Plan 202-21 | 2441520 | |
| ICAR Dev. Gr. 202-31/8825EAP | 4366439 | |
| Total | 55965930 | |

# 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 as well as other crops. B.Sc. (Hort.) degree programme was started with an intake of 20 students during 1972. The intake capacity was increased to 30 from 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).

The college functions with sixteen departments 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.

## Mandate of the station

The main function of the college is teaching at UG level leading to B.Sc.(Ag.) degree, PG levels leading to M.Sc.(Ag.), M.Sc. (Hort.) M.Sc.(Ag. Stat.), M.Sc. (Home Science), Ph.D (Ag), Ph.D (Hort.) and Ph.D (Home Science) degrees. The college takes up research and extension activities on all identified thrust areas in the faculty of Agriculture.

## A few memorable events of the institution

Hon'ble Minister of State for Agriculture and Animal Husbandry, Smt. K. R. Gouriamma visited the centre for Plant Biotechnology & Molecular Biology of the college on 27-12-2001, in connection with the workshop organised by KAU & BRNS on 'Impact of Applications of Radiation on Food and Agriculture'.

Dr. Anil Kakodkar, Chairman, Atomic Energy Commission & Secretary to the Department of Atomic Energy, Government of India visited the Radiotracer Laboratory attached to the college and appreciated the central facilities there.

## Faculty Improvement Programme

### Scholarship awarded to staff/deputation of staff for higher studies

| Name of scientist and designation | Details of deputation | | | Institute to which deputed |
|---|---|---|---|---|
| | Course | From | To | |
| M. Murugan | Ph.D | 15.11.01 | 14.11.02 | KAU, Vellanik-kara |

### Seminars/summer institute/symposia/trainings attended

The Teaching staff of the college has attended the programmes like DAE-BRNS Regional Workshop on the impact of applications of radiation on food and agriculture. 16th National Workshop of All India Co-ordinated Spices Improvement programme,Summer Institute on advances in INM system for sustaining crop productivity,Training on bamboo cane cultivation, National Workshop on Radio Chemistry and application of Isotopes in agriculture NAARI International Conference on Application of radiation and radiation technology in 21st century. Short course on current advances in sustainable agriculture, International workshop on "Contribution of Home gardens to *in situ* conservation of Plant Genetics Resources in Farming Systems". National Seminar on Role of plant physiology for sustaining quality and quantity of food production in relation to environment.Training on Harnessing hybrid vigour in crop plants, Workshop on WTO on Agriculture in India, Training on Harnessing hybrid vigour in crop plants, Sensitization workshop of scientific advisory panel meeting of NATP, National Seminar on changing scenario in the production system of horticultural crops, National Conference on Strategies for safe food production, DBT task force meeting, National Seminar on Biotechnology, Long term training on DNA finger printing etc.

**Academic programme**

**Admission (No. of students as on 31/03/2002)**

U.G. Programme **(On rolls)**

| Year of admission | M | F | Total | SC/ST | | | Foreign Students | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | M | F | Total | M | F | Total | M | F |
| 1998 | 29 | 53 | 82 | 2 | 3 | 5 | - | - | - | 29 | 53 |
| 1999 | 17 | 53 | 70 | 1 | 4 | 5 | - | - | - | 17 | 53 |
| 2000 | 10 | 40 | 50 | - | 6 | 6 | - | - | - | 10 | 40 |
| 2001 | 16 | 31 | 47 | 1 | 5 | 6 | - | - | - | 16 | 31 |
| RE | | | | | | | | | | | |
| 1995 | | | | | | | | | | | |
| 1997 | | | | | | | | | | | |

**P.G. Programme** (On rolls) (Discipline wise)

| Year of admission | M | F | Total | SC/ST | | | Foreign Students | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | M | F | Total | M | F | Total | M | F |
| **2000 Admission** | | | | | | | | | | | |
| *M.Sc.(Ag)* | | | | | | | | | | | |
| Agronomy | 1 | 3 | 4 | - | - | - | - | - | - | 1 | 3 |
| Pathology | 1 | 3 | 4 | - | - | - | - | - | - | 1 | 3 |
| Entomology | 1 | 2 | 3 | - | - | - | - | - | - | 1 | 2 |
| Plant Breeding | 1 | 2 | 3 | - | - | - | - | - | - | 1 | 2 |
| Soil Science | 1 | - | 1 | - | - | - | - | - | - | 1 | - |
| Ag.Extension | 1 | 1 | 2 | - | - | - | - | - | - | 1 | 2 |
| Ag.Economics | 1 | 1 | 2 | - | - | - | - | - | - | 1 | 1 |
| M.Sc.(Hort) | 8 | 4 | 12 | - | - | - | - | - | - | 8 | 4 |
| M.Sc.(Home Sci.) | - | 4 | 4 | - | - | - | - | - | - | - | 4 |
| M.Sc.(Ag.Stat) | - | - | - | - | - | - | - | - | - | - | - |
| **2001 Admission** | | | | | | | | | | | |
| *M.Sc.(Ag)* | | | | | | | | | | | |
| Agronomy | 6 | 2 | 8 | - | - | - | - | - | - | 6 | 2 |
| Pathology | 2 | 1 | 3 | 1 | - | 1 | - | - | - | 2 | 1 |
| Entomology | 1 | 2 | 3 | 1 | - | 1 | - | - | - | 1 | 2 |
| Plant Breeding | 1 | 2 | 3 | - | 1 | 1 | - | - | - | 1 | 2 |
| Soil Science | 1 | 3 | 4 | - | - | - | - | - | - | 1 | 3 |
| Ag.Extension | 3 | 1 | 4 | - | - | - | - | - | - | 3 | 1 |
| Ag.Economics | 2 | 1 | 3 | 1 | - | 1 | - | - | - | 2 | 1 |
| Agro.Met. | 2 | - | 2 | - | - | - | - | - | - | 2 | - |
| M.Sc.(Hort) | 2 | 9 | 11 | - | 2 | 2 | - | - | - | 2 | 9 |
| M.Sc.(H.Sci. | - | 4 | 4 | - | - | - | - | - | - | - | 4 |
| M.Sc.(Ag.Stat) | - | 2 | 2 | - | - | - | - | - | - | - | 2 |

**Ph.D. Programme** (On rolls) (Discipline wise)

| Year of admission | M | F | Total | SC/ST | | | Foreign Students | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | M | F | Total | M | F | Total | M | F |
| **2001 Admission** | | | | | | | | | | | |
| Agronomy | - | 1 | 1 | - | - | - | - | - | - | - | 1 |
| Pathology | - | 1 | 1 | - | - | - | - | - | - | - | 1 |
| Entomology | 1 | 1 | 2 | - | - | - | - | - | - | 1 | 1 |
| Plant Breeding | 1 | - | 1 | - | - | - | - | - | - | 1 | - |
| Soil Science | 1 | - | 1 | - | - | - | - | - | - | 1 | - |
| Horticulture | - | 3 | 3 | - | - | - | - | - | - | - | 3 |
| **2000 Admission** | | | | | | | | | | | |
| Agronomy | 1 | - | 1 | - | - | - | - | - | - | 1 | - |
| Plant Breeding | 1 | - | 1 | - | - | - | - | - | - | 1 | - |
| Soil Science | 1 | - | 1 | - | - | - | - | - | - | 1 | - |
| Ag.Extension | 2 | 1 | 3 | - | - | - | - | - | - | 2 | 1 |
| Horticulture | - | 1 | 1 | - | - | - | - | - | - | - | 1 |
| Home Sci. | - | 1 | 1 | - | - | - | - | - | - | - | 1 |
| **1999 Admission** | | | | | | | | | | | |
| Agronomy | 1 | - | 1 | - | - | - | - | - | - | 1 | - |
| Plant Breeding | 1 | - | 1 | - | - | - | - | - | - | 1 | - |
| Ag.Extension | 1 | - | 1 | - | - | - | - | - | - | 1 | - |
| Horticulture | - | 4 | 4 | - | - | - | - | - | - | - | 4 |
| **1998 Admission** | | | | | | | | | | | |
| Agronomy | 1 | - | 1 | - | - | - | - | - | - | 1 | - |
| Plant Breeding | 1 | - | 1 | - | - | - | - | - | - | 1 | - |
| Pathology | - | 1 | 1 | - | - | - | - | - | - | - | 1 |

### Study Tours

Third year B.Sc. (Ag.) students were taken on All India Study Tour programme from October 2nd to 24th 2001 in which they visited all places of agricultural importance mostly in North India. B.Sc.(Ag) students of 1999 admission were taken on South India Study Tour programme from October 8th to 23rd 2001 to all places where major Agricultural Institutes such as ICRISAT Hyderabad, NDDB, Anand etc. are located The All Kerala Study Tour programme was conducted from September 4th 2001 to September 20th 2001 for B.Sc. (Ag.) students of 2000 admission.

### Students Union Activities

Valedictory function of the students union was held during the period. In connection with the World Population Day, an essay competition was conducted on "Increasing World Population Problems and Prospects". An Indo-US Students cultural exchange programme was arranged in which students from various universities of USA participated. An essay competition on "Present Scenario in Coconut Cultivation" was conducted on "World Coconut Day". A quiz programme on soil science was organized in association with the Indian Society of Soil Science, Thrissur Chapter..

### Extra Curricular Activities

Two Professional clubs, viz., Entomology club and Ornithology club consisting of the students and members of staff of the department have been formed to inculcate professional aptitude and expertise among the members. The students have already been exposed to the mass rearing production technology of

biocontrol agents in the Bio-control Lab of the State Dept. of Agriculture.

**NSS Activities**

The NSS volunteers of the college actively participated in the Gandhi Jayanthi celebrations and Independence Day celebrations at Kerala Agricultural University. A campus cleaning programme was organized. A tree planting programme was also arranged at Mannuthy Campus. The NSS volunteers donated blood to patients in various hospitals at Trichur. "Hipnorama 2002"- Hypnotic and confidance building classes were organized for the NSS student volunteers. Nature study camp was conducted at Vazhachal by the NSS volunteers. In addition, a blood group campaign was also organized by the volunteers.

**Sports and Games**

The college team participated in the All India Agricultural University Sports Meet at Bikaner, Rajasthan Agricultural University from 5th to 9th November 2001. The team also participated in KAU Intercollegiate Tournament at Mannuthy and brought laurels to the college.

The male students participated in the Intercollegiate Shuttle Badminton Tournament held at Mannuthy from 27th to 28th July 2001 and won Third prize.

**Research Programme**

Major Research Achievements

**Agronomy**

To control weeds in cocoa nursery, solarization for 30-45 days is effective. Fumigation with dazomet (30 g $m^{-2}$) is equally beneficial. Among the herbicides tested, oxyfluorfen (0.3 kg/ha) and pendimethalin (1.5 kg/ha) can be recommended for weed control in cocoa nursery based on the effects on weeds, cocoa seedlings and microflora.

Among the biofertilizers tested in cashew Glomus intraradices was found to be better. Azospirillum inoculation is better than Azotobacter.

Another study on effect of nutrient inter relations on productivity of rice in laterite soils showed that though the grain yield ranged from 4.3 to 5.7 t/ha mean main effects of P, K, Ca and S were not significant. Yield limiting influences of non applied elements viz., Mg, Fe, Mn and Zn contents of the leaf blade at its panicle initiation stage was significant. Thus realized yield becomes the net effect of positive and negative influences of applied and native elements and suggests that amelioration of harmful elements hold the key to response and yield.

Multiple inoculation of AMF and N fixing bacteria were showing better results in black pepper. *Glomus fasciculatum* and *Azospirillum lipoferum* are more promising under Vellanikkara conditions.

Seed hardening in rice revealed that seedling survival under moisture stress situation was found improved in treatments involving seed hardening with 0.05% imidacloprid (a systemic insecticide) solution and 2% Azospirillum slurry.

Studies on organic meals from KCPL effluent slurry concluded that KCPL sludge is superior to rock phosphate in the release of major nutrients and it could be successfully used as an organic source both under aerobic and waterlogged situation.

**AICRP on Weed Control**

In dry sown rice (semi dry rice), spray butachlor 1.5 kg, thiobencarb 1.5 kg or pendimethalin 1.5 kg/ha at 0 - 6 DAS as pre-emergence application. This may be followed by a hand weeding at 30 DAS for effective weed management.

For effective control of weeds in wet sown rice (puddle sown rice), spray butachlor 1.25 kg, or oxyfluorfen 0.1 kg/ha at 6-8 DAS. These herbicides can be mixed with moist river sand @ 40 kg/ha and broadcast uniformly, instead of spraying to save labour and time.

Spraying cyhalofop butyl (clincher 10 EC) at 0.08 kg/ha at 18-20 DAS is effective for controlling *Echinochloa* sp. in rice fields.

The following schedule of herbicide application is effective for weed control in rice. Spray glyphosate at 1.2 kg/ha to kill the existing weeds,. in low land areas with standing water. After 15 days, when the weeds have dried, broadcast pre-germinated seeds of rice, without any land preparation. Spray butachlor (1.25 kg/ha) at 7-8 days after sowing and 2,4-D (1.0 kg/ha) at 25-30 DAS for preventing further weed growth. By this method the crop can be raised without any tillage operation.

Directed spraying of paraquat (0.5 kg/ha) or glyphosate (0.9 kg/ha) is effective for post emergence control of weeds in cassava.

Spray paraquat (0.4 kg/ha) or glyphosate (0.8 kg/ha) on the weeds in between the cashew or coconut

plants. Repeat the spraying when the regrowth of weeds cover about 50 per cent of area or when they reach about one foot height.

Spray paraquat + diuron (0.4 kg + 1.0 kg/ha) or glyphosate (0.8 kg/ha) on the weeds in between cardamom plants. Avoid spraying on cardamom leaves. Repeat the spraying when the regrowth of weeds reach about one foot height.

Spray paraquat (0.4 kg/ha), glyphosate (0.8 kg/ha) or dalapon + 2,4-D (3.0 + 0.5 kg/ha) for controlling weeds in between coffee plants.

For effective control of weeds in banana, grow cowpea (grain/fodder) in the interspaces during the early stages to smother weeds or spray diuron (1.0 kg) or atrazine (1.0 kg per hectare) as pre-emergence application or spray paraquat 0.4 kg or glyphosate (0.8 kg per hectare) as post-emergence. Repeat spraying if growth of weed resume.

Spraying of diuron (1.0 kg/ha) as pre-emergence application is effective in pineapple. Directed application of paraquat (0.4 kg/ha), paraquat + 2,4-D (0.4 + 1.0 kg/ha) or glyphosate (0.8 kg/ha) will control weeds in the areas between rows of pineapple.

Spray 2,4-D (0.5 kg/ha) or glyphosate (0.8 kg/ha) for controlling the introduced climbing weed *Mikania micrantha* spreading fast in Kerala.

Spray sodium chloride (common salt) solution at 10-15% to desiccate the weed *Parthenium hysterophorus* in non-cropped areas.

**Soil Science and Agricultural Chemistry.**

Higher levels of Nitrogen have positive influence in enhancing the height and spread of plants. Besides higher levels of N application has produced more No. of flushes per plant, No. of nuts /panicle and No. of panicles/$m^2$.

At the highest dose of application the residues of 2.4-D detected in grain and straw were 0.17 and 2.50ppb respectively and these values were much lower than the maximum residue limit (MRL) permitted for 2,4-D (0.01 ppm) for grain and 2.0 ppm for straw).

**Plant Pathology**

The most suitable solid medium for the growth and sporulation of the fungus *Hirsutella thompsonii* Fisher var. *Synnematosa* was Sabouraud's maltose agar + yeast. Maximum number of fruiting bodies called synnemata were produced in Richard's medium. Among the liquid media tried Sabouraud's maltose + yeast itself was selected as the best liquid medium for maximum dry mycelial weight and sporulation.

In the two-phase mass production study, wheat was identified as the most promising raw substrate for sporulation and germination percentage of spores.

*In vitro* evaluation of efficacy of selected biopesticides for the management of sheath blight in rice revealed that *Trichoderma viride* and a bacterial antagonist 2B as the best fungal and bacterial antagonists respectively. Initial screening of the botanicals resulted in the selection of *Chromolaena odorata, Leucaena leucocephala* and *Ocimum sanctum* as the effective botanicals in controlling *Rhizoctonia solani*. Of the neem based formulations, Nimbecidine at 0.75 per cent concentration showed the maximum inhibition. *In vivo* screening resulted in a selection of *T. viride* as the best antagonist, *C. odorata* and *O. sanctum* as the best botanicals and Nimbecidine as the best antagonist, *C. odorata* and *O. sanctum* as the best botanicals and Nimbecidine as the best neem based formulation for the field trial.

Among the different biopesticides tested under field condition, *T. viride* applied on seed, soil and foliage showed maximum disease control and was equally effective as carbendazim (0.1%). Seed treatment cum soil application of *T. viride* scored next in reducing sheath blight infection with the highest benefit-cost ratio.

**Integrated management of bacterial wilt of tomato**

Seed treatment with antagonistic bacterium facilitates earliness in germination and better plant vigour in both Pusa Ruby and Sakthi compared to other treatments.

The result of the study indicated that the bacterial disease of tomato could be effectively managed by integrating indigenous antagonistic activity of *P. aeruginosa* and selective bactericides like garlic extract or copper hydroxide (0.15 per cent) along with the host resistance of variety Sakthi.

**Plant Breeding & Genetics**

Investigations for alternative source of cytoplasmic male sterility suitable for warm humid tropical climatic conditions revealed Bhadra and Vyttila-3 as sterile cytoplasmic source. The cross combinations with Vyttila-3 and Bhadra as cytoplasmic maternal sources exhibited increase in

male sterility with each backcross. In the case of Vyttila-3 x IR-36, 100 per cent male sterility was obtained in $F_2BC_3$ generation.

Study on the genetics of bruchid resistance and yield in cowpea indicated high variability for yield and most of the bruchid resistance traits. In the line x tester analysis, Kanakamony and C 152 among the lines and EC 390231 and IC 201092 among the testers showed high tolerance to pulse beetle attack, which can be utilised for evolving resistant varieties. The crosses C 152 x EC 367711 and V 240 x IC 201092 showed resistance to pulse beetle.

**Home Science**

***Quality evaluation of banana by-products***

Nutrient composition of banana by-products, organoleptic evaluation and keeping quality of processed products prepared using flower bud, peel, rhizome and pseudostem of five banana varieties namely Nendran, Poovan, Palayankodan, Robusta and Kunnan were studied. Significant variation in the nutrient content was observed between the different banana by-products. Pickles made from banana peel and vattals made from banana pseudostem were more acceptable. Pickles and vattals made from banana by products had good keeping quality.

**Agricultural Entomology**

Study on "Management of barbet damage" indicated 21 per cent damage by small green barbet to the bunch. In order to minimize the damage caused by the barbet, the bunches were protected with polythene cover of varying colors (transparent, white, blue and yellow) and compared with the dried banana leaf trash cover. Only the exposed fingers were damaged by the bird. There was no correlation between colors of covers and the damage.

Weaverbird menace is a serious problem in the grain filling stage of rice crop in Kole lands of Thrissur and other rice growing areas of Kerala. The damage was particularly severe when electric wires intercepted the field. The birds sit on electric wire for resting in between depredation. Farmers employ costly human labourers to scare the birds. Studies revealed that neem oil and other neem based formulations like Neemasol, neem oil, Rakshak and BBR$^+$ could effectively ward off the bird for at least 4-5 days. By that time the crucial stage escaped from the bird damage. Other neem formulations performed equally well.

In "Coconut Mite Management" study, the new method of root administration with acaricides and biopesticides is progressing. A proposal on "Anti allergens for management of pests in coconut" has been forwarded to the Coconut Development Board for funding.

The investigation on management of banana psuedostem weevil *Odoiporus longicollis* Olivier revealed that the weevil infestation was absent in those plants which received the maximum quantity of water, though their yield was low. However, the plants, which received slight reduction in moisture, gave yields similar to those plants grown with normal irrigation. The tissue-cultured plants showed high resistance to weevil attack.

**Processing Technology**

Different treatments have been developed to extract pectin from various agro wastes. Pure pectin could be produced from mangosteen rind and among the fruit wastes, Passion fruit rind was identified as the richest source for pectin.

Among the different wine yeasts tried the wine yeast MTCC 180 was identified as efficient for cashew apple wine making Gelatin (1%) was highly effective for clarification of cashew apple juice. Acceptability of cashew apple wine increased when blended with fruit juice or other fruit wines.

A study revealed that tender coconut husk can be successfully used as a medium for mushroom production.

**Agricultural Economics**

Based on "Economic analysis of production and marketing of cashew nut in Kerala", the whole period under study (1952-53 to 1999-2000) has been divided into two sub periods, period 1 extending from 1952-53 to 1975-76 and period II extending from 1976-77 to 1999-2000.The results of the growth rate analysis using exponential function revealed that during the whole period under study, the area under cashew expanded by 2.22% per annum as against a decline of 2.11% in productivity. The major marketing channels as identified in the study were 'Producer-village trader-primary wholesaler-secondary wholesaler-processor'; and 'Producer-primary wholesaler-secondary wholesaler-Processor.

**Olericulture**

The high yielding cowpea cultures VS –15-3-1 and VS 96, Amaranth cultures AMT.105 and AMT 237 were recommended for the Central zone by the sub committee of the ZREAC meeting held at RARS, Pattambi on 26-5-2001.

The following cultivars were recommended for farm trial in the ZREAC meeting held at RARS, Pattambi on 26-5-2001.

| Crop | Variety | Specific advantage |
|---|---|---|
| Pumpkin | CM 346 | Elongated fruits with orange flesh |
| Amaranths | A 225 | Green amaranth with high yield |
| Chilli | CA 752 | High yielding bacterial wilt resistant type with -green chilli characters |
| Okra | AE 286-1 | High yield, yellow vein mosaic resistance and perennial |
| Drumstick | MO 44 | Early, High yield medium length |
| | MO 70 | Early high yield and short length |
| | MO 95 | Long fruited, high yield |
| | AD 4 | Annual Drumstick |

Application of NAA (15 ppm) and CCC (300 ppm) were found advantageous to increase fruit set and yield in yard long bean.

**AICVIP**

The application of Dual @ 0.75 kg. a.i. /ha. along with one hand weeding 45 days after sowing has given higher yield in okra. The cucumber genotype AAUC-2 yielded 380.3 q/ha in the varietal evaluation. It was followed by PCUC –28. Among the pumpkin varieties evaluated CM-350 yielded maximum.

In the varietal trial of amaranth, the genotypes VKA-44 and VKA-6 were from high yielders.

In screening okra varieties resistant to yellow vein mosaic disease, Arka Abhay, NSR-1, NDO-6 and VRO-5 showed resistance to the disease with high yields.

The evaluation of bacterial wilt resistant brinjal genotypes has shown that BB-64 had the lowest wilt incidence (3.33%) followed by SM-141 (6.67%).

The tomato genotype LE-415 had the lowest wilt incidence (8.33%) and the highest yield (193.2q/ha) in the evaluation of bacterial wilt resistant genotypes.

The soil solarization for 30 days was found the most effective for reducing damping of incidence in tomato, brinjal and chilli.

Sowing of okra seeds on 15th May at a spacing of 45x45 cm was better for the highest seed yield.

The highest seed yield in bitter gourd variety Preethi was obtained by applying Nitrogen and Phosphorous at 80 and 40kg/ha respectively. Potash was applied at the recommended dose of 25kg/ha.

**Pomology and Floriculture**

Six indigenous mango varieties of Kerala viz., Moovandan, Chandrakkaran, Mundappa, Kalepady, Olour and Velleikolumben were evaluated for their dwarfing efficiency when used as root stock for grafting. Based on anatomical parameters, the growth potential scale developed could place Moovandan as the most vigorous and Velleikolumben as the most dwarfing rootstock.

In variety 'Nendran' the combined effect of fertigation and planting density gave significant increase in yield . Among the treatments, the treatment $T_2D_2$ (75% fertilizer at 1.8x3.6m, with 2 suckers/pit-3086 plants $ha^{-1}$.) had significantly higher yield, with 23 per cent more plants than in the conventional method of planting (2500 plants $ha^{-1}$.). Bunch covering induced uniform light green colour in fingers which was attractive compared to the non-uniform colour in uncovered bunches. There was a slight reduction in the angularity of fingers in covered bunches.

In tuberose (*Polianthes tuberosa*) the height reduction was the maximum with 100mg$l^{-1}$ paclobutrazol treatment while highest plant spread was given by CCC bulb dip (100mg$l^{-1}$). Early flowering was observed in paclobutrazol treatment. Longevity of spike in the field and size of the floret was improved by the paclobutrazol (100mg$l^{-1}$) treatment. Vase life of the spike was more with ccc (1000mg$l^{-1}$) bulb dip and with $AgNO_3$ (50 mg$l^{-1}$) pulsing. Bulbsize was improved by BA (50 mg$l^{-1}$) applied at the flowering stage.

An explorative field survey was conducted in four districts of Kerala and identified plant species suitable for dry flower production. In gomphrena and celosia, full bloom and half bloom stage were ideal for drying and bleaching. Standardised the techniques of skeltonizing leaves of *Ficus religiosa* using NaOH, which can be used for making greeting cards and paintings. Hydrogen peroxide was an effective bleaching agent and at 30% level it enhances the visual and asthetic qualities of gomphrena and celosia flowers. Standarised the drying techniques in blue water Lily and Zinnia

**Plantation Crops**

Four advanced cultures of Kacholam viz. KG-2, KG-6, KG-19, KG-27 with high yield and oil content have completed on farm testing in seven locations in Thrissur, Ernakulam and Palakkad districts.

Molecular characterisation of 11 accessions of *Piper* using RAPD techniques was studied and species relationship worked out.

**Instructional Farm**

The multi location trial on promising hybrid combinations of WCT x MDY, WCT x CDG, WCT x CDO showed that the various hybrid combinations did not show any significant difference with respect to number of leaves produced and other important morphological characters. But WCT x MDY expressed earliness in bearing when compared to other hybrids and check variety WCT. The nut production was also high in WCT x MDY.

**Centre for Plant Biotechnology & Molecular Biology**

Viable protocols were developed for large scale rapid *in vitro* multiplication of different crop species namely black pepper, ginger, trichopus, holostemma, tylophora, gymnema, kaempferia and vanilla. They have been utilised for multiplication and field evalution of the regenerants

The technique for RAPD and AFLP analysis has been standardised for black pepper and has been utilised for genetic finger printing . Specific decamer primers were detected for finger printing piper species, varieties and accessions. RAPD analysis has also been perfected for banana and cashew for molecular characterisation.

*In vitro* production of secondary metabolites has been confirmed in *Gymnema, Coscinium* and *Holostemma. Agrobacterium* mediated genetic transformation enhanced secondary metabolite production in *Holostemma.*

Molecular characterization of *Ralstonia solanacearum* by RAPD assay revealed variability among isolates from different locations. A 1.4 kb unique band was found specific for isolates belonging to race 3. This band when sequenced, shared homology with capsular protein locus in *Haemophilus influenzae.* The sequence data were deposited in the data bank. This is a significant achievement of the Centre.

**Cadbury- KAU Co-operative Cocoa Research Project**

During the period, two improved clones CCRP II and CCRP III were released for cultivation in the major cocoa growing belts of Kerala.

**AICRP on Medicinal & Aromatic Plants**

Cataloguing of 27 out of the 65 accessions is over and $D^2$ analysis revealed that these could be grouped into 3 distinct clusters. Hybridisation work was carried out between Kanjoor and Nelamboor accessions belonging to two different clusters. Hybrid progenies are under evaluation along with parents and Viswam, the released variety.

**Extension and other activities**

To equip U.G. students in tackling farmers problems confidently and to mould them as competent professionals in Agriculture, the Rural Agricultural Work Experience (RAWE) programme was conducted as a part of the U.G. Curriculum. The faculty members from different disciplines participated actively in the programme which was spearheaded by the department of extension under the leadership of Dr. Joy Mathew. As a part of this, farmers seminars, agro-clinics, exhibitions, discussions, quiz programmes, on farm demonstrations and agricultural competitions were organized. The village stay was arranged at Nenmara Panchayat in Palakkad District. The teachers also acted as resource persons for flower show, etc. organised by Forest Department, Agricultural Department etc.

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Sreekala, N.V., Mercy, G., John, P.S. and Nair, R.V. 2001. Seasonal variation in elemental composition of cocoa litter under shaded and open conditions. *J. Trop. Agric.* 39(2):186-189

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**Popular articles**

Gopalakrishnan, T.R. 2000 "*Amarayum chathurapayarum ippol nadam*". Karshakasree August 2000 p-25.

Indira, P. 2000 "*Veluthulli-Arogyathinum, Adayathinum*" – Kerala Karshakan Dec. issue.

Mini, C. 2000 "*Pannalukale thirichariam*" Kalphadhenu 27(2) : p.10

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Gopalakrishnan, T.R., 2000. "*Kaiethum doorath eshttamulla pachakkari*" Vanitha 15-31 May 22-75.

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Sudhir Babu and Gopalakrishnan, T.R. "*Vilaveria puthu violet payarinam – Vyjāyanthi*" Mathrubhumi daily dated 12-4-2000.

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**Important visitors**

Smt. K.R. Gouriamma, Hon'ble Minister for State Agriculture and Animal Husbandry, Kerala visited on 27-12-2001 in connection with DAE-BRNS Regional National Workshop on the Impact of Applications of Radiation on Food and Agriculture. Dr. Anil Kakodkar, Chairman, Atomic Energy Comission & Secretary to the Department of Atomic Energy, Government of India, Dr. Mrs. A.M. Samuel, Director, Biomedical Group, BARC, Dr. S.F. D'Souza, Head, Neuclear Agricultural and Biotechnology Division, BARC Mumbai visited the various laboratories under the CPBMB and Radiotracer laboratory of the college in connection with the above workshop on 27-12-2001. Dr.G.Kalloo, DDG (Hort.) visited the College on 31-10-01 in connection with the group meeting of AICVIP. Dr. N.T. Yaduraju, Co-ordinator and Director, NRCWS, Jabalpur visited the AICRP on Weed Control centre at KAU from 1-3 February 2002. Dr.V.K.Dobrial, Sr. Scientist, NBPGR, New Delhi and Dr. D. Ram, Sr. Scientist, IIVR, Varanasi visited the College on 30-6-01. Ms. K.B. Valsalakumari, IAS, Secretary to Agriculture, Govt. of Kerala, visited in connection with the discussion on activities of the Centre for Studies on Gender Concerns in Agriculture on 6-7-2001. Dr. Robert Chambers, Proponent of Participatory Rural Appraisal tool visited the college in connection with the above on 23-9-2001. Ms. Mina Swaminathan, Director, Gendeavour, MSSRF, Chennai and Dr.Tara Thomas, Economist, Ministry of Agriculture, Govt. of India visited on 6th and 27th November 2001 respectively in connection with the discussion on activities of the above Centre. Dr. Revathi Balakrishnan, Rural Sociologist and Women Development Officer of the FAO, Bangkok visited the College on 3-1-2002 to discuss about the KAU-FAO Project on 'Engendering the Agricultural Curriculum and Advisory Committee Meeting of the Centre for Studies on Gender Concerns in Agriculture. Dr.S.K.Bhattacharjee, Project Co-ordinator, AICFIP visited the college in connection with the review of AICFIP Research Projects in the Department of Pomology and Floriculture on 12-9-2001. Dr. Rishi Pal, ADG (Plantation Crops) visited the herbal garden of the AICRP on Medicinal and Aromatic Plants in the College of Horticulture on 31-10-2001.

**Finance**

| | Total | Abatement | Prog. Total |
|---|---|---|---|
| Plan | 16,61,907 | 120 | 54,62,238 |
| Non-plan | 28,34,147 | 7,038 | 4,37,23,532 |
| ICAR | 5,28,688 | - | 32,04,875 |
| OEAP | 10,92,437 | 964 | 29,03,559 |
| Total | 61,17,181 | 8,122 | 5,52,94,204 |

# COLLEGE OF AGRICULTURE, PADANNAKKAD , KASARAGOD

**Introduction**

The college was started in 1994 with the admission of first batch of students under the B.Sc. (Ag.) programme. This is the third agricultural college under Kerala Agricultural University

Eight batches of UG students were admitted so far. Out of this, four batches have successfully completed the course. The college has been functioning in the Regional Agricultural Research Station, Pilicode, from its inception till August 1998. As the construction of the academic building and two hostels were completed, the college was shifted to Padannakkad campus on 3rd August 1998.

**Mandate of the institution**

Teaching, Research and Extension

***Lead functions***

- Making provision for imparting education in different branches of study, particularly agriculture and other allied branches of learning and scholarship.
- Furthering the advancement of learning,

promotion of research, particularly in agriculture and other allied sciences with stress on problem oriented and post graduate research.

- Undertaking a need based and location specific front line extension education programme.

**A few memorable events of the institution**

The passing out ceremony of the fourth batch UG students of this college, arranged in October 2001 is a day to commemorate with pride.

We received a letter of appreciation from Dr. N.L. Maurya, ADG (Education), ICAR. Head, Peer Review Team for the excellent upkeep and arrangements made in this institution during their visit to this College for accreditation.

Our students of 1995 batch Josemohan, M.S. and Sajeeshkumar, N. made brilliant performance in the UPSC - Civil Service Exam. of 2001 and secured 54th and 141st rank and got selected for IAS.

## Faculty improvement programme

**Seminars/summer institute/symposia/training's attended**

The Scientists attended several programmes during the period. A few programmes are BARC–KAU Seminar, Crop Protection and WTO-An Indian Perspective, Impact of application of Radiation on food and agriculture by BARC& KAU, Workshop on coconut POP, National workshop on spices, Training on spices production technology, Training on Agriculture water management, Sequence Analysis of proteins & Nucleic acids, Workshop on drip irrigation. Short course on Modelling growth & yield of crops, National seminar on recent trends in Statistics, Workshop on Statistical computing and 14 th Kerala Science Congress.

**Academic programmes**

Admission (No. of students as on 31/03/2002)

| Year of admission | M | F | Total | SC/ST | | | Foreign students | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | M | F | Total | M | F | Total | M | F |
| a (i) U.G. Programme (on rolls) | | | | | | | | | | | |
| 1998 | 12 | 14 | 26 | 2 | 1 | 3 | - | - | - | - | - |
| 1999 | 8 | 18 | 26 | - | 3 | 3 | - | - | - | - | - |
| 2000 | 13 | 23 | 36 | 1 | 2 | 3 | - | - | - | - | - |
| 2001 | 4 | 18 | 22 | - | 2 | 2 | - | - | - | - | - |

**Study tours**

The study tours carried out during the year are (1) All India Study tour for 1998 Admission (2) South India Study tour for 1999 Admission and (3) All Kerala Study tour for 2000 Admissions

**Students union activities/Extra curricular activities**

Main activities were; Oath taking ceremony of the Students Union Members, Conducted Inter House Table Tennis competition. Celebrated Independence day – conducted painting exhibition, quiz competition etc, College union &arts club inauguration. Celebrated Onam. Organized a talk on Information Technology, Conducted an Essay competition by the Nature club, Reception to the " Deepashiga" rally of Kerala sports Council Trip to Nilambur, organized by Nature Club and "Okkal " Festival in collaboration with Kerala Folklore Academy.

**NSS activities**

Conducted a nature study tour to Kottancherry hills. 25 students participated. Observed vanamahostav week. 75 trees were planted around the football ground, Organized a program for blood group analysis, Conducted a survey in Pothankandom watershed to delineate the boundaries of the watershed,Conducted poster campaign against the use of plastics,Observed Gandhi Jayanthi day .

**Sports and games**

Inter collegiate activities: The college participated in all the Inter collegiate Tournaments held during this period. In the Table Tennis and Shuttle Badminton tournament, the College men team bagged the second place which was held at Mannuthy.

Sri. Adarsh, Prakashan, Reka got selected to District team and represented the District in the All Kerala State Championship held at Trivandrum.

**Extension and other activities.**

| Name of Scientists | Date & Venue | Details of Training | No. of participants |
|---|---|---|---|
| Smt. Ancy Joseph | 5/5/01 BSS, Chirappuram | Demonstration of Jam & Squash preparation | 25 ladies |
| Dr. A. Rajagopalan | 12/7/01 RATTC, Taliparamba | Medicinal Plants | 30 Agrl. Officers |
| -do- | 14/8/01 Manjeswar | Vegetable cultivation | 20 farmers |
| Dr. Satheesan. K.N. | 17/8/01 Cheemeni | Class on Pepper | 30 Farmers |
| -do- | 25/9/01 RATTC, Taliparamba | Medicinal plants | 30 Agrl. Officers |
| Dr. A. Rajagopalan | 23/8/01 RATTC, Taliparamba | Medicinal plants | 30 Agrl. Officers |
| -do- | 3/12/01 Cheemeni | Vegetable cultivation | 50 farmers |
| Dr. A. Rajagopalan | 13/12/01 Cheruvathur | Vegetable cultivation | 20 farmers |
| -do- | 21/12/01 RARs, Pilicode | Medicinal plants | 30 farmers |
| Sri. Ratheesh.P.K. | 17/8/01KB, Kizhallur | Integrated Nutrient Management | 25 farmers |
| -do- | 17/8/01 KB Kizhar charassery | Biodiversity & Conservation | 20 farmers |
| -do- | 20/11/01 DRDA, Kannur | Sustainable Agri & Agronomic measures for Watershed Devpt. | 30 farmers |
| -do- | 6/12/01 KB, Cheemeni | Scientific Rice Cultivation | 30 farmers |
| -do- | 27/12/01 KB, Patyam | Farming system for integrated Watershed dept. | 20 farmers |
| Dr. Jacob John | 11/9/01 CoA, Padnekkad | IT Awareness ICDP Training Prog. | 30 farmers |
| -do- | 24/9/01 Kamballur | Agroclinic | 20 farmers |
| -do- | 26/9/01 CoA, Padannakkad | RATTC Training for farmers on nursery management in rice | 20 farmers |
| -do- | 1/11/01 RARS, Pilicode | Organic farming | 50 farmers |
| -do- | 7/12/01 Cheemeni | Integrated Nutrient Management | 20 farmers |
| M. Joy | 5/7/01 RARS Pilicode | Scientist-Extension Officers Interaction | - |
| -do | 31/7/2001 Taliparamba | Agroclinic | 30 farmers |
| -do- | 2/8/01 Alappadambu | Agroclinic | |
| -do- | 3/8/01 Balal | Agroclinic | - |
| -do- | 7/8/01 Ettadukka | Agroclinic | - |
| -do- | 17/8/01 Padachira of | Disease of plantation crops Peringom, Vayakkara KB | 30 |

| Name of Scientists | Date & Venue | Details of Training | No. of participants |
|---|---|---|---|
| M. Joy | 24/8/01 KVK * KB Manjeshwar | Disease of rice & vegetables arranged | 40 |
| -do- | 14/9/01 Peringom, Vayakkara | Agroclinic | 20 |
| -do- | 15/9/01 Peravoor | Agroclinic | 30 farmers |
| -do- | 24/9/01 Kamballur | Agroclinic | 20 farmers |
| -do- | 29/9/01-1/11/01 RARS Pilicode Kisan Mela | Organized Exhibition, conducted Agroclinic | 50 farmers |
| Dr.P.V.Nandini | 24/11/01 Chittanchal | Processing of Fruits & Vegetables | 40 farmers |
| -do- | 3/12/01 PAO, Kannur | -do- | 10 Trainers of EDP |
| -do- | 4/12/01 Cheemeni | -do- | 30 farmers |
| -do- | 17/12/01 RATTC, Taliparamba | -do- | 40 farmers |
| -do- | 18/12/01 RATTC, Taliparamba | -do- | 30 farmers |
| Dr.P.V.Nandini | 19/12/01 Municipal Office, Payyannur | -do- | 35 farmers |
| -do- | 20/12/01 Municipal office Payyannur | -do- | 35 farmers |
| -do- | 21/12/01 RARS Pilicode | -do- | 405 farmers |
| -do- | 28/12/01-29-12-01 RATTC, CoA, Padannakkad | -do- | 32 farmers |
| -do- | 30/12/01 Chandera | -do- | 35 farmers |
| Dr. P.R. Suresh | 13/8/01 RATTC, Taliparamba | Integrated nutrient management | 30 farmers |
| -do- | 17/8/01 KB, Madikkai | Manuring of Rice | 30 farmers |
| -do- | 26/10/01 | Integrated Nutrient Management | 30 farmers |
| Smt. Sujatha. R. | 27/11/01 RARS, Pilicode | Cultivation of pepper | 40 farmers |
| Dr. K.M.Sreekumar | 26/5/01 RATTC, Taliparamba | Integrated pest management | 20 Agrl.Assts. |
| Dr. P.C.Balakrishnan | 16/8/01 RATTC, Taliparamba | Seed production in coconut | Farmers |
| -do- | 14/9/01 RATTC, Taliparamba | Seed production in coconut | Farmers |
| -do- | 20/11/01 | Coconut productuion | 30 Agrl.officers |
| -do- | 29/12/01 Udinoor-Nileshwar | Selection of Mother palms for Dept.of Agriculture | |
| Sri. Ratheesh. P.K. | 6/8/01 KB, Mattannur | Biodiversity & Conservation | |
| Smt. Mini. P.K. | 28/7/01 Nehru Yuva Kendra, Kasaragod | Watershed Management for NRC volunteers | 50 Volunteers |
| -do- | 22/12/01 KB Pilicode | Methods of Irrigation for farmers | 30 farmers |
| Dr. K.M. Sreekumar | 2/8/01 Mathil | Agroclinic | 50 farmers |
| Dr. G.K. Mahapatro | 22/12/01 Peringom | Agroclinic | 75 farmers |

**Radio talks:**

Dr. K.N. Satheesan - Cultivation of fruits in homesteads on 16/7/01 at AIR, Kannur

Dr. P.C. Balakrishnan - Moisture conservation in coconut garden on 5-12-01at AIR, Kannur

**Important Visitors**

The ICAR Accreditation team headed by Dr. N.L. Maurya, ADG (Acdn), ICAR, New Delhi and Dr. S. Singh, Jt. Director (Acd) & Dean (PGS), NDRI, Karnal visited College of Agriculture, Padannakkad on 5th February 2002.

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non-plan | 1.000 | 82,978 | - |
| Plan | 133.552 | 1,11,90,671 | 9,14,968 |
| ICAR | 0.460 | 59,212 | - |
| Other EAPs | 0.160 | 56,927 | - |

# COLLEGE OF FORESTRY, VELLANIKKARA

**Introduction**

The College of Forestry was established in 1986 as per the Govt. Order No. 12-10/85 Edn.dated, 28-7-1986. It is located in the Main campus of the Kerala Agricultural University, Vellanikkara.

Academic programme in the college includes both four-year B.Sc. (Forestry) and two-year M. Sc. (Forestry) courses.

In addition to the regular teaching work, the faculty members are engaged in research and extension activities related to forestry.

**Mandate of the institution**

The mandate of the College of Forestry is to carry out teaching and research in forestry and make Forestry professional rather than protective forestry.

**A few memorable events of the institution**

1. Delto R. Marokey, 2nd year B.Sc student got 2 nd place in National weight lifting championship held at Amritsar, Punjab on January 2002.
2. Hari. R, final year B.Sc student participated in the Republic Day camp.
3. Najmal Ameen M.N. final year B.Sc student selected for the NCC cadet welfare society (Kerala - Lakshadweep).

## Faculty improvement programme

**Seminars/summer institute/symposia/trainings attended**

Dr. K.Gopikumar, Associate Professor attended Winter school on recent techniques and participatory approaches in quality seed production. National seminar on role of plant physiology for sustaining quality of food production in relation to environment, DAE- BRNS regional workshop on the impact of application of radiations on food and agriculture 14 th Kerala Science Congress and Swedeshi Science Congress. Dr. B.Mohankumar, Associate Professor attended National Workshop on Policy and Legal Issues in Cultivation and Utilization of Bamboo, Rattan and Forest Trees in Private and Community Lands. Technical seminar on Bamboo development and Swedeshi Science Congress. Dr.K. Sudhakara, Assoc. Professor attended Seminar on seed sector reforms and XI National seed seminar on Quality seed enhance Agriculture profitability. Mr.Nameer.P.O., Asst. Professor attended Work shop on the conservation, Assessment and management plan for the primates of S.Asia. Mr..Anoop. E.V. and Mr.Animon.M.M. Asst. Professors attended 14 th Kerala Science Congress, National Workshop on Policy and Legal Issues in Cultivation and Utilization of Bamboo. Dr.B.Ambika Varma, attended integrated pest management training and T.K.Kunhamu Asst. Prof. attended Annual group meeting of AICRIP on Agro Forestry.

**Academic programmes**

Admission (No.of students as on 31/03/2002)

| Year of admission | M | F | Total | SC/ST | | | Foreign students | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | M | F | Total | M | F | Total | M | F |
| **U.G programme (on rolls)** | | | | | | | | | | | |
| 1998 | 13 | 1 | 14 | 1 | 0 | 1 | 0 | 0 | 0 | 13 | 1 |
| 1999 | 9 | 1 | 10 | 1 | 0 | 1 | 0 | 0 | 0 | 9 | 1 |
| 2000 | 10 | 4 | 14 | 1 | 0 | 1 | 0 | 0 | 0 | 10 | 4 |
| 2001 | 15 | 3 | 18 | 0 | 2 | 2 | 0 | 0 | 0 | 15 | 3 |
| **P.G. Programme (on rolls) (discipline wise)** | | | | | | | | | | | |
| 2000 | | | | | | | | | | | |
| Dept.of Silviculture and Agro- forestry | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Dept.of Tree Physiology and Breeding | 1 | 1 | 2 | 0 | | 0 | 0 | 0 | 0 | 1 | 1 |
| Dept.of Wildlife Sciences | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 2001 | | | | | | | | | | | |
| Dept.of Silviculture and Agro-forestry | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Dept.of Tree Physiology and Breeding | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 |
| Dept.of Wildlife Sciences | 1 | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |

**Study tours**

All India tour for UG students from 25 th October to 17 th November, 2001, South India study tour for 2nd B.Sc students, Study tour to Nilambur for 1st B.Sc students. Study tour to forest areas (Machad and Vadakkanchery) Thrissur forest division for 2nd B.Sc students.

## Other activities

**Students Union Activities**

The college union was inaugurated by Sri. Nagesh Prabhu IFS, Conservator of forests, Thrissur on 25-03-02.

The union has taken up tree planting programme and campus cleaning in connection with World Forestry day celebrations.

**N.S.S. activities**

Planting tree seedlings in the college campus on June 5, 2001 in connection with world environment day.

Planting and weeding programme in the campus in connection with Vanamahotsava on 8-7-01

Planting tree seedlings in panjal belt on the banks of Bharathapuzha on 17-8-01

Blood grouping camps on 11.1.02

Cleaning fire line at Machad forest range in collaboration with Forest Dept.

**Sports and games**

College team participated in all the intercollegiate tournaments and secured prizes for Table Tennis and Football

## Research programme

**On going EAP Projects**

Solid waste as a component of potting media for seedlings of Agroforestry tree species" (ICAR adhoc scheme)

Wood quality studies of Acacia provenances (Kerala Forest Dept. Project)

Human utilization on the forest of Western Ghat and effect on biodiversity'' (Kerala Forest Dept project)

Provenance evaluation of *Acacia mangium* Willd. (AICRP project)

Stand density manipulation and pruning strategies for *Acacia mangium* Willd.(AICRP project).

**Major research achievements**

Protocol for micropropagation of neem has been standardized.

Effect of waste materials like garbage and coir dust on growth and vigour of tree seedlings were standardized. Two weeks decomposed garbage was found the best potting media for most of the tree species.

Decomposition studies of leaf litter of mangium showed that entire litter decomposed completely with in 10 months.

In most of the leaf litters, potassium mineralized faster and calcium mineralized slowly. Deficiency symptoms of N,P,K,Ca,Mg and S were manifested on teak and ailanthus seedlings through seed culture experiments. The characteristic deficiency symptoms were leaf discolouration, necrosis, scorching and defoliation.

Faster height and diameter growth of teak was observed when intercropped with N-fixing trees such as leucaena in 50:50 ratio (one row of teak for every row of N-fixing tree)

*Ailanthus triphysa* at 2500 trees $ha^{-1}$ stocking level promoted inter cropped ginger yield till the trees are about five years of age on good sites.

In silvipastoral experiments, combinations involving casuarina, hybrid napier and guinea grass were more productive than other grass+tree combinations.

Galangal (*Kaempferia galanga* L.) performance under a solitary coconut canopy, six multistrata canopies and 'no over canopy' were similar implying little or no effect of the over canopy on its yield.

In terms of biomass production and carbon sequestration, *Acacia auriculiformis* and *Paraserianthes falcataria* outperformed other species, especially on poor sites.

Calorific values of bark and wood samples of 45 multipurpose tree species in the homegardens of Kerala and three locally popular fuel materials (coconut endocarp, dried coconut spathe and dehiscent rubber fruit pericarp) were profoundly variable. Heat of combustion for different tissue fractions decreased in the order: heartwood > sapwood > bark.

**Other extension activities**

Dr. Gopikumar, K. Associate Professor took part in the Pushpolsavam 2002 at Thrissur Municipal park from 19 th to 26 th January 2002.

Dr. Gopikumar, K Associate Professor participated as a resource person in the training on various aspects of Nursery technology and Horticulture for SC and ST youths at District Collectorate, Thrissur.

Dr. B. Mohankumar, Associate Professor attended as a resource person in the farmer's seminar organized by Malayala Manorama.

Mr. T. K. Kunhamu, Asst. Professor participated as a resource person in the forest conservation and fire protection awareness campaign organized by the KFD at various forest ranges in Thrissur forest division.

Mr.Nameer.P.O. delivered a lecture at Palakad on Nature conservation organized by Nehru Yuva kendra.

**List of publications**

**(a) Scientific articles:**


Adersh,M., Gopikumar,K. and George,J.J; (2001) Effect of Garbage and component of potting media on the growth attributes of teak seedlings *11th Swedeshi Science Congress* at KFRI 7-9 2001:

Divakara, B.N., Mohankumar.B Balachandran, P.V. and Kamalam, N.V. 2001. Bamboo hedgerow systems in Kerala, India: Root distribution and competition with trees for phosphorus. *Agroforestry systems*, 51(3): 189-200

Gopikumar,K.Hegde.R and Babu,L.C (2001) Decomposition and Nutrient release pattern of leaf litters of Mangium. *Int.J. Agroforestry* 3 (1).11-12.

Gopikumar,K; Mini Chandran,Babu.L.C. and Vijayakumar,N.K. (2001) Effect of Garbage and coir dust on establishment and growth of tree seedlings in the nursery. *In:14 th Kerala Science congress* held at Kochi from 29 –31st Jan, 2001.

Mohankumar.B, and Luckins C. Babu. 2002. Bamboo resources in the homegardens of Kerala. Presented at the Technical Seminar on Bamboo Development held at the Kerala Forest research Institute, Peechi, 680 653, Kerala. 13 May 2002.

Mohankumar.B,. 2000. *Ailanthus triphysa* in the homegardens of Kerala, India: Occurrence, basal area, average standing stock of wood and diameter structure. *Indian Journal of Agroforestry*, 2: 49-52

Mohankumar.B, and Divakara, B.N. 2001. Proximity, clump size and root distribution pattern in bamboo: A case study of *Bambusa arundinacea* (Retz.) Willd., Poaceae, in the Ultisols of Kerala, India. Journal of Bamboo and Rattan, 1(1): 43-58

Mohankumar, B. and Peter, K.V. 2001. Woody perennials in the farmlands of Kerala - policy and legal aspects. National Workshop on Policy and Legal Issues in Cultivation and Utilization of Bamboo, Rattan and Forest Trees in Private and Community Lands. 7-9 August 2001- Programme and Papers, pp 32-35. Kerala Forest Research Institute, Peechi, 680 653, Kerala.

Mohankumar.B, George, S.J. and Suresh, T.K. 2001. Fodder grass productivity and soil fertility changes under four grass+tree associations in Kerala, India. *Agroforestry systems*, 52 (2): 91-106.

Mohankumar.B, Thomas, J. and. Fisher, R. F. 2001. *Ailanthus triphysa* at different density and fertiliser levels in Kerala, India: tree growth, light transmittance and understorey ginger yield. *Agroforestry systems*, 52 (2): 133-144

Sudhakara, K (2001) Inventory and computerized herbarium of high plant in sholas of Munnar, Idukki district *In*: Shola forests of Kerala. Environment and Biodiversity (edits) K.K.N Nair; S.K.Khanduri and K.Balasubramanian. Kerala Forest Dept. and KFRI, Peechi.

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Vidyasagaran, K and Gopikumar K (2001). Phytosociological and litter dynamics studies in the selected shola forest of the Nilgiri hills of Kerala. *In:* Shola forests of Kerala. Environment and Biodiversity (Eds) K.K.N Nair; S.K.Khanduri and K.Balasubramanian. Kerala Forest Dept. and KFRI, Peechi.

Warrier, K.C.S.;Warrier, R.K and Vijayakumar, N.K (2002)In vitro difference in response between juvenile and adult tissues of Indian rosewood with respect to polyphenol interference. *In:* National symposium on Emerging in Modern biology at Department of Plant Biology and Biotechnology, Loyola, Chennai


**Radio talks**

Dr. B. Mohanakumar, Assoc. Professor conducted a radio talk on Agroforestry on 19-12-01 at Trichur.

**Finance**

| Head of a/c. | Provision for the year | Expenditure | Receipts |
|---|---|---|---|
| Non plan | 5563000 | 5371512 | - |
| Plan | 3289000 | 1036254 | 453439 |
| ICAR | 218500 | 217930 | - |
| Other EAPs | 2331000 | 1869395 | - |
| Total | 11401500 | 8495091 | 453439 |

# COLLEGE OF CO-OPERATION, BANKING & MANAGEMENT VELLANIKKARA

## Introduction

The Kerala Agricultural University Act (Section 5 of Act 33 of 1997) provides for imparting education in Co-operation along with different branches of study. Accordingly, the proposal for starting a new four-year degree programme in Co-operation and Banking was presented at the 21st meeting of the General Council held on 20 - 21 November 1980. The Programme was approved by the 22nd meeting of the General Council held on 30-01-1981 under the Faculty of Agriculture. The Government sanction for the Programme was received 1982.

## Mandate of the Institution

- To assist in meeting the rapidly growing needs of managerial manpower for formal and informal co-operatives, financial institutions, agri-business enterprises and other rural development organizations.
- To undertake research on organizational, managerial and operational problems of co-operatives, financial institutions, agri-business enterprises and other rural development organizations.
- To foster the entrepreneurial ability and to extend management and organizational skills to the rural commodity.
- To offer training for policy makers and administrators in the development departments, enterprises, organizations and institutions.

## A few memorable events of the Institution

Smt. Shaheena.P. Assistant Professor (Sr. Scale), Department of Development Economics, was invited to present a paper on 'Financial and Fiscal Issues of Decentralised Planning' in a Workshop in Johannesburg, organised by the Centre for Policy Studies, South Africa sponsored by Mac Arthur Foundation and Columbia University, U.S.A. 23 – 29 June 2001. She was one among the five member team representing India.

Kum.Ancy.C.Sunny, B.Sc.(C&B) student of the 1999 Admission attended the ICA-ROAP Regional Youth Seminar held by the International Co-operative Alliance (ICA) at Tokyo, Japan, as the nominee of the Forum for Co-operatives in Educational Institutions

## Study tours

All India Study Tour for 1996 Admission, 2-4-2001 to 24.4.2001, Dr.K.M. George, Assistant Professor (SS), Department of Rural Banking & Finance Management-Tour Officer.

All India Study Tour for 1997 Admission, 27-8-2001 to 16-9-2001, Dr.K.P.Mani, Associate Professor, Department of Development Economics – Tour Officer.

South India Study Tour for 1998 Admission, 21 – 30 June 2001

Shri.M.Mohanan, Assistant Professor (Sel.Gr.) Department of Rural Marketing Management – Tour Officer.

Shri.P.J.Boniface Asst.Professor, (Computer Science) – Accompanying Officer.

## Students Union Activities

- The valedictory function of the Students' Union 2000-2001 was conducted on 26th September 2001.
- An Inter-class Debate Competition, on 'Self-Reliant Co-operatives – A Necessity' was held on 29th October 2001 at the auspicious of the Speaker's Forum of the College.
- The College Union, Arts Club and Hostel Union of 2001-2002 were inaugurated on 16th November 2001 by Shri.E.Narayanan, Chairman, RUBCO, Shri.Ashtamoorthi, Malayalam Short Story Writer and Shri.A.V.Manilal, Manager, State Bank of Travancore, KAU Branch, respectively.
- The Inter-class Arts Festival of the College 'Manjeeram 2002' was conducted from 14th to 17th April 2002.
- The Quiz Club of the College held a Quiz competition on 11 January 2002 to select the team for representing the College in the Inter Collegiate Audio Visual Oral Quiz for Sr.Philomina Rolling Trophy at Vimala College, Trichur.

**Extra-curricular Activities**

The College debating team comprising of Kum.Misha.H.Bose and Shri.James Abraham of 1998 Admission represented the Kerala Agricultural University in the National Debating Contest on Co-operation held at New Delhi on 28th December 2001.

**N.S.S. Activities**

As part of the Anti-Tobacco Day on 31st May 2001, a talk was delivered by Dr.Sebastian Joseph M.D. on the harmful effects of tobacco. Pledge was taken by the volunteers not to resort to tobacco consumption.

A Special Camp was conducted at Thozhupadam, Panjal Grama Panchayat of Thrissur District from 9th August to 18th August 2001.

On September 24th 2001, the volunteers celebrated N.S.S Day and organized cultural programmes. Posters indicating the importance of N.S.S were displayed on the occasion.

On October 2nd 2001 Gandhi Jayanthi was celebrated.

On 21st November 2001 a Quiz competition on co-operation was organized to disseminate the spirit of co-operation.

**Highlights**

The study entitled "A comparative Analysis of the Performance of Kerala Based Banks was conducted with the following objectives.

(i) To analyse the performance of Kerala, based public, private and co-operative sector banks.

(ii) To compare the relative efficiency of these banks, and

(iii) To examine the role of these banks in agricultural lending.

The study was conducted in six of the 10 Kerala based banks using mainly secondary data. The study revealed that the Credit Deposit ratio has been declining for all the Kerala based banks except South Malabar Gramin Bank (SMGB). The Profit Margin of the Kerala based banks except for SMGB has been lower than the industry average. Only SMGB could achieve the internationally accepted criteria of having Net Interest Margin (NIM) of three percent and above. The performance of SMGB is commendable because inspite of being a bank set up to serve the rural areas, it has outperformed other conventional banks in many respects.

High profits though important do not essentially lead to increase in productivity. It has been observed that banks which have come to the forefront are basically agricultural financiers. Hence agricultural finance as such does not adversely affect performance as is generally believed.

**Papers Published**

1. Philip Thomas, 2001. Problems of Farmers in Kasaragod and Kannur District of Kerala, Malayala Manorama, 4 – 5 April.
2. Peter K.V., Mohandas.M., and Jose Joseph, 2001. Globalization of Agriculture, Current Science 80(12). 1481-82.

**Extension and Other Activities**

Faculty members have acted as resource persons to other Institutions/Departments and took class on 'Stress Management' for the Executives of Kozhikode Management Association and Orientation class to Presidents and Directors of District Co-operative Banks and Governing Body Members. They acted also as external examiners.

**Important visitors**

Prof. Howard Jones, Deputy Head, International and Rural Development Department of University of Reading, United Kingdom, visited the College on 17 August 2001. He delivered a lecture on 'Financial Services and Micro-Finance'.

The Accreditation Team from ICAR visited the College on 5 Feb 2002.

**Other details**

1. Served as Associate Professor in Management from 4 Sept. 2001 to 17 March 2002 at Beams International Educational Institute, Dubai, U.A.E. - on Leave Without Allowance – Dr.G.Veerakumaran.

2. Returning Officer of the Election of the Students' Union, 2001-2002 of the College of Co-operation, Banking & Management – Dr.E.V.K.Padmini, Election conducted on 31-07-2001.
3. Nominated by ICAR to the High Level Committee on Curricula and Equivalence attached to the Accreditation Board of ICAR for a further period of three years – Dr.M.Mohandas.
4. Member of the Task Force on Panchayat Raj Institutions, Co-operatives and Peoples' Organizations set up by the State Planning Board for the Tenth Plan – Dr.M.Mohandas.
5. Member of the Peer Review Team for Accreditation appointed by ICAR for the University of Agricultural Sciences, Dharward – Dr.M.Mohandas.
6. Convenor, WTO Cell, Kerala Agricultural University – Dr.M.Mohandas.
7. Member, Task Force on Spices, set up by WTO Commission at the State Level – Dr.M.Mohandas.

**Finance**

| Head of. a/c | Provision for the year | Expenditure | Receipts |
|---|---|---|---|
| Non plan | 68.17 | 67,60,034 | 3,81,509 |
| Plan | 29.19 | 22,07,192 | - |
| ICAR | - | - | - |
| Other EAPs | - | - | - |
| Total | 97.36 | 89,67,226 | 3,81,509 |

# FACULTY OF VETERINARY AND ANIMAL SCIENCES

## 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 Kerala Government but subsequently brought under the control of Department of Animal Husbandry. The post graduate programmes leading to MVSc. and Ph.D. degrees were started in 1962 and 1965 respectively. The College became a constituent unit of the Kerala Agricultural University in Februray 1972.

The College has associated with it a Livestock Farm, a Poultry Farm, a Pig Breeding Farm, a Goat Farm, a Dairy Technology Unit and Meat Technology Unit in the campus. Two Veterinary Hospitals, one at Mannuthy and another at Kokkalai and a Farm Clinic at ULF, Mannuthy are also attached to the college.

In addition to teaching, a number of research projects aided by the University and external agencies are being operated in the College. Importance was also given for the transfer of technology.

The following research stations - Livestock Research Station, Thiruvazhamkunnu and Cattle Breeding Farm, Thumburmuzhi are also attached to the college to facilitate research and training.

### Mandate of the institution

Teaching, Research and Extension and to provide manpower in the field of Veterinary & Animal Husbandry and also to help the farming community in respect of animal health, production and animal husbandry.

### Satellite Station

(1) L.R.S. Thiruvazhamkunnu

(2) Cattle Breeding Farm, Thumburmuzhi,

(3) Uty. Vety. Hospital, Kokkalai

(4) Vety. Hospital, Mannuthy

### Faculty improvement programme

**Scholarships/Awards to staff/Deputation of staff for higher studies**

| Name | Designation | Programme for which deputed | Period for deputation | Institution to which deputed |
|---|---|---|---|---|
| Dr. A.P Usha | Asst. Professor | Post Doctoral | 1 year | University of Roslin U.K |
| Dr. John Martin K.D | Asst. Professor | Ph.D | 1 year | Kerala Agricultural University |
| Dr. C Latha | Asst. Professor | Ph.D | 3 years | Veterinary College Mumbai |
| Dr. M Sunil | Asst. Professor | Ph.D | 3 years | U.S.A |

The scientists/teachers have attended program-mes like Samagra Mriga Raksha Camp, National Conference on strategies for safe food production, Molecular Diagnosis and epidemi-ology miology of animal pasteu-rellosis, IAVP symposium,Workshop on women empower-ment for NGOs, Comprehensive animal health camp, National symposium on perspective on animal experimentation in science and education in India, Short term training on Nucleic acid, Winter school on advances in the diagnosis and treatment of diseases of ruminants, 3rd National seminar on popularization of oil meal usage in compound cattle and poultry meals etc.

**Academic Programmes**

**Admission (No. of students as on 31/03/2002)**

| Year of Admission | Male | Female | Total | SC | | | ST | | | Foreign | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | M | F | Total | M | F | Total | | |
| **BVSc.** 1st year (2000 Admission) | 50 | 41 | 91 | 1 | 2 | 3 | 1 | - | 1 | - | 91 |
| 2nd year (1999 Admission) | 43 | 36 | 79 | 2 | 3 | 5 | 2 | 0 | 2 | - | 79 |
| 3rd year (1998 Admission) | 36 | 43 | 79 | 2 | 2 | 4 | - | - | - | - | 79 |
| 4th year (1997 Admission) | 64 | 46 | 110 | 3 | 6 | 9 | - | - | - | - | 110 |
| 5th year (1996 Admission) | 56 | 41 | 97 | 3 | 2 | 5 | 2 | 2 | 4 | - | 97 |
| 1995 Admission (Internship from Jan. 15th 2001) | 42 | 38 | 80 | 2 | 2 | 4 | - | - | - | - | 80 |
| | | | | | | | | | | Grand Total | 536 |
| **MVSc.** 2001 | 28 | 31 | 59 | 3 | 1 | 4 | | - | - | - | 59 |
| 2000 | 14 | 11 | 25 | 1 | - | 1 | - | - | - | - | 25 |
| 1999 | 1 | 2 | 3 | - | - | - | - | - | - | - | 3 |
| | | | | | | | | | | Grand Total | 87 |
| **Ph.D** 1998 Admission | - | 1 (part time) | 1 | - | - | - | - | - | - | - | 1 |
| 1999 Admission | 3 | 2 (part time) | 5 | - | - | - | - | - | - | - | 5 |
| 2000 Admission | 1 | 4 | 5 | - | - | - | - | - | - | - | 5 |
| 2001 Admission | 2 | - | 2 | - | - | - | - | - | - | - | 2 |

**Study Tour**

All India study tour of 1998 Batch B.V.Sc & AH students was conducted during September - October 2001. 87 students participated in the tour. South India tour was also conducted during August - September 2001. 97 students participated in the tour.

**N.S.S. Activities for the year**

1. Our NSS volunteers in asociation with the students union visited Akasa paravakal, an orphanage at Chennaipara near Peechi and ditributed food packets to the inmates and had entertainments and spent the day with the inmates on 7-7-01.

2. On 22-7-01, there was a camp at Punnathurkotta Elephant sanctuary and collected blood and faecal samples for investigation and conducted the tests and reported to the officer in charge.

3. A Samgara Mrigareksha camp was organised at Choondal grama Panchayat from 26-11-01 to 27-12-01. Seven animal health camps on 26/11, 27/11,8/12, 9/12,

11/12, 12/12 and 22/12. One farmers seminar on 27/12 were conducted.

4. Seven NSS volunteers attended Donkey Society health camp at Sabarimala from 20-11-01 to 7-1-02.

5. A district level residential camp MANAS was attended by three lady NSS volunteers at Sree Vyasa NSS College, Vadakkanchery from 8-2-2002 to 10-2 2002.

6. Blood was donated to many patients in the hospitals in and around Thrissur as and when required.

**Research highlights**

Mycotoxins even though present in small quantities in the feed, their combined effects produce synergistic effect. Combined effect of AFB and OA produced embryo mortality, reduced hatchability, developmental abnormalities and degenerative changes in the liver, kidney and lymphoid organs. The reactions were more severe in the combined toxicity compared to the individual toxic reactions.

The efficiency of Argyrophilic Nucleolar Organizer Region (AG NOR) count Test in the evaluation of bio materials assessed utilizing a reactive and a non-reactive materials. The reactive material showed an initial acute inflammatory response with mild fibrosis and collagen deposition which subsequently settled into a chronic form. Non reactive material elicited on acute inflammatory initially which settled into a mild chronic response mild fibrosis and less collagen. AGNOR count test could be reliably applied for biomaterial evaluation even at seven days duration and it formed a valuable adjunct to the routine method employed in the in vivo evaluation of biomaterials.

Clinical studies in dogs suggest that both the collagen sheets were well tolerated and accepted considering its normal alteration in physiological, hematological, biochemical and radiological observation. The study also proved the beneficial use of collagen sheets for construction of defects on hollow visceral organs and ensured better utilization of presently wasted animal and aquatic tissue which are very rich in collagen.

A study was undertaken to find the effect of natural and AI on reproductive performance of pigs and to assess the fertility and preservability of boar semen extended in BTS. It was observed that AI can be employed in pigs under commercial farming conditions for effective disease control and increased productivity.

Investigation was carried out to analyze the various ovarian factors that influence the type of oocyte recovered in experiments with *in vitro* embryo production, the mean of oocytes recovered by aspiration, puncturing and post aspiration slicing was 4.16, 3.67 and 3.13 respectively. It was also observed that the level of sodium, potassium, iron and copper in the follicle of various states of estrous cycle in the ovaries was found to vary between stages. The method of recovery and quality of oocyte recovered had an interactive and significant effect on oocyte recovery rate.

Investigation was carried out to evaluate the efficiency of PG-PMSG combi-nation at different dose levels to enhance fertility and prolificacy in malabari goats. The results showed that the double dose regiment of PG combined with PMSG at a dose level of 200IU can be used for enhancing litter size without affecting the reproductive efficiency of nulliparous malabari does.

It was observed that peripubertal goats could be successfully superovulated using FSH of ovine and porcine origin. A high incidence of premature regression of corpus luteum was observed in Malabari goats on surgical collection of embryos from uterus on days 6 to 8 after breeding which collected from animals showing premature regression of corpus luteum on progesterone support. Transfer of two good quality embryos resulted in the birth of two female kids.

Viability of fresh and frozen embryos was comparable in peripubertal andadult goats on in vivo and in vitro studies. The results revealed that both peripubertal and adult Malabari goats can be used successfully as donors for embryo transfer studies.

In the studies on molecular characteri-zation and adaptability studies of vechur cattles of coastal areas and dwarf cattle of high ranges of Kerala. One hundred vechur and dwarf animals are maintained as a part of conservation. A full-fledged molecular laboratory has been established. Studies on mean physiological parameters such as body temperature, pulse and respiration rate were completed DNA Polymorphic studies on Pro-lactine and Beta-lacto globulin were studied.

Under conservation and evaluation of Malabari goats, procedure for cytogenetics of Malabari goats is standardized. The use of RPMI 1640 medium with PHA as mitogen is found useful for karyological analysis. In situ hybridization of Malabari goat breed is being carried out.

Under field progeny testing scheme, four batches of high pedigreed bulls were sampled and sampling of one bull is going on. The milk fed progenies of the test bulls born in the farm sheds were superior to their contemporary by 400kg in the first location.

In the network project on Attappady Black goats, the survey was done in two wards and details are collected on the demographical and geographical distribution of the Attappady breed.

Under the project development of molecular genotyping techniques for the Diagnosis of genetic diseases in Dairy cattle – blood samples were collected from the animals maintained in the livestock research stations ULF Mannuthy, LRS Thiruvazhamkunnu and CBF Thumbormuzhy under the Kerala Agricultural University and DNA was isolated from a total number of 608 samples, including 11 semen samples. 388 samples consisting of 341 adult females and 47 calves were analyzed by PCR-RELP for B ovine Leukocyte Adhesion Deficiency and 338 samples including 37 samples from calves were analyzed for citrullinemia. For BLAD Restriction Digestion was carried out with TaqI enzyme. All the animals screened were having normal CD18 gene and no Homozygotes or Heterozygotes for BLAD could be detected. For citrullinemia, RFLP was carried out with the restriction enzymes Ava. II. Among 338 animals screened, one appears to be heterozygous for citrullinemia.

A feeding trial was conducted in cross bred female calves to study the effect of ionophore-monensin sodium on mineral bio-availability and growth. Twelve female cross bred calves of 5 to 6 months of age were divided into two groups of six each as uniformly as possible with regard to age and weight and maintained on a basal concentrate mixture with and without monensin at 25 ppm level and fresh green grass as roughage for a period of 12 weeks. Two digestion cum metabolism trials were conducted, one during the fifth week and the other at the twelfth week of experiment to estimate major as well as trace elements in monensin supplemented group. The study also indicates that monensin sodium supplemented at 25 ppm in concentrate mixture favours growth and feed efficiency as well as utilization of major and trace elements in calves.

An investigation was carried out to study the feasibility of wood ash and egg shell powder as calcium supplement in the rations of calves. Twelve female cross bred calves of 4 to 6 months of age were divided into 2 uniform groups and were maintained on a basal concentrate mixture and fresh green grass for a period of 12 weeks. Mineral mixture in-corporating 50% wood ash and and 50% egg shell powder was tried at a level of 2% in basal concentrate mixture in group I calves against a commercial mineral moisture at 2% level in the concentrate mixture in group II calves. Results of the study revealed higher growth rate, feed efficiency and percentage retention of various major as well as trace minerals in group I calves indicating that mineral rations containing wood ash and egg shell powder were better utilized by the calves compared to ration containing commercial mineral mixture and that wood ash and egg shell powder can be used as calcium supplements in calf rations.

Studies on the prevalence of coccidiosis in chicken at COVAS, Manuthy revealed that 48.4% of 550 coccidia positive viena was due to *E.tenella*. A precocious strain of *E.tenella* was also developed in the laboratory from the stabilized strain. The prepatent period of the precocious strain was 135hr. The oocyst morphology did not reveal any significant difference between the two strains. The precocious strain produced mild clinical signs than the stabilized strain. The precocious strain produced less mortality and showed a drop in oocyst production.

Seroprevalence of *Chlamydia psittaci* was assessed by passive haemagglutination and ELISA. Isolated three *C. psitttaci* strains from cases of

abortion and they were characterized by morphology, biology and immunological methods the isolates were propagated in chicken embryos and Mc coycell lines and growth characteristics were studied in detail and were compact with a reference strain. The protein profiling by SDS – PAGE revealed variation among the isolate. The restriction enzyme digestion analysis pattern showed variation among them. Plasmids were not present in any of the isolates. Standardized the PCR technique for technician of C. psittaci in clinical materials, tissue specimens. Topography of the chlamydia infected cells was studied by scanning EM. Limited experimental trials were carried out in developing killed yolk sac vaccine against chlamydial infections and immunogenicity in guinea pigs was assessed.

**Extension and other activities**

*Extension activities and services rendered to farmers.*

The staff members in various depts. have taken classes for farmers on different topics related to Animal Husbandry activities. Twenty five staff members participated in the Karshaka mela and Animal Husbandry camp at Choondal panchayat.

Sixty field units were established by supplying selected breeding animals from the Vechur Conservation Unit.

Breeding rabbits were supplied to farmers from this centre to encourage Rabbit farming . The necessary training on this line also extended from this centre.

In addition, the staff in the dept. of Animal reproduction participated in infertility camps, Kissan Melas and N.S.S.Camps conducted at various parts of the state.

An epidemiology van for conducting sex surveillance and monitoring work was commissioned during the period.

Scientists in the dept.of surgery attended surgical camp at Vandunishi in Palghat and Choondal in Thrissur on 10-10-01 & 22-12-01.

Technical advices for setting up of small scale milk processing plants were extended to various milk co-operative societies and other private entrepreneurs. Several farmers were given technical advises on preparation of milk products.

*Details of Autopsys:*

| | | |
|---|---|---|
| Large animal postmortem | - | 500 |
| Poultry postmortem | - | 5241 |
| Rabies Diagnosis | - | 346 |
| Histopathology | - | 1396 |
| Clinical Pathology | - | 168 |
| Feed analysis for aflatoxin | - | 150 |

**Important visitors**

* Dr. Kiran Singh, DDG (ICAR)
* A. Krishnappa, Hon. Minister, Govt. of Karnataka
* Tadesse ; Gutta, Ethiopia
* Dr. P.L. Gautham, National Director, NATP
* Smt. K.R. Gouriamma, Hon. Minister for Agriculture
* Dr. Home Gowda, Dean, University of Agri. Sciences, Bangalore
* Dr. Kalpana, Deputy Director of Animal Husbandry Department.
* Dr.S.P. Singh, Director PDC, Meerut.
* Dr. Joshna Fat% Dexing, Purdue University, Indiana, USA
* Dr. Aliera Colour Mc. Girr. Purdue University, Indiana, U.S.A.
* Smt. K.B. Valsala Kumari, Secretary to Agri, Govt. of Kerala

# COLLEGE OF VETERINARY AND ANIMAL SCIENCES POOKODE, WAYANAD

**Introduction**

The Office of the new Veterinary College at Pookot in Wayanad District under Kerala Agricultural University started functioning with the head quarters at Mannuthy with effect from 28-10-1998. As the infrastructural facilities are not completed at Pookode, the students of Ist BVSc&AH Course (1999 batch onwards) have been admitted and their courses are offered at the existing Veterinary College at Mannuthy for the time being. As and when the facilities at Pookode are completed, these students will be shifted to the new College at Pookot.

**Mandate of the Institution**

The mandate of the college is to impart Veterinary Education and to provide qualified Veterinary Personnel

A few memorable events of the Institution

| | | |
|---|---|---|
| 9-6-1999 | : | Took over 100 acres of land for the new College from the Revenue authorities at Pookode |
| 20-8-1999 | : | Started constructions of roads |
| 17-11-1999 | : | Admitted 35 students for Pookode College (1999 batch – Ist BVSc&AH) |
| 11-2-2000 | : | Laying of Foundation stone of Academic block and Hostel buildings |
| 29-3-2001 | : | Government of Kerala accorded sanction for the creation of Teaching and Non teaching posts for Pookode College. |

**New posts sanctioned/created/shifted:**

The University created 13 teaching positions for this college vide order No. GA/J1/31615/96 dated 23-8-2002 of Registrar and sanctioned to engage Teaching Assistants on daily wages.

**Faculty improvement programme**

**Seminar/Summer Institute/Symposia/Training Attended**

Dr.P.P.Balakrishnan, Special Officer attended ISSAR VII convention of National Seminar on "Fertility management in Farm Animals under adverse Agro-climatic conditions" during the period.

**Students Union activities:**

Actively participated along with the students of Mannuthy College.

**Finance**

| Head of Account | Budget provision 2001-02 | Expen-diture | Receipts |
|---|---|---|---|
| 278-26-4400-(PLAN) | 537.400 | 24,23,916 | 2,82,573 |

# COLLEGE OF DAIRY SCIENCE & TECHNOLOGY, MANNUTHY

**Introduction**

The College of Dairy Science and Technology started initially as a Degree Programme attached to College of Veterinary and Animal Sciences in 1993. Later a separate College was formed under the Faculty of Veterinary and Animal Science. Now the College is functioning at the ground floor of the Directorate of Extension utilising the available facilities of College of Veterinary and Animal Sciences and other units. The Government of Kerala has already decided to relocate the College from Mannuthy campus to Idukki district. The land available at KLD Board farm at Kolahalamedu has already been transferred to University for the same.

*Academic Programmes*

1. Offering degree programme – B.Tech (D.SC. & Tech)
2. Offering P.G. Diploma programme
3. Extending academic and research support to intra and inter faculties of Kerala Agricultural University

*Research and Development*

1. Milk production augmentation activities
2. Fodder research and development of low cost feed for milch animals
3. Utilisation of Agro based products for value addition in dairy products
4. Development of dairy products incorporating dairy bye products (Whey)
5. Total quality management in the dairy sector (including quality control, quality improvement and quality assurance of various dairy products)
6. Fabrication of low cost dairy equipment as well as equipment meant for the preparation of indigenous milk products
7. Utilisation of non-conventional energy sources in the field of dairying

*Extension*

1. Offering training programmes to different categories of people in dairy husbandry and dairy processing
2. Consultancy services for the establishment of dairy farms and plants
3. Organisation of seminars and exhibitions in the field of dairy production and processing
4. Arranging Television/Radio programmes and publishing popular articles in the field of dairying
5. Participation in peoples programme activities

**A few memorable events of the institution**

The foundation stone for the College of Dairy Science & Technology was laid on 27th January 2001 by Sri Krishnan Kaniyamparambil, Hon. Minister for Agriculture. The function was presided by Sri C.A. Kurien, Hon. Deputy Speaker and it turned out to be a grand success with a huge audience.

**Academic Programmes**

Admission (No. of students as on 31.3.2002)

| Year of admission | M | F | Total | SC/ST | | | Foreign students | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | M | F | Total | M | F | Total | M | F |
| a(i) U.G. Programme (on rolls) | | | | | | | | | | | |
| 1998 | 7 | 17 | 24 | | | 3 | | | | | |
| 1999 | 8 | 20 | 28 | | | 2 | | | | | |
| 2000 | 7 | 12 | 19 | | | 2 | | | | | |
| 2001 | 9 | 11 | 20 | | | 1 | | | | | |

**Study tours**

| | | |
|---|---|---|
| 1998 batch | - | All India Tour |
| 1999 batch | - | South India Tour |
| 2000 batch | - | Course Tour |

**Students' Union activities**

All the activities are done along with the College of Veterinary and Animal Sciences, Mannuthy

**Research Programme**

ICAR ad hoc Scheme on 'Improvement of Nutritional Qualities of some selected Dairy Products using Wild Strains of Bifidobacteria'. Duration of the Scheme - From June 2000 to June 2003 (3 years)

*Further characterisation study*

Study of bile salt deconjugation, proteolysis, antibacterial activity, β galactosidase specific activity etc. was done on the isolated strains.

*Product preparation (on going study)*

Selected strains were incorporated into skimmed milk along with yoghurt cultures. Trials incorporating various natural fruits and products were also done. Preparation of suitable drink using the isolated strains is also being done.

*Scheme on 'Real Standard of Milk Marketed in Kerala'*

Duration of the scheme is from May 2001 to May 2003 (2 years) This project is to determine the quality of milk marketed in Kerala. As a beginning, milk samples from two districts (Thrissur and Ernakulam) are collected. Sample collection is effected through Health Inspectors. Samples are collected from booth, houses, dairies, societies and from tankers. Chemical as well as microbiological analysis of these samples are conducted. So far, we have analysed around 5200 samples from two districts.

**Important visitors**

Dr. Alexander, IPS, the Inspector General of Police (Training) and Director of Police Academy (Thrissur) was the important visitor during 2001-2002.

**Finance**

| Head of account | Provision for the year (Rs. lakhs) | Expenditure Rs. | Station receipts Rs. |
|---|---|---|---|
| Non-Plan | - | - | - |
| Plan | 28.770 | 21,14,988 | 2,92,526 |
| ICAR | 3.938 | 3,27,391 | |
| Other EAPs | 3.879 | 2,94,493 | |
| Revolving Fund | - | - | - |

# FACULTY OF FISHERIES

## COLLEGE OF FISHERIES, PANANGAD, KOCHI – 682 506

**Introduction**

The College of Fisheries, Panangad is the only institution in the State offering professional degree programme in Fisheries. It was established in the year 1979 under the Kerala Agricultural University. The college is located in Panangad in a campus having a total area of 30 hectares.

**Mandate of the Institution**

The mandate of the College of Fisheries, is the development of Fisheries Sector of the State and the country. The college forms the nucleus of the establishment of the Fisheries University in the State to undertake and co-ordinate active programmes in teaching, research and extension in Fisheries.

**Satellite stations**

Fisheries Research Station, Puduveypu, Kochi.

**A few memorable events of the institution**

During the reporting year, 21 B.F.Sc. students appeared for ICAR JRF exams, of which 20 passed securing 6 ranks out of the first 10 ranks.

**Seminars/summer institute/symposia/trainings attended**

The Scientists attended 187 trainings, 2 workshops and 1 seminar.

**Academic Programmes**

**Admission (No. of students as on 31.03.2002)**

| Year of admission | M | F | Total | SC/ST | | | Foreign Students | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | M | F | Total | M | F | Total | M | F |
| a. (i) U.G.Programme ( on rolls) | | | | | | | | | | | |
| 1996 | 1 1 | 2 | — | 1 | 1 | | | | | | |
| 1997 | 10 | 25 | 35 | 3 | 2 | 5 | | | | | |
| 1998 | 24 | 18 | 42 | 5 | 1 | 6 | | | | | |
| 1999 | 24 | 25 | 49 | 3 | 2 | 5 | | | | | |
| 2000 | 19 | 25 | 44 | 3 | 2 | 5 | | | | | |
| 2001 | 12 | 31 | 43 | 3 | 1 | 4 | | | | | |
| a. (ii) P.G.Programme (on rolls) (discipline wise) | | | | | | | | | | | |
| 1999 | 2 2 | 4 | | | | | | | | | |
| 2000 | 2 1 | 3 | | | | | | | | | |
| 2001 | 2 2 | 4 | | | | | | | | | |
| a. (iii) Ph.D programme (on rolls) (discipline wise) :Nil | | | | | | | | | | | |

**Study Tours**

South India study tours for 1998 batch and 1999 batch were conducted.

**Students Union activities – Important events**

- The college arts festival was conducted in the college seminar hall from 17th to 19th May, 2001.
- Valedictory function of the students union 2000-01 was held on 31st October, 2001. Mr.K.M.Roy the popular journalist was the Chief Guest.
- The students of this college participated in the essay writing competition held by Antharashtra Pustokotsava Samithi for 2001-2002. Ms. Rani.T.L. and Ms.Trincy Rose John of this college won the second and third places respectively.
- Our students conducted a cultural programme on 2.2.2002 as a part of All India Aquarium Show held at Ernakulam.
- College Arts Festival "Chamayam 2002" was conducted in this college from 20th to 23rd March, 2002. Sri.Kalamandalam Keshavan, the famous Kathakali and cini artist was the chief guest and he inaugurated the function on 20th March, 2002.

**N.S.S. Activities**

The NSS Unit, College of Fisheries, Panangad organized a special lecture on anti-terrorism on 21st May, 2001. Sri.K.P.Vijayan, eminent writer and journalist delivered the lecture in the seminar hall of the college, where all the staff and students were present.

The project, one student, one tree was implemented in the Fisheries College, Panangad in August, 2001.

Independence day and Teacher's day were celebrated in the college by the NSS unit.

A Jaundice detection and health camp aimed at preventing the spread of Jaundice was conducted at the college on 19th November, 2001.

An Eye Care and Cataract Detection camp was organized by the NSS unit in the college on 23rd November, 2001.

The Communal Harmony week and the Flag Day was observed in the college in a befitting manner.

The Flag Day was observed in a symbolic and appropriate manner on 23rd November, 2001.

The Republic day was celebrated in the college, with a number of programmes, as usual.

Blood grouping camps and Blood donation are also a regular feature of the NSS activities

**Sports and Games**

College team participated in the KAU Inter-Collegiate Shuttle Badminton (M & W) Tournament held at College of Veterinary & Animal Sciences, Mannuthy from 26.7.2001 to 28.7.2001.

Mini T.Jose and Saritha.K.V. of B.F.Sc. students selected to the KAU Team participated in 3rd All India Inter-Agricultural University Sports and Games Meet held at R.A.U., Bickaneer. Mini. T.Jose declared the Individual Champion (Women) by securing First Place in Shot-put and Second Place in Discus Throw.

## Research Programme

**Major research achievements**

***Department of Aquaculture***

An ecofriendly fish feed with a 30% protein diet incorporating soya, fish meal, prawn shell, gingelly cake and coconut cake was developed and showed better performance.

Studies on brackish water fish culture showed that it is feasible to utilize low saline brackishwater area for carp culture, so as to enhance the fish production from these areas.

***Department of Fishery Biology***

Under NATP Project on "Germplasm inventory, evaluation and gene banking of freshwater fishes", the breeding techniques were developed for three species viz. *Gara mullya, Pristolepis marginata* and *Puntius melanostigma*

***Department of Fishery Hydrography***

The ICAR adhoc project "Studies on mixing and circulation and its impact on productivity of Panangad region of Vembanad Lake" is going on.

**Department of Processing Technology**

The NATP project "Production of bioactive substances from squid and cuttle fish processing waste" is going on. Various visceral organs from different species of these organisms have been extracted and the analysis showed that Accessory Nidamental Gland (ANG) extracts from cuttle fish have antibacterial activity.

Under NATP scheme entitled "Consumer amenable technology upgradation for prevention of losses to dried, cured and smoked fish", salt irradiation was standardized and it is found that 1000/1100 K. rad of gama radiation was sufficient to destroy all holophiles.

**Research Papers:**

Anna Mercy,T., 2001: Breeding and optimum rearing conditions for successful propagation of Ornamental fish species *Captive breeding for aquaculture and fish germplasm conservation.* NBFGR – NATP Publication No.3, Lucknow.

Anna Mercy,T.V., Raju Thomas, K. and Eapen Jacob, 2001: Potential ornamental fishes of Western Ghats. *Proc. National Sem. Riverine and Reservoir Fisheries – Challenges and Strategies,* CIFT, Cochin 151-161.

Anna Mercy,T.V., Raju Thomas, K. and Eapen Jacob, 2001: Food and feeding habits of *Puntius melanampyx* (Day) – an endemic ornamental fish of the Western Ghats. *Ibid.* 172-175.

Anna Mercy,T.V., Eapen Jacob and Raju Thomas, K. 2001: Studies on breeding of *Danio malabaricus*, a potential indigenous ornamental fish of the Western Ghats – in captive conditions. Ibid 242-244.

Varma.K.K., 2002: Development of programmed learning material on the topic ocean waves. *89th Indian Science Congress, 3-7 January,* 2002 Abstract.

Varma.K.K., 2002: Refraction along shore line near Kochi, Kerala. *J. Tropical* Agriculture (In Press).

Varma.K.K., Cheriyan,C.J., Mrithunjayan,P.S., Raman,N.N. and Prabha Joseph, 2002: Spectral characteristics of temperature and salinity fluctuations, in Vembanad Lake. An estuary in South India *Earth System Monitor* NOAA, USA (In Press).

Suseela Jose, Ramachandran Nair,K.G., Mathew,P.T., Jose Stephen and Madhavan,P., 2000: Modified extensive culture of black tiger shrimp *Penaeus monodon* using an indigenous feed. *J. Fish. Tech.* (under publication) CIFT, Kochi.

Nambudiri.D.D., Sajan George, Bright Singh,I.S. and Sherief,P.M., 2001: Influence of storage conditions on the survival period of clam. *Meterix casta. J. Food Sci. Technol* 38 (4) 379-380

**Extension and other activities**

This college participated in the All India Aquarium Show held at Cochin during the period from 28th January to 4th February, 2002. The trophy for the best educational stall was awarded to this college.

As part of the training on shrimp hatchery production organized by MPEDA, the scientists from College of Fisheries conducted demonstration cum lecture programme.

Technical guidances were given to both freshwater and brackishwater farmers who came to the college for advises with regard to fish farming.

**Important visitors**

Dr.M.N.Kutty, FAO Expert and former Dean, College of Fisheries, Tuticorin visited the college on 25th January, 2002 to deliver the "Sri. Devidas Menon Endowment Lecture".

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 236.205 | 17,848,853 | 689,015 |
| Plan | 79.850 | 1,522,466 | |
| ICAR | 5.760 | 260,139 | |
| Other EAPs | 0.250 | 3,430 | |
| Revolving Fund | | | |
| Total | | 19,634,888 | |

# FACULTY OF AGRL. ENGINEERING & TECHNOLOGY

## KELAPPAJI COLLEGE OF AGRICULTURAL ENGINEERING AND 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 which was established in July 1963. The Institute was taken over by the KAU on 12th December 1975, the Institute 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 Agrl. Engg. & Technology on 2nd October, 1985 and the Institute was upgraded and renamed as 'Kelappaji College of Agrl. Engg. & Technology'

***Mandate of this Institution*:**

To impart education at UG & PG level in the faculty of Agricultural Engineering to conduct Research in the various discipline of Agricultural Engineering and to provide Extension support to Department and farms.

**Faculty Improvement Programme:**

**Scholarship awarded to staff/deputation of staff for higher studies**

Smt. P. Susheela, Smt. Mary Regina, F, Sri.E.K.Kurien, Sri. Jayan P.R. Asst. Professors were deputed to TNAU. Coimbatore and Dr. K. A. Bindu to KAU for undergoing Ph.D. Programme.

**Seminar/Summer Institutes/Symposia/Trainings attended:**

Dr. K. John Thomas, Dean, Sri. Prince. M.V. Sri. Alexander Seth, Smt. D. Sasikala,. Asst. Professors Dr. Sathyajith Mathew, Smt. Shyla Joseph, Smt. Geetha Susan Philip, Dr. V.R. Ramachandran, Sri. Abdul Hakkim, Dr. Santha Mary Mathew and Dr. V. Ganesan, Assoc. Professors attended programmes like ICAR Sub Committee meetings, ICAR Regional Committee meeting, Summer School on contamination of land by waste disposal and its remedial technologies etc.

**Academic Programme**

Admission (No. of students as on 31-3-2002)

| Year of admission | M | F | Total | SC/ST | | | Foreign Students | | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | M | F | Total | M | F | Total | M | F |
| a(i) U.G Programme (on rolls) B.Tech. (Ag.Engg.) | | | | | | | | | | | |
| 1997 | 7 | 13 | 20 | 1 | 2 | 3 | - | - | - | 7 | 13 |
| 1998 | 9 | 15 | 24 | - | 2 | 2 | - | - | - | 9 | 15 |
| 1999 | 12 | 15 | 27 | 2 | - | 2 | - | - | - | 12 | 15 |
| 2000 | 7 | 20 | 27 | - | 3 | 3 | - | - | - | 7 | 20 |
| 2001 | 11 | 11 | 22 | - | 1 | 1 | - | - | - | 11 | 11 |
| a(ii) P.G Programme (on rolls) (discipline-wise) M.Tech. (Ag.Engg.) | | | | | | | | | | | |
| 2000 (Soil and Water) | 1 | - | 1 | - | - | - | - | - | - | 1 | - |
| 2001 (FPM) | 1 | - | 1 | 1 | - | 1 | - | - | - | 1 | - |
| a(iii) Ph.D Programme (on rolls) (discipline-wise) | | | | | | | | | | | |
| | - | - | - | - | - | - | - | - | - | - | - |

**Study tours conducted**

The All Kerala Study Tour of the B.Tech. (Ag.Engg.) students of 1998 Admn. was conducted from 15-12-2001 to 23-12-2001.

**Students' Union Activities:**

The students Union actively participated in the campus-cleaning programme on 2nd October, 2001. The students Union with the co-operation of Sarvodaya Youth Committee organized "Kelappaji Remembrance Day''. Several veteran Gandhians were honoured. The literary club of the Students Union brought out a new campus bi-monthly on 20th September,2001.

**NSS Activities:**

The programmes like orientation programme, campus cleaning programme and blood group testing camp were conducted under NSS unit of this college from 1.4.2001 to 31.12.2001.

**Sports and Games**

College team has participated in the KAU Inter collegiate tournaments and Table Tennis (women) Team won the Championship. College team has participated in the Malappuram district championships in Table Tennis and Athletics and Table Tennis (women) team won the championship and women team won Silver Medal in Athletics

**Other Activities:**

Dean Dr. John Thomas continued as Director (Education & Research) of Indian Society of Agrl. Engineers. Dr. John Thomas served as a member of QRT of CSSRI, Karnal.

## Research Programmes:

**Major Research Highlights**

**AICRP on FIM**

Demonstration of Farm Machinery like paddy transplanter, reaper etc. was conducted at Farmers fields to evaluate the performance. Modification of various farm machinery was done. Seminar classes were given at Tavanur, Farooke, Malampuzha and Mannuthy to farmers, Agricultural Officers and Agricultural Assistants on farm mechanization. Research on rice transplanter, rice harvester and thresher are done.

**Plasticulture Development Centre**

Drip Irrigation with mulching in arecanut, raising of orchids and anthuriums in low cost green House, propagation studies on allspice and other plants including ornamental plants, poly house cultivation of various cut flowers like china aster, gerbera etc., polyhouse as a drying structure, rain shelter cultivation of vegetables, drip irrigation with plastic mulch in brinjal, effect of mulch on soil nutrient content and microbial activity in vegetables, plastic mulching experiment in cashew, standardization of spacing for tomato in rain shelter and setting up of demonstration plots in the farm are the research works done during the report period.

**Extension Activities:**

Farmers and students from different organizations visited the instructional farm of this college during the report period.

**Important Visitors**

| Name | Organizational affiliation | Date | Purpose of visit |
|---|---|---|---|
| Prof. John Abeyeskara, | Professor of Industrial Ergonomics, Lulea University, Sweden | 14.12.2001 | Seminar on Ergonomics and Safety in Agriculture |
| Prof. K.R. Swaminathan | T.N.A.U., Coimbatore | 14.12.2001 | Seminar on Ergonomics and Safety in Agriculture |
| Dr. P. Das | ICAR | 14.12.2001 | Seminar on Ergonomics and Safety in Agriculture |
| ICAR Accreditation Team | ICAR | 4-2-2002 to 5-2-2002 | Accreditation |

**Finance**

| Head of A/c | Provision for the year in lakhs | Expenditure in Rs. | Station Receipts in Rs. |
|---|---|---|---|
| Non Plan | 170.750 | 1,40,48,798 | 9,73,602 |
| Plan | 39.90 | 39,68,746 | Nil |
| ICAR | 27.151 | 26,65,777 | Nil |
| Other EAPs | 6.2 | 5,35,374 | Nil |
| Revolving Fund | | 1,86,899 | 1,16,583 |

# KAU HIGH SCHOOL, VELLANIKKARA

## Introduction

School started in 1981. There are classes from I to X Malayalam & English Medium. Besides, there is a creche for children below three years and Nursery sections LKG and UKG. It is a mixed school.

## Academic Progress

*SSLC Examination March 2002*

| | | |
|---|---|---|
| Students attended | : | 79 |
| Passed | : | 78 |
| Distinction | : | 12 |
| First class | : | 40 |
| Second class | : | 12 |
| Third class | : | 14 |
| Failed | : | 01 |
| Percentage of result | : | 99 |

## Extra Curricular Activities

*Scout Rashtrapathi Award Winners :*

Abhilash Krishnan, Nipunraj O.S., Sreejith H. Das, and Master Abhilash participated in the Special National Integration camp held at Delhi from 3rd October to 12th October 2001.

## Science congress

Projects of Harikrishnan R., Achu Ramakrishnan, Soumya Nandan. and Riyas P.M. were selected to National Level Science Congress at Poone. The above children and the guide teacher Smt. Najeema Unnikkammu attended the national children's science congress and got participation certificate.

CHAPTER III

# RESEARCH

## FACULTY OF AGRICULTURE

### SOUTHERN ZONE

### NARP (SOUTHERN REGION), VELLAYANI

**Introduction**

The NARP (SR) Headquarters is presently housed at College of Agriculture, Vellayani. The Southern Region comprises of the districts of Thiruvananthapuram, Kollam, Alappuzha, Kottayam and Pathanamthitta excepting the problem areas of Alappuzha and Kottayam districts. The NARP (Southern Region), Vellayani is headed by the Associate Director of Research.

**Mandate of the unit :**

The mandate of the station is to undertake research on crops for partial shade conditions and export oriented vegetables and cutflower production.

**Lead station**

NARP (Southern Region), College of Agriculture, Vellayani

**Satellite stations**

1. CSRC, Karamana
2. CRS, Balaramapuram
3. FSRS, Sadanandapuram
4. KVK, Sadanandapuram
5. SCRS, Konni

**Faculty improvement programme :**
**Scholarship awarded to staff/deputation of staff for higher studies**

Sri. K.D. Prathapan, Assistant Professor (Agricultural Entomology) was deputed for Ph.D. Programme in University of Agricultural Sciences, Bangalore.

**Seminars/summer institute/symposia/trainings attended**

The Scientists took part in programmes like National Honey-fest 2002, Sixth Asian apicultural association international conference & world apiexo-2002, Group Training on pesticide residue analysis, X Annual Workshop on Pesticide Residues, 14th Kerala Science Congress, 2nd National symposium on integrated pest management on horticultural crops and 12th biennial group meeting of AICRP (Nematode) etc.

**Academic programmes**

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

**Major research achievements**

**Food science and nutrition**

Developed products were demonstrated among unemployed farm women and their preferences were scored through suitable technique. Collected data were statistically analysed. A recipe book on sweet potato based products was printed for publication.

**Beneficial microorganisms**

**Mushroom**

Following nine fresh isolates of edible native mushrooms were made by natural collection:

1. Pleurotus eous - One Isolate
2. P. petaloides - Two Isolates
3. P. squarrossulus - One Isolate
4. Calocybe spp. - Three Isolates
5. Volvariella spp. - Two Isolates

Four cultures were deposited in the National Culture Bank at Solan for which accession numbers were received.

It was found that chemical pasteurization of the substrate using 75 ppm carbendazim and 500 ppm formalin is the best method of substrate pasteurization for pleurotus cultivation with respect to minimum incidence of competitor moulds. Steam pasteurization has supported the maximum sporocarp yield. Among the food supplements tested, neem cake was found to be the best in enhancing sporocarp yield. The soyabean meal as food supplement has attracted the maximum pest incidence in pleurotus beds. Paddy straw substrate supplemented with rice bran recorded maximum yield in the case of Calocybe indica. It was proved that *Auricularia* sp. can be successfully cultivated using paddy straw as the substrate in Kerala.

## Honey bee

Selective breeding of *Apis cerana indica* resistant/ tolerant to TSBV in Kerala

Out of the 24 colonies procurred, six colonies were surviving without TSBV infection and in good condition till July, 2000. These colonies were divided successfully during July, 2000. Out of the above 12 colonies, three colonies survived very well.

### Flora identification

*Cuphea ignea* serves as a minor source of nectar during the dearth season and thus helps to reduce the length of lean season.

*Apis cerana* forages more on tamarind than *Apis mellifera*. Tamarind provides nectar to bees during May to June which is the beginning of dearth season to honey bees in Kerala. After the honey flow period from rubber, bee keepers can migrate the bee colonies to the tamarind plantations during this period and thus can reduce the lean season.

Beekeepers can collect coffee honey during March to May by migrating bee colonies to coffee plantations in different parts of Kerala.

### Incidence of pests and diseases

a) Monomorium destructor (formicidae: hymenoptera)

The red ants are seen waling through the ground. The foraging bees were caught from the ground. The ant produces some secretion which immobilizes the bees. The immobilized bees were killed by a number of ants congregating around it.

b) Varroa jacobsoni

The incidence of this mite in the *Apis mellifera* colonies noticed during the month of May, 2001. Incidence of *Varroa jacobsoni* is reported for the first time from Kerala. The colonies suffered severe infestation. The formic acid treatment resulted resurgence of the mite, varroa causing loss to colonies.

### Hiving of feral colonies of stingless bees to find out suitable hives

The colonies were found establishing with the following activities. The worker bees constructed pillars of wax and connected brood cells intact with the hive walls. The cells damaged during colony transfer were seen repaired. Dead larvae and pupae were seen removed from the cells and from the hive. New brood cells were constructed and queen laid eggs in it. A few honey and pollen posts were also constructed by the bees. The experiment for recording brood development is continuing.

### Identification of stingless bee flora in Kerala

40 plants could be identified as stingless bee flora in Kerala.

## Plant protection

### Nematode

Demonstration trial for the integrated nematode management in rice revealed that nursery bed treatment of carbofuran @ 0.5 g ai/$m^2$ is effective.

Screening varieties/lines for resistance against rootknot nematode revealed that the bhindi varieties tcr – 770, ec –169404, tcr – 937, k – 117306, k – 198370 and k – 17297 were resistant to *Meloidogyne incognita*.

The studies for establishing the potential of biocontrol agents, nursery application of *Glomus fasciculatum* (200 spores/g) protected the seedlings and improved the yield and the effect was statistically on par with carbofuran. In another trial, *Pseudomonas fluorescens* 20 g/$m^2$ + carbofuran 1.5 g ai/$m^2$ nursery treatment improved the yield of brinjal to a tune of 61 per cent.

Effect of trap cropping in the management of root knot nematode in vegetables revealed that there was substantial reduction in nematode population in soil, when resistant variety of sweet potato Sreebhadra was planted in between bhindi and brinjal.

Integrated management strategy involving soil solarisation and application of plant materials revealed that solarisation + neem leaves and solarisation + ipomea leaves were statistically on par and equally effective as solarisation + carbofuran treatment in improving the yield.

Demonstration trial for the management of nematode complex in banana revealed that paring + carbofuran and paring + neem cake were effective and hot water treatment had no added advantage along with paring and carbofuran.

### Spices

The highest yield of 14.27 t $ha^{-1}$ of fresh ginger, highest net return of Rs.87,817 $ha^{-1}$ and the highest b:c ratio of 2.05 was recorded with treatment $t_8$ ($N_{200}$ $P_{100}$ $K_{250}$ $S_{100}$).

### Crop improvement

The proposal for notification and release of the grain cowpea variety, Shubhra by central sub committee on variety release was sent to the Chairman, State seed committee for onward transmission.

The high yielding genotypes of chilli ie., Jwalamukhi, Kottikulam local, Malappuram local, Koothali local and Pollakkada local are leaf curl tolerant types, Haripuram local, Alampady local-1 and Neyyattinkara local could be used as parents in a crop improvement programme to evolve high yielding and disease tolerant varieties.

The pre-release culture of bhindi viz. Cul.18 was the best yielder with no significant incidence of yellow vein mosaic disease.

The bhindi hybrids $p_1$ x $p_4$ (15 tonnes/ha) $P_1$x $P_6$, $P_2$x $P_3$, $P_3$x $P_5$, $P_2$x $P_1$ and $P_4$x $P_1$ were significantly superior to the check variety Kiran (5.80 tons/ha) based on the pooled analysis of the data from three trials.

### Plant protection

The pathogen causing anthracnose of black pepper was identified as *Colletotrichum gloeosporioides*. The pathogen survived in the crop debris in the soil for 90 days where as under lab conditions, in the absence of the host, it survived upto 150 days. Among the different pepper phyllosphere fungi isolated, the most frequently isolated one was *Aspergillus niger*. Several fungi were isolated from the pepper rhizosphere. The most frequently isolated fungi were *Aspergillus* sp., *Penicillium* sp. and *Trichoderma* sp. The fungi which emerged as potential antagonists of *C. gloeosporioides*. caused a clear zone of inhibition in the dual culture. This includes two isolates of *Trichoderma harzianum (t1)* from Balaramapuram and (t 2) from Vellayani Pepper Phyllospheres. Two isolates of Aspergillus, *A. niger* (a1) from Kayamkulam and (a2) from peringammala pepper plantations both from the phyllospheres were found to be potent antagonists to *C. gloeosporioides*. These antagonists caused excessive granulation, vaculation and disintegration of the host hyphae. *T. harzianum* coiled around and penetrated the host hyphae leading to disintegration and death of the pathogen hyphae.

A combination of soil application and foliar spray was used for the delivery of the formulation of *A. niger* and *T. harzianum* for the management of anthracnose of black pepper. Soil application at 10 g per kg of potting mixture followed by one percent foliar spray of the talc based formulation of the antagonists at 15 days intervals twice gave good control of the disease.

### Pesticide residue

Results of the analysis of residues in surface and underground water samples revealed that two samples each of surface and underground source collected during the month of March and December, 2001 contained traces of gamma HCH.

The results of monitoring of pesticide residues in farm gate samples of banana and market samples of grapes did not show any residues. Market samples of mango contained mancozeb residues with an average of 0.15 to 0.25 ppm.

The results of the estimation of pesticide residues in milk indicated the contamination of alpha and beta isomers of HCH in six samples with a range of 0.007 to 0.09 ppm while delta HCH in only two samples at 0.003 to 0.009 ppm level.

The commonly used sea fishes like mackerel, salmon etc. were monitored over a period of 12 months for the presence of pesticide residues. None of the samples showed presence of pesticides.

The results of the monitoring of pesticide residues in five samples of honey collected from the apiaries in Thiruvananthapuram district indicated no residues in them.

Analysis of four samples of sauce revealed that none of the samples contained insecticide residues.

Studies on dissipation of triazophos in coconut palms treated either by root feeding or spraying with triazophos (hostathion 40EC) showed that the residues did not persist in tender coconut water, tender coconut pulp, coconut meat or in coconut water beyond 15th day after treatment.

Studies on translocation of carbosulfan in coconut palms treated by root feeding with marshal 20 EC showed that residues did not persist in tender coconut water.

Plant and environmental samples were collected from endosulfan aerial sprayed cashew plantation of Kasargod during February, 2001 and August 2001. The results indicated that of the five samples of soil collected during February, 2001, endosulfan residues were detected in three samples with a range 0.025to 0.4 ppm. Of these, beta endosulfan was detected in two samples (0.11 to 0.224 ppm) while alpha endosulfan in three samples with a range of 0.025 to 0.29 ppm. Among the four samples of leaf (cashew 3 nos. and betel vine 1 no.) analysed, residues of alpha endosulfan was below detectable level in all the samples while beta endosulfan was detected in cashew leaves with a range of 0.507 to 0.858 ppm. Of the total five samples of surface and underground water samples, none showed the residues of endosulfan.

## Agricultural meteorology

Weekly agro-advisory bulletins were 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.

## Fodder crops

Ten accessions of cowpea and 31 accessions of bajra (2000 seeds each) were submitted to NBPGR for i.c.no. during 2001-02 along with passport information for guinea grass, napier grass, cowpea, bajra and hybrid napier.

In fodder cowpea, new crosses were made. From the 40 crosses made during 2000-2001, 18 crosses were selected and evaluated during kharif 2001. The cross, IFC 8401 x N311 recorded the maximum green fodder yield (54.0 t/ha) followed by EC 4216 x UPC 953 (51.4 t/ha). Based on $F_1$ evaluation, four superior crosses were selected and evaluated in rabi 2001.

## Extension and other activities

Dr. B. Balakrishnan, Associate Professor, Plant Pathology attended the 3rd Indian Mushroom conference and the VIIIth biennial meeting of the AICRP conducted at T.N.A.U., Coimbatore during 6 to 9 March 2002.

Dr. M. S. Sheela, Associate Professor, Agricultural Entomology conducted five front line demonstration trials. Diagnostic services were undertaken.

Dr. S. Chellammal, Associate Professor, Home Science demonstrated sweet potato based products among unemployed farm women at Kunnathukal Panchayat of Thiruvananthapuram district.

Dr. S. Devanesan, Associate Professor, Agricultural Entomology conducted a two day training programme on "Beekeeping with Italian Bees".

## Publications

Dr. S. Chellammal, Associate Professor, Home science presented a paper on "Storage behaviour of sweet potato wine" at 14th Kerala Science Congress, Kochi.

Dr. M. Meera Bai, Associate Professor, Agronomy presented a paper "Organic nutrition in the bittergourd" on the 11th Swadeshi Science Congress at Peechi, Thrissur on November 2001.

B. Rajani, P. Manju, P. Manikantan Nair and P. Saraswathi. 2001. Combining ability in okra *(Abelmoschus esculentus l.)*. J. Trop. Agric. 39: 98-101.

P. Manju and R. Gopimony. 2001. Variability and genetic parameters of mother palm characters in coconut types. J. Trop. Agric. 39: 159-161.

Sophia John, P. Manju and I. Rajamony. 2001. Genetic analysis in $F_2$ generation of irradiated interspecific hybrids in okra (*Abelmoschus* spp.). J. Trop. Agric. 39: 167-169

Dr. Meerabai, Associate Professor, Agronomy delivered a radio talk on "Balanced nutrition of coconut palms" and "Steps to improve productivity of rice".

Dr. P. Santhakumari, Associate Professor, Plant Pathology delivered a talk in Question answer programmes of Karshaka vedi, All India Radio on 20-5-2001.

**Important Visitors**

Dr.S.N. Das (QRT Chairman, Director of Research, OUAT. Bhuvaneswar (Rtd.)

Dr.B.S. Yadav, Professor and Head of Nematology (Rtd) University of Agriculture Technology, Udaipur.

Dr.D.J. Patel, Dean, BA College of Agriculture, Anand, Gujarath

Dr.J.S. Gill, Professor and Head, Nematology(Rtd.), IARI, New Delhi.

Dr.R.V.Singh, Principal Scientist, AICRP(Nem) IARI, New Delhi.

**Finance**

| Head of a/c | Budget | Expenditure, Rs |
|---|---|---|
| Non Plan Total | 66,13,500 | 62,84,540 |
| Plan Total | 10,16,200 | 4,82,501 |
| OEAP Total | 1,17,33,900 | 96,64,731 |
| Station Total | 1,93,63,600 | 1,64,31,772 |

# INSTRUCTIONAL FARM
# COLLEGE OF AGRICUTURE, VELLAYANI

**Introduction**

The agricultural college farm is located 11 km south of Thiruvananthapuram City with the major objective of imparting field training to the undergraduate, post graduate and diploma students in agriculture. It was equipped with the infrastructure facilities needed for conducting agricultural research and extension education programmes for the whole state. Additionally, this farm serves as a major revenue earning station under the Kerala Agricultural University. Production and distribution of quality seeds and planting materials suited to the humid tropics satisfy the social commitment of this station.

**Mandate of the station**

- Providing basic instructional facilities for the UG and PG students in the agricultural field
- Providing research facilities for post graduate and other research programmes
- Production and distribution of quality seeds and planting materials
- Participation in exhibitions and state agricultural fairs

**Seeds and planting material production during 2001 – 2002**

| Name of items (crops/varieties) | Opening stock as on 1.4.2001 | Production from 1.4.01 to 31.3.02 | Balance stock as on 1.4.2002 |
|---|---|---|---|
| Vegetable cowpea - Local | 70 | 60 | 40 |
| Snake gourd - Kaumudi | 60 | 50 | 10 |
| Bhindi - Varshopahar | 50 | 50 | 45 |
| Chilli - Vellayani selection | Nil | 5 | 5 |
| Cucumber - Local | 30 | 50 | 5 |
| Pumpkin - Ambili | 14 | 40 | 25 |
| Water melon - Sugar Baby | 4 | 6 | 3 |
| Jack grafts - Muttom varikka, kallar jack, menon varikka | 2316 | 9000 | 3666 |
| Mango grafts -12 varieties | 2805 | 10000 | 3620 |
| Mango graft - Big pot | 136 | 1000 | Nil |
| Guava layer - Allahabad safed, Lucknow-48, Lucknow - 49 | 44 | 4044 | 185 |
| Sapota graft - Cricket ball, oval | 14 | 3000 | Nil |
| Jamba | 322 | 4000 | 212 |
| Cherry - West Indian,Caronda | 1184 | 2500 | 1004 |
| Bread fruit | 214 | 2000 | 29 |
| Lovi lovi | 54 | 1000 | Nil |
| Pomegranate | Nil | 1000 | Nil |
| Rambuttan | 15 | 2000 | Nil |
| Cashew Graft - Madakkathara | 124 | 3000 | 934 |
| Other fruit Plants | 146 | 4000 | 296 |
| Ornamental Plants | | | |
| -Small pots | Nil | 24316 | Nil |
| -Big pots | Nil | 7638 | Nil |
| Carpet grass | Nil | 2418 sq.ft | Nil |
| Banana sucker - ordinary | Nil | 814 | Nil |
| - robusta | Nil | 3292 | Nil |
| - superior | Nil | 4292 | Nil |
| West coast tall | Nil | 13507 | 7743 |
| Komadan | Nil | 10468 | 2182 |
| Rooted pepper cuttings | Nil | 15000 | 3000 |
| Bush pepper | Nil | 1500 | Nil |
| Ginger | Nil | 2500 kg | Nil |
| Cassava | Nil | 5000 m | Nil |
| Colocasia | Nil | 1000 | Nil |
| Yams | Nil | 750 | Nil |
| Guinea grass - mackueni | Nil | 9598 | Nil |
| Hybrid napier - pusa giant | Nil | 152 | Nil |
| Spawn - pleurotus | Nil | Nil | Nil |
| Earthworms - African night crawler | Nil | 24 | Nil |

**Extension and other activities**

| Name of Scientist | Programme |
|---|---|
| Dr.Harikrishnan Nair, Head,Dr.M.Suharban and Dr.A.S.Anilkumar | Handled Classes for the Participants of the Training Programme on 'Coconut Production and Management' at CRS, Balaramapuram |
| Dr.M. Suharban and Dr.D.Geetha | Conducted classes on 'Mushroom Cultivation' for Unemployed Youth and housewives at Kallikkadu and Nagercoil. |
| Prof.S.M.Shahul Hameed and Dr.M.S.Hajilal | Handled classes on 'Water Management' and 'Crop Nutrition' for the Officers of the Department of Agriculture |

**Important visitors**

| Date of visit | Name and Address |
|---|---|
| 5.5.2001 | Sri.Christy Fernandez, Chairman, Coir Board of India, Cochin |
| 8.9.2001 | Sri.Amar Prasad Satpathy, Minister for Agriculture, Orissa |
| 12.9.2001 | Dr.K.Gopalakrishna Pillai, Chief Technical Advisor, FAO-Bangladesh |
| 20.9.2001 | Sri.Chopra, Director General, Publication Division, Ministry of Information and Broadcasting, Govt. of India, New Delhi |
| 22.11.2001 | Dr.Gurbachan Singh, ADG (Agronomy), ICAR, New Delhi |
| 4.2.2002 | Chairman, ICAR Peer Review Team (Vice Chancellor, GBPUA & T, Pantnagar) and other members. |

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 3,02,57,000 | 2,97,19,800 | 24,02,690 |
| Plan | 20,00,000 | 50,71,303 | Nil |
| Revolving fund | 4,00,000 (corpus) | 18,79,980 | 21,81,161 |

# CROPPING SYSTEMS RESEARCH CENTRE, KARAMANA

**Introduction:**

Cropping Systems Research Centre, Karamana was established in 1955 under the auspices of the Fertiliser Use and Soil Fertility Project sponsored by the Indian Council of Agricultural Research. The set up of the station underwent a change both in its technical programme and in the staff pattern in 1968, when the All India Co-ordinated Agronomic Research Project was initiated.

**Mandate of the Station:**

The mandate of the Station is to conduct experiments on rice and rice based cropping systems. The main objectives of the experiments in rice based Cropping System are to study the production potential of the systems under adequate and limited resources, judicious use of fertilizers, integrated management of nutrients, efficient use of irrigation water and the management of problematic weeds.

**Lead Station**

Cropping Systems Research Centre, Karamana.

**Satellite stations**

Cropping Systems Research Centre, Vadakancherry.

**Research programme**

The integrated use of recommended level of NPK at 50 percent through farmyard manure and 50 percent as fertilizers in the first crop season and 100 percent as fertilizers in the second crop recorded appreciable yield increase in rice crop. Similar trend was noticed with organic matter viz. green leaf manure and crop residue application in the first crop season over entire quantity as fertilizers.

**Extension and other activities**

Gave technical advice to the farmers in connection with the pest and disease occurrence in rice such as the control of leaf roller, stem borer and rice bug infestation. Several farmers visited the Station with enquiries regarding control of mite infestation in coconut palms and the Plant Protection scientist of the station visited their coconut gardens to give timely and appropriate advice on the management of the pest.

Good quality rice seeds of high yielding varieties viz. Aishwarya and Kanchana and banana suckers of Nendran variety were distributed to farmers at the existing rates fixed by the Kerala Agricultural University from the Station.

**Important visitors**

Dr. Gangwar, Research Co-ordinator, AICRP, Modipuram visited the Station on 3-10-2001, for discussing about the Group meeting scheduled to be held on 23rd and 24th November, 2001.

Dr. Gurbachan Singh, Assistant Director General (ICAR) and Dr. S.K. Sharma, Director, PDCSR, Modipuram, visited the station on 22-11-01.

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 20,475 lakhs | 15,41,680 | 1,15,698 |
| Plan | 1.900 lakhs | 97,343 | - |
| ICAR | 13.055 lakhs | 11,96,200 | - |
| Revolving Fund | - | 53,418 | 41,669 |

# COCONUT RESEARCH STATION, BALARAMAPURAM

**Introduction**

The site of this station comprised of 14.13 hectares of land acquired for this purpose by the Department of Agriculture, Kerala state. With the inception of Kerala Agricultural University in 1972 , this station was also transferred to the KAU . The very intention of locating this research station at the southern most region of Kerala was to carry out research on coconut in the typical red loam soil tract of Kerala distributed over in Trivandrum and Neyyattinkara taluks of Thiruvananthapuram District extending up to 32000 hectares.

**Mandate of the Station**

The development of sustainable agro-techniques for coconut in the red loam soils of Kerala.

*Seminars/ summer Institutes / trainings attended*

| Name and address | Designation | Seminars/Symposia/ workshop/Summer institute for which deputed | Period of deputation | Institute to which deputed and duration of course |
|---|---|---|---|---|
| Dr.P. Santhakumari | Assoc.Professor | Biological control of Crop pests | 12-2-01 to 12-4-01 | PDBC,Bangalore 2 - months |
| Dr.P. Santhakumari | Assoc. Professor | Agrl.Seminar on Comprehensive Coconut Development | 8-6-2001 | Thiruvallam, Krishi Bhavan |

**Research programme**

Major Research Achievement

*Agronomy*

Summary of NPK nutrient studies in Coconut revealed that, Nitrogen and Potassium levels were statistically significant, Phosphorus levels were not significant, Interaction between N x K were significant, Interaction between N x P and P x K were not statistically significant. The highest nut yield was obtained at N1 K2 level, There was drastic decline of nut yield with increase of nitrogen in the absence of potassium which was statistically significant. There is response to potassium even at the highest level tried which gives information that higher levels of potassium than 900 g/ palm/year may give a higher yield of nuts. The N x K interaction indicates that for 680 grams of nitrogen the level of 900g potash is adequate.

Spacing –cum - manurial trial showed that :

Closer planting without fertilizer application will drastically affect growth and yield of plams. Nutritional management of clove intercropped in the coconut gardens of Southern Kerala showed that 125 % of the recommended dose of fertilizer gave the highest significant yield.

Action research on Mandari(Eryiophid mite) revealed that Neem oil-garlic soap emulsion is equally good as *Dicofol* to control *Mandari.*

Pathology studies revealed that under *in vitro* studies of two antagonistic agents viz . *Aspergillus niger and Trichoderma harzianum* were found to be effective against the anthracnose pathogen *Colletotrichum gloeosporioides.*

**Extension and other activities**

A vocational training on sustainable Coconut Production Technology and Agricultural Farm Management was conducted for 14 candidates with basic qualification in agriculture at plus 2 level. Study tours to Collegel of Agriculture, Self-Employment Training Centres, Research stations etc. were arranged for the trainees.

**Important visitors**

| Name and Address | Date of visit | Purpose of visit |
|---|---|---|
| Dr.P.J.Alexander, Retired D.G.P.& Director IMG,Tvm | 4-7-2001 | Study purpose |
| Ms.Piangjai Vinagup Oriental Foods,Thailand | 30-10-2001 | To explore the possibilities in encouraging the establishment of Coconut milk production Units |

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 26.825 | 24,78,981 | 3,93,229 |
| Plan | 6.520 | 2,22,716 | —— |
| Revolving Fund | 1.300 | 97,016 | 2,88,859 |

# FSRS, SADANANDAPURAM, KOTTARAKKARA

## Introduction

This station originally known as NARP Special Station was established in 1986 under National Agricultural Research Project. The station started functioning w.e.f. 14.5.1986. On completion of NARP and considering the special mission to undertake Farming System Research, the station was rechristened "Farming Systems Research Station" on 13.1.1993.

The station is situated at Sadanandapuram, Vettikkavala village , 4 km to the South of Kottarakkara on the Main Central Road towards Thiruvananthapuram.

## Lead function

Research on homestead farming and soil and water conservation.

1. To conduct detailed survey and analysis of the homesteads of the State.
2. To develop suitable homestead models for holdings of different size and different farming situations and to conduct detailed economic analysis of the same.
3. To evolve agro-techniques on a whole-system approach for various perennial crop combinations and crop-livestock/crop-poultry/crop-livestock-fish combinations.

## Auxiliary function

1. To evolve tapioca- based cropping systems suitable to the zone.
2. Vegetable improvement and standardization of their agro techniques.

## Faculty improvement programme

## Seminars/summer institutes/symposia/training

The scientists attended 4 seminars, 1 Group meeting, 1 Training programme and 3 Workshops during the period.

## Research Programme

Major research programmes are "Analysis and development of Homestead farms of Kerala", "Impact of vermicompost on Soil Fertility and Crops production in the Homestead of South Kerala", Collection cataloguing and characterisation of medicinal plants in homestead of Southern Region of Kerala" etc.

## Nursery

The Nursery attached to the station contributes to a major share of farm revenue. Under the nursery programme main emphasis is given to the multiplication of improved varieties of cashew, mango, jack grafts, coconut and arecanut seedlings, vegetable seeds and ornamental plants. These superior quality-planting materials are regularly distributed from the station. The rapid multiplication of pepper has been started and rooted cuttings of Panniyoor-1, 2,3, 4 & 5 of pepper are being supplied from the station.

## Extension and other activities

Superior quality planting materials like grafts of cashew, mango, jack, sapota, coconut and arecanut seedlings, vegetable seeds, pepper varieties, teak seedlings and ornamental plants are regularly distributed through the sales counter functioning in the station.

Farm advisory services were catered to the agricultural needs of the farmers of Kottarakkara as well as the adopted village Ummannoor on matters relating to the fertilizer application, weed control and disease/pests of various crops like vegetables, banana, coconut arecanut, pepper, paddy etc.

## Extension lectures delivered by Scientists

A total of 27 Extension lectures were delivered by the scientists on various agricultural and animal Husbandry topics.

## Training/symposia/workshop etc. conducted

| Topic | Period | No.of participants |
|---|---|---|
| RAWE Programme | 04.09.2001 to 15.09.2001 | 16 B.Sc.(Ag) Final year students from College of Agriculture, Vellayani |

**List of publications**

*Scientific articles*

Jayasree, G.S.(2002). *Agricultural Resource Management – A Case Study*. Proceedings of 14th Kerala Science Congress , 29-31 January, Kochi, pp . 643-644.

Dr. Shehana, R. S. and Alice Abraham(2002). *Effect of P solubilising organisms in conjunction with MRP on the growth and yield of banana cv. Nendran*. Proceedings of the 14th Kerala Science Congress, 29-31 January 2002, Kochi, pp. 704 – 707.

*Popular articles*

Dr. N. Kishorekumar and Dr.R.S.Shehana, WTO Accord Vis-a-Vis Indian Scenario. Kisan World, Vol.28 (7) pp.19-20.

Dr. R. S. Shehana, Need for potash fertilizer. Karshakasree, October,2001, pp:24-25.

**Radio talks and Doordarshan Programme**

1. Dr.R.Shehana, Assoc.Professor : Boron deficiency in coconut (Broadcast on 24.5.2001)
2. Dr.S. Regeena, Assoc.Professor : Vilappolimayulla Kamukinangal (Broadcast on 8.7.2001)
3. Dr. M.O. Kurien, Asst. Professor: Infertility problems in cross bred cows (13.12.2001)

**Important visitors**

| Name | Organizational affliation | Date | Purpose of visit |
|---|---|---|---|
| Dr.V.P.Singh | Ex.Director,CCS,HAU | 03.04.2001 | QRT visit |
| Dr.R.K.Samanta | Zonal Co-ordinator, TOT Projects, ICAR,Bangalore | „ | „ |
| Dr.O.P.Sharma | D.E, HPAU | „ | „ |
| Dr.P.Das | DDG, ICAR | 13.12.2001 | KVK visit |

**Finance**

| Head of A/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 39.295 | 3651702 | 192436.80 |
| Plan | 3.025 | 71394 | Nil |
| OEAP<br>Total | 23000 | Nil | Nil |

## SOIL CONSERVATION RESEARCH STATION, KONNI

**Introduction**

The Soil Conservation Research Station is situated in Perinjottackal village, 5 km north east of Konni junction in Kozhencherry taluk of Pathanamthitta district. The Department 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 1.7.1998 for conducting various research programmes under the administrative control of Associate Director of Research NARP (SR) Vellayani on Soil & Water management and related areas.

## Mandate of the Station

Keeping in view the purpose for which the station was established, the suitability of the farm and the necessity for taking up studies on soil conservation for the humid tropical zones, the mandate of the station is soil and water conservation. The objectives of the station are:

- To conduct basic, strategic and applied research for developing location specific technologies on soil and water conservation.
- To provide scientific leadership for solving area specific problems in soil and water conservation.
- To act as a centre for imparting training in modern research methodologies and technology upgradations in the field of soil and water conservation.

## Research programme :

Major research achievements :

A collaborative research project between the Kerala Agricultural University and the Coir Board was launched at SCRS, Konni on 16.11.99. An amount of Rs. 88.39 lakhs was sanctioned for the first two years. The following four experiments have been included in the project.

**Project I** ***Use of coir geotextiles for regeneration of exposed rock patches***

***Objective***

To develop suitable technologies for rejuvenating the eroded / degraded lands and rehabilitating the rock patches using coir geotextiles.

***Work done***

As per the technical programme, experimental set is completed for the first two years. Observations as per technical programme were taken and recorded. A new experimental plot is being prepared for planting trees on the rock patch.

***Results***

Turf grass has been established in the rock patches and as secondary stage the sedges have started to establish over the rock patches.

**Project II** ***Use of coir geotextiles for soil and water conservation at varying slopes***

*Objective*

To evaluate the effect of different types of coir geotextiles for conserving soil and water under varying slopes.

*Work done*

The experiment using coir geotextiles of a particular mesh size was completed ($H_2M_5$ for 20 & 30% slope and $H_2M_8$ for 40 & 50% slopes). Run off samples were taken and analyzed. Construction of 60 and 70% slopes are in progress. Preparatory works for continuing the experiment on 20, 30, 40 and 50% slopes using coir geotextiles of another mesh size have started.

*Results*

Soil erosion was considerably reduced in the plots covered with coir geotextiles. The percentage of soil conservation in 20, 30 and 40% slopes was found 94.7%, 96% and 96.8% respectively in the plots with geotextiles + crop. The coir geotextiles were successfully used for soil and water conservation on varying slopes for a period of two years. The slopes were stabilized by this period.

**Project III** ***Use of coir geotextiles for template planting and as soil mulch***

*Objectives*

1. To evolve new technologies for slope land cultivation using coir geotextiles
2. To assess the effect of coir geotextiles as soil mulch

*I Template Planting*

*Work done*

The crops were planted and the observations as per the technical programme are recorded.

*Results*

As per the observations recorded till date, it can be asserted that intercropping can be successfully done in undulated coconut gardens without changing the natural slope of the terrain.

*II. Soil mulch*

*Work done*

The experiment on Bhindi was completed and the report submitted to the monitory committee.

Harvesting of fully ripe pineapple is being done as and when ready. Various yield parameters are also recorded.

*Results*

Rubberised coir (RC), when used as soil mulch for Bhindi, gave excellent results regarding the yield and weed control. The weed intensity was low in the plots treated with RC. Also, the yield per hectare was 4.7 t in excess of that in control plot. Natural and black needled felt also gave encouraging results when used as soil mulch.

**Project IV** ***Providing river bank protection and assessing the biodegradability of coir geotextiles***

*A. Biodegradation of coir geotextiles.*

*Objective*

To assess the biodegradation of coir geotextiles with different yarn and mesh size under following conditions.

a. Varying slopes with different grades of yarn and mesh size
b. Exposed rock patches
c. Template planting
d. As soil mulch for different crops
e. River bank erosion control

1. Under water submerged condition
2. Exposed to sunlight

*Work done*

The microbial population (bacteria, fungi & actinomycetes) of different geotextiles ($H_2M_5$, $H_2M_6$, $H_2M_8$, Natural needled felt, Black needled felt and Rubberised coir) were analysed. The coli forming units per gram were determined at an interval of 30, 60 and 180 days. The tensile strength of the coir geotextiles were also analysed.

*A. Coir geotextiles for providing riverbank protection.*

*Objective*

To evaluate the performance of the coir geotextiles as a protective material against river bank erosion.

*Work done*

The observations as per the technical programme were recorded.

*Results*

The initial results are positive. After one rainy season it was observed that considerable amount of sedimentation has occurred along the river bank where the spurs were erected.

**Extension and other activities**

Smt. Kunjamma P Mathew handled classes on Pepper cultivation and pests and disease control in coconut in an Agricultural Seminar organized by the Department of Agriculture.

Dr. Noble Abraham, Assistant Professor, handled classes in a programme conducted by KVK Sadanandapuram. He also handled classes in a programme organized by Soil Conservation Department at Malayalappuzha.

Sri. Anil K.R conducted classes on soil and water conservation using geotextiles for officers at CCRI.

**Important visitors**

Dr. U.S. Sharma, Director, CCRI

Sri. P.T. Joseph, Joint Director, Coir Board

**Finance**

| Head of a/c | Provision for the year Rs | Expenditure Rs | Station receipts Rs |
|---|---|---|---|
| Plan | 52,63,000 | 38,38,029 | 3,82,662 |
| Other EAPs | 30,57,000 | 25,84,136 | |

# CENTRAL ZONE

## REGIONAL AGRICULTURAL RESEARCH STATION, MELE PATTAMBI

### Introduction

The station started functioning in 1927 with the name Paddy Breeding Station in an area of 33.28 ha and the then mandate was to improve the local 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 renamed as Agricultural Research Station in 1930. With the acquisition of 30.36 ha of land in 1945 additionally, the research activities of the station were further intensified. The station was taken over by the Kerala Agricultural University when it was formed on February 1, 1972. The station was elevated as the Regional Agricultural Research Station for Central Zone with the implementation of the National Agricultural Research Project (NARP) in 1981.

The station has so far released 55 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-I (Kanakamony) and PTB-2 (Krishnamony).

### Mandate of the station

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 rice, pulses, horticultural crops and rice based farming systems.

### Auxiliary Function

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

### Lead Station (if relevant)

Regional Agricultural Research Station, Pattambi.

### Satellite Stations

1. Cashew Research Station, Anakkayam
2. Agricultural Research Station, Mannuthy
3. Cashew Research Station, Madakkathara
4. Banana Research Station, Kannara
5. Agronomic Research Station, Chalakkudy
6. Aromatic and Medicinal Plants Research Station, Odakkali
7. Pineapple Research Station, Vazhakkulam
8. Cropping System Research Centre, Wadakkumcherry

### A few memorable events of the institution

Farm day celebration held on 21st December, 2001

### Faculty improvement

### Details of scientists deputed for higher studies

Smt.Gracy Mathew, Assistant Professor (Agronomy) continues her part time Ph.D. Programme in Kerala Agricultural University at College of Horticulture, Vellanikkara.

Smt. G. Valarmathy deputed for Ph.D course to T.N.A.U, Coimbatore is continuing the study.

Smt.Vimi Louis, Assistant Professor (Pl.Pathology) continues her Ph.D on leave at COH,Vellanikkara.

### Details of deputation for seminars/workshops/ symposia etc.

The scientists have attended a number of workshops such as "Workshop on Environment, the new Economy and New Employment", "DAE/BRNS workshops on Impact of application of radiation on food and agriculture" and "Sensitisation Workshop cum Scientific Panel Meeting etc. They have also attended group meetings like "Annual Rice group meeting, Group meeting of NATP project and 23rd ZREAC meeting. Trainings and seminars/symposiums such

as "Training on recent advances in irrigation management for field crops, training on techniques in microbiology, National seminar on emerging trends in pest and disease management, one day seminar on "Overview of Perkin Elmer products and recent advances in AAS and ICP technology" etc.

## Research programme

### Major research highlights

### Agronomy

*Integrated nutrient management in rice based cropping system*

The objective was to study the influence of green manuring and FYM application on the productivity of rice based cropping system. The results show that application of FYM give significantly higher yields during kharif season. Among the four fertilizer levels tested, application of 100% NPK dose gave higher yield. During rabi season, the treatments were repeated in the same lay out. The results during the season show that FYM applied plots registered the highest yield but the differences from the other treatments were considerably low.

*Evaluating the effectiveness of herbicides for transplanted rice*

Fourteen materials were evaluated to test their effectiveness for control of weeds in transplanted rice. The herbicide materials Pyrazosulfuron ethyl, Almix + Butachlor and Pyrazosulfuron ethyl + 2,4-D combinations were more effective in checking weed growth. Among the two butachlor formulations tested, Butachlor (MON 46996) was more effective than Machette.

*Spacing trial of high yielding varieties*

The varieties Aiswarya, Athira, Pranava and Neeraja were tested during *kharif* season. The variety, Aiswarya gave grain yield of 2671 kg/ha at 15x10 cm spacing whereas at 20x10 cm and 20x15 cm spacings lower yields of 2190 kg/ha and 2002 kg/ha were obtained. Variety, Athira gave comparable yields at 20x15 cm and 20x10 cm whereas at 15x10 cm the yield was significantly low. Pranava yielded higher at 20x15 cm. Both 20x15 cm and 20x10 cm spacing gave comparable yields of 2254 kg/ha and 2477 kg/ha for Neeraja.

### Entomology

*National Screening nursery*

In this trial, 324 rice enteries were screened. Among them, IET 16923, 17294, 17302, 17494, CSR 7-1 were resistant to stem borer. Entries IET 17254 and 17284 were resistant to gallmidge. For leaf folder, IET 17258 – 17261, 17527, 17536 and Tarori Basmati showed resistant reaction. For whorlmaggot, cultures IET 17533, NDR 97 and Jaya were resistant. For thrips, 47 cultures showed resistant reaction with a score of '0'.

*Gallmidge screening trial*

Among 75 enteries tested, the entry WGC 29033 showed complete resistant reaction to the pest.

*Gallmidge biotype screening trial*

Twelve entries tested under four sets of differentials confirmed the presence of Biotype–5 with R-R-S-S pattern.

*Donor identification against potential and sporadic pests*

25 entries were tested for resistance to sporadic pests like thrips, caseworm, blue beetle and rice ear head bug. Among them six entries showed resistant reaction with a score of '0'. For caseworm entry HPR 2054 showed resistance and culture ARC 5764 showed resistance to both blue beetle and ear head bug. T 1477 also showed resistance to ear head bug.

*Insecticides Evaluation trial*

In IET (Kharif' 02), none of the insecticides proved effective to insect pests. But the highest grain yield was obtained with Neurelle D 505 @ 344 g ai / ha treated plots. In IET (Rabi'02) trial, Neurelle D505 @344g ai/ha, Bulldock star @ 393g ai/ha, Confidor Ultra@ 30 g ai/ha, Ethiprole @ 50 g ai/ha and Monocrotophos @ 500 g ai/ha were effective against stem borer. Confidor Ultra@ 30 g ai/ha was effective against whorlmaggot. None of the chemicals were effective against rice leaf folder. The highest grain yield was obtained in Neurelle D505, Ezee tab and Monocrotophos treated plots.

*Nursery and Early stage pest control trial*

In this trial, Insecticide, Fipronil both as seed treatment @ 0.05% and nursery drenching @ 100 g ai/ha as well as Calypso as seed treatment @ 0.12 % were effective against stem borer. Leaf folder was less in Furadan treated plots @ 2000 g ai/ha.

*Monitoring of stem borer composition*

The trials were conducted to know the species of stem borer attacking the crop in its different growth period. The study showed that yellow stem borer, *Scirpophaga incertulas* was the most common species occurring in all stages (70-85 %).

*Integrated pest management in rice*

The trials were conducted to evaluate the efficacy of different granular insecticides against rice pests. In first crop season, four granular insecticides were tested in comparison with neem cake @100 kg /ha and a control. The neem treated plots had reduced incidence of stemborer but all granular insecticides were relatively par in controlling the pest. Fipronil @75 gai/ha, Carbosulfan and Carbofuran @ 1000 g ai/ha were effective in reducing the damage of whorlmaggot. Carbosulfan also found effective in reducing leaf folder damage. Highest grain yield was obtained in Cartap @1000g ai/ha treated plots.

In second crop season, five granular insecticides were tested in comparison with neem treatment and a control. Among the insecticides, Carbofuran @1000 gai/ha was superior in controlling stemborer damage.

*Screening Biocides against pests of Rice*

In this experiment three leaf extracts and three plant oils @ 2 % were tested against rice pests. Among these Venga leaf extract had significant effect in reducing white ear damage caused by stem borer.

**Plant Breeding**

A total of 167 rice accessions were characterised for 48 characters as per descriptor list on rice (prepared by IRRI-IBPGR) under conservation of genetic diversity of rice in Kerala and NATP on plant bio-diversity. 649 accessions of different crops including rice (110) were collected.

Seed multiplication of Rice varieties PTB 20, Pranava, Paiyur-1, cul-12-8-1, MET-15821, cul-210-25, IET-14735 and 20-D-1 were carried out during rabi, 2001.

Release proposal for culture 210-25 was submitted before the varietal evaluation committee.

**Seed Technology**

*National Seed Project - Breeder Seed Production*

A total quantity of 54.10 Qtls was produced during 2001-02 to meet the Central and State indent.

*Storability of seeds in different packing materials under seed godown conditions.*

The experiment was started with the objective of identifying commercially suitable packaging material (P1: Jute canvas bag, P2: HDPEN on laminated interwoven bags) for bulk seed storage in paddy variety Matta Triveni. It was found that only seeds packed in HDPE bags have retained viability above the minimum germination per cent of 80% upto the Late Rabi season.

*Studies on joint action of Diflubenzuron (IGR) and fungicide on cereal seed viability during storage under ambient conditions*

The experiment was started to study the efficacy of diflubenzuron (IGR), its compatibility with fungicide seed protectants and the storability of treated seed in paddy variety:Matta Triveni. Results showed that T6 (T2 + T4: Diflubenzuron 2 ppm : 8mg 25 WP/ kg seed + Carbendazim 2.5g/kg of seed was superior compared to all other treatments.

*Evaluation of bifenthrin as seed protectant against biodeterioration in storage*

The objective of the experiment was to compare the efficacy of bifenthrin with a standard treatment for protection of seeds from damage by insect pests in storage. Results showed that T1 (Bifenthrin 10 EC: 0.25 mg ai/kg seed or 2.5 ml/kg seed) was superior to all other treatments.

**Plant Pathology**

The upland cultures and varieties of KAU were screened for blast resistance. Among the

35 entries two numbers showed resistance to leaf blast. The pre released culture C3-2-49-2 showed resistance to leaf blast (Score-2). Among the released varieties, Aiswarya also showed resistance (Score-2).

*Evaluation of new fungicidal formulations for blast control*

Two new formulations, viz., Pyroquilon (Fongorene) made from indigenously manufactured technical (TIM) and imported technical (TIT), and epoxiconazole-carbendazim (Swing 250 EC) along with two commercially available fungicides viz.,Kasugamycin (Kasu-B 3SL) and Carbendazim–Mancozeb (Saaf 75 WP) were evaluated. Tricyclazole (Sivic 75 WP) was used as the standard check fungicide. Leafblast incidence was very high in upland in test variety Triveni (66%) while neck infection was moderate (30-34%) in upland and transplanted rices. Under both ecosystems, all the test chemicals were significantly superior over the untreated check plots, though the standard check fungicide was significantly superior over the test chemicals. However, both indigenous (TIM) and imported (TIT) pyroquilon formulations were on par with tricyclazole in checking the blast infection under upland rice. In the transplanted ecosystem, indigenous (TIM) pyroquilon wa superior to all the test chemicals, when it was used at 1.2g $l^{-1}$.

*Evaluation of new fungicidal formulations for sheath blight control*

Two sets of experiments were conducted to evaluate the efficacy of new fungicides against sheath blight. In the first experiment six triazole based formulations were included with Validamycin (Sheathmar 3 L) as the standard check fungicide. The test variety used was Jyothi. While in the second set of experiment , fungicides other than the triazole base were included. The results in general indicate that all the test chemicals were significantly effective, however , Contaf 5 SC (1ml/l an 2 ml/l), RIL F 004 (2g/l), Moncut (1.5 gand 2 g/l),Swing (2.0g/l) and Kitazin (2.5 ml/l) were highly effective and on par with the standard check fungicides. The superiority of the fungicide Swing was found during the years 1999, 2000 and 2001.

*Evaluation of fungicides against brown spot*

The pooled analysis of the data showed that the fungicides Contaf and Tilt were equally effective and significantly superior to control in checking the disease.

*Evaluation of botanical formulations against sheath blight*

Five botanicals viz., Achook, Neem Azal, Neemgold, Spictaf, Tricure and Wanis were tested using the standard check fungicide Tilt 25 EC. All the botanicals were significantly effective and on par with the standard check fungicide both in checking the disease and increasing the yield.

*Evaluation of Fuji one against blast*

The fungicide Isoprothiolane (Fuji one 40E) was tested against blast. The lowest dose 1.5 ml/l will be sufficient for the foliar spray for the control of blast.

**Division of Pulses**

**Plant breeding experiments**

*Mung bean Advanced Varietal Trial*

In this trial 17 AICRP entries were evaluated during 2001 rabi. Result of the trial showed that the yield was significantly different and the variety RM1-7 recorded the highest yield (387.31kg/ha) followed by RM1-1. The seed yield ranged from 150 kg/ ha to 387 kg/ha.

*Urd bean Advanced Varietal Trial*

Thirteen AICRP entries were evaluated in this trial during 2001 rabi. Result of the tria showed that the yield was significantly different and the variety RU1–1 recorded the highest yield (625.36kg/ha) followed by RU1–2 The seed yield ranged from 215 kg/ha to 625 kg/ha.

**Agronomy Experiments**

*Effect of thiourea (TU) application on cowpea*

The experiment was started in 1999 to assess the effect of thiourea seed treatment on seedling emergence and crop establishment and to study the role of thiourea in improving seed set and yield of cowpea. Result of the trial conducted during 2001 kharif showed that the yield was significantly different. 500 ppm TU seed soaking + TU sprays at vegetative stage and at flowering stage (534 kg/ ha) recorded the highest yield followed by 500 ppm TU spraying one at vegetative stage (532 kg/ha).

*Effect of micronutrients on cowpea*

The experiment was started in 2001 to know the micronutrient requirement of cowpea. Result of the trial conducted during 2001 kharif showed that the yield was significantly different and combined spraying of 0.5% $FeSO_4$ and 0.5% $ZnSO_4$ spray at 45DAS recorded the highest yield followed by combined spraying of 0.5% $FeSO_4$ and 0.5% $ZnSO_4$ spray at 25DAS.

*Assessment of advantages of various inputs in horsegram*

The experiment was started in 1999 to quantify the contribution of different inputs in horsegram productivity. Result of the trial conducted during 2001 rabi showed that the yield was significantly superior. Variety AK – 21 recorded significantly higher yield compared to PHG- 9.

*Agronomic management of promising horsegram genotypes*

The experiment was started in 1999 to work out the agronomy of horse gram varieties, likely to be released in near future. Result of the trial conducted during 2001 rabi showed that the variety DPI-2278 recorded the highest yield. Recommended fertilizer dose and closer spacing recorded significantly higher yield compared to lower doses of fertilizer and wider spacing.

*Arid legumes based intercropping system*

The experiment was started in 2001 to find out the suitable intercropping system including arid legumes for the area. Result of the trial conducted during 2001 rabi showed that in cowpea intercropping has no significant effect on the yield of cowpea but get additional yield from intercrops. In horsegram intercropping with bhindi in 4:1 ratio significantly reduced the yield of horsegram. Other treatments do not have much effect on the yield of horsegram.

**Pathology Experiments**

*Efficacy of different seed treatments with fungicides and bio-control agents to control seedling rot of cowpea*

The experiment was laid out during kharif 2001 to control the seedling rot of cowpea caused by *Colletotrichum lindemuthianum* (Sacc. and Magn.). The seeds were treated with different fungicides and bio-control agents namely Carbendazim, Thiram, Mancozeb, Copper oxychloride, *Trichoderma viride* and *Pseudomonas fluorescens* and seed treatment with Thiram followed by 0.1% carbendazim spray at 15, 30 &45 days after seedling emergence. Seed treatment with Thiram (3 g/ kg of seed) followed by one, two and three rounds of spray with Carbendazim (0.1%) was found on par in reducing the disease incidence. Seed treatment with Carbendazim (2 g/ kg seed) which was equally effective as that of Copper oxychloride (3g / kg of seed) and *Trichoderma viride* (4g/kg of seed) both TNAU and KAU cultures in reducing the disease incidence.

Bavistin 50 WP @ (0.1%) as spray application was effective in reducing the Powdery mildew incidence followed by application of Contaf 0.2% Dust @ 25 kg/ha. The grain yield obtained from Contaf 0.2% Dust @ 25 kg/ha was on par with that of Bavistin 50 WP applied as (0.1%) spray.

**Soil Science**

***Permanent Manurial Trial***

In Virippu and Mundakan seasons, the grain and straw yield were the highest for the treatment receiving cattle manure and NPK fertilizers and it was on par with $T_1$ (cattle manure alone). Continuous use of Ammonium sulphate alone had adverse effect on the grain and straw yield.

**Extension and other activities**

The Station maintained close linkage with various departments and other agencies for the effective transfer of technology generated by the scientists. Scientists assisted 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 and Malappuram Districts and monthly workshop NARP of Malappuram District.

**Demonstrations**

Demonstrations on Mechanisation, harvesting with power reaper, thresher, rice transplanter etc were conducted under IVLP on various dates.

**Training programmes**

*Classes handled*

Smt. Gracy Mathew, Sri. K. Karthikeyan, Sri. Gregory Zacharia, Dr. Rose Mary Francis, Smt. S. Anitha, Dr. M.C. Narayanankutty, Smt. M.L. Jyothy and Sri. S.M. Purushothaman, Assistant Professors took classes on various subjects like IPM in Rice, Rice cultivation, IPM in vegetables and organic pesticides, cereal production technology etc. Field visits to farmer's fields were also made by the scientists and remedial measures to the field problems advised.

**Exhibition organised**

An exhibition was organised in connection with Farm day on 21 st December 2001 at the station.

**Details of Seminar / Workshop / Symposium etc conducted at the station**

| Duration | Subjects dealt | Category of participants |
|---|---|---|
| 24th Mar ch 01 | Transactional analysis | 38 staff of RARS |
| 4th & 5th May, 2001 | Mini Workshop for 23rd ZREAC , | 48 Participants Scientists, farmers & AOs |
| 6th June 2001 | 23rd ZREAC Meeting | 86 Participants Scientists, farmers & AOs |
| 25- 30th June 01 | Activities of RARS Pattambi | 13 RAWE students, Padannakkad |
| 13-19th Aug. 01 | -Do- | 23 –Do- Vellanikkara |
| 4-10th Sep. 01 | -Do- | 8 –Do- Vellayani |
| 16-18th Oct. 01 | Training on Cereal crop production technology | 23 Agrl. Officers and Asst. Directors from 8 districts of the state |
| 5-6th Dec. 01 | Training on rice production technology and research methodology | Agrl. Assistants at RARS, Pattambi & CSR sub centre, Vadakkenchery |
| 21st Dec. 01 | Farm day & Exhibition | Farmers and students |
| 7-8 th Jan. 02 | Training on quality paddy seed production | ADAs &AOs – 25 |
| 24- 25 th Jan. 02 | Training on quality paddy seed production | ADAs &AOs – 15 |

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## Important visitors

| Name | Organizational affiliation | Date | Purpose of visit |
|---|---|---|---|
| Mr. Anand Singh (Asst. Collector) | IAS Officer Trainee, District collectorat, Palakkad | 17-12-2001 | Acquainted with the activities of the station |
| Dr. P. Das | DDG (Agril. Extn.), ICAR | 16.12.2001 | To review TAR - IVLP project |
| Dr. R.K.Chowdhury and Dr.K.Vanangamudi, | Project Co-ordinator, NSP (Crops) Prof. and Head, Dept. Seed Science & Technology, TNAU, Coimbatore | 17-08-01 | evaluation of scheme |
| Dr. Rajendra Prasad and Dr.V.Krishnasamy | Senior Seed Officer, GKVK,UAS, Bangalore Professor (Seed Tech.), TNAU, Coimbatore | 14-12-01 | South Zone Monitoring Team of NSP (Crops) To review the progress of the NSP project in the station |

# CASHEW RESEARCH STATION, ANAKKAYAM

## Introduction

The station was founded in 1963 under a scheme included in the third five year plan. It is situated on the western side of the Malappuram-Manjeri road at a distance of about 9 km from Malappuram. The nearest railway station is Tirur which is 40 km away from the station.

## Mandate of the station

The prime objective of the station is to evolve materials, methods and means to increase the yield of cashew. This is achieved through breeding, selection and recommending proper manurial schedules, cultural practices and measures to control pests and diseases.

**Lead station** : R.A.R.S. Pattambi

## Research Programme

A total of 95 types (300 plants) collected from different places have been maintained in the field (6 year old). Observations on morphological characters, flowering characters and scoring for pests (Tea mosquito, stem borer) were recorded. Vigour of plants was more in ABD-2-1, BLA-121-2, BLA-176-4, BR2-18-0, H-3-2, H-4-7, UL-10-2 and UL-28-2.

One hundred and fifty (150) hybrid progenies planted during 1975-76 are in the field for evaluation. The tree No.461performed well with all the desirable characters. Seven hundred and twenty three (723) hybrid seedlings produced during 1995-96 involving 29 parental combinations were planted in the field. Morphological characters were recorded at half yearly interval. Vigour of seedlings was more in the progenies involving the following combinations:

H-8-6 x AKM-1, K-22-1- x H-8-6, H-9-1 x K-22-1, H-8-6 x T-505, UL 28-1 x H-8-6, H-8-6 x UL-28-1

Flowering and fruit set were obtained in the following combinations

H-8-6 x AKM-1
K-22-1 x H-8-6
H-8-1 x K-22-1

*Comparative yield trial on cashew (CC-01-00-05-AKM-9-74-KAU)*

The objective of this experiment is to study the performance of the clonal progenies of the 16 promising selections maintained in this station. The type BLA-139-1, BLA-39-4-, H-3-17 and K-10-2 were released as KAU varieties Anakkayam-1, Madakkathara-1, Dharashree and Sulabha respectively for large-scale cultivation. The trees in the plot were retained for observations on vegetative and floral characters and for canopy management studies.

*Study of promising clonal progenies of cashew (CC-01-00-06-AKM-9-67)*

The objective of the project is to study the performance of the clonal progenies of promising selections in the germplasm collection and the first set of hybrids planted during 1963-64. The yield data revealed that the clonal progenies of the hybrids H-3-6, H-3-9 and the clonal progenies of the selections K-10-2 and K-22-1 have superior yields and they have a stable performance.

## Extension and other activities

Demonstrations and training were conducted. Field visits were made when required. Farmers were given advice on all aspects of cashew cultivation. Consultancy Service was made available in the form of projects, giving details on nature, content, duration, income earned etc

## Other details

The demand for softwood grafts of cashew seedlings is very high. The station has produced 52,000 seedlings earning an income of Rs.10,40,000/-

## Finance

| Head of account | Provision for the year | Expendi-ture | R eceipt |
|---|---|---|---|
| Non-plan | 17.759 | 1763481 | 48170(Misc) |
| Plan (Total) | 4.805 | 141036 | - |
| Revolving Fund | 3,00,000(corpus) | 74828 | 1198742 |

# AGRICULTURAL RESEARCH STATION, MANNUTHY

## Introduction

The Agricultural Research Station, Mannuthy was started in 1957 as Rice Research Station Mannuthy in the then Central Farm, Ollukkara, with administrative control vested with Rice Specialist. Consequent to the shifting of Head Quarters of the Rice Specialist to Pattambi in the year 1963, the station was renamed as Regional Rice Research Station. With the formation of Kerala Agricultural University in 1972, the Rice Research Station, Mannuthy and Agricultural Research Station were taken over from the State Department of Agriculture and brought under the control of Agricultural University. This Research Station and Instructional Farm, Mannuthy was again renamed as Agricultural Research Station, Mannuthy in 1983.

## Mandate of the station

Evolving rice varieties with high production potential suited to kole lands

Development of production technology of ric

Evolving bittergourd and snakegourd varieties suitable to summer rice fallows

Development of production technology for vegetables

Production and distribution of breeder and foundation seeds of paddy

Evolving hybrids in vegetables

Maintenance of a commercial nursery, production of quality seed materials and farm advisory services

Imparting training for various production technologies and work experience programme in rice

Demonstrations in the use of modern agricultural implements

## A few memorable events of the institution

- Farm Day celebration 2002 was organised at this station on 14th & 15th September 2002.
- Bonus linked vegetable production programme was successfully carried out at the station.

## Seminar/Summer Institute/Symposia/Trainings attended:

A number of programmes such as "Refresher training to agricultural Officers on Rice mechanisation, High-Tech Agriculture District level monitoring, training to resource persons at KILA, State level training to local body standing committee members on labour friendly farm mechanisation, seminar on farmers right regulation into action, new rice varieties and cultures and 14th Kerala Science Congress were attended by the scientists.

## Research Programme ( Major Research Achievements)

*a) Plant Breeding & Genetics*

- Two promising rice cultures viz; Cul. 7711 and Cul. 10-15-1 are in the releasing stage.

*b) Horticulture*

- Farm trials of bittergourd and snake gourd for summer rice fallows. Snakegourd accession TA5-1 is in the release stage.
- Station started work on "NATP on Plant biodiversity" as a co-operating centre. Evaluation and characterisation of germplasm of Cucurbits, Cowpea, Amaranthus and Brinjal are done.The station also multiplies the seed material and supplies to NBPGR for long term storage.

*c) Agronomy*

- Production technology of rice under mechanised transplanting is being developed.

## Extension & other activities

- A serialised article on farm machinery is being published in *Karshakasena* by Dr. Jaikumaran every month.
- Monthly package of practices for various crops are published serially in *Karshaka sree and Karshakasena* by Dr. P.A.Joseph.

**Important visitors**

| Sl.No. | Visitors | Date | Purpose |
|---|---|---|---|
| 1 | Sri.P.P.George M.L.A | 14.09.01 | Inauguration of exhibition, seminar and release of book on *"Farm machinery and modern agrl. implements"* |
| 2 | Dr. Jayasoorya | 9.9.01 | Jayasoorya Committee enquiry on financial crisis in the university |

**Finance**

| Head of a/c | | Provision for theyear | Expenditure (Rs) | Station receipts |
|---|---|---|---|---|
| Non plan | | 53.535 | 50,20,103.00 | |
| Plan | | 7.520 | 3,14,820.00 | 632140.00 |
| Other EAPs | | 0.200 | 7503.00 | |
| Revolving fund | | | 1,83,430.00 | 4,65,360.00 |
| Total | | | 55,25,856.00 | 10,97,500.00 |

# CASHEW RESEARCH STATION, MADAKKATHARA

## Introduction

The Cashew Research Station, Madakkathara under the Kerala Agricultural University was established on 1.5.1973. Initially this station was working as one of the four research centres under the All India Co-ordinated Spices and Cashew nut Improvement Project (AICSCIP) of the ICAR. The World Bank aided multistate cashew research project was implemented at this station from 15.2.1982 to 3.9.1986. Presently this is one of the eight centres of All India Co-ordinated Cashew Improvement Project.

## Mandate of the station

* To evolve high yielding varieties of cashew by selection and breeding.
* Identification of varieties resistant/tolerant to pests.
* To develop suitable agrotechniques 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.
* Distribution of quality materials of elite varieties or types.

## A few memorable events of the institution

***Release of varieties***

| Year | Variety |
|---|---|
| 1982 | Anakkayam-1 |
| 1990 | Madakkathara-1 |
| 1990 | Madakkathara-2 |
| 1993 | Kanaka |
| 1993 | Dhana |
| 1995 | Priyanka |
| 1996 | Sulabha |
| 1998 | Amrutha |
| 2000 | Vridhachalam-3 (adopted from TNAU) |

**Faculty improvement programme**

Dr.M.Abdul Salam (Assoc. Profesor & Head) attended programmes like Zonal workshop, graft pricing committee meeting, meeting on yield forecasting and TOT in cashew etc. Dr. Susannamma Kurien, Assoc. Professor and Dr. K.G. Jayalakshmi attended programmes like "2nd meeting on endosulfan controversy" and XVth biennial workshop. Smt. Meagle Joseph, Assoc. Professor attended Agrl. Seminar at RARS, Pattambi during the period.

**Research programme**

**Major research achievements**

- A clonal germplasm conservation block with 127 accessions was established. Five accessions with nut weight more than 10 g are now available in the germ plasm (H 1589 - 10.8 g, H 1593 - 12.6 g, H 8-7 - 10 g, H 8-8 - 12.3 g and Kiliyanthara - 11 g).
- Eighteen high yielding cashew varieties evolved at six Cashew Research Centres of India are under evaluation at this centre. The varieties V5, M 26/2, H-1598, H-1608 and Anakkayam-1 were found promising.
- A total of 213 hybrid seedlings were planted in the field during 1993-2000.
- Endosulfan 35% EC @0.05% at the time of panicle initiation stage followed by Carbaryl 50% WP @ 0.1% at nut initiation stage was found to be the effective treatment against tea mosquito.
- A precocious dwarf suitable for a high density planting was identified.
- Four new cashew types were added to the germ plasm.
- 124 hybrid seeds obtained from 15 cross combinations were planted.

**Extension and other activities**

Ten training programmes on cashew graft production were organised for the farm labourers of the Department of Agriculture during the period. IAS trainees were given a one-day training on cashew production technology.

Dr. P.S. John conducted training on recent trends in crop production for the Agricultural Officers at Krishi Bhavan Nadathara on 11.1.02. Training was also conducted in the production technology of coconut for the farmers on Malappuram district at RARS, Pattambi on 20.3.02.

Fifteen demonstration plots in the farmers field were visited by the scientists of this station.

Radio talks on various topics were given through All India Radio.

| | | |
|---|---|---|
| Cashew propagation | : | Ms. Meagle Joseph |
| Cashew varieties and planting techniques | : | Dr. M. Abdul Salam |
| Control of tea mosquito bug in cashew | : | Dr. Susannamma Kurien |
| Chemical weed control in rice | : | Dr. P.S. John |

**Cashew graft production**

1,21,693 grafts were produced and supplied to the farmers during the year.

**Important visitors**

- Dr. K.V. Raman, Former Member, ASRB visited this station on 1.5.2001.
- Sri. P.K.R. Nair, University of Florida, USA visited this station on 11.7.01.
- Dr. U.V. Sulladmath (Professor – Horticulture) visited this station on 18.9.01.
- Sri. P.P. George, Ex. Member (KAU) visited this station on 6.10.2001.
- Dr. G. Kalloo, DDG, ICAR, New Delhi visited this station on 1.11.2001.
- Dr. Y.R. Sharma, Director, IISR, Calicut visited this station 2.11.2001.
- Dr. O.P. Vijay, Director, NRC for Seed Spices visited this station 2.11.2001.
- Dr. R.N. Pal, ADG, ICAR, New Delhi visited this station on 2.11.2001.

**Other details if any**

- Dr. M. Abdul Salam attended the 3rd meeting of the expert committee constituted by GOK on "Endosulfan controversy" at District Panchayath Hall, Kasaragode on 5th to 6th Sept. 01.
- Dr. V.G. Jayalekshmy was handling a course on "Plant cell tissue culture" for IInd year M.Sc. (Ag.) students.
- Dr. P.S. John guided (as major advisor) one M.Sc. (Ag.) and One Doctoral student of the College of Horticulture.

**Finance**

| Head of Account | Provision for the year | Expenditure | Receipts |
|---|---|---|---|
| Non plan | 18,29,000 | 17,43,007 | 3,42,920 |
| Plan | 5,83,704 | 3,96,365 | |
| ICAR | 14,63,600 | 15,32,947 | |
| Other EAPs | 2,07,500 | 14,320 | |
| Revolving | | 11,26,371 | 29,47,930 |

# AICRP ON WEED CONTROL

## COLLEGE OF HORTICULTURE, VELLANIKKARA

**Introduction**

In order to conduct research on the biology and management of problem weeds of the state, the Trichur Center of AICRP on Weed Control started functioning at the College of Horticulture, Kerala Agricultural University, Vellanikkara, on 14-10-1985. It started functioning as an ICAR/USDA project financed as FERRO, USDA under PL 480 funds.

**Mandate of the Institution**

To develop most effective and economic weed control recommendations for field crops, plantation crops and aquatic areas.

To conduct survey of weed flora, their distribution, ecology and habitat and to prepare weed map of the state.

To standardise analytical techniques for estimating herbicide residues in soil, crop and water systems and to monitor the fate of important herbicides used in Kerala.

To test the available tools/implements for weed management.

To train extension personnel in weed management.

**A few memorable events of the Institution**

The centre received third prize for the "best presentation of the report" during the Annual Meeting of AICRPWC held during October, 2001 at NRCWS, Jabalpur.

**Seminar/summer institute/symposia/training attended**

The scientists attended programmes such as 14th Kerala Science Congress, Biennial conference on Weed Management and National Seminar on Role of Pl. Physiology for sustaining quality and quantity of food production in relation to environment.

**Major Research achievements**

***Weed management in crops***

1. Rice

**a) Dry sown rice (Semi-dry rice)**

Spray butachlor 1.5 kg, thiobencarb 1.5 kg, oxyfluorfen 0.75 kg or pendimethalin 1.5 kg/ha at 0-6 DAS as pre-emergence application. This may be followed by a Hand weeding at 30 DAS for effective weed management.

**b) Wet sown rice (Puddle-sown rice)**

Spray butachlor (1.25 kg), thiobencarb (1.5 kg) or oxyfluorfen (0.1 kg/ha) at 6-8 DAS. Drain the field well before applying the herbicide. Maintain only a thin film of water for the next few days.

These herbicides can be mixed with moist river sand @ 40 kg/ha and broadcast uniformly, instead of spraying. This can save labour and time for application.

**c) Control of *Echinochloa* sp.**

Spray cyhalofop butyl (clincher 10 EC) at 0.08 kg/ha at 18-20 DAS for controlling *Echinochloa* sp. in rice fields.

**d) Reduced tillage in rice**

In low land areas with standing water in the field, spray glyphosate at 1.2 kg/ha to kill the existing weeds. After 15 days, when the weeds have dried, broadcast pre germinated seeds of rice, without any land preparation. Spray butachlor (1.25 kg/ha) at 7-8 days after sowing and 2,4-D (1.0 kg/ha) at 25-30 DAS for preventing further weed growth. By this method, the crop can be raised without any tillage operation. This is especially suited for areas of loose soil where tractor ploughing is not possible and manual digging is uneconomic.

**Tapioca**

Directed spraying of paraquat (0.5 kg/ha) or glyphosate (0.8 kg/ha) is effective for post emergence control of weeds.

**Cashew and Coconut**

Spray paraquat (0.4 kg/ha) or glyphosate (0.8 kg/ha) on the weeds in between the cashew or coconut plants. Repeat the spraying when regrowth of weeds cover about 50% of area or when they reach about one foot height.

**Rubber**

During the early pre-tapping stages, grow cover crop of *Peuraria phaseoloides, Centrosema pubescence* or *Mucuna bracteata* to smother the weeds and prevent soil erosion. Later during the tapping stage, spray paraquat (0.4 kg/ha) or glyphosate (0.8 kg/ha) on the weeds.

**Cardamom**

Spray paraquat + diuron (0.4 kg + 1.0 kg/ha) or glyphosate (0.8 kg/ha) on the weeds in between cardamom plants.

**Coffee**

Spray paraquat (0.4 kg/ha), glyphosate (0.8 kg/ha) or dalapon + 2,4-D at 3.0 + 0.5 kg/ha for controlling weeds in between coffee plants.

**Banana**

1. Grow cowpea (grain/fodder) in the interspaces during the early stages to smother the weeds.
2. Spray diuron (1.0 kg) or atrazine (1.0 kg) per hectare for pre-emergence control of weeds.
3. Spray paraquat (0.4 kg) or glyphosate (0.8 kg) per hectare for post-emergence control of weeds. Repeat the spraying in case of regrowth of weeds.

**Pineapple**

Spray diuron (1.0kg/ha) for pre-emergence control of weeds. Directed application of paraquat (0.4 kg/ha), paraquat + 2,4-D (0.4 + 1.0 kg/ha) or glyphosate (0.8 kg/ha) will control weeds in the areas between rows of pineapple.

**Herbicide residue studies**

Chromotropic acid colorimetric techniques for detecting the residues of 2,4-D in the rice soils have been developed. A bioassay techniques for commonly used rice herbicides, namely 2,4-D, butachlor and oxyfluorfen in different soils of Kerala have been standardised.

**Extension and other activities**

*Classes for Training Programme*

Classes on weed management, refresher training programme for Agrl. Officers of rice. Dept. of Agriculture, Kerala, organized by CTI, KAU (classes for 6 batches). Training classes were also conducted for the Assistant Directors of Agriculture of various states, Farm Assistants of KAU and other Farmers at Krishi Bhavans.

**Radio Talks**

Dr. C. T. Abraham. - Weed control in Virippu (Malayalam) on 12-4-2001 in AIR Thrissur.

**Important visitors**

Dr. N.T. Yaduraju, National Co-ordinator & Director, NRCWS, Jabalpur visited the center on 1-3 February, 2002.

**Other details if any**

An adhoc project on "Persistence of herbicides in water bodies and its impact on aquatic life" was sanctioned during the year 2001 for a period of 3 years.

**Finance**

| Head of A/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| ICAR | Rs. 18,57,500 | Rs. 15,06,587 | Rs. 1,181 |

# AICRP (MEDICINAL & AROMATIC PLANTS), COLLEGE OF HORTICULTURE, VELLANIKKARA

**Introduction**

One among the 11 co-ordinated centres of ICAR on Medicinal & Aromatic Plants.

**Mandate of the institution/station/unit**

Carry out research on Crop improvement agro techniques and quality analysis of mandatory, Crops; Germplasm conservation also forms part of the activity of the Station.

**Seminars/summer institute/symposia/trainings attended**

The Scientists attended programmes like State Biodiversity strategy and action plan, Sensitisation workshop for Pis of NATP, National Seminar on Conservation and Utilisation of Medicinal and Aromatic Plants and International seminar on medicinal plants, quality standardisation.

**Research programme**

Cataloguing of 27 out of the 65 accessions are over and D2 analysis revealed that they could be grouped into 3 distinct clusters. Hybridisation work has been carried out between Kanjoor and Nilamboor accessions belonging to two different clusters.

Mutant progenies of long pepper 1 kr, 2kr and 5 kr are under evaluation.

Bimodel phasic management system to improve both quality and quantity in njavara has revealed that Panniyur ecotype was performing better than Badagara.

**Extension and other activities**

Training classes on Medicinal Plants cultivation to Agricultural Officers of the Department of Agriculture by Dr. K.T. Presanna Kumari.

Training to unemployed women on Herbal Nursery techniques, Course Director Dr. K.T. Presanna Kumari. Training was given to 4 batches.

**Important visitors:**

i) Dr. P.L.Gautam, ND, NATP, ICAR on 22.7.2001

ii) Dr. R.N. Pal, ADG (Plantation Crops) on 31.10.2001

iii) Dr. Maiti. S., Project Co-ordinator (Medicinal Plants) on 10.12.2001 to 12.12.2001.

**Other details**

An NATP on 'Performance analysis of selected medicinal plants under multiple cropping system' with this station as lead centre and 3 co-operating centres at TNAU, ANGRAU and OUAT is an operation from October 12th 2001 – Dr. Presanna Kumari K.T.

The paper entitled 'Biodiversity in sacred lotus' authored by Dr. Presanna Kumari K.T., Suma V.A. and Minimol J.S. was awarded the 'Best poster presentation award' under Genetics session in the National Symposium on Agriculture in changing Global Scenario. February 21-23, 2002, at IARI, New Delhi organised by ICAR and ISAS.

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| ICAR | 16,89,500.00 | 16,71,266.00 | 19,769.00 |
| CSS (Ministry of Agriculture) | 65,000.00 | 64,977.00 | - |

# ALL INDIA CO-ORDINATED RESEARCH PROJECT ON BIOLOGICAL CONTROL OF CROP PESTS AND WEEDS

## Introduction

Kerala Agricultural University sanctioned a Scheme for ascertaining the feasibility of biological control of Salvinia on 25th January, 1972. The Scheme commenced work on 4th October, 1972, at Mannuthy, Trichur. Later this scheme was merged with the Kerala Agricultural University Centre of All India Co-ordinated Research Project on Biological Control of Crop Pests and Weeds on 1st April, 1977.

## Mandate of the station

To evolve biocontrol techniques against weed problems of Kerala. Survey and identification of the natural enemies of crop pests. Evaluation of promising biocontrol agents of pests of crops like rice, vegetables, fruits and coconut.

## A few memorable events of the Institution:

Award of KAU for outstanding contribution on biological control of African payal in Kerala using the insect *Cyrtobagous salviniae*. Award of PDBC, Bangalore for the significant contribution made by the Centre in the field of biological control of weeds.

## Details of deputation for Seminars/Workshops/ Summer Institutes/Symposia etc.

The scientists were deputed for programmes such as X Biocontrol Workers Group Meeting, National Symposium on IPM in Horticultural Crops, Bangalore and National Symposium on Biological Control of insect pests.

## Research programmes: Major research achievements

*Orthogalumna terebrantis* Wall Work, the galumnid mite pest of water hyacinth established all over the release sites in Kerala and spread far and wide giving partial suppression of the mat, it certainly helped to reduce the vigour and health of the plant thereby making the plant susceptible to other pests and diseases and thus reducing its competitive advantage.

*Zygogramma bicolorata* the biocontrol agent of Parthenium established in Palghat district.

*Cyrtobagous salviniae* weevils continue to maintain its ability in suppressing and maintaining a balanced population of the *Salvinia* weed over the vast areas of paddy fields and back water regions.

Evaluation of *Trichogramma* parasites for the management of rice pests indicates that they are on par with the chemical control and check.

Isolated the fungus *Hirsutella thompsonii* from the coconut eriophyid mite *Aceria guerreronis*

The field experiment for the management of the coconut mite using mycohit, neem and sulphur shows that the number of live mites was found to be reduced in all the treatments where as an increased count was recorded in untreated control.

## Extension and other activities

Supplied biocontrol agents to farmers

Visited farmers fields and suggested remedial measures for weed and pest problems.

Took classes on biocontrol for PG Students of I.I.H.R.Bangalore, and PAJANICOA & R.I. Karaikal, Pondichery. Conducted training classes on IPM to farmers, Agrl.Officers and to Asst. Directors of Agriculture.

## Important visitors

| Name | Organizational affiliation | Date | Purpose of visit |
|---|---|---|---|
| Smt K.B. Valsala Kumari | Secretary to Agriculture, Govt. of Kerala | 6-7-2001 | To review the biocontrol works |

## Finance

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| ICAR | 98,63,000 | 10,97,282 | — |
| Plan | 1,73,000 | 1,47,197 | — |

# AGRONOMIC RESEARCH STATION, CHALAKUDY

## Introduction

The Agronomic Research Station, Chalakudy was established on February 14th, 1972 by the Department of Agriculture, Kerala. The Kerala Agricultural University took over the station in 1973 for implementing the Co-ordinated project for Research on Water Management sponsored by ICAR. Under the VIII Plan two projects have been started viz. improving productivity of sandy loam soils of Chalakudy and establishment of a Water Management sub centre for tree crops at Main Campus, Vellanikkara.

## Mandate of the station- Research on Water Management

The mandate of the station is to develop low cost high tech water use and high profit land use pattern 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

Water Management and irrigation scheduling in crops and cropping systems.

## Auxiliary functions

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

To estimate the water requirements and 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 cheap 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 onfarm water management in cultivators' field with improved water management technologies developed in the research centre.

To produce quality seeds and seedlings.

## A few memorable events of the institution

An exhibition was conducted by this station at Chalakudy town from 2nd to 4th of February 2002.

To augment the integrated nutrient management research in rice under plan scheme, a vermicompost and a coir pith compost production units were established.

## Seminars/summer institute/symposia/training attended.

The Scientists have attended International symposium on 'K' nutrient management in crops, biennial scientists meet AICRP on Water Management, DAE-BNRC workshop, XIV Kerala Science Congress etc.

## Other Activities

Dr. T.K. Bridgit, Asst. Professor (Agronomy) took class to the farmers on " Nutrient management in crops' at Pulinkarathode watershed area under Kodassery Krishi Bhavan.

The scientists of this station rendered advisory service to many farmers regarding cultivation aspects and plant protection measures of crops like vegetables, spices, rice, banana, coconut and other cash crops.

Training was given to 40 farmers in connection with two days farmer's training programme by Kodungalloor Krishi Bhavan on 11-10-2001.

## Research Programme

## Major Research Achievements

Poultry manure was found to be significantly superior to farmyard manure both in quality and quantity of vegetable production.

In ladies finger, bubbler irrigation system is superior to channel irrigation and application of fertilizer N through bubbler irrigation system can save 50% of the normal recommended dose of N.

Performance analysis of new production technology of application of lime (150 kg /ha), potassium 120 kg/ha, silica (250 kg/ha) and top dressing nitrogen as ammonium sulphate could produce 5.1 tonne of paddy even during mundakan, which out yielded the Package of Practices by 206%.

Considering the yield of tapioca and total irrigation water applied, the irrigation water use efficiency was calculated for surge and continuous flow treatments. It was found the highest for surge irrigation treatment at 75 mm. CPE.

Application of fertilizer through bubbler Irrigation system along with water is found efficient and economic compared to the conventional method of application.

An adhoc study on betelvine showed that out of the 22 betelvine cultivars screened against the artificial inoculation of *Xanthomonas auxonopodis* PV *betlicola* indicated that none of them was immune to the bacterial leaf spot disease.

The results of the experiment on the post harvest storage of betel leaves reveal that the hydro-cooled betel leaves packed in polythene films when stored under ambient condition retained freshness and remained green even after 10 days of storage.

**Extension and other activities**

*Field visit to farmer fields*

The Scientists conducted field visits in Farmers Fields in connection with various problems on irrigation and allied agricultural problems of farmers.

**Farm advisory service rendered**

| Date/ period | Farm clinics | Solutions to farmer's | Field problems |
|---|---|---|---|
| 4/01 to 3/02 | In person 680 | Through Phone 290 | Post 10 |

**Exhibition organised**

One exhibition was also organised during 2/2002 – 4/2002 at South Junction, Chalakudy.

**Important visitors**

Dr. P. Das, DDG (Extn.), ICAR, New Delhi visited this station along with Vice-Chancellor and Director of Extension of KAU on 17-12-2001

**Finance**

| Head of A/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non Plan | 25,93,500 | 25,18,775 | 1,43,893 |
| Plan | 4,40,000 | 3,45,635 | 4,168 |
| ICAR | 30,44,000 | 28,56,525 | 19,359 |
| Other EAPs | 1,05,000 | 1,04,402 | - |
| Revolving Fund | - | 1,22,215 | 1,37,923 |
| Station | - | - | 30,009 |

# AROMATIC AND MEDICINAL PLANTS RESEARCH STATION, ODAKKALI

**Introduction**

The station was established in 1951 as "Lemongrass 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 was baptised as "Lemongrass Research Station". Consequent to the formation of the Kerala Agricultural University in 1972, the station became an integral part of the University's research net work. Diversifying the research emphasis of the centre to cover all other tropical aromatic and medicinal plants, the station was renamed as Aromatic and Medicinal Plants Research Station (A.M.P.R.S.) in 1982.

**Mandate of the Institution**

To provide research and development support to the medicinal and aromatic plants cultivation in the state.

**Lead functions**

1. Intensification of research on aromatic and medicinal plants
2. Transfer of technology to the targeted group
3. Supply of good quality planting materials
4. Quality testing and evaluation
5. Germplasm collection and maintenance of selected mandate crops.

**Auxiliary function**

1. Development of watershed management practices with special emphasis on ground water conservation
2. Tackle issues on environmental concerns specifically toxic residues in food chain

**A few memorable events**

Golden Jubilee year of the station's establishment was celebrated during October 2000 in a befitting manner with scientific seminar, farmer training programmes and exhibitions.

Considering the significant contributions 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.

Ministry of Agriculture, Government of India recognized the phytochemical laboratory of the station as one of the Regional Analytical Laboratories for medicinal and aromatic plants in the country.

**Seminars/summer institute/symposia/trainings attended**

The Scientists of the station attended III National Workshop (NATP) on plant diversity, Regional Round Table Meeting on commodity development in Asia and Pacific region, One day seminar on Watershed Management etc. during the period.

**Research programme**

***Major research achievements***

- Six lemongrass acceessions superior in yield to OD-19 were identified.
- A lemongrass chemotype containing 80% geranyl acetate in essential oil was identified.
- A high eugenol yielding cinnamon type has been identified.
- A package of practices incorporating cultural, physical, biological and chemical methods for managing the banana pseudostem weevil *Odoiporus longicollis* Oliv. was standardised.
- Method for the estimation of solasodine in *Solanum spp* was standardised

**Extension and other activities**

Being one of the pioneer institutions engaged in the research on aromatic and medicinal plants, good liaison is maintained among producers, traders, and the user industry. Dissemination of technology is efficiently 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 and important medicinal plants & crude drugs thereby enabling the farmers to fetch the maximum price for their produces based on quality.

Classes were arranged for farmers on cultivation and crop protection practices of different crops.

Classes were handled by the scientists of this station to the Extension officers and Agrl. Assistants of the Dept. of Agriculture on Integrated management of pests and diseases and different agrotecniques.

Dr. Baby P. Skaria served as a resource person in the monthly T&V Workshop programme of the Eranakulam District

Diagnostic field visits, identification of field problems brought by the farmers and recommendations and follow up were done by the scientists of the station.

**Important visitors**

Dr. S. Maiti, Project Co-ordinator (M&AP) and Director, NRC on M&AP, Boriavi, Anand, Gujarat on 23-12-2001.

**Finance**

| Head | Provision for the year (Rs. Lakhs) | Expenditure (Rs.) | Receipts (Rs.) |
|---|---|---|---|
| Non Plan | 33.68 | 28,42,528 | 2,34,516 |
| Plan | 14.90 | 9,56,283 | |
| EAPs | 09.09 | 9,79,617 | |
| Revolving fund | 00.00 | 2,44,659 | 8,56,976 |

# PINEAPPLE RESEARCH STATION, VAZHAKULAM

## Introduction

The Pineapple Research Station was started at Vazhakulam, 10 km from Muvattupuzha towards East, on 2nd January, 1995. The main objective of the Station is to carryout research on crop improvement, agronomic practices, nutritional aspects, cropping intensity and post-harvest technology and to undertake Farm Advisory Services in pineapple, var. Mauritius.

## Mandate of the Station:

Research on pineapple for development of new varieties, to develop sustainable farming technologies for higher yield and quality of fruits and control of pests and diseases.

## Seminars/ Summer institutes/ trainings attended

The scientists attended the National symposium on "Changing scenario of Horticulture Production Technology ", Golden Jubilee symposium of Indian society of Genetics and Plant Breeding, Regional Round Table Meeting for Asia- Pacific Region etc.

## Research Programmes

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

About 10000 hybrid seedlings were developed from a six parent crossing programme and are in the process of field evaluation. The parents included are- Kew, Mauritius, Reply Queen, Seln-1, Pampakuda Local and Kakkoor Local. At present there are about 3000 hybrids in field. Harvesting of fruits started and about 500 hybrids were harvested and evaluated for various quality parameters.

*Intraclonal variability in pineapple var. Mauritius.*

One plant type with plant characters of the Mauritius variety and fruit characters of Kew variety was located in farmers field. It is found that the quality characters are comparable to that of Kew variety. The duration of the crop is approximately 12 months. Thus with this plant fruits similar to Kew variety can be obtained within one year (similar to Mauritius variety) instead of 22-24 months in the case of Kew variety.

*Evaluation of organic manures with bio fertilizers for maximizing the yield and quality in pineapple var. Mauritius.*

Farm yard manure (600g/plant), poultry manure (250g), vermi compost (250g), neem cake (50g), azospirillum (625mg) and phospho bacteria (625mg/plant) were tested along with the recommended dose of chemical fertilizers (N, $P_2O_5$, $K_2O$ @ 8:4:8 g /plant), against a no-organic manure control (N, $P_2O_5$, $K_2O$ @ 8:4:8 g /plant alone) treatment. Plots applied with 250g poultry manure + azospirillum and phosphobacteria @ 650 mg each along with N, $P_2O_5$, $K_2O$ @ 8: 4: 8 g per plant, recorded higher values in terms of plant height and number of leaves, and juice percentage and quality parameters of fruits.

**Externally Aided Projects**

1. IPL Project on "Studies on the use of potassium fertilizers for improving yield and yield of pineapple on main production sites of Kerala state "

The objective of the project is to compare different doses of two types of potassium fertilizers (MOP and SOP) to get quality fruits. The project started on 1.11.2001. The experiment under garden lands has been planted on 24.11.2001.

2. ICAR ad-hoc scheme "evaluation of pineapple hybrids for higher yield, quality and suitability for intercropping"

This scheme started w.e.f. 1-1-2002 and the trials are going on.

**Training programmes conducted in this station:**

| Name & designation | Topic | Duration | No. of batches | No. of participants | Amount spent |
|---|---|---|---|---|---|
| Dr. V. S. Devadas, Associate Professor (Hort) *(Course Director)* | Home scale processing of pineapple fruits | 13th to 14th February 2002 | one | 8 | Rs. 786 |

**Farm advisory service rendered**

A total of 84 farm advisory services were rendered during 2001-02 , most of them were on cultivation and plant protection aspects of pineapple and a few on other crops.

**Important visitors**

Dr. BMC. Reddy, Project Co-ordinator (AICRP on Fruits, ICAR ), from IIHR, Bangalore visited this station on 12.10.2001.

**Finance**

| Head of account | Provision for the year Rs. Lakhs | Expenditure | Station Receipts Rs. |
|---|---|---|---|
| Non Plan | Nil | Nil | Nil |
| Plan - 321-31-3370 - Research on pineapple | 6.555 | 595734 | 932 |
| 321-31-4448 - Standn. of INM systems | 0.210 | 17509 | |
| 321-31-4449 - Breeding for yield & quality | 0.795 | 77773 | |
| 321-31-4450 - Standn. of popln. Density | 0.000 | — | |
| 321-31-4451 - Standn. of PHT in pineapple | 0.040 | 3745 | |
| ICAR-321-31-8095 Ad hoc scheme ***"Evaluation of pineapple hybrids..."*** | 0.750 | 47,871 | |
| Other EAPs 321-31-7797 IPL Project on use of K fertilizers in pineapple | 0.384 | 15670 | |
| TOTAL | 8.834 | 758302 | 932 |

# CROPPING SYSTEM RESEARCH SUB-CENTRE, WADAKKUMCHERRY

**Introduction**

The CSR Sub-Centre (earlier known as ECF Unit) is the field testing unit of the Cropping Systems Research Project Network, financed by the ICAR and the KAU and co-ordinated by the Project Directorate of Cropping Systems Research Project at Modipuram, Meerut, UP. The ECF Unit, which was started in 1971, functioned in various districts in the State with a 3-year duration. The period of operation was fixed as five years from 1988, and area of operation modified as agro-ecological zone. During 1988-93, it covered the Central zone with Head Quarters at Mannuthy during 1993-98 in the Problem zone with Head Quarters at Kayamkulam and at present in the Central zone

with HQ at Wadakkuncherry, Alathur w.e.f. September, 1999.

### Mandate of the unit

The major mandate of the Unit is to conduct on-farm research under the actual farming situations on location specific problems by researcher-extension workers-farmers participatory research.

### A few memorable events of the institution

The programme Facilitator, PDCSR, Meerut (the funding agency) inspected the Unit on 20th October and expressed full satisfaction on the working of the Project.

### Research programme

### Agronomy

On-farm trials conducted at various locations in Ernakulam, Thrissur and Palakkad districts revealed that the treatment consisting of all the recommendations of Package of Practices along with soil application of Zn $SO_4$ @ 25 kg $ha^{-1}$ + basal application of Azospirillum @ 2.0 kg $ha^{-1}$ gave significantly higher yield than that in farmers practice. Basal N was applied as urea and top dressing was done with ammonium sulphate. Urea was applied after mixing with neem cake in 5:1 ratio.

The technology of direct seeding of sprouted paddy seeds and green manure seeds by 'wet seeder' followed by incorporation of green manure by conoweeder was found viable and cheap to replace transplanting without sacrifice in yield during *rabi* season. This method gave a cost savings of Rs.2690 $ha^{-1}$ over wet broadcasting and Rs.4690 $ha^{-1}$ over transplanting. This technology was accepted by the Agriculture Dept for large-scale extension programmes.

### I. Palakkad district

### 1. Alathur Block

The results reveal that, if the cropping system demand varieties of about 114 days for virippu, Harsha would be the appropriate choice. It is found a suitable variety for dry sowing, the predominant method of crop establishment in the region. For mundakan, if the crop period available are short, ASD-16 (white rice) would be the most suitable variety. If red rice is preferred, Harsha or Mattatriveni should be selected. If about 120 days crop period are available, Bhadra would be the best one.

### 2. Kuzhalmannam Block

In Kuzhalmannam block, during virippu, ADT-43, a white rice variety was the best among the short duration group. It was followed by ASD-16 (white rice) and Mattatriveni, Aiswarya and Harsha (red rice varieties), but significantly less yield than ADT-43. Among the medium duration varieties, Cul.210-25 outyielded all other varieties. Panchamy and Remanika occupied the second and third positions respectively.

During mundakan, ASD-16 was found the best, among the short duration group.

### 3. Kollengode and Chittur blocks

The results of the trials conducted at Kollencode and Chittur blocks, reveal that varieties of duration 117 to 137 days would be appropriate for virippu season. If the crop could be transplanted by June middle varieties upto 137 days viz., Cul. 210-25, Bhadra, Athira or Remanika can be included in the cropping scheme. If the crop season period available is less, it would be better to go for ASD-16, Mattathriveni or Aiswarya.

### 4. Nemmara block

Among the short duration varieties, Jyothy (118 days) gave the highest yield (4100 kg/ha). Aiswarya and Harsha also performed better with an average yield of 3825 kg $ha^{-1}$ and 3675 kg $ha^{-1}$ respectively. Among the medium duration varieties, Revathy gave the highest yield (4800 kg $ha^{-1}$).

### II. Thrissur District

### 1. Wadakkanchery Block

In Wadakkanchery block, which is a dry sown belt for Virippu season, short duration varieties are preferred. Remanika (115 days) gave the highest yield (4221 kg $ha^{-1}$).

### 2. Chalakudy Block

The trials were conducted at Koratty Panchayath during virippu only. In this region, Aiswarya gave the highest yield (3713 kg $ha^{-1}$).

### 3. Kole (Puzhakkal Block)

The trials were conducted during Mundakan period (kole first crop) in Adat Panchayath. Among the short duration varieties, Bhadra was the best one (6128 kg/ha) suitable for mundakan kole.

Among the medium duration varieties, Uma (123 days) gave the highest yield of 6389 kg $ha^{-1}$.

### III. Ernakulam District

### 1. Koovappady Block

The yield level during virippu season was very poor. Among the group I varieties, Kanchana (115 days) gave the highest yield (2853 kg $ha^{-1}$). Considering the less duration, Kanchana or Matta Thriveni would be the better choice, if crop period is about 115 days. If medium duration varieties are preferred. Athira (130 days) would be the better one.

### 2. Vadavukod Block

During Virippu, Kanchana the better short duration variety. During mundakan season, Kanakam is the highest yielder (3343 kg $ha^{-1}$)

### Horticulture

Studies on the effect of growth regulators on earliness and fruit yield of salad cucumber showed that ethrel at 300 ppm and cycocel at 200 ppm were the most effective for increasing yield during summer. Female flower production was also made earlier by one week by these treatments.

### Extension and other activities

### Front line demonstrations

| Name and Designation of scientists | Topic | No. of participants | Amount spent |
|---|---|---|---|
| Dr. I. Johnkutty, Associate Professor & Head | Front line demonstration on oil seeds Sesame | 6 demos | Rs.49,306 |
| Dr. K.P. Prasanna Associate Professor | | | |

***Training programmes/Field days/seminars :***

### Training programmes

A State Level Training on Rice Research and Production Technologies for the field staff of CSR Sub Centre was organized at RARS, Pattambi on 4-5th December 2001.

### Field days conducted

A total of 6 field days were organised at various places in Thrissur, Palghat and Ernakulam Districts on rice, oil seeds and vegetables. The scientists also participated in "Agroclinics" and "Farmers meet" programmes and took classes on various subjects.

### Important visitor

Dr.B.Gangwar, Programme Facilitator, PDCSR, Modipuram, Meerut visited the unit and the experiments at various sites in Ernakulam, Palakkad and Thrissur districts, on 20th October, 2001.

### Other details if any

A new ICAR ad-hoc project on "Site specific nutrient management in rice" has been awarded by the council during the year.

### Finance

| Head of a/c | Allocation | Expenditure | Receipts |
|---|---|---|---|
| Plan (Paddy Unit) | 2.75 | 2.9849 | Nil |
| ICAR (AICRP on Cropping Pattern) | 13.32 | 16.6616 | Nil |
| FLD on oil seeds | 0.50 | 0.49306 | Nil |
| Other EAPs Palakkad Cropping Pattern | 1.35 | 1.3554 | Nil |

# BANANA RESEARCH STATION, KANNARA

## Introduction

Banana Research Station, Kannara and Pineapple Research Centre, Vellanikkara are the leading centres in Kerala where systematic research on these crops are undertaken. Banana Research Station was started at Marakkal, Kannara in the year 1963. The station was taken up by the Kerala Agricultural University from 1-2-1972.

## Mandate of the station:

1. Collection, conservation and evaluation of large genetic stock of banana, pineapple and jack fruit.
2. Developing better cultivars or clones of banana, pineapple and jack fruit through selection and hybridization.
3. Developing suitable agro techniques for achieving higher production and productivity.
4. Formulating control measures for pests and diseases of banana, pineapple and jack fruit.

Lead station : Banana Research Station, Kannara

Satellite stations : Pineapple Research Station, Vellanikkara

## Seminars/summer institute/symposia/trainings attended

The Scientists attended programmes like National Symposium on Bio-diversity vis-à-vis Resource Exploitation – An Introspection, Training on Integrated Pest Management in Horticultural Crops, National Seminar on Emerging Pest and Disease Problems and their Management, DAE-BRNS Regional Workshop on the Impact of Applications of Radiation on Food and Agriculture etc.

## Research programmes

## Major Research Achievements

### *Banana*

### Crop Management

In banana var. Poovan (AAB), the widest spacing (2.1 x 2.1 m) recorded maximum yield, but the highest net returns per hectare was obtained for 1.2 x 1.2 x 2.0 m, accommodating 5,028 plants per hectare. October planting was the best planting season for banana var. Nendran (AAB) with respect to yield, which was followed by December planting. With regard to Sigatoka Leaf Spot, the lowest infection index was noticed for June planting.

Application of nitrogen @ 250 g + 150 g in 4 + 3 splits registered the maximum yield for banana var. Poovan (AAB). Potassium application @ 100g + 100 g, 75 and 165 days after planting resulted in the highest yield. The best combination of organic and inorganic nitrogen for high yield in banana var. Poovan (AAB) was 25% N as (FYM + green manure ) + 75% N as inorganic.

Covering the bunches after the emergence of last hand with blue polythene improved the bunch weight and total appearance of the bunch and recorded the lowest number of days to reach maturity.

### Insect pests and nematodes

Raising sunhemp as an intercrop and its incorporation reduced the attack of nematodes in banana var. Dwarf Cavendish (AAA). Setting of pseudostem traps for pseudostem borer in a plot of a tolerant variety 'Njalipoovan' did not attract many adults of the pest. Monitoring the population dynamics of pseudostem borer indicated that the variety Monthan is also susceptible to attack.

### Diseases

Spraying banana plants with tebuconazole (0.02%) was found to be highly effective for controlling Sigatoka Leaf Spot disease of banana var. Nendran. To control Panama Wilt disease of banana, drenching the plants with carbendazim (0.2%) or injecting the plants with carbendazim (2%) solution was effective, which should be done two to three times i.e., 5$^{th}$, 7$^{th}$ and 9$^{th}$ month after planting.

### Pineapple

Protocol for tissue culture for pineapple was standardized and a comparative study of different

methods of propagation revealed that tissue culture method was comparable to sucker propagation.

**Jackfruit**

Survey was conducted as part of the germplasm collection and conservation of jackfruit and several types suitable as fruit, for culinary purpose and for chip making were identified.

**Extension and other activities**

All the scientists participated in extension activity viz., taking classes for farmers, identification of field problems and suggesting remedial measures.

Ten groups of farmers visited BRS, Kannara for studying about the various aspects of banana cultivation. Enquiries regarding availability of banana suckers, crop management aspects and pest and disease problems through mail (15) and telephone (30) were answered. At PRC, Vellanikkara, 29 farmers visited the station for clearing their doubts on various aspects of pineapple cultivation.16 phone calls were received from farmers during the period on various problems encountered in pineapple cultivation and their doubts were cleared. A radio talk on tissue culture banana was conducted by Dr. Rema Menon, Assoc. Prof. on 10.10.01 and another one on intercropping in banana was conducted by Dr. A. Suma, Assoc. Prof. on 17.11.2001.

**Important visitors**

Smt. K.B. Valsalakumari, Secretary to the Govt. of Kerala, Department of Agriculture visited the station on 6.7.01.

Ms. Kaori Komatsu, Mr. Koichi Kitanishi and Mr. Rosei Hanawa, researchers and anthropologists from Japan visited the station on 11.9.01.

Dr. B.M.C. Reddy, Project Co-ordinator, AICRP (TF) visited the station on 11.10.2001.

**Other details**

A scheme on Preparation of banana fibre products was taken up at this station as part of the ATIC – ABARD programme.

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 38.453 | 32,33,723.50 | 8,16,647.50 |
| Plan | 1.900 | 92,656.00 | |
| ICAR | 17.510 | 22,21,651.00 | |
| Revolving Fund | — | 2,960.00 | 28,138.00 |
| Total | | 55,48,030.50 | 8,44,785.50 |

# INSTRUCTIONAL FARM OF COLLEGE OF HORTICULTURE, VELLANIKKARA

**Introduction**

The Farm was started in the year 1974 and brought under College of Horticulture, Vellanikkara in 1988. The total area of the farm is 95.35 ha.

**Mandate of the institution:**

a) Imparting training to UG/PG students on Agro-techniques of crops.

b) Conducting research on coconut, cocoa, mango and vegetables.

c) Maintaining varietal collection of fruits and plantation crops and vegetable seed production.

**Research programmes**

*Major research achievements*

**Coconut and coconut based cropping system**

The multi location trial on promising hybrid combinations of WCTxMDY, WCTxCDG, WCTxCDO showed that the various hybrid

combinations did not show any significant difference with respect to number of leaves produced and other important morphological characters. But WCTxMDY expressed earliness in bearing when compared to other hybrids and check variety WCT. The nut production was also high in WCTxMDY.

**Important visitors**

| Name and address | Date of visit | Purpose of visit |
|---|---|---|
| Dr.U.V.Sulladmath, Formerly Professor & Head, Dept. of Horticulture, U.A.S. Bangalore. | 18-9-01 | Visit to Mango germplasm |

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 36,22,300 | 35,12,659 | 4,20,693 |
| Plan | 75,000 | 11,367 | - |
| ICAR | - | - | - |
| Other EAPs | - | - | - |
| Revolving Fund | 6,00.000 | 3,07,909 | 4,41,120 |

# NORTHERN ZONE

## REGIONAL AGRICULTURAL RESEARCH STATION, PILICODE

**Introduction**

Under NARP scheme, this station was reorganised as a Regional Agricultural Research Station for the Northern regions comprising the districts of Kasaragod, Kannur, Kozhikode and Malappuram with effect from 1-6-1980. The present area at Regional Agricultural Research Station, Pilicode is 57.87 ha and that of Nileshwar 17.25 ha.

**Mandate of the station**

**Lead function**

The main objective of the station is to perform a state-wide lead function for research on coconut based cropping systems.

**Auxiliary function**

To serve as a commodity verification and testing centre for rice, pulses and oilseeds and to supervise and guide the work at Pepper Research Station, Panniyur in the Northern zone of Kerala.

**Lead station**

Regional Agricultural Research Station, Pilicode-671 353

**Satellite station**

Pepper Research Station, Panniyur

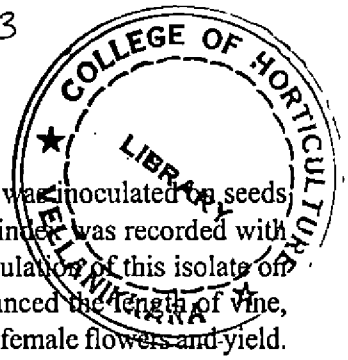
**A few memorable events of the institution**

Kisan Mela 2001 was organized in Regional Agricultural Research Station, Pilicode on October 30, 31st and November 1st 2001. Hon'ble Vice-Chancellor Dr.K.V.Peter presided over the function. Inauguration was done by Sri.T.Govindan, M.P. Director of CPCRI, Kasaragod, Director of Spices Board, Cochin also visited the Station in connection with the felicitation function of Kisan Mela.

### Faculty Improvement Programme

**Details of Scientific staff deputed for higher studies**

| Name of scientist and designation | Details of deputation | | | Institute to which deputed |
|---|---|---|---|---|
| | Course | From | To | |
| 1 Mercikutty, M.J. Asst. Professor (Ag. Extension) | To complete final semester of Ph.D. and thesis completion | Aug. 01 | July 02 | College of Horticulture (K.A.U.), Vellanikkara |
| 2 Smt. Jayasree P.K. Asst. Professor (Agronomy) | Ph.D. (Agronomy) | Nov. 01 | May 04 | ,, |
| 3 Smt. Lily Levin Asst. Professor (Ag. Entomology) | Ph.D. (Ag. Entomology) | Nov. 01 | May 04 | ,, |




**Seminars/Training /Summer Institute/Symposia attended**

The scientists attended programmes such as National Workshop on 'Recent Developments in Biofertilizers for rice based cropping system', Workshop on Forecast of yield and estimates of cashew, Group meeting of AICRP scientists for yield estimates of cashew, Biennial Workshop of AICRP on Cashew, Training on Production, Forecast of Cashew 2002 season and modern trends in IPM.

**Research Programmes**

**Crop Improvement**

Philippines Ordinary, Lakshadweep Ordinary, Cochin China, Java, New Guinea, and Spicata were highly suitable for cultivation in the northern zone under rainfed conditions. Philippines Ordinary and Lakshadweep Ordinary ranked first in yield of copra and number of nuts, respectively.

The coconut hybrids viz., WCT x CGD, Lakshaganga ( LO x G B ), Keraganga (WCT x GB), Anandaganga (AO x GB ), Kerasree (WCT x MYD) and Kerasoubhagya (WCT x SSA) were released. Kerasree ranked first in copra yield (216 g/nut). It could produce 250 nuts/palm/ year and copra out turn of 30 kg/palm/year while Kerasowbhagya could produce 217 nuts/palm/year with copra out turn of 25 kg/palm/ year under good management conditions.

For the trial of promising seed materials, Laccadive Ordinary had the highest number of female flowers. Cumulative nut production is highest for Chandrasankara followed by Kerasankara.

Thirty seven bold nut and promising types of cashew were identified from Kannur and Kasaragod districts. They are being maintained at the station.

Out of 14 promising and released cashew types, H-1600 was superior.

Out of 206 pickling types of mangoes identified in the northern districts of Kerala as well as north and South Kanara districts of Karnataka, 68 are promising.

Quantitative and qualitative analysis and standardisation procedure for preservation of toddy were conducted.

**Crop Management**

When *Azospirillum* was inoculated on seeds of melon maximum vigour index was recorded with the isolate PIL M-11. Inoculation of this isolate on pot culture experiment enhanced the length of vine, number of leaves, number of female flowers and yield. Field experiments were conducted for 3 years with and without inoculation at different levels of nitrogen. PILM-11 and a commercial strain were used as inoculants. Local strain PILM-11 was found better than the commercial strain and inoculation favoured better bacterial establishment in root system, enhanced root development and plant growth.

**Crop Protection**

While evaluating the incidence of eriophid mite in different coconut cultivars and hybrids, it was found that in SS apricot among exotic and Bombay among indigenous varieties are having lesser percentage of damage.

**Agrometeorology**

The Agrometeorological Field Units (AMFU) at RARS, Pilicode was set up during 1995-96. The agro-advisory committee constituted with scientists from various disciplines and Agricultural officers of Pilicode and Cheruvathur Krishi Bhavans function under the chairmanship of Associate Director of Research, RARS, Pilicode.

The Agro-advisory information is prepared in Malayalam and English. A copy of the Agro-advisory is sent to nearby Krishi Bhavan also and to the District Information Officer, Kannur. The Agro-advisory will enable the farmers to take steps for timely farm operations so as to sustain crop production of the region.

**Animal Science**

Under the scheme of conservation and evaluation of *Malabari* breed of goats, when the average body measurements (length, girth and height) were computed for female adult goats belonging to various age groups, variability was maximum for height and minimum for length of the female goats of above 2 years of age. Number of births during 2000-2001 was 110. Among births, 76.41% were singles and 23.59% were twins. The male to female sex ratio

was 1:15. The mortality rate of kids was 13.63% and the overall mortality rate for 2000-2001 was 9.37%.

**Extension and other activities**

Dr. M.P. Giridharan participated in various activities like 'Coconut product diversification', 'Vegetable seed production' and project preparation under agricultural sector. Dr. B. Jayaprakash Naik attended "Organic Farming in cashew" and improved varieties developed by KAU, a talk at Krishi Bhavan, Kumbala, Dr. G. Rajasree gave a talk on 'Vegetable cultiation' at Krishi Bhavan, Pariyaram.

**Important visitors**

| Sl.No. | Name | Organisational affiliation | Date | Purpose of visit |
|---|---|---|---|---|
| 1 | Sri T. Govindan | Hon'ble M.P. | 30.10.01 | Inauguration of Kissan Mela 2001 |
| 2 | Dr. V. Rajagopal | Director of CPCRI Kasaragod | 30.10.01 | Felicitation in Kissan Mela 2001 inaugural function |
| 3 | Dr . Kosi John | Director of Spices Board | 30.10.01 | ,, |

**Details of Seminar/Workshop/Symposium etc. conducted at the Station**

A total of (26) such activities were undertaken in which officers of other Departments,Scientists, Extension workers, Farmers and women labourers were participants, "Training on mushroom cultivation", "Training on vegetable cultivation", "T and V Workshop", "Training on product diversification with special emphasis on coconut", "Disease Management in important crops", "Use of non-hazardous insecticides for pest control", "Recent developments in cashew production technology" and "Organic farming, biofertilizers vermicompost" etc.

**Paper published/presented/communicated**

Rajasree G. and B. Raghavan Pillai, 2001. Performance of fodder legumes under lime and phosphorus nutrition in summer rice fallow. Journal of Tropical Agriculture 39: p.67-70

M. Govindan and Yamini Varma C.K. 2001. Effect of *Azospirillum* inoculation on rice grown in acidic soils of Kerala. Abstract published in connection with 'National Workshop on recent development in biofertilizers for rice based cropping system'.

Yamini Varma C.K. and S.K. Nair, 2001. Phytohormone producing *Azospirillum* from pepper (*Piper nigrum*.L.) rhizosphere. (Accepted for publication in Agricultural Science Digest by Agricultural Research Communication Centre, Karnal, Haryana

M. Govindan and Yamini Varma C.K. 2001. 'Koombucheeyalinethire Jagratha' (Malayalam). Kerala Karshakan December

M. Govindan and Yamini Varma C.K. and P.K. Sathyarajan 2001. Effect of fungicides and nutrients against leaf spot disease of banana cv. Nendran. Abstract accepted for 54th Annual meeting and National symposium of Indian Phytopathological Society held at CPCRI, Kasaragod

C.K. Yamini Varma and S.K. Nair 2001. *Azospirillum*– an effective substitute for plant growth hormone use in bush pepper. Abstract accepted for 54th Annual meeting and National Symposium of Indian Phytopathological Society held at CPCRI, Kasaragod.

**Finance**

| Head of Account | Provision for the year | Expen-diture | Station receipts |
|---|---|---|---|
| Non plan | 102.620 | 9348276 | 1350338 |
| Plan | 18.520 | 1153685 | |
| ICAR | 3.175 | 414398 | |
| Other EAPs | 2.700 | 95245 | |
| Revolving Fund | - | 760381 | 843329 |

# PEPPER RESEARCH STATION, PANNIYUR

## Introduction

Pepper Research Station, Panniyur, was started in 1949, as a scheme to improve pepper cultivation and was uplifted to the status of a research station in 1952 and became a constituent institute under the Kerala Agricultural University in 1972. Since then, research on crop improvement, crop management and crop protection aspects of black pepper were carried out in this station. It is an important coordinating centre of the All India Coordinated Research Project on Spices of the ICAR. Nine research projects of AICRP are being carried out in this station.

## Mandate of the station

The station is unique among all the agricultural research stations in India, in that it is the only station solely devoted to the 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.

## A few memorable events of the institution

Two new black pepper varieties developed from this station, Panniyur 6 (clonal selection from Karimunda III) and Panniyur 7 (open pollinated progeny of Kalluvally) were released by KAU for the state.

Farmers day of the station was organized on 17-1-2001. Two hundred and thirty one farmers of Kannur and Kasaragod Dt participated in the programme.

| Name | Designation | Seminar/Symposia/ workshop/summer institute for which deputed | Period of deputation | Institute to which deputed |
|---|---|---|---|---|
| P.K. Unnikrishnan Nair<br>Dr. Neema, V.P.<br>Dr. G. Sivakumar<br>Dr. Vanaja | Professor<br>Assoc. Prof.<br>Asst. Prof.<br>Asst. Prof. | XXIII NARP zonal workshop | 13-9-01 | RARS, Pilicode |
| P.K. Unnikrishnan Nair<br>Dr. Neema, V.P.<br>Dr. G. Sivakumar<br>Dr. Vanaja | Professor<br>Assoc. Prof.<br>Asst. Prof.<br>Asst. Prof. | XVI AICRP National workshop | 1-11-01 to 4-11-01 | KAU, Vellanikkara |
| Dr. Neema, V.P.<br>Dr. G. Sivakumar | Assoc. Prof.<br>Asst. Prof. | National Seminar on changing scenario in the production systems of hill horticultural crops | 20-2-02 to 21-2-02 | HRS, TNAU, Udhagamandalam |

## Major Research Achievements

### Crop Improvement

Two new promising black pepper varieties of this station were released by KAU for the state. The salient features of the two varieties are as follows.

### Panniyur 6 [Karimunda III]

It is a clonal selection from the local cultivar 'Karimunda'. The variety is characterized by more number of spikes per unit area with close setting and attractive bold berries. Another prominent feature of Panniyur 6 is the stable and regular bearing nature.

### Panniyur 7 [Culture1558]

It is a selection from the open pollinated progenies of Kalluvally, a popular cultivar of North Kerala.This variety is characterized by long spike and high piperine content. It is a hardy type and tolerate adverse climatic conditions.

Inter specific hybridization of promising pepper varieties with *Piper colubrinum* and *Piper attenuatum* were made and the hybrid seedlings are being evaluated.

Grafting of *Piper nigrum* (laterals, runners, top shoots) on *P.colubrinum* root stock are being carried out and the pepper grafts planted in the field are being evaluated.

**Crop production**

Results of the drip irrigation trial conducted at this station indicate irrigation level @ 2 litres/vine daily during summer months increased the yield by way of enhancing the total number of spikes and spike length.

**Crop protection**

The results of the trial *Phytophthora* foot rot disease management in black pepper indicate that Metalaxyl Gold MZ and *Trichoderma* were found effective in controlling the foot rot disease followed by application of Akomin and *Trichoderma*. The disease incidence was very low when Metalaxyl gold MZ fungicide was combined with the soil application of *Trichoderma*.

**Extension and other activities**

Scientists of the station were actively involved in extension activities by handling classes and discussions in agricultural seminars organized by the Dept. of Agri. and other reputed organizations of Kannur and Kasaragod districts. Scientists also co-operated with AIR, Kannur in broadcasting radio talks on various aspects of pepper cultivation. Field problems of farmers reported were properly identified and remedial measures suggested by conducting field visits. The disease/pest attacked specimens brought by the farmers were diagnosed and control measures suggested. Farmers day of the station was organized on 17-1-2001.

A total number of (11) Seminars/Symposiums were conducted on various topics like, Scientific pepper cultivation, Seed production and distribution technology in rice, Plant protection of black pepper etc.

Frontline demonstration on Tissue culture pepper are being continued at two locations at Kannur and Calicut District. The scientists of the station participated in the Kisan mela conducted by RARS, Pilicode on 30th and 31st October 2001.

The following Scientific papers were presented in the National Seminar on Changing scenario in the production systems of Hill Horticultural crops held from 20-21 Febuary 2002 held at HRS,TNAU, Udhagamandalam.

P.K.Unnikrishnan Nair, K.P.Mammooty and G.S.Sivakumar 2002. Management of nursery diseases of black pepper.

P.K.Unnikrishnan Nair, K.P.Mammooty and G.S.Sivakumar 2002. Management of Phytophthora foot rot of black pepper.

T.Vanaja, K.Arya, V.P.Neema , G.Sivakumar and P.K.Unnikrishnan Nair 2002. A high yielding clonal selection of black pepper (*Piper nigrum*) for Kerala : Panniyur - 6.

V.P. Neema, K. Arya, T. Vanaja, G. Sivakumar and P.K.Unnikrishnan Nair. 2002.A Promising open pollinated progeny selection of of black pepper (*Piper nigrum*) for Kerala : Panniyur - 7.

G.Sivakumar, P.K.Unnikrishnan Nair , T.Vanaja and V.P.Neema . 2002.Efficacy of certain fungicides in the control of foot rot disease in nursery.

**Important visitors**

Dr. K.V. Ramana, Head, Division of Crop Protection,IISR, Calicut, Dr.M. Venugopal, Head, IISR, CRC, Appangala, T.A.N. Rathinam, Asst. Director, Spices Board, Calicut, S. Kumaraselvam, Director, CSF, Aralam, T. Govindan, Member of Parliament and M.P. Govindan Master, MLA

**Finance**

| Head of a/c | Provision for the year | Expenditure (Rs. in lakhs) | Receipts (Rs. in lakhs) |
|---|---|---|---|
| Non-Plan | 3000500 | 2861033 | 764861 |
| Plan | 478000 | 363719 | |
| ICAR -AICRP | 897000 | 1455153 | |
| OEAP -IPDS | 264000 | 359119 | |
| TMBP | 500000 | 126843 | |

**Radio talks**

(Recorded and broadcasted by AIR, Kannur)

| *Name of scientist* | *Topic* | *Date* |
|---|---|---|
| Dr. Neema V. P | Control of Pollu beetle in black pepper | 14-7-01 |
| Dr. Neema V. P | Harvesting and processing of black pepper in a scientific way | 31-12-01 |

# HIGH RANGE ZONE

## REGIONAL AGRICULTURAL RESEARCH STATION
## AMBALAVAYAL

### Introduction

The high range zone is a sub region of Western ghats lying at an elevation of 750 metres above mean sea level. The region comprises of the hill districts of Wayanad, Idukki, Nelliampathy and Attappady ranges of Palghat, Thannithode and Seethathode Panchayats of Pathanamthitta, Aryankavu, Kulathupuzha and Thenmala Panchayats of Quilon district, Peringamala, Aryanadu, Amboori, Vithura and Kallikadu Panchayats of Thiruvananthapuram District.

### RARS, Ambalavayal

This station was established on 5th July,1945 as a part of the Wayanad Colonization Scheme to supply seeds and planting materials, to impart training on improved agriculture and to conduct research on crops pertaining to this area. With the formation of Kerala state in 1956, it was brought under the Department of Agriculture. It was upgraded to the status of a Central Horticultural Research Station in 1966 and later transferred to the Kerala Agricultural University in 1972. It was elevated to the status of a Regional Agricultural Research Station for the High Ranges in 1983 under the National Agricultural Research Project, with Cardamom Research Station, Pampadumpara as its sub station.

### Mandate of the Station

The station was started on 5-7-1945 to carry out research on various aspects of improvement of agriculture in Wayanad in general and the colonization area in particular and to render technical advice on scientific cultivation to the farmers of the area.

### Lead Functions

Pepper and pepper based cropping in high ranges, hill paddy, cool season vegetables, soil and water management, sub tropical fruits and coffee based cropping system.

### Auxiliary function

Essential oils and medicinal plants and ginger.

### A few memorable events of the institution

Visit of Chief Secretary, Govt. of Kerala, Zonal Research and Extension Advisory Council Meeting, Zonal Review meeting of KVKs/TTC/IVLP/ ATIC of Kerala and Lakshadeep.

### Seminars/Summer Institute/symposia/ training attended

The scientists attended programmes like Workshop on project review, X Annual Review Meeting, XVI National Workshop on AICRP on Spices and Regional Round Table discussion for Asia and Pacific for Commodity Development.

## Research programme

### Major research highlights

*Black pepper:*

Under the clonal variability study on Panniyur 1, oleoresin and piperine content of clones were analysed at AMPRS, Odakkali. Results indicated that Clone No.32 was superior to all other clones of Panniyur-1, with longer spikes (13.25 cm), higher number of berries per spike (64) and the highest yield per spike (51.8 g) with oleoresin content of 10.98% and piperine 7.1%.

Evaluation of 14 pepper cultivars revealed that Panchami, PN-4 and PN-5 were promising in high ranges of Kerala.

*Cinnamon*

Evaluation of seven types showed that SL-203 recorded the highest wet (0.781 Kg) and dry (0.315 Kg) weight of quills per plant.

*Ginger*

PGS-35 among dry ginger types and V2E5-2, among dual purpose ginger type were promising and were recommended for farm trial in the 18th ZREAC.

***Turmeric:***

Three varieties viz., VK-29, VK-31 and PCT-19 were high yielding and recommended for farm trial.

*Tomato*

The 27 F1 hybrids were evaluated under polyhouse and field conditions along with 12 parents. The results indicated that the hybrid Shakthi x CLN 657 recorded the highest yield per plant (3.737 kg) under polyhouse conditions and 1.700 kg under open conditions.

*Cool season vegetables*

Selection 909 and Arka Komal varieties of french bean (bush type) and PES-1, a cauliflower variety was recommended for multilocational trial at Pampadumpara and for farm trial in the 18th Zonal workshop.

**High value vegetables under protected condition:**

*Capsicum*

Fifteen lines of capsicum were grown under poly house and field conditions. The results indicated that California Wonder and Kandalghat Selection performed well under high range conditions.

*Potato*

The variety HT/92-731 recorded the maximum number of tubers (7), the highest yield per plant (282.2 g), more number of marketable tubers/ plot (63) and the highest yield (25.40 t/ha) followed by Kufri Jyothi in number of tubers (4.6), Kufri Lavkar in yield per plant (276.6 g), Kufri Jyothi in number of marketable tubers (46) and yield (17.5 t/ha).

**Agro-Industries in Wayanad: A path to rural development**

The study calls for policies in order to tap the immense potential of the area which in turn would lead to the development of mainly food processing and other industries dependant on agriculture and would also help to face the low price problem in the plantation sector in the district.

**Papers published**

*Scientific articles*


Susamma P George, Nybe, E.V., Gopalakrishnan,T.R. Manomohan Das,T.P., Aipe, K.C. and Kumaran, K., 2001. Effect of time of planting on growth and yield of irrigated Nendran banana.. *J. Tropical Agriculture* 39(1) 28-31.

Pradeepkumar,T., Karihaloo,H. and Sunil Archak. 2001. Molecular characterisation of *Piper nigrum* L. cultivars using RAPD markers. *Curr. Sci.* 81 (3): 246-248.

Pradeepkumar,T., Karihaloo,H., Sunil Archak and Ambita Baldev. 2001. Analysis of genetic diversity in *Piper nigrum* L. using RAPD markers. *Genel. Resources and Crop Evolution.* (Accepted)

Pradeepkumar,T., Dijee Bastian, Joy,M., Radhakrishnan, N.V. and Aipe, K.C. 2001. Genetic variation in tomato for yield and resistance to bacterial wilt. *J. Trop. Agric. 39.*

Pradeepkumar,T., Mayadevi, Aipe,K.C., Manomohan Das,T.P., Giridharan,M.P., Satheesan,N. and Kumaran,K. 2001. Nitrogen and potassium requirement of green ginger crop in Wayanad. *J. Spices and Aromatic crops. 10* (1).

Sajith Babu D and John PS. 2002 . Growth attributes of rice as influenced by organic and inorganic fertilizers at varying plant densities. *14th Kerala Science Congress.* pp. 687 - 688.

Sajith Babu D and John PS. 2002. Yield maximisation of direct sown rice under puddled condition. *14th Kerala Science Congress.* pp. 330 - 333.

Pradeepkumar, T, Sajith Babu D and Aipe.KC. 2002. Evaluation of tomato genotypes under poly house and open conditions in high ranges of Kerala. *14th Kerala Science Congress.* pp. 360 - 363.

Sajith Babu, D , T. Pradeepkumar, T.P. Manomohan Das and KC. Aipe. 2002. High yielding ginger genotypes for changing hill horticultural

production systems. *Proceedings of National seminar on changing scenario in the production systems of hill horticultural crops.* p. 28.

Pradeepkumar,T, D. Sajith Babu and KC. Aipe .2002. Evaluation of carrot cultivars for the high ranges of Kerala. *Proceedings of National seminar on changing scenario in the production systems of hill horticultural crops.* p. 33.

Sajith Babu.D, T Pradeepkumar, Aipe KC and NV Radhakrishnan. 2002. Studies on the softwood grafting of camphor ( *Cinnamomum camphora* F.) on to cinnamon (*Cinnamomum verum* Presl.) root stock. *Proceedings of the symposium on perspectives in Medicinal and aromatic plants research and development.* p. 96.

Radhakrishnan,N.V. Manomohan Das,T.P., Susamma P George and Aipe,K.C. 2002. Integrated management of wilt disease incited by *Phytophthora capsici* in black pepper nursery. *Proceedings of National seminar on changing scenario in the production systems of hill horticultural crops.* p. 145.

Manomohan Das,T.P, Radhakrishnan,N.V, Anith,K.N, and Aipe,K.C. 2002. Management of soil borne diseases of ginger in the high ranges of Kerala. *Proceedings of National seminar on changing scenario in the production systems of hill horticultural crops.* p. 148

**Extension and other activities**

Smt. Susamma P George took a class on scented rice cultivation on 21-4-2001 in the Agricultural seminar organised by Krishi Bhavan, Vellamunda and also by Brahmagiri project. Twenty-two talented students of Wayanad selected by Kerala Education Department visited station on 26-5-01 and scientists of the station took classes on various aspects of Agriculture.

The Associate Director Dr. K.C. Aipe attended the All India Radio, Advisory committee meetings, Wayanad, Coffee Board Regional Advisory committee meeting, Paddy Development Agency and World Food Day Celebration at Kalpetta, Seminar and Agroclinics sponsored by Govt. of India and took class on Agriculture to the school teachers of Wayanad on 5-11-01. A number of Field Visits and Farm advisory service were rendered by the scientists.

**Training programmes**

Conducted training programme on Nursery Management for three days with 125 participants (8 batches).

**Agromet Advisory Service**

The Agro Advisory Service (AAS) was started during July, 1999 as a part of KAU-D.S.T Project on "Experimental Agro- Meteorological Advisory Service". During the reporting period fourty-three weather bulletins were prepared and disseminated which cater to needs of the farmers of Ambalavayal and surrounding villages of Wayanad district.

**Exhibition organised**

| Venue | Duration | No. of beneficiaries | Amount spent (Rs.) |
|---|---|---|---|
| Wayanad Flower Show (Municipal Ground, Kalpetta) | 6 days 24 -29 Jan., 2002 | 5500 | |

**Radio talks**

Three radio talks on "Scented rice cultivation", "Integrated disease management for Virippu" and "Cherukida Pachakkarikalude Krishireethikal" were broadcasted.

**Important visitors**

| Name and address | Date | Purpose of visit |
|---|---|---|
| Sri. V.Krishnamurthy, IAS Chief Secretary to Govt. of Kerala Sri Viswanath Singh, IAS, District Collector, Wayanad. | 21-4-2001 | Acquainting with various research and other activities of the station |
| Dr. Yuhanon Mar Philexinos Metropolitan | 4-8-2001 | Acquainting with various activities of the station |
| Sri Rajan Saighal, IFS, Wild Life Warden | 20-6-01 | Acquainting with various activities of the station |
| Justice D. Sreedevi Chair person – Women's Commission, Kerala | 3-10-2001 | Acquainting with various activities of the station |
| Sri. P.P.George, MLA, Thrissur Sri.K.Muralidharan, M.P. | 20-12-2001 | Conducting interview |
| Sri.N.D.Appachan, M.L.A. | 24-1-2002 | Visited and acquainted with activities of the station |

**Finance**

| Head of A/c | Provision for the year (in lakhs) | Expenditure (Rs.) | Station receipts (Rs.) |
|---|---|---|---|
| Non-plan | 107.595 | 9921749 | |
| Plan | 12.955 | 288854 | 1449264 |
| ICAR | 3.000 | 272813 | |
| Other EAPs | 13.545 | 974700 | |
| Revolving Fund | - | 599981 | 778085 |

# CARDAMOM RESEARCH STATION, PAMPADUMPARA

**Introduction**

The Cardamom Research Station, Pampadumpara was established in 1956 under the State Department of Agriculture, Government of Kerala. It was later transferred to the Kerala Agricultural University by virtue of the KAU Act 1971 with effect from February, 1972. The station was selected as one of the coordinating centers for spices under the All India Coordinated Research Projects in 1972.

**Mandate of the station**

- ☐ Evolve high yielding varieties of cardamom.
- ☐ Standardise location specific agro-techniques for successful cultivation of cardamom, black pepper and cool season vegetables.

**Auxiliary function**

- ☐ Supply superior quality planting materials of rose and other ornamental plants.
- ☐ Serve as a centre for agricultural extension and education activities in Idukki district through the organizational participation of farmers training programmes, field demonstrations, farm advisory services etc.

**Memorable events of the station**

1) The station produced nearly 2.63 tonnes of cardamom during 2001-2002 that had realized about Rs. 15 lakhs averaging Rs 600/- per kilogram. This is the second highest yield in the history of the station the first being way back in 1979 to about 3.2 tonnes

2) XVI AICRP on Spices National Workshop has recommended the release of a new bold capsuled vazhukka cardamom variety (PV-2) suitable for cardamom hill reserves of Idukki district.

**New posts sanctioned/created/shifted**

The position of Senior Farm Supervisor was shifted to SCRC, Konni and one post of Farm Assistant was reshifted from RARS, Kumarakom (Order No. GA/C2/ 8061/99 dt. 29/05/2001)

**Seminars/Summer Institute/Symposia/ training attended**

The scientists attended 18th Zonal Workshop at RARS, Ambalavayal, Staff Res. Council meeting at ICRI, AICRP Workshop and DAE-BRNS Regional Workshop during the period.

## Research programme

**Major research achievements**

*Genetic resources*

XVI National AICRP workshop recommended the release of PS-44 re-christened as PV-2 as a state cardamom variety suitable for high ranges of Idukki district. This is a bold capsuled *vazhukka* variety with a potential yield of 2500 kg/ha. The variety is relatively tolerant to biotic stresses and a dry recovery of 23.8% owing to reduced moisture content on capsule rind.

Mudigree-1 and PV-1 recorded maximum wet and dry weight of capsules in the CVT under average management conditions.

Panniyur-5 and Kottanadan (ACC 2426) recorded maximum berry yield under high range conditions of Idukki district as revealed from the CVT data since, 1996.

**Crop production**

Application of inorganic fertilizer @ 125:125: 200 NPK Kg $ha^{-1}$ in two splits during two monsoon periods recorded maximum cardamom yield under rainfed conditions. Application of neem cake could not increase the yield significantly.

**Crop protection**

Six rounds of insecticide application are being recommended for the management of cardamom thrips (*Sciothrips cardamomi*) and stem borer (*Conogethes punctiferalis*) for one year. Bee safe insecticides such as Quinalphos (0.05%) and Phosolone (0.05%) are advised during peak flowering period (June–September) as well as skipping of insecticide application coinciding monsoon.

Yellow sticky traps on shade trees as well as application of neem oil @ 0.5% on the under surface of leaves suppressed the cardamom whitefly (*Kanakarajiella cardamomi*) population.

Evaluation of certain newer insecticides such as Profenophos, Lindane Thiomethoxam and Diafenthiuron indicated that Profenophos @ 0.05% could effectively reduce thrips as well as stem borer infestation and thereby recorded the highest yield in cardamom..

Cardamom varieties having stem diameter less than 2.5 cm are tolerant to stem borer infestation. PV-1, a malabar type with lanky stem (2.18 cm) is relatively tolerant compared to that of green gold (3.04 cm).

Two sprayings of either Dimethoate (0.05%) or Monocrotophos (0.05%) at fortnightly intervals after the harvest of berries were effective in the management of black pepper mussel scale, *Lepidosaphes piperis*. This has been recommended during the XVI National AICRP workshop.

Carbendazim (2g/l) followed by Saaf (2g/l) (Carbendazim + Mancozeb) were effective in the management of pollu disease. Karimunda variety is found tolerant to the disease.

Quick wilt disease of black pepper is managed by phyto-sanitary measures and application of COC @ 0.2%. Prophylactic application of 1 % Bordeaux mixture has checked the disease substantially. Solarised soil mixed with *Trichoderma viridae* or VAM effectively reduced the foot rot disease in black pepper nursery.

**Cool season vegetables**

1. Radish is the most successful cool season vegetable raised at the station.
2. Solarization for 45days gave the highest yield (5kg/plot) of beet root

**Extension and other activities**

The following training programs were attended by the scientists

a) Pollu disease management at Chellarkovil

b) Cardamom – Production and Protection strategies at Nedumkandam

c) Cardamom & Black pepper –Novel management techniques at Pampadumpara

d) Insect pests and diseases of cardamom at Valiathovala

e) Insect pests and diseases of black pepper at Kanchiyar

f) Production constraints in black pepper at Kattapana etc.

Farmers on Participatory Technology Development Programme of black pepper and cardamom are trained with novel methods of cardamom and black pepper cultivation in high ranges.

Nine "*Karshaka Sangamams*" organized by Malayala Manorama and *Karshakashree* at various spots in Idukki district were moderated by the scientist from this station during November, 2001.

Pest surveillance programs were undertaken on need based circumstances during outbreak of insect pests and diseases in the district.

**Important visitors**

Dr. M. Anandaraj Senior Scientist (Plant Pathology) and Dr. V. Srinivasan, Scientist (Soil Science) visited the station in connection with survey on pollu disease of black pepper at high ranges on 27-4-2001.

A team of experts from ICRI, Myladumpara visited the farm on 5.11.2001 to assess the field performance of PV-2.

Sri. Jadhav, Technical officer, IMD, Pune called on 27-3-02 and was in high praise about the excellent maintenance of the agricultural meteorological station.

**Finance**

| Head of a/c | Provision for the year | Expenditure | Receipts |
|---|---|---|---|
| Non plan | 45,22,300 | Rs. 37,80,137/- | Rs. 1657645.70/- |
| Plan | 11,10,000 | Rs. 7,00,770/- | Nil |
| ICAR | 7,69,900 | Rs. 6,71,731/- | Nil |
| Other EAPS | 1,40,000 | Rs. 1,20,665/- | Nil |
| Revolving fund | | Nil | Rs. 95,668/- |

# SPECIAL ZONE OF PROBLEM AREAS

## REGIONAL AGRICULTURAL RESEARCH STATION, KUMARAKOM

**Introduction**

The Coconut Research Station, Kumarakom was established in 1947. With the establishment of the Kerala Agricultural University in 1972, the Coconut Research Station, became one of the constituent institutions of the University. In 1982, the station was upgraded to the status of a Regional Agricultural Research Station (RARS) under the National Agricultural Research Project (NARP).

**Mandate of the Station**

The main mandate of the station is research on coconut and coconut based farming systems, integrated farming and also

- to serve as a Regional Centre for solving location specific problems in the Special Zone of Problem Areas comprising the Kuttanad and Pokkali tract.
- to take up research on integrated farming systems incorporating crops, livestock and fish.
- to promote research efforts in respect of food grains
- to evolve agronomic practices and land use patterns in the influence area of the station *viz.*, the Special Zone of Problem Areas.
- to co-ordinate research efforts in the control and management of the dreaded disease, root (wilt) of coconut.
- to co-ordinate and guide the research activities of the sub stations in the Special Zone.
- to promote the extension of technology to the farming community.

**Lead Station**

R.A.R.S., Kumarakom

**Satellite stations**

1) R.R.S., Moncompu
2) R.R.S., Vyttila
3) S.R.S., Thiruvalla
4) AICRP on Agrl. Drainage, Karumady

**A few memorable events of the institution**

- A new sales counter was set up under the aegis of the Krishi Vigyan Kendra of the station within the farm complex to boost sales of seeds, grafts, publications, produce etc.
- The new Fisheries Ranching Station cum hatchery complex built under the State Government sponsored project on Fish Ranching and open water fishery management of the Vembanad lake was handed over to the Associate Director in July, 2001. Under the same project, the fish sanctuary set up in the Vembanad estuary off the station's eastern banks was also handed over

**Seminars/summer institute/symposia/trainings attended**

The scientists attended 4 Trainings, 3 Symposia, 4 Seminars and 5 Workshops on various Agricultural, Fisheries and allied subjects of National and International importance.

### Research programme

**Major research achievements**

***Department of Plant Breeding***

- In a performance evaluation trial with three coconut hybrids, WCT x CGO was the top (50.81 Nos.) followed by WCT x COD (44.86 Nos.) for

nut yield. With regard to root (wilt) disease incidence, there was not much variation among treatments including WCT.

- In an evaluation trial with ginger for inter cropping in coconut gardens, among the 22 accessions tested, it was seen that Varada and Accession 204 were the best for both yield and quality.

*Department of Agronomy*

- In brinjal, an integrated weed management trial indicated the superiority of solarization treatment and the herbicides oxadiazon and alachlor considering attributes like weed dry weight, fruit yield and biometric attributes of plants.

- In an experiment laid out to formulate an integrated nutrient management schedule for banana cv. Nendran, the results revealed that among organic inputs, application of Azospirillum + VAM and cowpea + VAM were on par on their effect on bunch weight (yield).

*Department of Aquaculture*

- 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. The fabricated structure was tested to withstand monsoon turbulence. The growth rate of fishes raised on formulated commercial feed is encouraging. In addition to the fast growing catla, commercially important endemic species *viz., Etroplus suratensis* was found to tolerate high density culture conditions.

- A method for fixing pens on the lake beds using stone gabions was standardised and the pen were erected using casuarina poles. Polyculture of carps and *Etroplus* taken up at a stocking density of approximately (10 kg/m$^2$) showed that growth performance is promising (2.78 g/day). Monoculture of Etroplus taken up in circular pen enclosures indicated four times biomass increment in 180 days. This is the first successful attempt on fish culture in net enclosures under open water conditions in the State.

- Under the GOK sponsored project on fish ranching in Vembanad lake, an extensive survey covering 93 landing centres were surveyed for fish catch and species wise fish landings were estimated. A comparison of the total catch of fish from either side of the Thanneermukkom bund revealed that the northern estuarine locations (Vaikom transect) alone contributed 26% of the total catch. Again, 23% of the pearlspot landing and 67.8% of the landings of 'scampi' was contributed by this station. Incidence of *Channa* sp. was hardly 4.6% at this location. The study clearly indicated the adverse effects of the Thanneermukkom barrage on the lake fishery.

- Ranching of *Macrobrachium rosenbergii* was taken up on scientific lines.

- A fish sanctuary was established in the Vembenad lake at Kumarakom for promoting natural recruitment of the commercially important and indigenous fish species karimeen. This is the first fish sanctuary of its kind in the country.

- The Western Ghats of Kerala, is considered one of the 'hotspots' of fish bio-diversity. Under the NATP, a study was taken up to identify species of commercial value from aquacultural point of view and to standardise protocols for utilizing these species for captive breeding. Captive breeding techniques for *H. brachysoma,* and *L. dussumieri* were standardized. The hormonal dose (ovaprim) for *H.brachysoma* was standardized as 1ml/kg body weight. Egg incubation (28-30 hours), embryonic development, fry nursing and cryopreservation protocols were also standardised. This is the first report of captive breeding of *H. brachysoma.*

- An aquatic weed chopper was been designed and fabricated that can be used effectively for chopping floating aquatic weeds such as Eichornia.

**Department of Agricultural Economics**

- A study covering the low lying coastal districts of Thiruvananthapuram, Kollam, Alappuzha, Kottayam, Ernakulam, Thrissur, Malappuram, Kozhikode, Kannur and Kasaragod, was taken up as part of the National Agricultural Technology Project on coastal agro-ecosystems. Based on the secondary data collected from these zones for the last thirteen years, a status report named "A Comprehensive Study on the Coastal Economy of Kerala" was brought out on the agricultural economy of these districts.

- In a study taken up to evaluate integrated rice-fish farming systems as against traditional

monocropping it was seen that the average yield of paddy in the sequential system was 41 quintals/ha as against 36 quintal/ha in mono-cropping. The integrated system yielded 440 kg of fish also. Mono-cropped farms recorded a net return per hectare of Rs. 1800/- whereas it was Rs. 10700/- in integrated farms.

**Extension and other activities**

The scientists of the station kept a very good liaison with the extension officers of the State Dept. of Agriculture and other line departments, banks, commodity boards etc. The RARS, Kumarakom has been remandated to include the functions of KVK. Regular training programmes, vocational training and field demonstrations are being carried out. Additionally, the staff regularly handles queries received from farmers directly or visit farmers field to resolve specific problems.

A total of 44 short term Vocational Training Programmes on subjects like Fresh water prawn farming, Fruit preservation, Rodent control, Mushroom cultivation, Mite control in coconut, Azola cultivation etc. and one long term Vocational Training Programme on Nursery Production and Management of Horticultural crops were conducted.

**Frontline demonstration programmes**

1. Biological Control of Diseases in Betel Vine
2. Biological Control of Diseases in Pepper
3. Use of bio-fertilizers in snakegourd
4. Ornamental fish culture
5. Kitchen Gardening

**Important visitors**

| Name and address | Date of visit | Purpose of visit |
|---|---|---|
| Sri P.J. Joseph, Ex-Minister (Education), Kerala State | 18-09-2001 | To visit sites of integrated farming (rice fish rotational farming) |
| Dr. Arun Varma, , New Delhi Asst. Director General (ICAR) | 12-10-2001 | To visit sites of Integrated farming in coastal wetlands |
| Dr. S.P. Singh, Director i/c NBFGR, Lucknow | 8-02-2002 | Visiting site of NATP Fish Germplasm project |

**Other details**

Dr.K.G.Padmakumar, Associate Professor (Aquaculture) nominated as Member, State Planning Board, Kerala.

**Awards/Prizes**

1. Smt. Subha Rani Kurien, Assistant Professor (Agrl. Engineering) was awarded Special consolation Award by National Innovation Foundation for the paper "Application of Indigenous technology in Water resource development" and also first prize for India from International Land Reclamation Institute, Wagenegen, the Netherlands, for the paper "Management of low-lying coastal wetlands in an engineering perspective".
2. Second best poster award for the paper "Management of iron toxicity by potassium fertility and lime in acid sulphate soils of Kerala" at the International Symposium of Potassium for sustainable crop production held at New Delhi, 3 to 5 December, 2001 to the team consisting K.C. Manorama Thampatii, M.S. Iyer and Sosamma Cherian for work carried out by them during the period 1996-99 at RARS, Kumarakom.

**Finance**

| Head of account | Provision for the year | Expenditure | Receipts |
|---|---|---|---|
| Non-Plan | 115.810 | 9367233 | 498426 |
| Plan | 32.461 | 164000 | - |
| Revolving Fund | | 702255 | 547295 Withdrawal including Rs.180000 to the Comptroller |

# RICE RESEARCH STATION, MONCOMPU

**Introduction**

The Rice Research Station, Moncompu caters to the Kuttanad ecological zone with the mandate to serve the farming community in Kuttanad by evolving suitable high yielding rice varieties resistant to pests and diseases, standardising management practices, introducing integrated pest and disease management practices and evolving low cost production technology for Kuttanad.

**A few memorable events of the institution**

Conducted the "Rice Day cum Agrl. Exhibition" on 4.2.2002 in this station. 400 farmers attended the function. The technical sessions consisted of classes by experts in different disciplines of rice, coconut and vegetables and recent achievements in different fields of research were discussed.

## Faculty Improvement Programme

**Seminars/summer institute/symposia/training attended**

The scientists attended a total of 12 Group meetings, 5 Seminars and 5 Workshops during the period.

## Research Programme

**Major Research achievements**

***Plant Breeding and Genetics***

From the project "Breeding varieties resistant to Virus diseases (GSV/RTV complex)", two short duration cultures viz,M75-34-1( M66 B45 1/TN1 ) and M 86-148-1 (CR 266-407-4/MO 6) and two medium duration cultures M 71-4-1 (Mahaveera/MO 5) and M 75-26-1-1(M 66 B45-1/TN 1) were given for farm trials.

Five cultures from the project" Breeding for high yielding varieties of rice with resistance to important rice disease of Kuttanad" were tried in Comparative Yield Trial during Puncha 2001-2002. The trial will be repeated for one more season.

Comparative yield trial was conducted with 14 short duration cultures under the project "Breeding for short duration high yielding varieties of rice suited to Kuttanad".

F2 & F3 materials from the project "Genetic analysis of gallmidge resistance in rice and evolving resistant varieties for gallmidge biotype 5" were screened against gallmidge biotype 5" at Thakazhy in cultivators field.

***Agronomy***

*Permanent Manurial Trial in Rice*

A 9x3, RBD, started in 1987 in Rice-Rice System was continued during this year also. The results show that Potash nourishment can be met by straw incorporation. Maximum Response was obtained for o N to the tune of 2.2 t /ha . 50% N +3 t FYM increased N use effecincy as in full NPK (90.45.45). Least incidence of pest &disease noticed in this treatment and hence the scope for organic farming may be investigated.

***AICRP Trials***

Four trials were laid out under crop management during the period as per AICRP programme. The studies "To develop appropriate techniques for growing direct seeded rice under puddled condition" have revealed the advantages of line sowing using the 8 row seed drill for crop stand establishment over the practice of broadcasting sprouted seeds on puddled soil and even transplanting in which the grain yield was significantly higher with a significantly lower seed rate.

The trial on "Weed control of transplanted rice" with new herbicides indicated that the post emergent spray of Pyrazosulfuron-ethyl 5 WP @ 0.025 kg ai/ha , Fentrazamide @0.120 kg ai/ha and 2,4-D @0.8 kg ai/ha at 10 days after transplanting (DAT) were equally good in controlling weeds in transplanted rice, all yielding grain yield on par with that of two hand weeding at 20 and 40 DAT.

The trial to evaluate the "Effectiveness of herbicides for direct seeded rice under puddled conditions" has highlighted the advantages of integrating the pre-emergence herbicides with a post emergence control method over the practice of Hand weeding twice (HWT). Integrating Pre-emergence spray of Sofit @ 0.45kg ai/ha with a post emergence spray of 2.4-d @ 0.8kg ai/ha at 25 days after sowing

(DAS) or one HW at 40 DAS was as good as a pre-emergence spray of Buachlor + Safener @ 1kg ai/ha.

"Nutrient response (N&K) studies on selected hybrids under transplanted condition" revealed the most optimum dose of N as 120 kg and K as 40 kg/ ha for the hybrids PHB 71 and KRH.2 and also for the check variety Uma , all yielding 9000 kg/ha. However the per day dry matter production of the hybrids were significantly higher than that of Uma.

**Plant Pathology**

Studies on sheath blight control by using new fungicidal formulations was carried out during Rabi 2001-2002. The results showed that Contaf 5 SC @ 1000 ml, Moncut 50 WP@ 1000gm, Swing 250 EC @ 1000 ml and RIL F 004 75WP @ 1000gm /ha were more effective in reducing the Sheath blight incidence.

**Entomology**

BPMC (Bipvin )100 ml/ha was effective against BPH and safe to its natural enemies.

Combinations of insecticides & fungicides (Padan 0.05% + Beam 0.04%) and (Trelka 0.02% + Contaf 0.01%) were effective in controlling the incidence of stem borer and spread of sheath blight and increased yield.

Among the botanical insecticides evaluated against major rice pest, Neem gold (2%) and Neem oil (2% and 3%) + Garlic were effective in controlling gall midge and leaf folder incidence.

**Extension and other activities**

The scientists of the station attended the Extension activities such as GALASA programme, Research Extension Interface, Agricultural seminars, Survey of mite infestation, Pest surveillance surveys etc. during the period.

**Important visitors**

| Name and Address of Visitor | Date of visit |
|---|---|
| Sri. K. C. Joseph, MLA, Kuttanad. | 04.02.2002 |
| Smt. C. S. Sujatha, President , District Panchayath, Alappuzha | -Do- |
| Sri. Shaju, MLA, Pathanamthitta District | -Do- |

**Finance**

| Head of a/c | Provision for the year | Expenditure | Receipts |
|---|---|---|---|
| Non Plan | 50.350 | 44,588,27 | |
| Plan | 2.290 | 1,60,584 | |
| ICAR | 10.095 | 14,49,854 | |
| Station Total | 62.735 | 60,69,265 | 1,95,859 |

# ONATTUKARA REGIONAL AGRICULTURAL RESEARCH STATION, KAYAMKULAM

**Introduction**

The Onattukara Regional Agricultural Research Station, Kayamkulam, the then Rice Research Station was established in 1937 under the erstwhile Travancore University for the improvement of rice and sesamum crops in Onattukara region. With the formulation of Kerala Agricultural University on 1st February 1972, the institution was transferred to the University as its constituent unit. In 1981, the Station was declared as a subcentre for conducting research on root (wilt) diseases of coconut. On 12th April 2000, the Status of the Station was raised to

Onattukara Regional Agricultural Research Station with the idea of implementation of CCCP.

**Mandate of the Station**

- Develop improved varieties of paddy, sesamum, groundnut and pulses suitable for Onattukara.
- Standardise production and processing technology for paddy, sesame, groundnut and pulses.
- Maintenance of germplasm of the crops viz-paddy, pulses and oil seeds.
- Studies on mushroom production technology.
- Implementation of comprehensive coconut care programme.

**A few memorable events of the institution**

First ZREAC of ORARS was held at this station on 07.11.2001. Twenty one scientists from Kerala Agricultural University, 7 retired scientists, 23 officials from the Department of Agriculture, four progressive farmers and eight officials from other organizations participated in the workshop.

**Faculty Improvement Programme**

Dr. Swarup John and Dr. Sushamakumari, Associate Professors were deputed to J.N.K.V. Jabalpur for Annual Group Meeting of Research workers of Niger and Sesamum 2001.

**Research Programme**

- A mutant culture of PTB 20 viz. P–22 (Rice) was suitable for the second crop season of Onattukara and the releax proposal has been sent to the variety release committee for approval.
- A semi tall Rice hybrid derivative, 4003–3–1 with a duration of 90–100 days was suitable for the day sown first crop of Onattukara and the release proposal has been sent to the variety release committee.

**Sesame**

Culture 4 is a high yielding sesame variety suitable for the summer rice fallows of Onattukara and the release proposal was sent to the variety release committee.

**Plant Protection**

For managing the pests of cowpea spraying with tobacco decoction at 3-4 leaf stage against stemfly, neem kernel suspension (0.1%) spray at trailing to flowering stage against pea aphids and again a spray with neem kernel suspension (0.1%) at pod forming stage against 1 pod borers and bugs were found effective. For management of bruches beetle in pea, spraying with quinalphos at (0.03%) on the field at 60 DAS and thereafter need based application followed by using dried powder *Achorus calamus* @ 1kg/100 kg. of seed in storage was effective.

**Mushroom**

About 40 species of mushroom and 10 species of fleshy fungi were collected and recorded during the South West and North East Monsoon periods. Among the collection, five species viz. *Cahtharellus cinnabarimus, Pleurotus japonicus, Russula fragilis var.fragilis,Lepiota mastoides* are new to this country.

**Extension and other activities**

Dr. D.Alexander, Project Director and Head i/c attended the training programme as resource personnel at RATTC, Kozha and handled classes on coconut cultivation, mixed farming system in coconut garden and value added products of spices. He also attended and handled classes in the one day agricultural seminars held at Kuthiathode, Thumbamon, Thazhakkara and Kanjikkuzhi.

Dr.S.Bhavani Devi, Professor (Plant Pathology) handled classes on mushroom cultivation in the three day training programmes to farmers organised by RATTC, Kozha and handled class on "Mycodiversity" in the workshop on trends in Agrotechnology organised by Botany Association at St.Thomas College, Kozhencherry.

Dr. Shyam.S.Kurup, Professor (Hort) attended training programmes as a resource personnel at RATTC, Kozha for taking class on propagation techniques in horticultural crops and nursery management. He also attended and handled classes in the one day Agricultural Seminar held at Kanjikuzhi, Manappally and Thiruvalla on vegetable and banana production technology.

Dr.Sverup John, Associate Professor (Plant Breeding) attended the Agricultural Seminar organised by the Department of Agriculture at Chavara, Kayamkulam, Kollam, Manappally, Mavelikara and

Idukki. He also attended and handled classes in the training programme at RATTC, Kozha.

Dr.Sosamma Jacob (Ag. Entomology) attended the Seminar organised by the Department of Agriculture at Thiruvalla, Thodiyoor and Pazhakulam and handled classes on "Integrated Pest Management".

Dr.T.N.Vilasini, Associate Professor (Pl.Path.) took classes on disease management in rice to the farmers organised by KVK, CPCRI. She also attended the training programme organised by RATTC, Kozha and took classes on "Integrated Disease Management".

Dr. P.Sushama Kumari, Assoc. Professor (Agronomy) attended the one day Agrl.Seminar organised by Department of Agriculture at Thazhava, Alumpeedika and ORARS, Kayamkulam and the Seminar arranged by FACT at Manapally.

Smt.M.Indira, Asst. Professor (Soil Science and Agrl. Chemistry) attended the one day Agrl. Seminar organised by FACT at Manappally and handled class on "Soils, their formation, characteristics and management".

Smt.G.Suja, Asst. Professor (Agrl. Entomology) attended the training programme on IPM as a resource personnel and handled classes on IPM in rice and coconut at Kulasakharapuram.

**Frontline Demonstration**

To demonstrate the production potential and benefits of adoption of the latest sesame production technology in the farmers field, 15 demonstrations of one acre each were conducted during summer 2002 at Vallikunnam, in the Mavelikkara Taluk. In connection with the demonstration programme, an agricultural seminar was conducted on 26.03.02 at Choonad and about 150 farmers participated in the programme.

**Radio Programme**

Dr. D.Alexander, Project Director & Head i/c attended the consultative panel meeting of AIR, Thiruvananthapuram to review the Farm and Home Programme. The scientists are conducted to Radio talks on different topics of Agricultural importance.

**Comprehensive Coconut Care Project**

**Upgradation Planting**

One hundred and six elite mother palms were selected from 63 farm holdings in the CCCP area at Vallikunnam. 1732 seednuts were collected from the palms and sown at ORARS, Kayamkulam. The seedlings will be used for upgradation planting in the Project Area.

Chemical fertilizers viz. 362 kg. Urea, 563 kg Rajphos and 337 kg MOP were supplied to the farmers who cultivated intercrops like yams, colocasia and diascorea.

**Rejuvenation of Roots**

In order to improve the organic matter status, nutrient availability and to correct acidity, the following kinds and quantities of inputs were distributed to the farmers.

| *No.* | *Item* | *Total Qty.* | *Per Palm* |
|---|---|---|---|
| 1 | Lime | 4930 kg. | 1 kg. |
| 2 | Coirpith Compost | 158 t | 25 kg. |
| 3 | Poultry Manure | 20 t | 5 kg. |
| 4 | Kayal Silt | 220 t | 50 kg. |
| 5 | Cowdung | 76 t | 25 kg. |
| 6 | Fertilizers | | |
| | Urea | 1766 kg. | 500 g. |
| | Rajphos | 1958 kg. | 560 g. |
| | Potash | 2661 kg. | 760 g. |

**Plant Protection**

The following plant protection operations were conducted in the Project Area in 4588 palms as a prophylatic measure for the management of leaf rot disease. Dithane M 45 @ 0.3g in 300 ml. water was poured in the well of spindle after thorough cleaning of the crown. In order to manage rhinoceros beetle attack, 100 g neem mixed with equal quantity of sand was placed in the three innermost leaf axils of the palm. Neem oil–Garlic–Soap Suspension (2%) was sprayed on the bunches for managing the coconut mite.

**Participatory Research**

Triazole application for root (wilt) management was done in 64 trees of two plots under participatory research.

**Important Visitors**

Director, CPCRI visited the station on 07.06.01. Dr. Cam Ochlschlager of Chem Tica International, Sanjose Costarica,. Sri.K.K.Shaju, M.L.A, and Shri. M.Murali, M.L.A., visited the CCCP Project area during the period.

**Finance**

| Head of a/c | Pension for the year | Expen-diture | Station Receipts |
|---|---|---|---|
| Non Plan | 71.045 | 57.326 | 3,31,019 |
| Plan | 2.100 | 1.141 | |
| ICAR | 6.165 | 8.671 | |
| Other EAPs | 0.660 | 1.161 | |
| Revolving Fund | | | 1,58,438 |

# 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 1958 in a leased land in Kunnara, and was shifted to the present site in 1963. The station was taken over by the Kerala Agricultural University in 1974. Taking into account the importance of fish–prawn culture during the saline phase, a unit for fisheries research was established during 1976.

**Mandate of the Station**

i) 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.

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

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

**Lead Station**

RARS, Kumarakom

**A few memorable events of the Station**

In field trials conducted at Cheppanam, the pre-release culture 1026 recorded significantly higher grain yield of more than 5 tonnes/ha compared to the high yielding varieties released for the pokkali tract.

The ridge method of sowing developed by this station was found adopted in large scale by the pokkali farmers of Parur tract.

The artificial stocking of Chanos chanos in pokkali ponds attained a body weight of over 2 kg in a period of 9 months without any supplementary feeding.

**Faculty Improvement Programme**

**Seminars / symposia / training / summer institute attended**

The scientists attended Zonal Research and Extension Advisory Council Meeting, Seminars on Keralam Naale, Karshikolsavam and DAE-BRNS Workshop during the period.

## Research programme

### Major research achievements

*Rice and rice based farming system*

- The semi tall culture cul.2006 performed better even under the very unfavourable climatic conditions such as severe flood prevailed during kharif 2001.
- The cultures cul.1806 and cul.1835 were observed as highly flood tolerant and better yielders.
- The pre-release cultures viz. cul.1009, cul.1007, CIRJ-3 and CIRJ-9 were promising under pokkali situation.
- Studies on the effect of tidal action on pokkali rice revealed that blocking of tidal currents negatively influenced the normal rice growth.
- Slow release nitrogen fertilisers had little effect on rice yield in pokkali fields.
- As the expenditure on after cultivation is negligible, ensuring initial plant establishment and uniform plant population would increase the profitability under pokkali rice.

**Fisheries**

- Polyculture experiment of Brackish fishes along with fresh water carps during the low saline phase yielded a production of 1800 kg / ha within a period of 190 days. Among fresh water carps, rohu and silver carps are growing very fast in ponds.
- In areas of lower tidal amplitude, where the traditional prawn filtration is less lucrative, the selective stocking of *Paenus monodon* at the rate of half a lakh per hectare was economical.
- Silver carp was the ideal fresh water choice in pokkali ponds during the low saline phase and attained a marketable size within four months.

**Extension and other activities**

Scientists of the station attended monthly T&V workshop organized jointly by Kerala Agricultural University and Department of Agriculture. They also participated in various agricultural seminars, group meetings and diagnostic surveys organised by the Department of Agriculture, Karshaka Samithis, Panchayats and input agencies. Visited the pokkali fields on request by the farmers and Officers of the Agricultural Department and PLDA, Parur, and suggested various remedial measures for the problems identified. The Head of station continued as the Executive Member of the Pokkali Land Development Agency.

**Finance**

| Head of a/c | Pension for the year | Expen-diture | Station Receipts |
|---|---|---|---|
| Non plan | 43.965 | 31.985 | 2.116 |
| FIP | 4.500 | 4.487 | |
| Plan | 8.250 | 3.764 | |
| Total | 56.715 | 40.236 | 2.116 |

# SUGARCANE RESEARCH STATION, THIRUVALLA

**Introduction**

The Sugarcane Research station, Thiruvalla was established during 1976 with the assistance from ICAR, under AICRP on sugarcane. The Kerala Agricultural University strengthened the research efforts of this station during 1979 by providing more infrastructure facilities and man power.

**Mandate of the station**

1. To function as a lead station for sugarcane research and development in Kerala state.
2. To carry out research on vegetables prevalent in the tract mainly on cucurbits, cowpea , amaranthus, bhindi, brijal and chillies.

**Lead station**

Sugarcane Research Station, Thiruvalla.

**Seminar/summer institute /symposia/trainings attended**

The scientists attended Zonal Research and Extension Advisory Council, Zonal Workshop,

Regional Workshops, Group Meetings of AICRP on Sugarcane etc. during the period.

## Research programme

### Major research achievements

Sugarcane hybridization programme was carried out with the active collaboration of Sugarcane Breeding Institute, Coimbatore and 56 crosses were made with superior parents for better yield and quality during 2001.

CoTl 93116 evolved in this station was accepted for advanced varietal trial at the national level under AICRP on Sugarcane. Six zonal trials (Plant breeding) were laid out during the period under report as per the technical programme of AICRP on Sugarcane. Si 91104 and 87-R-40 were superior to standards for plant crop and ratoon crop for yield and quality attributes.

Results of the trial conducted with early and Midlate varieties for their performance and response to mineral nutrition revealed that among the early varieties, Co 93078 recorded a maximum cane and sugar yield of 87.65 t and 8.7 t/ha. While in the case of Midlate varieties, Co 94011 produced the highest cane and sugar yield of 94.6 t and 11.9 t/ha. While with mineral nutrition, the results indicated that application of NPK at 165 : 82.5: 82.5 kg/ha had appreciably increased the cane and sugar yield and it was found to be the optimum dose both for early and Midlate varieties evaluated. Studies on the herbicides screened revealed that pre emergent application of Metribuzin at 1 kg ai /ha followed by one hand weeding of post emergent application of 2,4-D at 60 days after planting could control the weeds effectively and recorded the highest cane and sugar yield without any deterioration to the juice quality. Application of sulphur at 60 kg/ha in the form of gypsum was found superior in the black soils of Palakkad.

For both bitter gourd and snake gourd, a spacing of 2 x 2 m is appropriate for the acidic alluvial soils of South Kerala. In case of bittergourd, a nutrient dose of 70 : 25 : 25 kg NPK /ha and in case of snake gourd, 150 % recommended dose of NPK gave the highest economic yield.

### Extension and other activities

FLD programme in sugarcane under AICRP is being carried out in an area of 4 ha at Thiruvalla of Pathanamthitta and Menonpara at Palakkad district during the period under report. About 1 ha area was cultivated with improved variety Madhuri and planting materials were distributed to farmers under breeders seed production programme.

Scientists in this station have handled a total of 24 classes in the agricultural seminars/training programme in different Krishi bhavans of Pathanamthitta district on different cultural and allied subjects.

Sri Thomas Mathew participated in the formulation of project " Waste disposal " under the peoples plan campaign programme organized at Cheneerkara panchayath on 6-4-01 and 25-4-01.

### Finance

| Head of a/c | Pension for the year | Expen-diture | Station Receipts |
|---|---|---|---|
| Non plan | 35.375 | 31.42172 | 3.44082 |
| Plan | 2.544 | 1.03414 | - |
| ICAR (75.25) | 13.070 | 12.03137 | - |
| Revolving Fund | - | 0.32397 | 0.22335 |

# AICRP ON AGRICULTURAL DRAINAGE, KARUMADY

### Mandate of unit

### Lead functions

Research under sub surface drainage.

### Auxiliary functions

Extension, Training attending seminars.

## Research Programme

### Major research achievements

The experiments conducted during this period confirm the findings of the previous years viz. problem of Kari soils can be mitigated by providing sub surface drainage which can increase paddy yield significantly.

It also indicates that the sub surface drainage can work without hindrance for more than 15 years.

A project under NATP viz., "Productivity Aumentation through sub surface drainage and farming system interventions in acid saline coastal wetlands, Kerala" has been sanctioned for the Centre and made operational during this year. A new variety "Sagara" was tried for concurrent cropping of fish and rice. The rice crop was found adaptable for karisoil and growth of fish (Carps, Etroplus, prawns etc.) were normal in this period. This indicates that these species can very well thrive under acid saline kariland situation. The studies on weed population showed that there is higher population of sedges compared to that of grasses or broodleaved weeds. This will serve as a basic summary data for the different treatments.

**Extension and other activities**

Farmers of the Kavithekkumparam padasekharam were appraised of the project and with consultation and co-operation, the trials were laid out in the farmers field.

**Finance**

| Head of a/c | Pension for the year | Expen-diture | Station Receipts |
|---|---|---|---|
| Plan 301-31-2236-130 | 1,77,000 | 1,48,466 | – |
| ICAR 301-31-6625 | 21,50,000 | 22,16,072 | |

# FACULTY OF VETERINARY AND ANIMAL SCIENCES

## CENTRE FOR PIG PRODUCTION AND RESEARCH, MANNUTHY

### Introduction

This Centre was started on 12-05-1965 as a small Pig Breeding Unit along with an Auxiliary Pork Production scheme under the Department of Animal Husbandry. It was taken up by Kerala Agricultural University in 1972 and was renamed as Kerala Agricultural University Pig Breeding Farm.

So far the Centre has completed about 50 research projects including Master's, Doctoral and station projects and there are 7 ongoing projects on various aspects of pig production.

### Mandate of the station :

1. Conduct of research on various aspects of pig production
2. As demonstration unit for farmers and instructional unit for students
3. Production and distribution of good quality piglets to farmers

### A few memorable events of the institution

The Massive Livestock Development Programme (MLDP) was started in 1993 in collaboration with Department of Animal Husbandry, Kerala with a financial outlay of Rs. 70 lakhs with the objective of distributing 20000 piglets to the farmers of Kerala both as breeding and fattener units.

The Farm was upgraded to a Centre for Pig Production and Research in 1995. The centre has been identified as the Lead Institution for the World Bank funded National Agricultural Technology Project "Strategies for enhancing the productivity of pigs for the farming community" with four co-operative Institutions at Kattuppakkam, Bangalore, Port Blair and Goa with a total financial outlay of Rs.1.5 crores for 1999-2003.

### Faculty improvement programme

### Scholarship awarded to staff/deputation of staff for higher studies

Dr. A.P. Usha, Assistant Professor was deputed for Post Doctoral studies at Roscillin Institute-UK.

### Seminars/summer institute/symposia/trainings attended

The Scientists attended programmes such as Workshop on NATP, Annual Conference of ILS, National Conference on Strategies for Safe Food Production, 11th Swadeshi Science Congress, 14th Kerala Science Congress and Seminar on Prakrithi foods etc. during the period.

### Major research achievements

Studies on 50% and 75% crossbred (Large White Yorkshire x Desi) pigs under farm condition were undertaken with special emphasis on their production performance, growth rate food conversion efficiency and carcass characteristics. Studies on the above genetic groups under field conditions are also in progress. Studies on feasibility of using various unconventional feed for economic pig productions were also undertaken.

### List of Publications:-


Joseph Mathew, Sibi, N.B., Koshy John and Viswanathan T.V. (2002). Study on etiology of swine dermatitis in pig farm. Proceedings of the 14 th Kerala Science Congress, 29-31 Jan 2002, Kochi, pp. 346-372.

Venugopal, U.R. and Joseph Mathew (2001) Waste recycling – A tool for cost efficient food production. Proceedings of the National Conference on Strategies for Safe Food Production 22nd November, Thrissur, Kerala, pp.162.

Joseph Mathew, Suraj, P.T. Viswanathan, T.V. and Usha A.P. (2001). Supplementation of Turmeric (*Curcuma longa*) in pig ration. Proceedings of the National Conference on Strategies for Safe Food Production 22nd November, Thrissur Kerala, pp. 133-135.

Viswanathan, T.V., Joseph Mathew, Usha, A.P. Abdul Gafoor, P.A. and Magnus Paul, K. (2001). Effect of castration on body weight in male grower pigs. Proceedings of the National Conference on Strategies for Safe Food Production 22nd November, Thrissur, Kerala, pp.130-133.

Harikumar, S., Joseph Mathew, Viswanathan, T.V. and George T. Oommen (2001). Carcass characteristics of Large White Yorkshire pigs on organic waste feeding. Proceedings of the National Conference on Strategies for Safe Food Production 22nd November, Thrissur, Kerala, pp.122-125.

Viswanathan, T.V., Joseph Mathew, Usha, A.P., Rajendran Thomas, Abdul Gafoor, P.A., George Sherin K., Pradeep, S.V., Lalu, K., Magnus Paul K., Johnson P.M., Cijo, K. Joseph and Dipu, M.T. (2001). Effect of feeding hotel, hostel and domestic food waste on grower pigs. Proceedings of the National Conference on Strategies for Safe Food Production 22nd November, Thrissur, Kerala, pp.85-103.

Suraj, P.T., Joseph Mathew, Viswanathan T.V. and Usha A.P. (2001). Evaluation of a Pig-Fish-Vegetables integrated farming system. Paper presented in 11th Swadeshi Science Congress, 7-9 November 2001. Abstracts of 11th Swadeshi Science Congress 7-9 November 2001 pp. 89.

Joseph Mathew, Mridula, V., Jobi, K.J., Viswanathan, T.V. (2001). Utilisation of pig manure for preparation of vermi compost. Paper presented in 11th Swadeshi Science Congress 7-9 November – 2001. Abstracts of 11th Swadeshi Science Congress 7-9 November 2001 pp. 16.

**Extension and other activities**

Technical advice was given to progressive farmers for establishing piggery units and project reports were issued to them for availing financial assistance. Self employment training was given to unemployed women for starting their own piggery units. Field units of pig were established for motivating farmers in the field.

**Important visitors**

Dr. Kiran Singh, DDG, (AS, ICAR) visited station on 6-6-2001 and opinioned good.

Dr. S.C. Chopra, ADG, Animal Science, ICAR visited the farm and opinioned good.

Dr. N.L.Maurya, ADG, ICAR visited the station on 5.2.2002.

**Other details**

The Earn while you Learn student's project on rearing pigs has been undertaken successfully by the students and one such project is ongoing.

**Finance**

| Head of A/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan (UPBF) | 38.020 lakhs | 3851031 | 1654994 |
| ICAR (AICRP) | 26.550 lakhs | 2125944 | 200244 |

# UNIVERSITY LIVESTOCK FARM & FODDER RESEARCH DEVELOPMENT SCHEME, MANNUTHY

**Introduction**

Started by Govt.of Kerala, is a part of Veterinary College, Mannuthy and later taken up by Kerala Agricultural University from its very inception.

**Mandate of the institution**

Livestock production & Management, Fodder Research and supply of fodder materials, instruction of students and research

*Lead Station*

1. Cattle farm 2. Buffalo farm 3. Fodder Research & Development Station

**Faculty improvement programme**

*Scholarship awarded to staff/deputation of staff for higher studies*

| Name | Designation | Program for which deputed | Period of deputation | Institution/Universiy to which deputated |
|---|---|---|---|---|
| Dr. A. Kannan | Asst. Professor | Ph.D | 1.2.2001 to 31.12.2001 | K.A.U. Vellanikkara |

**Seminar/Summer institute/Symposia/training attended**

Dr.T.N.Jagadeesh Kumar, Associate Professor attended Winter school on "Recent advances in fodder production" at IGFRI, Jhansi.

**Academic Programmes**

**P.G. Programme**

Many P.G. programmes under College of Veterinary and Animal Sciences are executed through University Livestock Farm & Fodder Re. & Dev. Scheme (All these programmes come under the report of College of Veterinary & Animal Sciences)

One Ph.D program under the Dept of Animal Nutrition is undergoing in this station.

**Research Programmes**

All functional supports are provided for the research activities in cattle and buffalo of the College of Veterinary & Animal Sciences, Mannuthy that are carried out in this farm.

**Extension and other activities**

Several farmers from different parts of the Southern States as well as school children from within the state visit the farm to witness the activities here.

**Important visitors**

Visit of ICAR team for Accreditation during 2/2002.

**Finance**

| Head of A/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 112.867 | 11195970 | 2297042.84 |
| Plan | 9.840 | 407088 | |

# KAU DAIRY PLANT, MANNUTHY

**Introduction**

The KAU Dairy Plant is an experimental dairy plant established in 1986. The Dairy plant became fully functional with the distribution of pasteurized milk in pouches from April 1994. The plant is equipped with facilities for processing 4000 litres of milk per day.

**Mandate of the unit:**

*a. Lead functions*

The Dairy plant was established with the purpose of handling the milk produced in the university livestock farm, Mannuthy and imparts practical training to students in the operation of milk processing equipment and manufacture of various milk products.

*b. Auxiliary function*

The facilities provided in the dairy plant are utilized to impart practical training in the preparation of various milk products during the conduct of various training programs. Apart from this, technical advises for the setting up of small scale milk processing plants are also extended to various milk cooperative societies and other private entrepreneurs.

**Faculty improvement programme**

**Details of scientists deputed for higher studies**

| Name of scientist and Designation | Details of deputation | | | Institute to which deputed |
|---|---|---|---|---|
| | Course | From | To | |
| Dr. Sreeja Rajmohan Assistant Professor | Ph.D. | 1-9-1997 | 31-8-2000 | University of Nottingham, England |

*Seminars/summer institutes/training attended*

The Scientists attended programmes such as National conference on "Strategies for Safe Food Production" organized by the Association of Food Scientists and Technologists (India) Trichur chapter and XIV Kerala Science Congress.

**Research Programme** :

Experimental work on developing technologies for manufacturing instant sapota beverage powder is under progress.

**Extension and Other Activities**

*Training conducted* :

| Topic | Period | No.of participants |
|---|---|---|
| In-Plant training in operation and maintenance of Dairy equipment | From 1-01-02 to 31-12-02 | 4 |
| In –Plant training in quality assurance of milk and milk products | From 1-01-02 to 31-12-02 | 2 |
| In-Plant training in sanitary practices in dairy plant | From 1-01-2002 to 31-12-2002 | 4 |
| In-Plant training in preparation and packaging of dairy products | From 1-01-02 to 31-12-02 | 4 |

*List of publications*


Rajendra Kumar, R. Rajakumar, S.N and Sudheer Babu, P. (2001). Process modification for manufacture of sweetened condensed milk. Proceedings of the National conference on Strategies for Safe Food Production. PP 393-397.

Rajendra Kumar, R. Rajakumar, S.N and Sudheer Babu, P. (2001). Feasibility studies on commercial production of *palada* . Proceedings of the National conference on Strategies for Safe Food Production. PP 390-393.

Rajakumar, S.N and Ramanjaneyulu, G. (2001). Utilisation of Recombined milk for the preparation of *Rassogolla*. Proceedings of the National conference on Strategies for Safe Food Production. PP 275-280.

Rajakumar, S.N. and Ramanjaneyulu, G. (2001). Utilisation of Recombined milk for the preparation of *Paneer*. Proceedings of the National conference on Strategies for Safe Food Production. PP 270-275.

Rajakumar, S.N Utilisation of Recombined milk for the production of chhana. Proceeding of the XIV Kerala Science Congress


*Other activities*

Dr. R. Rajendra Kumar and Sri. S.N. Rajakumar attended the seminar on "Traditional Foods and beverages" organized by the Association of Food Scientists and Technologists (India) Thrissur chapter on 01.05.02 and presented a paper on "Traditional products and beverages from milk" .

**Other details**

*Awards and Recognitions*

Dr. R. Rajendra Kumar, Associate Professor and Head of the Dairy Plant was awarded the Jawaharlal Nehru award for excellence in post graduate Agricultural Research by the ICAR. He was also selected to the National Executive of the Association of Food Scientists and Technologists (India) as the Vice-President.

**Finance**

| Head of A/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 29,000 | 22,982 | |
| Plan | 11,67,000 | 8,86,640 | 7,90,000 |
| Revolving fund | | 18,64,647 | 19,88,791 |

# AICRP ON POULTRY, MANNUTHY

## Introduction

All India Co-ordinated Project on Poultry Breeding was established by the Indian Council of Agricultural Research in different agro-climatic zones in the country. A centre on Layer Breeding was established in Mannuthy in 1976 under the Veterinary Faculty of KAU.

## Mandate of the unit

To develop a commercial layer of average yield of 270 eggs of standard size with less than 1% laying house mortality per month.

## Lead Station

Monitored by the Project Directorate on Poultry (ICAR), Rajendranagar, Hyderabad.

## A few memorable events of the Institution:

With a long successful history in Poultry breeding by strictly adhering to the technical programme, this centre has evolved a Layer Strain called 'ILM-90' which was released for commercial exploitation in 1990. Among all the entrants inclusive of commercial strains, ILM-90 stood first in Random Sample testing conducted by the Govt. of India. This bird was christened as 'Athulya' by the Kerala Agricultural University and popularized throughout the State. The bird has also been tested for its suitability in the homesteads by this Centre, which was well received by the rural masses.

## New posts sanctioned / created/ shifted

Two posts of scientists were shifted from this project w.e.f. 7-6-2001.

## Faculty Improvement Programme

### Workshops attended

| Name | Programme attended | Period | Institution |
|---|---|---|---|
| 1.Dr. K. Narayanankutty<br>2. Dr. R.Richard Churchil<br>3. Dr. P. Anitha<br>4. Dr. P. Veeramani | 22nd National Workshop on AICRP on poultry improvement | 4th & 5th Oct. 2001 | College of Veterinary & Anim. Sci., KAU, Mannuthy. |

## Research Programmes

### Major research achievements

During 2001-02, S-19 generation of both the strains were raised and tested. Hatching operations to produce S20 generation started in October 2001 through December 2001. Achieving very good fertility and hatchability percentages of 93.6 and 84.4, respectively in IWN & IWP populations, the required chicks for S20 generation were obtained from 11 hatches.

The mortality (%) in S19 generation was well within the normal limits registering only 1.5, 0.7 and 5.9 during chick, growing and laying (17 to 64 weeks), stages respectively. The 64-week egg number in the generation under report was 221 and 229 for IWN & IWP Strains, respectively. An improvement of around 44 and 41 eggs at 40 weeks of age in IWN & IWP Strains was obtained from that of first generation and the 40-week egg number in IWP Strain under report is the best among all the 19 generations. The 28th week egg weight reported in this generation (50.47 & 50.2 in IWN & IWP, respectively) is the best among all the generations.

### Extension and other activities

This centre is involved in the supply of hatching eggs and day old chicks to farmers for rearing.

Hatching eggs are also being supplied to the Farms under the Animal Husbandry Dept., Govt. of Kerala, as and when required. Farmers' counseling is regularly conducted for the needy farmers. Literatures on Poultry rearing both in English & Malayalam are made available to the farmers from this Centre.

**Important visitors**

| Name and address | Date of visit | Purpose of visit |
|---|---|---|
| Dr. Kiran Singh, DDG (Animal Sciences), ICAR | 7th June 2001 | |
| Dr. S.C. Chopra, ADG, ICAR | 4th & 5th October 2001 | To participate in 22nd Workshop on AICRP on Poultry Breeding |
| Dr. R.P Sharma, Project Director, PDP, Hyderabad | 4th & 5th October 2001 | To participate in 22nd Workshop on AICRP on Poultry Breeding |
| Dr.P. Harikumar, Head, Food Technology Division, BARC, Mumbai | 9th October 2001 | To study the cage layer management |
| Dr. D. R. Bongirwar, Project Manager, BARC, Mumbai | 9th October 2001 | ,, |
| Dr. M. Sureshkumar, Managing Director, KSPDC, Thiruvananthapuram. | 21st December 2001 | To see the pureline management |

**Finance**

| Head of A/C | Expenditure | Receipts |
|---|---|---|
| ICAR | 46,65,651 | 11,04,604 |

# UNIVERSITY GOAT & SHEEP FARM, MANNUTHY

**Introduction**

Goat production is a major Animal Husbandry enterprise in the State due to the unique socio-economic and agro-climatic constraints of the State.

University Goat & Sheep Farm was established in 01-08-1995 with the infrastructure available in the terminated AICRP and ICAR projects. The animal stock consisted Alpine-Malabari and Saanen-Malabari crosses.

**Mandate of the station**

**Lead functions**

(1) Major mandate of the University Goat and Sheep Farm is to provide instructional facilities for the BVSc & AH degree programme in accordance with the VCI regulations.

(2) To provide research facilities and to undertake research activities in small ruminant production.

(3) To maintain and provide high quality goat and sheep to State's farming community.

**Auxiliary function**

(1) To provide training/extension expertise in goat production to farming community.

(2) To provide packages for sustainable goat production in State.

**A few memorable events of the institution**

During the last two years, goat mortality could be considerably reduced. Milk recording and growth

recording could be started. Based on the milk recording and growth recording, selection of bucks could be achieved. Selected bucks had a dams yield of 1.5 kg./ day and a growth rate of 15 kg at 6 months. This would facilitate laying the foundation for development of a dual type goat strain endowed with meat and milk production potential.

**Academic programmes**

University Goat and Sheep farm is functioning as nodal centre imparting Internship training programmes to Vety. Surgeons on completion of BVSc & AH programme. During the year, 140 students completed their internship programme in University Goat and Sheep Farm and seven dissertation works were carried out at this station in different aspects of goat production, breeding and management.

*Seven Masters research works are being conducted in University Goat & Sheep Farm.*

(1) An MVSc research programme 'Genetic and Environmental factors influencing the growth rate and body weights up to six months in Malabari goat' started in 2000.

(2) MVSc programme on 'Controlled breeding in Goats' started in 2000.

(3) Another MVSc research on computerized data management in goat farm has been taken up in 2001.

(4) Evaluation of Boer half breds for development of meat strain of goat (MVSc Project)

(5) Haematological studies on growing Alpine cross bred kids (MVSc Project)

(6) Blood and profile of Alpine Malabari kids upto puberty

(7) Immune response to FMD vaccination in cross-bred goats.

**Research Programme**

**Major research achievements**

1. Research work on 'Genetic and Environmental factors influencing the growth rate and body weights upto six months in Malabari Goat has been completed. Average birth weight among cross-bred kids was 1.86 kg, bodyweight at 6 months was 6.6 kg and adult body weight was 30.15 kg. Litter size at birth was 1.73 and litter weight at birth was 3.18 kg. Average lactation yield was 400g/day.

2. Research programme on controlled breeding and increasing litter size using prostaglandin (PG) and Follicle stimulating hormone (FSH) combination is being carried out.Oestrus synchronisation in goats could be standardized with 2 doses of PG at 11 days apart. FSH administration on day 10 post PG administration increased litter size at birth.

3. Sun hours and season of mating modulated the litter size at birth among goats.

**Extension and other activities**

Hundreds of farmers visited the goat farm during the year to learn about sustainable goat farming. More than 350 improved goat kids were distributed to farmers from different parts of State as an aid to development of goat production in the State.

**Finance**

| Head of account | Expenditure | Receipts |
|---|---|---|
| Plan | 21,78,137 | 2,31,394 |

# CENTRE FOR ADVANCED STUDIES IN POULTRY SCIENCE, MANNUTHY

## Mandate of the institution

Teaching, Research and extension

**Research programme**

*Assessment of the shelf life of quail egg pickle*

To study the keeping quality of quail egg pickle, pickle was prepared and stored for 30, 60,90 and 120 days in HDPE porches at room temperature with or without adding potassium sorbate (0.26 per cent)

The results of the study revealed that there was significant increase in pH value ($P<0.01$) during the storage for 90 days. The proximate composition in both control and treatment groups did not differ significantly within the storage period. There was significant increase in yeast and mould counts in both

the groups of pickle during all the three periods. Addition of potassium sorbate resulted in significant reduction in the yeast and moulds compared to control. The sensory evaluation of the products in terms of flavour, juiciness, tenderness and overall acceptability revealed that mean scores gradually declined from 30 to 90 days of storage.

*Effect of probiotic supplementation on the performance of broiler chicken*

A study was conducted on the effect of probiotic supplementation at 0, 0.025 and 0.05 per cent levels in broilers. Results of the study revealed that 0.025 per cent probiotic supplemented group recorded significantly ($P<0.05$) higher body weight and body weight gain than other groups. Cost of production of broilers was the lowest in the 0.025 per cent probiotic supplemented group at six weeks and 0.05 per cent groups at eight week.

*Effect of sodium sulphate supplementation in broiler diets*

The effect of supplementation of sodium sulphate and methionine in all vegetable protein diet in broilers were studied. Results of the study revealed that body weight and body weight gain of broilers did not reveal significant difference at sixth week of age, but at eighth week of age significant difference ($P<0.05$) was observed between dietary treatments. Based on the study, it was summarized that supplementation of methionine or sodium sulphate in all vegetable protein diet has no deleterious effect on the performance of broilers.

*NATP on productivity enhancement of ducks*

The National Agricultural Technology Project on "Productivity Enhancement of Ducks" was started in KAU as a lead Centre on 22-09-1999. Objectives of the projects were classified under six major headings Viz., (i) Bench Mark Survey, (ii) Assessment of availability of nutrients for foraging ducks (iii) Establishment of nutrient requirements of ducks (iv) Modifications proposed in feeding practices of ducks (v) Epidemiology of duck diseases and (vi) to impart short term training to improve the skill of farmers. The bench mark study revealed the overall socio-economic profile of duck farmers in the state.

**Extension and other activities**

1. Conducted training on Poultry farming for unemployed youth under Kerala State Development Corporation for Scheduled Castes and Scheduled Tribes from 17 -19 September 2001.
2. Conducted three training programmes on Quail Production for unemployed youth.
3. Conducted training on Poultry Management for unemployed youth from 21-03-2002 to 23-03-2002. 7 farmers attended.

**Consultancy service to farmers**

Consultancy services were rendered to 310 farmers during the period.

**Important visitors**

Dr.Kiran Singh, Deputy Director General (AS), visited the Centre on 7th June 2001 and 5th October 2001. Dr.S.C.Chopra, Assistant Director General (AP&B), visited the Centre on 4th & 5th October 2001. Dr.E.G.Silas, Former Vice-Chancellor, KAU and Co-Chairman, SAP, NATP (Coastal Ecosystem) visited the Centre on 17th & 18th December 2001. Dr.P.Das, DDG (Extn) visited the Centre on 17th December 2001.

**Seminars attended**

Dr. V.K. Elizabeth Assoc. Professor attended a seminar on "Current trends in Broiler production and Marketing" from 8-2-2002 to 26-2-2002 at Veterinary College and Research Institute, Namakkal.

**Technical publications**

K.B.Prabhakaran, A.Jalaludeen, A.K.K.Unni and P.A.Peethambaran (2001). Production triats in White Leghorn Strains. *Indian J. Anim. Science.* 71(8): 810-811.

Ponnuvel P., Jalaludeen, A and Ramakrishnan,A. (2001) Influence of cellulase enzyme supplementation in high fibre diet on the production performance of layer chicken. *Indian J. Poult. Sci.* 36(1): 54-57.

Sini Thomas, Amritha Viswanath and A.K.K.Unni. (2001) Efficacy of certain litter materials on broiler performance. *Indian J. Poult. Sci.* 36 (3) 264-267.

A.Jalaludeen (2001) Prospects of Poultry Industry in the post liberalised era. *J. Indian Vet. Assoc.* 6(1): 14-16.

A. Jalaludeen (2001) Poultry Sector - Research and Development *J. Indian Vet. Assoc. Kerala.* 6 (2):10-12.

**Finance**

| Head of A/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| CASPS | 9.310 | 845081.00 | 2795.00 |
| NATP on PED | | 632907.0 | 46845.25 |
| Revolving fund | | 1058215.11 | 1331772.90 |

# CATTLE BREEDING FARM, THUMBURMUZHI

## Introduction

The farm started as a dry Cattle Salvage Farm in 1957 under the Animal Husbandry Department, Government of Kerala. It was taken over by the Kerala Agricultural University on 1-2-1972 and continued to function as Dry Cattle Breeding Farm till 1992. From 1993 onwards the farm is functioning as a full-fledged Milch Cattle Breeding Farm.

## Mandate of the station

a) To develop the farm as a model dairy farm.

b) To provide facility for P.G. research on large animals.

c) To provide 'on farm' training to Veterinary and Dairy Science students.

d) Transfer of technology to farmers.

e) To extend facility of artificial insemination to local cattle.

f) Supply of improved varieties of fodder slips to farm.

## A few memorable events of the institution:

1957 - The farm originated as a Dry Cattle Salvage farm under Animal Husbandry Department.

1957 - ICAR established a Cattle Breeding Research Station in the farm

1962 - Dry Cattle Salvage farm was wound up and ICAR scheme continued.

1969 - ICAR scheme completed and the farm continued as a Livestock farm under Animal Husbandry Department.

1972 - The farm was taken over by Kerala Agricultural University and functioned as a Dry Cattle Breeding Farm.

## Faculty improvement programme

Dr. Shyam Mohan Asst. Prof. underwent Ph.D. Programme at Vety.College, Mannuthy.

## Research programme

Routine Research activities like recording birth weight and body weight of calves at specified intervals and breeding of heifers/cows using semen from high pedigreed bulls were continued. Other than this the farm provided facility for many P.G. Research Programmes. The following are the important among them.

### *Externally Aided Projects*

a) Conservation of vechur and dwarf cattle in Kerala - ICAR Department of Animal Breeding and Genetics

b) Progeny Testing Scheme for bulls – ICAR, Department of Animal Breeding and Genetics

c) Network programme on micronutrients ICAR – Department of Animal Nutrition

d) DBT Project on "Development of molecular genotyping techniques for the diagnosis of genetic diseases in cattle" – Department of Biochemistry.

### *K.A.U. Projects*

a) Immune response to combined foot and mouth disease, H.S and B.Q to the respective monovalent vaccination in cattle – M.V.Sc Project, Department of Preventive Medicine.

b) Clinical therapeutic studies on bacterial mastitis in bovines – Department of Preventive medicine – MVSc Project

c) Effect of norgestamet and prostaglandin F2α in crossbred heifers for augmenting fertility- Department of Animal Reproduction , MVSc.Project.

d) Assessment of dietary level of minerals for lactation in crossbred cows in Kerala under different feeding systems - Department of Nutrition, Ph.D. Project.

e) Seroconversion of three different Foot & Mouth Disease vaccine – M.V.Sc. Project – Dept. of Preventive Medicine.

### Extension and Other Activities

Providing artificial insemination and first aid care to the local cattle population and supply of improved variety of fodder slips to farmers are the major extension activities of the farm.

In addition to the above, farmers were advised on various aspects of profitable cattle rearing and given opportunities to witness routine farm operations. Demonstrations and one day training were given to pre-released defense personnel and farmers on various aspects of livestock farming and fodder cultivation. Field visits were made occasionally as part of first aid service.

### Important Visitors

1. Dr. S.P. Singh, Director, PDC, Meerut, (ICAR).
2. G.K Sachdiwa, Principal Scientist, Project Directorate, Meerut, ICAR
3. Dr. Kiran Singh, Deputy Director Gen. ICAR, New Delhi

### Other details

* Herd strength of cross bred cattle maintained in the farm : = 191 Nos.
* Forage production in the Farm (2001-2002) = 1911 MT

### Finance

| Head of A/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 70.06 | 58,84,059 | 15,80,145.7 |
| Plan | 4.300 | 4,18,128 | - |
| Total | 74. 360 | 63,02,187 | 15,80,145.7 |

## LIVESTOCK RESEARCH STATION, THIRUVAZHAMKUNNU

### Introduction

Madras Government in 1950 started this station as Government Livestock Farm under the post-war development scheme of Animal Husbandry department with Head Office at Perinthalmanna. This was transferred to Kerala State Animal Husbandry Department in 1956 and subsequently to Kerala Agricultural University in February 1972. The station was renamed as Livestock Research Station on 14-8-1978 with the aim of field oriented research and extension in the areas of livestock and fodder cultivation.

### Mandate of the station

1. To evolve elite cross bred dairy cattle suitable to agro-climatic conditions in Kerala by scientific breeding, feeding and management practices.
2. To hold problem oriented and adaptive research projects in animal nutrition, breeding and management.
3. To advice 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.
4. Fodder production and associated research
5. Tree and agricultural crops nursery management
6. Conservation of the natural forest ecosystem, attached to the station
7. All India Coordinated Research Project on Agroforestry

### Lead function

Dairy cattle production and fodder development

### Auxiliary function

Agroforestry and tree nusery programme

### Lead station

College of Veterinary and Animal Sciences, Mannuthy

**Faculty Improvement programme**

*Seminar/Summer institute/symposia/trainings attended*

| Name and Designation | Seminar/Symposia/workshop/ summer institute for which deputed | Period of deputation | Institute to which deputed and duration of course |
|---|---|---|---|
| Dr. A. Kannan Assistant Professor | Summer School on "Crop modelling" at College of Agriuculture. Pune | 13-02-2002 to 14-03-02 | College of Agriculture, Pune |
| Dr. C. Ibraheem Kutty, Asst. Professor | Kerala Science Congress | January, 2002 | CUSAT, Kochi |
| Dr. R. Thirupathy Assistant Professor | Application of radiation techniques in food and agriculture | December, 28-29, 2001 | Kerala Agricultural University, Vellanikkara |
| Sri. Jamaludheen, V. Assistant Professor | Application of radiation techniques in food and agriculture | December, 28-29, 2001 | Kerala Agricultural University, Vellanikkara |

**Research programme**

**AICRP on Agroforestry at LRS. Thiruvazhamkunnu**

**Project 1.** Collection and evaluation of promising species/cultivars of fuel, fodder and small timber species

At completion of 15- years of age (2001), *Acacia auriculiformis* significantly attained maximum height, immediately followed by *Paraserianthes falcataria, Casuarina equisetfolia.* and *Paraserianthes falcataria.* The height growth performance of *Pterocarpus marsupium* is also good. Regardless of its abundance in the natural forests, its occurrence in other areas of Kerala is very sparse. But its better performance in the present trial promotes the scope for introducing this species into farmers' fields and other non forest areas.

The promising MPTs with regard to their overall vertical and radial growth performance are *Acacia auriculiformis, Paraserianthes falcataria, Casuarina equisetifolia, Pterocarpus marsupium,* and *Artocarpus heterophyllus.*

**Project 2.** Utility of some fast growing trees as pepper standards: Part I (raised from cuttings)

At the age of 12- years, the black pepper yield was maximum for *Garuga pinnata* ( to the tune of 2.76 Mt/ ha in the year 2001) This species has proven its superiority as a best pepper support tree (among the trees raised from cuttings) over all other species tested.

*Erythrina stricta* and *Erythrina indica* were performing better during the initial stages of this trial. However, these traditional pepper supports used by farmers like different species of *Erythrina*, and *Moringa* failed to remain in the field for long period. due to early senescence/ less durability of these species.

In the context of multiple purpose and sustainability in agroforestry, the performance of *Gliricidia sepium* (i.e. in terms of height, girth, pepper vine height, foliage and stem wood lopping) as pepper support is also promising.

A direct relationship existed between black pepper yield and the overall performance and persistence of the tree itself. It is also noted that the trees raised from cuttings are less durable and easily wind thrown as compared to the trees raised from seedlings (tested in Part-II of this experiment).

**Project 3.** Utility of some fast growing trees as pepper standards: Part II - raised from seedlings

The usefulness as a good support tree for training black pepper is the best manifested in *Acacia auriculiformis.* (dried black pepper to the tune of 2.90 Mt/ha) This species stand out as the single best support tree for training black pepper and has shown its

better performance in terms of black pepper yield and it also performed well in tree growth characteristics like height of tree, girth of tree and height of pepper vines. In this context, the native species like *Artocarpus heterophyllus* is also a promising candidate, provided the proper management like timely lopping and pruning of branches is done.

It is also noted that the pepper vines trained on trees with smooth and/ or exfoliating bark (like ceiba, macaranga and ailanthus) may not go straight and will be falling from the support trees. Hence, these tree species are less suitable for training pepper vines.

**Project 4.** Provenance evaluation of Acacia mangium Willd.

*Acacia mangium* obtained from Australian Tree Seed Centre, CSIRO, Ausralia. Mangium seeds collected locally has also been considered for comparison in this trial. In the nursery trial, the over all seedling performance in terms of seedling height, collar diameter and root shoot ratio suggested that Binaturi (Papua New guinea) showed better growth followed by Arufi Village (PNG). One year field growth revealed that maximum height growth was recorded by Binaturi provenance followed by Lake murray. Binaturi provenance sustained the best growth in terms of collar diameter also.

**Project 5.** Provenance evaluation of teak (*Tectona grandis* Linn f.)

This experiment started under the AICRP on Agroforestry at Livestock Research Station, Thiruvazhamkunnu, Kerala during June 2001 with the objective of screening the best teak provenances. In general, many of the accessions from the top slip area (T9, T10, T11, T12 and T17 ) performed better than other treatments in terms of height of seedlings and collar diameter.

**Project 6.** Stand density manipulation and pruning strategies for *Acacia mangium.* Willd

*Experiment 1.* Effect of population density and pruning on growth of *Acacia mangium.*Wild:

A field experiment was laid out during September 2001 to study the effect of initial population density and pruning on the growth of *Acacia mangium.* Height growth generally showed a closer trend with the high density treatment giving maximum height. However, this is on par with height growth put in by the 2500 trees/ha. The lowest planting density (625 trees/ha) registered comparatively the lowest value in terms of height.

The tendency of close planted even aged stands to concentrate on height increment during the early growth phase is evident from the observations. This is also validated by the uniformity in collar girth increment shown by the different planting densities. Branching also was more in the higher density plots.

**Project 7.** Fuel wood characteristics of tree species in the home gardens of Kerala

Based on the study the species that can be recommended for developing high calorific value energy plantations or for integrating in homestead agroforestry include *Acacia auriculiformis, Anogeissus latifolia, Casuarina equisetifolia, Eucalyptus tereticornis, Pterocarpus marsupium, Tamarindus indica* and *Xylia xylocarpa*

**Extension and other activities**

Breeding and health coverage of animals owned by the farmers in the locality are being carried out regularly. These services are extended on all days as and when requested. Technical services on different aspects of tree planting, scientific management and intensive cultivation of crop / trees and also the viability of different land use systems were extended to the farmers

Conducted practical demonstrations to representatives of JMS Mahila Samithi about dairy farming.

Participated in the planning of Kudumbasree programme of Kottappadam Grama panchayath.

**Training programmes**

1. Internship training of B.V.Sc.& A.H and B.Tech. (D.Sc.)
2. RAWE training of B .Sc (Forestry)
3. VHSC class for livestock management and dairying (2x2 batches)

**Important visitors**

1. Dr.P.K. Khosla, Chairman, QRT on Agroforestry, ICAR
2. Dr. P.Rai, Director, NRC for Agroforestry , Jhansi
3. Sri. K.V. Ramakrishnan, President, Palakkad District Panchayath on 23-07-01

**Finance**

| Head of A/c | Provisions for the year | Expenditure | Station Receipts |
|---|---|---|---|
| Non Plan 379-36-0008 | 125.110 | 1,08,49,948 | 24,03,181 |
| Plan 379-3-2204 | 8.350 | 6,25,495 | |
| ICAR 379-33-6621 | 15.110 | 15,92,326 | |
| Seed and Nursery programme 379-36-2251 | 1.400 | *1,213 | * The Program was not under taken for want of money |
| EMD/Security deposit | 379-93-198 | — | 14,300 |
| Total | 1,49.,970 | 1,30,83,282 | |

# CENTRE FOR ADVANCED STUDIES IN ANIMAL GENETICS & BREEDING, MANNUTHY

## Introduction

This Centre act as an efficient tool in both Academic and research activities. This Centre was expertise on genetic analysis of animals including detection of abnormalities at molecular level. This centre also became responsible for the formulation of appropriate breeding policies of the state from time to time. Breed characterization, germplasm conservation and breed improvement became major challenges taken up by the centre.

## Mandate of the unit

Department of Animal Breeding & Genetics is mainly concerned with teaching and was upgraded 16 years back into the Centre for Advanced Studies in Animal Genetics & Breeding with all its present components of teaching, research and extension.

## A few memorable events of the institution

1. The Vechur cattle of Kerala State, the smallest breed ever known was identified and conserved by this centre.
2. The cytogenetics laboratory established in this centre karyotyped all domestic animals and Asian elephants also.
3. A full-fledged molecular laboratory was set up using finance from DBT and ICAR aided schemes.

## Faculty improvement programme

Scholarship awarded to staff/deputation of staff for higher studies

| Name | Designation | Programme for which deputed | Period of deputation | Institution |
|---|---|---|---|---|
| Dr. Usha A.P. | Asst. Prof | Post Doctoral | 1 year | Roslin England |

## Seminars/Summer Institute / Symposia / Training

The scientists attended programmes like Task Force meeting on Anim. Biotechnology, RAC meeting at PDC, Network project scientists meet at Bangalore, Scientist Meet on AICRP on goat, Swadeshi Science congress, 14th Kerala Sci. Congress and State Breeding Policy meeting

## Research programmes

### Molecular Genetic Characterization and Genetic Improvement of Malabari Goats

DNA samples were obtained from 175 animals and Microsatellite analysis was completed in 150 animals using four different microsatellites. The heterozygocity and polymorphic information content are computed for all those four markers. The high PIC values observed for these loci indicate the usefulness of these markers for genetic analysis particularly parentage determination and linkage studies. Data on milk yield, body measurement and milk composition of these animals have also been collected and recorded for further analysis.

## Conservation and Evaluation Malabari Breed of goats

Cytogenetic techniques were standardized 19 does, 5 kids and 3 ducks were purchased. The stock is maintained at RARS, Pilicode. Body weight, mortality of kids, productive and reproductive characters, were studied.

## AICRP on goat Improvement (Malabari Unit)

Three centres in North Kerala viz. Thalasserry in Kannur Dist, Badagara in Kozhikode dist, and Thanur in Malapuram dist of North Kerala were selected for survey work.

### NATP project on Animal Genetic Resources – Bio Diversity

Survey work of dwarf cattle was conducted at Idukki, Kasaragod and Calicut districts. The survey on buffaloes were conducted in Kuttanad area. The analysis of data is in progress.

### Molecular characterization and adaptability studies of Vechur cattle of coastal areas and other dwarf cattle of high ranges of Kerala financed by ICAR.

One hundred Vechur and other dwarf animals are maintained as a part of conservation. Full-fledged molecular laboratory was established.

### Field Progeny Testing Scheme financed by ICAR

Four batches of high pedigreed bulls were sampled and sampling of one bull is going on. The milk fed progenies of the test bulls born in the farm sheds were superior to their contemporary by 400 kg in the first lactation.

### Network project on Attappady Black goats financed by ICAR

The survey was done in two wards and details are collected on the demographical and geographical distribution of the Attappady breed.

## Extension activities and service rendered to the farmers

1. Sixty field units were established by supplying selected breeding animals from the Vechur conservation unit which is functioning at this center.
2. Dr. K. Anil Kumar and Dr. K.C. Raghavan has attended the Karshaka Mela at RARS, Pilicode during 29.10.2001 and 5.11.2001

## Important Visitors during the period

1. Smt. K.R. Gauri Amma, State Agricultural Minister, Kerala.
2. Dr. S.P. Singh, Director PDC, Meerut.
3. Smt. K.B. Valsala Kumari, Secretary to Govt. of Kerala Agri. Dept.
4. Dr. Kiran Singh, DDG (AS), ICAR, New Delhi.

## Finance

| Head of A/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 14.54 | 12,24,521 | - |
| Plan | 10.62 | 3,05,421 | 2,20,189 |
| ICAR | 67.522 | 50,34,303 | 8,360 |
| Other EAPs | 23.52 | 13,75,271 | - |

# UNIVERSITY VETERINARY HOSPITAL, KOKKALAI

**Introduction**

This station started functioning in Aug.1904, as Cochin State Veterinary Hospital, was adopted by KAU in 1972. Situated in the heart of Thrissur town, it provides services to the people in Thrissur and neighbouring districts.

**Mandate of the Institution**

To function as teaching and clinical training hospital for both U.G. and P.G. students of Faculty

**Lead Functions**

Clinical training for UG and PG and other programmes including Ph.D. and

Short term courses of Veterinary faculty

Function as a referral veterinary hospital for the field veterinarians

Analysis and interpretation of clinical materials for field cases

Immunisation programmes and health education for control of animal disease

Provide A.I. facility for cattle, goat and dog. Deal infertility problems in cattle, goat and dog.

**A few memorable events of the institution**

A special clinical camp was organised in association with Indian Immunologicals Ltd. on World Zoonoses Day on 6th July, 2001 and about 300 dogs were immunised against rabies

**Faculty Improvement Programme**

**Scholarships/award to staff/deputation of the staff for higher studies**

Dr, John Martin K.D., Assistant Professor entered on study leave from 14.11.2001 to join for Ph.D. (Surgery) at Kerala Agricultural University.

**Extension and other activities**

Experts from this institute participated in various clinical camps and sterility camps organised by Animal Husbandry Department

**Finance**

| Head of A/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non – plan | 14.770 | 13,97,189 | - |
| Plan | 0.550 | 52,873 | - |
| Revolving fund | - | 48,064 | 49,115 |

# REGIONAL CATTLE INFERTILITY RESEARCH CENTRE KOZHIKODE

**Introduction**

The Cattle Infertility Scheme was initially started in 1979 attached to the District Veterinary Hospital, Kozhikode. In 1984, the scheme was shifted to the present rented building at Vellimadukunnu.

**Lead functions:**

To study the incidence, nature, magnitude and prevelance of infertility conditions in crossbred cattle of Malabar districts.

To investigate the nutritional cause of anoestrum in crossbred cattle.

To study incidence of clinical endometritis and its therapy based on antibiogram.

**Extension and other activities**

The centre gives veterinary aid to the farmers of this area.

| | |
|---|---|
| Total number of cases attended | : 1704 |
| Bovine | : 873 |
| Caprine | : 375 |
| Canine | : 225 |
| Poultry | : 431 |
| Total number of dung & urine examined | : 689 |
| Total number of milk | : 127 |
| Total number of AI done | : 279 |

**Finance**

| Head of A/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Plan | 9,31,000.00 | 9,28,926.00 | 9,460.50 |
| Revolving fund | 37,000.00 | 27.890.00 | - |

# FACULTY OF FISHERIES

## FISHERIES STATION, PUDUVEYPU

### Introduction

The station started functioning in 1979 with 250 acres of newly accreted wetland assigned free of cost by the Revenue Department, Govt. of Kerala. Later, 150 acres of newly formed land adjacent to the existing campus was also assigned to the University in March 1993. Sooner, the Revenue Divisional Officer, Fort Kochi has withdrawn 70 acres, leaving only 330 acres under KAU possession upholding the clauses of previous tripartite agreement.

Recently the Government has issued orders (1995) for resuming the entire land for setting up various projects including gas based thermal power plant at Puduveypu, leaving only 50 acres to the University, for research purpose.

### Mandate of the station

The station imparts practical training on brackishwater fish culture for B.F.Sc./M.F.Sc. students of the College of Fisheries, Panangad and BSc (forestry) students of the university. The station also involves in research works to develop appropriate farming techniques for better production from unit area. In addition, it is also the mandate of the station to supply commercially important brackishwater fish seeds during season to farmers and research institutions.

### A few memorable events in the institution

One of the worth commendable events to be reported is the appreciable remark on the efforts put, in evolving appropriate fishery-based farming technologies made by the distinguished President and Members of Elankunnapuzha Grama Panchayat and Vypeen Block Member while attending Samooha Samparka Paripadi conducted on 28.4.2001

Likewise, slush and the marsh land are being utilized for generating a variety of edible crops of vegetables, banana, papaya, coconut, shrimp and fish. Adopting the techniques of eco-friendly organic farming was an eye opener to the Agricultural Educational Facilitators representing different states of north eastern hilly region of the country who visited the station on 11.11.2001.

### Faculty improvement programme

### Seminars/summer institute/symposia/trainings attended

Dr. K.S. Purushan, Associate Professor and Head attended NATP Evaluation workshop, NATP Annual Workshop, Technical Advisory Committee meeting of District Panchayat, Meeting on Gender Concerns etc. during the period.

### Research programmes

### Major Research achievements

An adaptive strategy involving manuring and supplementary feeding at optimum doses could very well enhance the growth and production of mullets in the wetland eco-system.

### Extension and other activities

Quality fish seed viz., *Mugil cephalus,* mullet, *Chanos chanos, Lates calcarifer* and shrimps are distributed during season to farmers, entrepreneurs and institutions. Technical guidance and extension literature on fisheries are also provided to the needy.

### Important visitors

The team comprising of President and members of the Grama Panchayat also visited the station along with local farmers to familiarize the various activities. A batch of agricultural educational facilitators representing different states of the country came during November 2001, under the auspices of the Directorate of Extension, KAU, Mannuthy for study purpose.

### Finance

| Head of A/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 20,79,500.00 | 19,91,855.00 | 1,44,202.00 |
| Plan | 2,84,500.00 | 1,80,453.00 | — |
| Other EAPs | 10,66,100.00 | 3,80,804.00 | — |
| Total | 34,30,100.00 | 25,53,112.00 | 1,44,202.00 |

CHAPTER IV

# EXTENSION

Prof. A.I.Jose, Continued as the Dirccto of Extension.

Extension mandate of the University is realized through testing and evaluation of the technologies and innovations under farmers field conditions, analyzing the potentials for sustainable income and employment and the constraints inhibiting their adoption, training of extension personnel, bringing about institutional and organizational innovations and making available good quality planting and breeding materials. These extension functions are operationalized through a network of institutions spread throughout the state. The five Krishi Vigyana Kendras, one in each of the major agro-ecological zones, serve as a major vanguard of the technology transfer commitment. The Central Training Institute, the Training Service Scheme and the CET for Plantation Crops coordinate and facilitate inservice training on new innovations, technologies and extension management to the grass root as well as middle level functionaries of the development departments. The Communication Centre comprising Farm Advisory Service, Information Unit, Extension and Graphic Unit, and Publications Unit is another organisation involved in the extension activities of the University. Publications include many titles (books and booklets), the bimonthly farm periodical *Kalpadhenu* with primary focus on farmers, the monthly *KAU News*, the *Journal of Veterinary and Animal Sciences* and the *Journal of Tropical Agriculture* published twice a year targeted at scientists and professionals and occasional pamphlets and brochures on specific innovations and problems. The University provides news and materials to all types of media and formulate recommendations for the production and management of crops and livestock. Three Agromet Units provide advisory services on weather status, warning on weather related stress factors and timely farm operations appropriate to weather conditions. Good quality planting and breeding materials are produced and made available to the farming community through nurseries, poultry hatcheries, prawn hatchery, cattle and livestock farm units and information and sales centres.

The Kerala Agricultural University is credited with the conceptualization and operationalization of the single window approach for technology transfer by concurrently providing access to information, both print and visual media and production inputs, through its pioneering innovative initiative for establishing the first Information Sales Centre at Mannuthy. This model designed and perfected by the University is extensively commented upon and is being promoted nation-wide through the network known as Agricultural Technology Information Centre (ATIC). Here, information, production inputs and diagnostic services are made available at single window.

Recently ATIC has expanded the concept with the addition of small but viable enterprise units based on technologies developed by the University known as Agricultural Biotechnology Agency for Rural Development (ABARD). It aims at the translation of research findings into technologies worth for running income generating agribusines enterprises by rural unemployed youth. It forms the latest technology transfer innovation of the Directorate. The trainees who have completed their training in this centre were given financial support on revolving fund mode to set up their own ventures. Fifteen of such Small Agro Industrial Units (SAIUs) have been established on specific topics covering banana tissue culture, vermi composing and super compost, cocoa products, horticultural nursery units, medicinal plants / nursery production, agro engineering services, vegetable seeds & seedling production, blackpepper nursery production, anthurium & orchids, etc. The progress of the Small Agro Industrial Units (SAIU) hitherto, is highly encouraging and many of the units are running successfully.

Several independent National Agricultural Technology Projects are also functioning under the Directorate, including IVLP (Institution-Village-Linked Programmes), ATIC etc. The Regional Agricultural Research Stations and the extension departments of the constituent colleges are also engaged in implementing the extension mandate of the University in their respective areas. Eleven National Service Scheme Units in the different constituent colleges are also co-ordinated by the Director of Extension

Farm Advisory Service is functional in almost all the units working under the Directorate, especially the Communication Centre and the KVKs. Technical advises were offered to the farmers who personally visited these units and also through direct mail and telephone. More than 500 field visits were conducted during the period for diagnosing various field problems reported and offered solutions.

The Communication Centre coordinated the participation of the University in different minor and major agricultural exhibitions in the state. Small agricultural exhibitions were also organised by RARS, Ambalavayal, RARS Pattambi, College of Horticulture, Vellanikkara and College of Veterinary and Animal Sciences, Pookkod. The Kissan Mela organized at RARS Pilicode was attended by 1500 participants including scientists, extension workers, guests and farmers during the period.

Training, which forms a major thrust area in transfer of technology is coordinated by the Central Training Institute, Mannuthy. It offered trainings to government departments, quasi government bodies, village level extension workers, unemployed youths, bank officers etc. in the field of agriculture and allied subjects. Vocational trainings were also offered to practicing farmers and unemployed youths in areas like nursery production and management of Horticulture crops, Integrated Pests Management, Fish culture, sericulture, cashew cultivation etc. in the various units under the Directorate.

Frontline demonstrations on topics of recent importance like preparations of organic pesticides, mushroom cultivation, compost making etc. were organised by KVKs functioning under the Directorate. The scientists under the various units of the Directorate also attended agricultural seminars / trainings / workshops organised in collaboration with the Department of Agriculture, Co-operative institutions, local bodies and farmer groups throughout the State as resource persons.

The Public Relations Unit issued press releases on the various activities and functions of the University. It served as the crucial link of the university with the public. The information communication programmes through various print and electronic media was continued during the period under report. The weekly KAU News programme through AIR is also continued. The printing of technical publications, booklets, information bulletins, periodicals, etc. of the university is undertaken by the KAU Press.

## COMMUNICATION CENTRE, MANNUTHY

### Introduction

Communication Centre under the Directorate of Extension of the University at Mannuthy disseminates new and useful farm technologies to the extension personnel of the development departments, voluntary agencies, co-operative societies, commodity boards and farmers through a variety of media.Its sub units namely Information unit, Publication unit, Exhibition and graphic services unit and Farm advisory service unit together perform the functions of information communication.

### Mandate of the station

The major responsibility of Communication Centre is to provide technical information support to the extension personnel of the state development departments and farmers.Information communication through various mass media publications , exhibitions, seminars and farm advisory and consultancy services are also the functions of Communication Centre. Teaching and Research are the auxillary functions of the station.

**A few memorable events of the institution**

The Pavilion of the KAU arranged by the Communication Centre at the Thrissur Pooram All India Exhibition 2001 won the prize for the best pavillion .

**Seminars/Summer Institute/Symposia/trainings attended**

The scientists participated in programmes like All India Seminar on Sexual Harassment and Gender Justice, National Seminar on Implications of WTO on Indian Agriculture, International Consultation on farmers rights in the conservation of plant genetic resources in Asia and Pacific, Modern trends in IPM and DAE-BRNS Workshop during the period.

*Research paper*

Bonny, B.P and Vijayaraghavan, K. 2001.Factors affecting sustainability of traditional rice farming systems of Kerala. *J.trop.Agric.* 39 :151-156

Bonny, B.P and Vijayaraghavan, K. 2001. Evaluation of indigenous knowledge systems of traditional rice farmers in India. *J. Sust. Agric.* 18(4): 39-51

Bonny, B.P and Vijayaraghavan, K. 2001 . A scale to measure the attitude of traditional rice farmers towards sustainable agriculture. *Indian J.Social Res.* 42(3) 153-161.

Sankar, J. S and Thomas, J. 2001. Harvest management studies in Jammu lemon grass. *Eleventh Swadeshi Science Congress on Biodiversity Conservation and Management,* 7-9 November 2001. Kerala Forest Research Institute, Peechi.

Prameela P, Menon, R., Nair,S and Suma, A.2001. Estimating losses from weeds at growth and development of banana and identification of critical stages. . *Eleventh Swadeshi Science Congress on Biodiversity Conservation and Management*, 7-9 November 2001.Kerala Forest Research Institute, Peechi.

Elsy, C.R., Gopinathan, R., Radhakrishnan, V.V and Estelitta, S.2001.Participatory plant breeding for better utilization of plant genetic resources-Experiences from Kerala. *Proceedings of the Symposium held on 23-24 April 2001*, Andaman and Nicobar Islands.

Vasanthakumar, K and Sankar, A.M.2001.Reseach perspectives for medicinal plants yielding camphotecin-a potential anti-tumour agent. *National Seminar on Conservation and Utilization of Medicinal and Aromatic plants.* December 4-6,2001,RRL, Bhubaneswar.

Jayalekshmi, G and Prameela, P.2001 Needs, priorities and constraints of the farming community. *Eleventh Swadeshi Science Congress on Biodiversity Conservation and Management,* 7-9 November2001.Kerala Forest Research Institute, Peechi.

**Popular articles**

A total of 28 popular articles were published by the scientists of this unit.

**Books / Booklets (KAU publications)**

Estelitta,S., Seema, B. and Jayasree Sankar,S.2001. Samyojitha sasyasamrakshanam pachakkarivilakalil,pp.156

Estelitta,S. Jayasree Sankar, S, M. K. Sheela and K.K.Santha 2001 Kamuku,pp.34

Jayasree Sankar S, S. Estelitta and P. K .Sushama. 2001.Jaivavalangal,pp.39

Estelitta,S.and M.K.Sheela 2001 Mavu – Rogangalum Keedangalum,pp.20

Santha,K.K.2001. Kuttimullakrishi,pp.13

Antony,A.D.2001.Varnamatsyakrishi,pp.24

Estelitta, S., B. Seema and Jayasree Sankar, S. 2001.Jaivakeedanasinikal,pp.10

Peethambaran, P.A., C. B. Manomohan and A.Jalaludheen. 2001. Chick nurserikal,pp.34

**Research programme**

*Externally aided projects*

| | | |
|---|---|---|
| Dr. Binoo P.Bonny | : | Documentaton and validation of indigenous technical knowledge (ITK) of Kerala,funded by Govt. of India,Ministry of Agriculture. Completed on 31.03.2002. |
| Dr.K.Vasantakumar | : | In vitro production of anti cancer secondary metabolites, camphothecin and related alkaloids - STED, Govt. of Kerala. |
| Dr. S. Estelitta | : | GALASA phase II at Palakkad, Dist. Panchayath, Palakkad |

**Extension and other activities**

| Sl.No. | Name | Activities | Date/No. | Venue |
|---|---|---|---|---|
| 1 | Dr.R.M.Prasad | Handled class on community empowerment in the workshop organised by SIRD, Kottarakkara. | 18-1-02 | ETC, Mannuthy |
| | | Participated as resource person in seminar organised by Malayala Manorama | 11-2-02 | Muvattupuzha |
| | | Talk on Youth in Agriculture in Gramadarshan camp | 24-2-02 | Vilangannoor, Peechi |
| | | SAC meeting of KVK, IISR | 22-3-02 | Peruvannamuzhi |
| | | Co-ordinated Farm School on AIR programme | Jan-Mar.02 | Thrissur |
| | | Paper presented in Southern Regional Convention on Training for Sustainable Development. | 18-19 Oct.01 | Trivandrum |
| | | Annual review meeting of KVK and TOT Projects | 11-12-01 | Ambalavayal |
| | | Attended Zonal Workshop at ORARS Kayamkulam | 6-11-01 | Kayamkulam |
| | | Radio talks-3nos. | | Thrissur |
| 2 | Dr.M.K.Sheela | Farm clinics organised fortnightly At Bethany Convent, Vilangannur | | |
| | | Farmers seminars | 18 nos. | Palakkad ,Thrissur |
| | | Training for officials of Agrl.Dept. | 15 nos | Kozhikkode, Thrissur, Palakkad. |
| | | Field days | 7 nos. | Thrissur |
| 3 | Dr.A.D.Antony | Member DLEC/Sectoral Committee | | Thrissur |
| | | Class on inland fish culture | 18.10.01 | Pothundy |
| | | Production of ornamental fishes on large scale for sale in aquarium | | |
| | | Radio talk on new ornamental fishes | 1 no. | |
| | | Farm Advisory Services | 160 nos. | |
| | | Conducted State level seminar on Ornamental fish culture | 30-1-02 | |
| | | Talk on ornamental fishes | 10.07.01 | Thrissur |
| | | Talk on aquarium fishes | 9-01-02 | Irinjalakuda |
| 4 | Dr.Suma Paulose | Farm Advisory Service | 67 nos. | |
| | | Field visits . | 52 nos. | |
| | | Farmers seminars | 48 nos. | |
| | | Compiled Package of Practices -Crops 2000 | | |
| 5 | Dr.K.Vasanthakumar | Class on importance of preserving rare medicinal plants for progressive farmers of Wayanad | 4-6, Aug.01 | |
| | | Problems and prospects of raising commercial flowers for selected farmers | 15-8-01 | Panjal |
| | | Consultant to project on design and lay out of garden heritage museum at Ambalavayal | | Ambalavayal |
| 6 | Dr.S.Estelitta | Farmers seminars | 13 nos | |
| | | Trainings conducted | 15 nos | |
| | | Field visits | 20 nos | |
| | | GALASA phase II at Palakkad | | |
| | | Review meetings and seminars attended | 7 nos. | |

| | | | | |
|---|---|---|---|---|
| 7 | Dr.C.B. Manomohan | Seminars conducted/attended<br>Field visits<br>Farm day at RARS,Pilicode<br><br>Editor, Journal of Veterinary and Animal Sciences<br>Coordinator –AH camp<br>Farm advisory service | 14 nos<br>10 nos.<br>25.10.01 – 01.11.01<br><br><br>30 days<br>83 nos. | <br><br><br><br><br>Choondal |
| 8 | Smt.K.K.Santha | Training coordinator for nursery techniques of plants and its management<br>Farmers seminars<br>Farm advisory service<br>Field visits | 2 nos<br><br>10 nos<br>159 nos<br>20 nos. | |
| 9 | Dr.Jayasree Sankar S. | Farm advisory service<br>Farmers seminars<br>Field visits<br>Attended PC group meeting on medicinal and aromatic plants on11.9.01 | 58 nos.<br>8 nos.<br>20 nos. | <br><br><br>AMPRS,Odakkali |
| 10 | Dr.Sreevalsan J.Menon | Farm advisory service at ATIC<br>Preparation of annual report of ATIC | | |
| 11 | Dr.Prameela P. | Farmers seminars<br>Farm advisory service<br>Radio talk<br>Weekly news bulletin for AIR | 4nos<br>30 nos<br>1nos.<br>Every week | |
| 12 | Dr.Jayalekshmi G. | Class on women self help groups& income generation to women SHG<br>Attended zonal workshop at ORARS Kayamkulam<br>Coordinated farmers day celebration<br>And world food day celebration at Communication Centre | 1nos.<br><br>6.11.01<br><br>17.8.01<br>16.10.01 | Vellanikkara |

**Finance**

| Head of account | Outlay(Lakhs) | Expenditure | Receipts |
|---|---|---|---|
| Non plan | 69.565 | 6034485.00 | 270242.61 |
| Plan | 36.80 | 549888.00 | 0 |
| ICAR | 0 | 0 | 0 |
| Other EAPs | | 264600.00 | 0 |
| Revolving fund | 0 | 0 | 0 |

# CENTRAL TRAINING INSTITUTE, MANNUTHY

## Introduction

The Central Training Institute (CTI) is the nodal point of Kerala Agricultural University's training activity. The institute co-ordinates training on agriculture and related subjects to the technical personnel of the State Departments such as Agriculture, Animal Husbandry, Dairy Development, Fisheries, Forestry, Commodity Boards, Banks and such other agencies. The institute is recognised by the Government of India as a Centre for National Training Courses in specialised areas such as Farm Journalism, Plantation Crop Production Technology etc.

The training programmes undertaken by the Central Training Institute are classified as detailed below:

### Sponsored Training

This includes trainings imparted to employees of various State Departments, Commodity Boards, NGOs and other sponsoring agencies.

### Vocational Training

Here the training cost is limited to actual expenditure alone.

### Stipendiary Training

In cases where the KAU stands to benefit from the services of the trainees, a monthly stipend sanctioned by the Vice-chancellor is paid to the trainees.

### Staff Training

As part of the human resource development intervention training programmes are undertaken for the staff of the Kerala Agricultural University.

### Lead function

- To identify training needs and organise specialised training activity.
- To co-ordinate, monitor and evaluate training programmes undertaken by the KAU.

### Auxiliary function

- To strengthen the training capabilities of the research stations and educational institutions under the KAU.

### A few memorable events of the institution

Training is an important statutory function of the Kerala Agricultural University (KAU). Although the University was conducting training programmes ever since its inception in 1972, the training activities were brought under one umbrella with the establishment of the Central Training Institute (CTI) in 1986. Started with financial assistance of the World Bank as a sub-project of the National Agricultural Extension Project (NAEP), CTI has now become the nodal point of KAU's training activity.

### Seminars / summer institute / symposia / trainings attended

The scientists attended programmes like All India Seminar on Sexual Harassment and Gender Justice, National Seminar on Implications of WTO on Indian Agriculture, International Consultation on farmers rights in the conservation of plant genetic resources in Asia and Pacific, Modern trends in IPM and DAE-BRNS workshop during the period.

### Important visitors

| Name of visitor | Date |
|---|---|
| Dr. Koshy John, Director (Dev.), Spices Board | 6th November 2001 |
| Dr. T. D. John, Joint Director (Trg.) Spices Board | 22 March 2002 |
| Dr. P. Das, DDG (Extension), ICAR | 17 December 2001 |
| Dr. Kiran Singh, DDG (Animal Sciences), ICAR | 7th June & 5th October 2001 |
| Dr. T. V. R. Sharma, Director NATP –Coastal Eco -System | 17 December 2001 |
| Dr. S. C. Chopra, ADG (AP & B), ICAR | 4th and 5th October 2001 |

**Extension and other activities**

**Number of Training Programmes conducted**

| | | | |
|---|---|---|---|
| 1. | Inservice Training | | |
| a. | For State Department of Agriculture | : | 17 |
| b. | For State Department of Animal Husbandry | : | 1 |
| c. | For Other Departments | : | 7 |
| 2. | Sponsored Training | : | 9 |
| 3. | Stipendiary Training | : | 4 |
| 4. | Human Resource Development | : | 9 |
| 5. | Vocational Training | : | 20 |
| 6. | National Training | : | 4 |
| | **Total** | : | 71 |

**Finance**

| Head of a/c | Pension for the year (lakhs ) | Expen-diture in lakhs | Station Receipts in lakhs |
|---|---|---|---|
| Non plan | 24.494 | 21.145 | 4.066 |

# AGRICULTURAL TECHNOLOGY INFORMATION CENTRE (ATIC) MANNUTHY

**Introduction**

The Information and Sales Centre (I&SC), Mannuthy started functioning on 10-07-1993 as an independent unit under the administrative control of the Directorate of Extension. The primary objective of the centre was to act as the centre of excellence in the sphere of dissemination of technologies and distribution of quality products developed by the University akin to a super market approach

The I&SC, which was established under KAU at Mannuthy was upgraded as Agricultural Technology Information Centre (ATIC) under NATP project funded by ICAR and World Bank. The official operation of ATIC commenced with effect from 01-01-2000.

**Mandate**

To provide *a single window delivery system* for agricultural information as well as products and technologies developed by the University with a view to deliver quality services to the clientele.

To strengthen the *farm advisory services* by adopting a multi disciplinary approach to problem solving.

To provide mechanism for *feedback* from the end users to the research system.

To function as a *repository of agricultural information* pertaining to farming skills and practices, farm inputs and agricultural education.

To offer *consultancy services* to the different stakeholders in the state.

To offer *training* to unemployed youth to make them job providers, rather than jobseekers as a part of the ABARD project.

- Sale of quality planting materials, Veterinary products, processed products worth Rs. 86.02lakhs to the public
- Supply of Quality vegetable seeds through speed post to farmers residing in far off areas.
- Helpline - a devoted telephone line (0487-370 540) for the service of farmers.
- Training of 150 unemployed educated youth on 15 different agro-biotechnology options for empowering them to start self sustainable agri business enterprises (ABARD).
- Self empowerment of women entrepreneurs (64 nos:) through Small Agro Industrials Units (SAIU's) by adopting rural technological innovations of the University.
- Earn While you Learn programme for professional graduate students of the University by providing service to the public through ATIC counters.

**Seminars, summer institute / trainings attended**

Dr. K.Aravindakshan attended 3 programmes ie., Short course on recent trends in transfer of technolog, Hands on training in computer application and Action plan of NATP project

**Extension and other activity**

*ABARD Training Programme*

A new initiative is in progress at Kerala Agricultural University, wherein, the research findings are translated into technologies worth for running income generating Agribusiness enterprises by rural unemployed youth. Conceptually, Agro Biotechnology Agency for Rural employment Development (ABARD) is an initiative to translate scientific findings and technology prescriptions into agricultural enterprises/agri-business with the following broad objectives *(1) to empower unemployed youth especially women to establish self-sustainable Small Agro Industrial Units (SAIUs), (2) to translate scientific findings to technologies worth for establishing agri-business enterprises,(3) refinement and fine tuning of technology for large scale field adoption and (4) to extend quality services and products at affordable rates to resource poor, small and marginal farmers.*

The trainees underwent hands on training on 15 different Agro-biotechnological topics under the direct supervision of scientists responsible for generating the specific technologies and on completion of the training the successful, interested, trainees were given financial support on revolving fund mode to set up on campus SAIUs on specific topics. To name a few among the 15 different SAIUs established are SAIUs on Banana Tissue Culture, Vermicomposting and Super compost, Cocoa Products, Horticultural Nursery Units, Medicinal Plants/nursery production, Agro Engineering Services, Vegetable Seeds & Seedling Production, Black pepper nursery production, Anthurium and Orchids etc. The progress of the SAIUs, hither to, is highly encouraging and many of the units are running successfully.

*KAU Pavilion in All India Thrissur Pooram Exhibition 2001-2002*

The KAU pavilion at the All India Pooram Exhibition was constructed in the shape of the original ATIC building under construction at Mannuthy . This year the KAU pavilion alone recorded a sale of Rs. 1.50 lakhs from the Pooram exhibition.

*Agricultural Technology Passage (ATP)*

A project named Agricultural Technology Passage was initiated by the University to enhance the appeal and revenue of the ATIC. This project will act as the link between the activities of ATIC and ABARD. Agricultural Technology Passage is a harmonious blend of agricultural enterprises, technology and agricultural history for the purpose of information, education and entertainment..

*X'mas Fair*

X'mas fair was conducted on 23rd December, 2002. Vegetables, meat, milk, egg etc. were supplied through various stalls temporarily erected for the purpose.

*Tender coconut Parlour*

In order to bail out the coconut farmers from the harsh economic conditions caused due to the sharp fall in coconut prices, the ATIC organised a campaign for promoting coconut diversified products especially tender coconut and its variants.

**Important Visitors**

- Dr.P.L.Goutham, National Director, NATP visited ATIC on 21st July, 2001
- Smt. K B ValsalaKumari, IAS The Secretary (Agriculture), Govt. of Kerala visited ATIC in July, 2001
- Sri.P.Das,DDG (Extension), ICAR visited ATIC on 19th December, 2001.
- Smt.K.R. Gouri Amma, Hon'ble Minister of Agriculture, Govt. of Kerala visited ATIC on 29th December,2001.
- Dr.J.B.Choudhari, Hon'ble Vice Chancellor,G.B.PUA&T, Pant Nagar visited ATIC on 6 stFebruary,2002.

**Finance**

| Head of account | Provision for the year | Expenditure in Rs. | Station Receipts |
|---|---|---|---|
| Non plan ABARD | 65,000 | 61,277 | 86.02 lakhs |
| Plan | 11,14,500 | 9,61,959 | |
| ICAR 413-40-6000 Establishment of ATIC under NATP | 1,27,500 (Operational expenses) | 18,98,749 | |
| Revolving Fund | — | 81,92,342 | |

# KRISHI VIGYAN KENDRA, MANJESHWAR

**Introduction**

The Krishi Vigyan Kendra, Manjeshwar started functioning at Vorkady, Manjeshwar as a project of the Kerala Agricultural University from 22-10-1984. A building has been taken on rent with effect from 01-02-1985 at Thimmangore in Vorkady Village which was later shifted to Majeerpalla, Vorkady, Manjeshwar. Currently it is functioning in its owned newly constructed Administrative Building since 28-11-2001.

This area is mostly inhabited by Thulu and Kannada speaking population in malayalam majority state. Due to language barrier, farmers were cut off from the main stream regarding transfer of technology in agriculture and allied aspects, which subsequently contributed, to a sharp decline in agricultural productivity.

**Mandate of the institution**

In order to uplift the group of farmers, KVK Manjeshwar started functioning at Vorkady, Manjeshwar with specific objectives.

**Lead function**

The specific objective of KVK, Manjeshwar is to impart up-to-date knowledge to farmers, farm youths and farm women on crop planning, crop production techniques, animal husbandry, dairying, forestry, home science and fish farming etc. to improve their skills and understanding in scientific farming.

**Auxiliary function**

1. To conduct socio-economic surveys to assess the impact of training on the economic condition of the farmers.
2. To act as potent instrument for transferring modern farm technology to the farming community through various extension media.
3. To conduct in-service training programme for the personnel of the development department.
4. Establishing rapport with various social organizations functioning in this area of operation.
5. Strengthening the linkage with various development departments in the District.

**Lead station**

The lead station is far away from this station namely Regional Agricultural Research Station, Pilicode.

**Satellite station:**

Regional Agricultural Research Station, Pilicode and College of Agriculture, Padannakad serve as Satellite stations for KVK, Manjeshwar.

**A few memorable events of the institution**

The new Academic and Administrative Block of KVK , Manjeshwar was completed.

The KVK is shifted to its newly constructed Administrative Block since 28th November 2001.

## Faculty improvement programme

**Seminar/Summer institute/training/attended:**

| Name | Designation | Seminar/ symposia/ workshop/summer Institute | Period of deputation | Institute to which deputed and duration of course |
|---|---|---|---|---|
| R. Sendil Kumar | Asst. Professor (Agrl.Extension) | Summer short course on participatory planning and Appraisal | 19-6-01 to 28-6-01 | C.S.Azad University of Agrl& Technology Kanpur. ICAR sponsored (10 days) |

**Extension and other activities**

Extension service is the main back bone of this institute. This institute forms its vision on Extension service by conducting various Training programme to the People of this locality. During this annual period (2001-2002) it had planned and conducted various need based training programme to different sections of people. About 13 training programmes were conducted by covering wider subjects viz Crop oriented (4) Plant protection (2) Agricultural Engineering (1) Home Science (3) and General topic (2) and Employment oriented (1). Four Demonstrations were given exclusively to women folk on the subject of fruit products preservation.

Besides these activities, KVK Manjeshwar builds good rapport with various social organisations, (clubs, Sanga, SHG etc.) NGO, etc. and establishing better linkage and co-ordination with other development departments/Agency like RAIDCO, Sericulture, NABARD etc.

Out of the total 13 programmes conducted, 9 were on campus and 4 were off campus.

**Kisan Mela 2001. A joint Venture of RARS, Pilicode & KVK, Manjeshwar**

A three days Kisan Mela was conducted at RARS, Pilicode as a joint venture. The staff of Krishi Vigyan Kendra, Manjeshwar involved themselves in all the process of Kisan Mela. About 15 farmers from this locality attended the Kisan Mela 2001. Sri. Chitharanjan Naik of this locality won I prize for the best Arecanut Bunch during Kissan Mela 2001.

**Demonstrations**

| Name & Designation Of Scientist | Topic | Duration (one day) | No. of participants | Amount spent |
|---|---|---|---|---|
| R. Sendil Kumar Asst. Professor | Demonstration on cashew Jam Making &squash | 28-4-01 (one batch) | 16 | Rs. 162 |
| Mr. Dineshan I.S. Foreman, Raidco Kannur | Repairs & Maintenance of irrigation pump | 1-6-2001 | 43 | Rs. 320 |
| Smt.Saritha Hegde Training Associate (Home Science) CPCRI-KVK | Demonstration on Fruits products preservation | 26-9-2001 | 25 | Rs. 466 |
| Smt.Saritha Hegde Training Associate (Home Science) CPCRI-KVK | Cocum & Cashew Apple preser vation | 23-3-2002 | 11 | Rs. 500 |

**Training Programmes:**

| Name & Designation Of Scientist | Topic | Duration (One day) | No. of participants | No of batches | Amount Spent Rs. |
|---|---|---|---|---|---|
| R. Sendil Kumar Asst. Professor<br><br>Sri. B. Shantharam Asst. Professor | Demonstration on cashew Jam And Squash making. Awareness lecture 28.4.2001 On formation of Women group Composite fish culture | 28-4-2001 | 16 | 1 | Rs. 162 |
| R. Sendil Kumar.<br><br>B. Shantharam Asst. Professor | Cashew propagation method Fish farming and their importance | 24-5-2001 | 11 | 1 | Rs. 160 |
| Sri. Dineshan I.S. Foreman Raidco, Kannur | Repairs & Mainte -nance of irrigation pump | 1-6-2001 | 43 | 1 | Rs. 320 |
| Dr. B. Jayaprakash Naik, Asso.Prof. RARS, Pilicode | Vegetable cultivation | 21-7-2001 | 20 | 1 | Rs. 60 |
| Sri. Vasudevan Asst. General Manager, Dist. Office, NABARD Kasaragod | Orientation Training programme on 'SHG' concept | 4-8-2001 | 40 | 1 | Rs. 340 |
| Smt. Mohini, Block Development Officer, Manjeshwar | | | | | |
| Dr.A Rajagopal Asso.Prof.( Horti) COA Padannakkad | Improved cultiva-tion practices of major crops | 14-8-2001 | 17 | 1 | |
| Dr. Sreekumar, Asst.Prof.(Entamology) COA ,Padannakd | Pest and Disease Management in Paddy crops | 23-8-2001 | 31 | 1 | |
| Smt. Saritha Hegde Training Associate (Home Science) CPCRI-KVK | Demonstration on Fruit Products Preservation | 26-9-2001 | 25 | 1 | Rs.466/- |
| Sri. Mohammed Madani.K.V Asst. Sericulture Officer | Scope of sericulture | 16-10-01 | 33 | 1 | Rs.600/- |
| Dr. B. Jayaprakash Naik Asso. Professor RARS Pilicode | Cashew and its bye products | 14-12-01 | 25 | 1 | Rs.500/- |

| | | | | | |
|---|---|---|---|---|---|
| Sri. Joy. M<br>Asst. Prof. (Pathology)<br>COA Padanakad | Pests & disease Management in vegetable crop | 4-1-2002 | 41 | 1 | Rs.648/- |
| Dr. Muthuraj<br>Teaching Asst.<br>COA, Padanakad | Watershed Management practices | 2-2-2002 | 31 | 1 | Rs.575/- |
| Smt. Saridha Hegde<br>Training Associate<br>CPCRI KVK | Cocum & Cashew Apple preservation | 23-3-2002 | 11 | 1 | Rs.500/- |

**Field visits to farmers fields**

| Name of the scientists period | No. of visits | Main problems tackled |
|---|---|---|
| Sri. B. Shantharam,<br>Asst. Professor & Head<br>April 2001 to March 2002 | 12 | Regular visits were carried out to tackle the problems of this area.<br>1. Control of pests and diseases cashew, coconut, arecanut paddy and vegetable |
| Sri. R. Sendil Kumar<br>Asst. Professor | 5 | 2. Use of correct dosages of fertilizer to the farmers field. |
| | | 3. Soil and water conservation in this area. |
| | | 4. Maintenance of Fish Pond and Methodology on Fish farming |

**Farm Advisory Service rendered**

| Date/Period | Farm Clinic | Solution to farmer's field problems |
|---|---|---|
| | | In person Through telephone Through post |
| From April 2001 to March 2002 | No farm Clinic | Solution to farmers field problems carried out in person and through telephone |
| | | The main problems tackled here are |
| | | 1) Pest and disease prevention to coconut, arecanut, paddy and cashew etc.<br>2) Soil and water conservation<br>3) Awareness of usage of inorganic and organic fertilizer to the agricultural field.<br>4) Fertilizing, feeding and maintenance of fish pond etc. |

**Important visitors**

| Name | Organizational affiliation | Date of visit | Purpose of Visit |
|---|---|---|---|
| Dr. A.I. Jose | Director of Extension | 29-05-2001 | As usual and regular Inspection |
| Dr. A.I. Jose | " | 31-10-2001 | " |
| Dr. A.I. Jose | " | 01-02-2002 | " |
| Dr. A.I. Jose | " | 05-04-2002 | " |

**Other details**

1. The course ANHS 302 (1 + I) Fisheries is offered by Sri.B.Shantharam, Asst. Professor & Head, to the I I I BSC (Agrl.) students of College of Agriculture, Padannakad.

2. The course Extn 101 Rural sociology ( 1+0) and Extn 406 Programme planning (1+1) are offered by Sri.R.Sendilkumar Asst. Professor (Agrl. Extension) to the I year & IV year BSC (Agrl.) students of College of Agrl. Padannakkad respectively.

**Finance**

| Head of a/c | Provision for the Year | Expenditure | Station receipts |
|---|---|---|---|
| Non Plan | 13.355 | 8.046 | 0.0405 |
| Plan | 1.600 | 0.212 | - |
| ICAR | - | - | - |
| Other EAPS | - | - | - |
| Revolving Fund | - | - | - |
| | 14.955 | 8.258 | 0.0405 |

# KRISHI VIGYAN KENDRA, AMBALAVAYAL

**Introduction**

The Krishi Vigyan Kendra, Ambalavayal started functioning as a University project attached to the Regional Agricultural Research Station from October, 1982. ICAR started financing the Kendra from 1984 and thereafter the Kendra is functioning as per the guidelines of the Council. The area of operation comprises the entire Wayanad district, where tribals constitute a significant portion of the population. *Kurumas, Kurichias, Paniyas* and *Naikkas* are the major tribal groups here. The Krishi Vigyan Kendra conducts training programmes for practising farmers, extension functionaries and unemployed rural youths in the field of Agriculture and Animal Husbandry. The Kendra is maintaining a very good linkage with the developmental departments and various NGOs functioning in the district.

**Mandate of the unit**

Extension activities in agriculture and allied fields aimed mainly at the tribal population and non-tribal farmers of Wayanad.

**Lead function**

Training programmes for practising farmers, rural youths and extension functionaries.

**Auxiliary function**

Front line demonstrations, On farm testing, Vocational training programmes and other extension activities.

**A few memorable events of the station:**

The Scientists of the Kendra provided technical assistance to 10 Self Help Groups formed under *KudumbaShree and Janashree* Projects of SGRY Scheme. Training was imparted to the beneficiaries of all said projects. A Goat rearing unit at Konchangode and a Crop nursery at Thaazhathoor are examples of a few units functioning successfully. Similarly, a mahila samajam in Pulpally is actively involved in the production of Oyster Mushroom, Pickles, Bakery products etc. providing employment opportunity to about 20 rural women. A tribal ladies group, who got training in tailoring and started their own enterprise has now started functioning in a new building of their own.

Mass multiplication of bio control agents *Trichoderma harzianum* and *Trichoderma viride* for the management of foot rot disease of pepper and rhizome rot disease of ginger were carried out under the Revolving Fund scheme of the Kendra.

**Faculty Improvement Programme:**

**Seminars/Summer Institute/Symposia/Training attended**

| Name | Designation | Seminars/symposia/ workshop/Summer institute for which deputed | Period of deputation | Institute to which deputed and duration of course |
|---|---|---|---|---|
| G.S. Arularasan | Assistant Professor (Agrl. Extension) | Short Course on Educational Video Film Production | June 18 -29, 2001 | TNAU, Coimbatore June 19 - 28 ,2001. |
| C. M. George | Assoc. Professor and Head | AICRP Workshop on Spices | Oct. 31 - Nov. 4, 2001 | KAU Nov. 1 - 3, 2001 |
| T.P.Manomohandas | Assoc.Professor (Plant Pathology) | AICRP Workshop on Spice | Oct. 31 - Nov. 4, 2001 | KAU Nov. 1 - 3, 2001 |

**Academic Programmes :**

As a part of Rural Agricultural Work Experience (RAWE) Programme, 3 batches of final year U.G. students from COA, Padanakkad and Vellayani and COH, Vellanikkara underwent field training of one week duration each at this Kendra.

**Extension and other activities**

**Demonstrations**

Evaluation of high yielding Bitter gourd varieties, Integrated management of Nematode pests of Banana, Evaluation of different varieties of Oyster Mushroom, Evaluation of scented Rice varieties

**Training programmes**

| Sl. No | Title of the course | No. of training Programmes | No. of participants |
|---|---|---|---|
| *A. Practising Farmers* | | | |
| 1. | Crop Science | 81 | 1898 |
| 2. | Horticulture | 07 | 150 |
| 3. | Animal Husbandry | 19 | 555 |
| 4. | Agrl. Extension | 07 | 252 |
| 5. | Home Science | 12 | 232 |
| 6. | Fisheries | 03 | 106 |
| | Total | 129 | 3193 |
| *B. Rural Youths* | | | |
| 1. | Crop Science | 8 | 154 |
| 2. | Horticulture | 3 | 154 |
| 3. | Animal Husbandry | 4 | 154 |
| 4. | Home Science | 2 | 28 |
| 5. | Agrl. Extension | 4 | 89 |
| | Total | 21 | 579 |

**Important visitors**

| Name and address | Date of visit | Purpose |
|---|---|---|
| Dr. A.I. Jose, Director of Extension<br>Sri. P.C. Sharma, Principal Scientist, ICAR, New Delhi.<br>Dr. R.K. Samanta, Zonal Coordinator, TOT Projects (ICAR), Bangalore<br>Dr. M.R. Hegde, Principal Scientist, TOT Projects (ICAR), Bangalore<br>Sri. Mallikarjun Hanji, Prog. Officer, TOT Projects (ICAR), Bangalore<br>Training Organisers of KVKs of Kerala and Lakshadweep | Oct. 11 - 12, 2001 | Annual Review Meeting of KVKs of Kerala and Lakshadweep<br>SAC Meeting of KVK |

**Other details**

Besides conducting training programmes and demonstrations, the Kendra has conducted several Animal Health and Vaccination Camps. During this year, 7 poultry vaccination camps, 12 cattle infertility camps and 7 vaccination camps for goats have been conducted. A total of about 1950 birds and animals have been taken care of during these camps.

**Finance**

| Head of account | Provision for the year (in Rs.) | Expenditure (in Rs.) | Station receipts (in Rs.) |
|---|---|---|---|
| ICAR | 20,10,000 | 20,42 ,068 | - |
| Revolving Fund | - | 1,69,225 | 2,26,709 |

# KRISHI VIGYAN KENDRA, PATTAMBI

**Introduction**

Krishi Vigyan Kendra, Pattambi was established in 1979 at the Regional Agricultural Research Station, Pattambi. KVK, Pattambi caters to the needs of Palakkad district of Kerala.

**Mandates**

- Vocational Training Programmes : To practicing farmers
  To Women
  To Rural Youth
- Front Line Demonstrations
- On Farm Testing of Technologies
- Training to Extension Personnel
- Auxiliary functions
  Sponsored Training Programmes
  Seed and Nursery Programme
- Extension Activities
  Seminar, Exhibitions, Field Days, Village Survey, Case Studies etc.

**A few memorable events of the Institution**

Dr. P. Das, DDG (Extn), ICAR visited the Kendra on 16.12.2001. He was accompanied with the Hon. Vice Chancellor, KAU and the Director of Extension, KAU. They visited the KVK demonstration units and made suggestions for further improvement of the farm.

Sri. T. A. Viswanathan, Secretary, Paruthikkavu Padasekhara Samiti , Chittoor was given, under our effort, an opportunity to participate in the Ist National Seminar on Private Extension organized at MANAGE, Hyderabad..

KVK, Pattambi was selected by the Zonal coordinating unit, Bangalore for presenting a paper on Group Farming in the workshop on Alternate Extension Systems organized for finalization of the 10th plan proposals of the ICAR.

**Faculty improvement Programme**

**Scholarship awarded to staff/deputation of staff for higher studies**

| Name | Designation | Programme for which deputed | Period of deputation | Institution/University to which deputed |
|---|---|---|---|---|
| A.V. Santhoshkumar | Asst. Professor | Ph.D. | Registered | IFRI, Dehradun |

**Seminars/summer institute/symposia/trainings attended**

| Name | Designation | Seminars/symposia/ workshop/summer institute for which deputed | Period of deputation | Institute to which deputed and duration of course |
|---|---|---|---|---|
| Dr.P. Rajendran | Assoc. Professor | Training on Training Need Assessment for Natural Resource management – tools & techniques | 11.06.2001 to 16.06.2001 | APARD, Hyderabad |
| Musthafa Kunnathadi, | Asst. Professor | Training on Windows 98 & MS Office | 24.09.2001 to 26.09.2001 | CMFRI, Cochin |

**Major extension achievements.**

***FLD on Popularization of newly released variety of Bhindi (Abelmoschus esculenta)***

Front Line Demonstration on introduction of the newly released red coloured Bhindi variety 'Aruna' was conducted over an area of 50 cents at Koodallur, Kumbidi and Othaloor.

***On Farm Testing***

*Identification of suitable variety of Tuber crop–Coleus (Coleus parviflorus) for the rain fed areas*

The tuber crop Coleus (*Coleus parviflorus*) is widely cultivated in the rain fed tracts of Palghat district. Though farmers are engaged in its cultivation, they face the problem of lack of high yielding varieties. In this context, an On Farm Testing was conducted with an objective of studying the performance of different varieties of Coleus and identifying the best one suitable for the rain fed tracts of Palghat district.

The programme was conducted in three farmers' fields at Pattissery, Nellaya. The names of the farmers are Sri. Rajan, Sri. Cheruva and Sri. Venugopalan. Observations were made on the tubers per plant, weight of individual tuber, average yield of tubers, etc., The data were analyzed statistically and the results obtained are detailed below:

The results showed that the highest value in all the aspects observed was with var. Sreedhara followed by the local check.

*Evaluation of improved variety of Backyard Poultry*

Gramalakshmi (Austrowhite) – released from Kerala Agricultural University, Female birds (five birds/family) of two to three months age were introduced to the farmers and the performance of the birds in field condition were evaluated (Primary data) and the experience of the farmers noted.

**Training Programmes**

***Extension activities***

| Activities | Number | No.of participants | | | No.of SC/ST | | No.of Extn. Functionaries | |
|---|---|---|---|---|---|---|---|---|
| | | M | F | Total | M | F | M | F |
| Kisan Melas | 1 | 130 | 70 | 200 | 25 | 20 | 7 | 4 |
| Field visits | 28 | 625 | 182 | 807 | 53 | 25 | 20 | 9 |
| Study tours | 8 | 57 | 63 | 120 | 8 | 9 | 6 | 4 |
| KVK visits by farmers | - | 812 | 313 | 1125 | 97 | 30 | 10 | 6 |
| Exhibitions | 2 | 882 | 868 | 1750 | 79 | 250 | 5 | 2 |
| School programme | 3 | 225 | 200 | 425 | 30 | 20 | 4 | 2 |

A number of training programmes in various subjects like Nursery Management, Nutrition Gardening at Work Places, Agro forestry, Mushroom Cultivation , Agro forestry & Organic Farming and Cultivation of Medicinal & Aromatic plants and Spices etc.were conducted to the BSc. (Ag.) students, ICDS workers and Agricultural Assistants of Department, Rural women and Rural youth. A total of 25 such trainings were conducted.

**Radio Talks**

1. Activities of Krishi Vigyan Kendra – Interview by Dr. P. Rajendran, AIR Thrissur on 24.05.2001

   T.V. Coverage : 7

**Important Visitors**

Dr. P. Das, DDG (Extn), ICAR visited the Kendra on 16.12.2001. The District Panchayath President visited the Kendra and appreciated the efforts made by the Kendra for the successful conduct of the vocational training programme on "Computers for rural women".

**Finance**

| Head of a/c | Provision for the year | Expen-diture | Station receipts |
|---|---|---|---|
| ICAR | 28.5 lakhs | 26,78,167 | 1147 |
| Revolving Fund | 1,50,000 | 1,44,736 | 1,04,226 |

## KVK, SADANANDAPURAM

**Introduction**

The KVK, Sadanandapuram was established at the FSRS, Kottarakkara, Kollam district on 1st October 1994.

**Mandate of the unit**

In the present context of agricultural development, where participation of farmers and extension agencies have become imperative in the technology generation process, the mandate of the KVK's has been widened to Off campus, On-farm research and Frontline demonstrations. Collaborative programmes with state extension personnel in 'On farm testing', refining and documenting technologies for developing region specific sustainable land use-system., organising training to update the extension personnel in the area of operation and organising frontline demonstration in various crops to generate production data and feed back information are other mandates.

**A few memorable events of the institution**

The Quinquennial Revew Team (QRT) visited the station on 3.4.2001. On December 23rd 2001 Kisan Day was observed as a part of rememberance of late Sri.Chaudary Charan Singh.

**Seminars/summer institute/symposia/trainings attended**

The Scientists participated in programmes such as National conference of Indian Socieity of Extension Education, Seminar on WTO, Mushroom and Technology Transfer, Recent advances in diagnostic pathology, FirstZonal Research and Extension Advisory Committee meeting, National training on Integrated Farming System and NATP on homestead during the period.

**Extension and other activities**

The major activities of KVK include training on recent topics in agriculture, animal husbandry and homescience. During 2001-02, there were about 42 on campus trainings in different areas in crop management, crop protection, animal husbandry, horticulture etc. About 25 off campus trainings were also arranged in different panchayats in Kollam district. Several front line demonstratons on cereals and horticultural crops were tried in Melila panchayat. The FLDs were on performance of Makaram variety, Granteine varieties of Banana and performance of Arun variety of Amaranths. In addition to this, on farm trials were conducted in the following areas. Comparative evaluation of Hexaconozol for the control of leaf rot, mite management in coconut and use of fruit fly traps to enhance the productivity of snake gourd. The KVK is also engaged in Farm advisory service, through which the agro clinics were conducted. Scientists of the station were also involved in watershed programme, peoples planning etc. The scientists served as members of the district pest and disease surveillance team and are associated with the Rapid Action Force of the State Department of Agriculture.

**Important visitors**

1. Dr.R.K.Singh, Dr.O.P.Sharma and Dr.R. K. Samanta on 3.4.2001 Quinquennial Review Team
2. Dr.P.Das, Deputy Director General of Agriculture(ICAR) on 13.12.2001
3. Dr.Samanta, Zonal Coordinator, ICAR on 4.2.2002

**Finance**

| Head of a/c | Provision for the year | Expen-diture | Station receipts |
|---|---|---|---|
| ICAR | 20.800 | 22,14,604 | |
| Revolving Fund | .. | 56,397 | 1,18,126 |

# TRAINING SERVICE SCHEME, COLLEGE OF AGRICULTURE, VELLAYANI

**Introduction**

The Training Service Scheme,College of Agriculture, Vellayani, is a constituent unit of Central Training Institute under the Directorate of Extension, Kerala Agricultural University. The training service scheme takes the initiative in the planning, conduct and evaluation of training programmes in agriculture and allied fields for the developmental personnel as well as progressive farmers

**Mandate of the station**

Organization of need based training programme for the inservice personnel of development departments and selected progressive farmers.

**Extension and other activities**

**Details of training programmes conducted**

| Name & design.of scientists | Topic | Duration | | No of participant | No of batches | Amount spent |
|---|---|---|---|---|---|---|
| | | From | To | | | |
| Dr.G.Sobhana Assoc Prof | Refresher training for Agril Extension Officers | 21/5/2001<br>11/6/2001<br>16/7/2001<br>11/12/2001 | 26/5/2001<br>16/6/2001<br>21/7/2001<br>15/12/2001 | 35<br>33<br>32<br>24 | 01 | Rs.16,657<br>Rs.16,355<br>Rs.16,304<br>Rs.15,642 |
| Dr. K.Rajmohan | Refresher trg For Agril Extn Officers of BMFC,Kzm | 24/5/2001 | 24/6/2001 | 03 | 01 | Rs.7000 |
| Dr.M.Suharban Assoc Prof | Training on spawn production & cultivation techniques of oyster mushrooms | 10/10/2001<br>4/12/2001 | 12/10/2001<br>6/12/2001 | 35<br>5 | 01<br>02 | Rs.2618<br>Rs.633 |
| Dr.D.Geetha Assoc Prof | Training on spawn production & cultivation techniques of tropical mushroom | 18/10/2001 | 21/10/2001 | 32 | 01 | Rs.3154 |
| Dr .S.Devanesan | Training on bee keeping with Italian bees | 20/12/2001 | 21/12/2001 | 14 | 01 | Rs.4200 |
| Smt.Rari John Asst.Professor | Training in flower arrangement and bouquet making | 21/12/2001 | 22/12/2001 | 15 | 01 | Rs.1800 |
| Dr.V.B. Padmanabhan Assoc Prof | Training in vegetable cultivation in urban household terrace | 9/10/2002 | 12/1/2002 | 16 | 01 | Rs.1600 |
| Smt.Rari John Assoc Prof | Training on Home scale production of soaps and detergents | 22/3,23/3 and 30/3/02 | | 25 | 01 | Rs.1500 |
| Smt. Vimalakumari Assoc.Prof | Training programme on weaning and weaning foods | 23/3/2002 | 26/3/2002 | 15 | 01 | Financed by I.C.D.S |
| Smt. Vimalakumari Assoc Prof | -do- | 27/3/2002 | 30/3/2002 | 15 | 01 | Financed by I.C.D S. |

**Research papers published**


1. Jayalekshmi.. G., Shilaja.S. and Sobhana.G. (1999). Factors influencing entrepreneurial behaviour of rural women. J.Tropical Agric.37(IX.2.) : 102 –104

2. Meera.M.J.,Kumari Sushama.N.P. and Sobhana.G. Training strategy for Samatha Self help group members. Proc. National Seminar on Gender issues: Women in Agriculture and Management.Aug.20-22, TamilNadu Agricultural University, Coimbatore.

3. Meera.M.J.,Kumari Sushama.N.P. and Sobhana.G. 2001. Empowerment of Rural Women.Ibid. Proceedings National Seminar on Gender issues: Women in Agriculture and Management. Aug.20-22. Tamil Nadu Agricultural University, Coimbatore.

4. Seema.B.,Shilaja.S. and Sobhana.G. (2001). Comparative analysis of entrepreneurial behaviour of male and female agricultural students. Ibid.


**Finance**

| Head of a/c | Provision for the year | Expen-diture | Station receipts |
|---|---|---|---|
| Non Plan | 12,07,000 | 9,44,865 | |
| Revolving fund | | | 27,120 |

# K.A.U.PRESS, MANNUTHY

**Introduction:**

The KAU Press was established at the pavilion building of the Veterinary College, Mannuthy during 1976 with a very few technical staff and one HMT Printing Machine. The Professor and Head, Communication Centre was put into additional duties as Press Manager till 1979.

Sri. K. Rajappan assumed charge as Press Manager on 14-4-1979. The Press was subsequently shifted to the present building at Mannuthy (old Small Animals Breeding Station) during 1981 after making necessary alterations to the present building. We are planing ahead to switch over to offset printing for which action is in progress. Two DTP along with risograph facility is installed in the press for instant printing. Two compositors were given special training in DTP and engaged as operators.

The KAU Press is engaged in printing quality information materials like text books, technical bulletins, research journals, magazines, annual reports, agenda notes, budget estimates, hand-outs, catalogues, status reports, research project proposals, package of practices recommendations (both Agri. and Vety.), miscellaneous items like coupons, bus passes, receipt books, registers, application forms, prospectus, proforma, announcement notices, invitations, note books, writing pads, scribbling pads, letterheads, academic records, certificates, course curriculum, syllabus, field note books, note file leaves and current file leaves, practical manuals, newsletters, farm magazine-Kalpadhenu, etc.

**Finance**

| Head of Account | Expenditure | Receipts |
|---|---|---|
| Non plan 404-40-1103 | 31,94,956 | 4,74,894 |
| Plan 404-40-2278 | 7,34,911 | |

CHAPTER V

# CENTRAL LIBRARY & INFORMATION SYSTEM, VELLANIKKARA

**Introduction**

Central Library started functioning in the new building in 1997. Smt. M.C. Lalitha, Assistant Librarian, College of Horticulture, Vellanikkara is in charge of University Librarian with effect from 15.5.2000.

**Mandate of the unit**

To provide Library and Information support for Education, Research and Extension programmes of the University.

**A few memorable events of the institution**

An ICAR Book Exhibition was arranged at Central Library during 01.11.2001 to 03.11.2001.

**Seminars/Summer institute/Symposia/trainings attended**

Smt. M.C. Lalitha, Librarian i/c and Sri.A.T. Francis, Ref. Assistant attended 4th International Conference of Asian Digital Libraries held at Bangalore and Sri. E.K. Mohanlal, Ref. Assistant attended the Training Programme on "Internet & Web page Designing at Cochin University.

**Extension and other activities**

Central Library offers services like Reference service, Books circulation service, Compilation of Bibliographics, Database service using CD ROMs, Online search, Documentations, User education programmes, Internet service, Multimedia and Audiovisual services etc.

Govt. of India has approved Central Library as an Institution for providing one year Apprenticeship training in Library and Information Science. Three apprentices are being trained at this Library every year. Central Library also offers Technical and Project advices on Library Automation, Information technology application and other aspects of Library Management to various Educational institutions.

**Important visitors:**

Smt. K.B. Valsalakumari, Secretary to Govt. of Kerala, Department of Agriculture, Dr. P. L. Gautham, National Director, NATP, ICAR Dr. G. Kalloo, Deputy Director General (Hort.), ICAR and Sri. A.C. Jose, M.P.

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Plan | 45.9 lakhs | Rs.31,35,533 | Rs.25,179 |

CHAPTER VI

# DIRECTORATE OF STUDENTS WELFARE

**Mandate of the station**

The main objective of this unit is to provide welfare programmes of the students and monitor the same especially sports and games, cultural activities, NCC activities and supervision of the Employment and Guidance Bureau.

University supports the NCC programme to instill discipline, sense of patriotism and social commitment among the students. Our cadets are actively participating in social services, adult education programmes and campus cleanings. CUO Dharmendra Kumar, College of Vety.& Animal Sciences won gold medal in ROC-2002 in the event of Tent Pegging. Our remount & veterinary squadron marked their performance in all Republic Day Camp at New Delhi. They participated in tree plantation prograramme, anti rabies vaccination programme and conducted a bicycle expedition from Mannuthy to Sholayar covering a distance of 240 km. to and fro including 45 km. of high range roads. Trekking on foot through Valpara tea estate during September 29 to October 2, 2001 and in Social Forestry activities. In addition, it also runs an Employment Information system and placement councelling to our Graduates..

**Academic programmes**

Necessary support is extended to impart instruction in the Physical Education courses at College of Co-operation, Banking & Management.

**Other activities**

The Students Union activities, Sports & Games programmes, Management of the transport system in the Vellanikkara and Mannuthy campuses, I(K)R&V NCC Sqn. Employment Information & Guidance Bureau etc. are monitored by this Directorate.

**Students Union Activities**

A competition on tender coconut drinking was held in connection with the valedictory function of the college union 2000-01.

On January 7th, KAU Union 2001-2002 was inaugurated by Sri.Sethu, Chairman, South Indian Bank. During January 21 to 25, selected students of KAU participated in the Inter University Arts festival and won the overall championship.

In connection with the Inter Agri.Arts Festival, Union conducted 'Keraleeyam 2002' exhibition on mural painting which was inaugurated by Sri.A.C.Jose. M.P.

**Sports and games**

*All India Inter Agricultural University Sports & Games Meet.*

The KAU teams in Volleyball (Men & Women), Basket ball (Men), Table Tennis (Women) and Athletics (Men & Women) consisting of 35 students participated in the 3rd All India Inter Agrl.University Meet held at Bikaner, Rajasthan from 5th to 9th November 2001.

In Athletics, KAU claimed the Women Championship and also won women TableTennis Championship. The KAU Women Volleyball team won the III Place.

Kum.Mini.T.Jose of Fisheries College won the Individual championship in the Athletic meet (Woman section).

*Inter University Tournaments of Association of Indian Universities*

The K.A.U.Football (Men) team and Table Tennis women team participated in the South Zone Inter-University Football tournament held at

Kothamangalam and South Zone Inter University Table Tennis tournament held at Davangere respectively.

Shri Delto.L.Marokey of the Forestry College won the II position in the All India Power Lifting Championship held at Amritsar during January 2002.

*Inter Collegiate Programme*

KAU Shuttle Badminton and Table Tennis tournaments were conducted at the Faculty Club, Mannuthy on 27th and 28th July 2001.

*Management of the Transport System*

The transport system of the Vellanikkara and Mannuthy Campuses are taken care by this Directorate to meet the requirement of students for study tours, field visit, staff trip of the employees etc. including the maintenance of the vehicle.

*Employment Information & Guidance Bureau*

During 2001-02, the Employment Information Bureau provided information regarding employment and different courses conducted at various Universities within India and abroad and it was communicated to various Institutions through News Bullettin. Large number of students and parents contacted the bureau directly and through letters for getting the information. Arranged exhibition of news through the Notice Board attached with the office.

*NCC Unit*

Besides the normal parades on Thursdays and horse riding classes during morning and evening on all working days, the following activities are highlighted.

(a) 22 cadets attended NCC certified 'B' examination held on 9th April 2001 and all of them passed the same.

(b) NCC No.KSR/SD/64854 Cpl.Hari.R.of Forestry College was awarded the CM's scholarship for RDS 2001 at Unit level.

(c) 9 cadets attended NCC 'C' examination held on 25 May 2001 and all of them passed the examination.

(d) 16 Senior Wing Cadets attended a combined Annual Training Camp held at Christ College, Irinjalakuda, Thrissur District from 21 June to 2nd July 2001.

(e) 10 Cadets proceeded to attend an attachment training camp held at RVC Centre and School. Meerut Cantt from 2nd July to 16th July 2001. They successfully completed the training.

(f) 70 cadets participated in Social Services activities like cleaning and clearing the University grounds, horse riding ground, adjacent area, and rocks near the hostels of the University on 24th August 2001.

(g) 12 Cadets participated in an Anti rabies vaccination programme held at Ottappalam with the state Annual Husbandry Dept. on 4-9-2001.

(h) 110 cadets participated in a tree plantation programme held at Vety.College campus on 27 Sept. 2001.

(i) 4 Senior Divisional and 2 Senior Wing cadets, 3 P1 staff, 3 syces, 1 lascar and 5 horses proceeded on temporary duty to attend the NCC Republic Day parade at New Delhi.

**Agriunifest 2001**

The 3rd All India Inter State Agrl.University Youth Festival was organized by KAU, Thrissur. It was sponsored by Indian Council of Agrl.Research (ICAR) New Delhi. The whole conduct of the Agriunifest 2001 was as per guidelines of the Hand Book for Inter-State Agrl.University Youth Festival Stipulated by ICAR, New Delhi.

The KAU Students Union arranged a Mural exhibition to depict the richness of Kerala Art tradition in connection with Agriunifest 2001.

The Valedictory of the Agriunifest function was on held in the KAU Central Auditorium on 25-1-2002. Sri.Christy Fernandez, Chairman, Coir Board and Sri.Jerry Amaldev, the gifted music director were the guests of Honour. The overall Championship in the Agriunifest was won by KAU.

**National Day Celebrations**

The Independence Day 2001 and Republic Day 2002 celebrations were conducted at the University Headquarters by this Directorate on 15th August 2001 and 26th January 2002 respectively.

CHAPTER VII

# DIRECTORATE OF PHYSICAL PLANT

**Establishment**

During the report period Sri P R Govindan, Executive Engineer Engineering Division, Panangad was holding additional charge of the post of Director of Physical Plant. Sri P K Nataraja Pillai continued as Financial Assistant during the period under report. Sri P M Vasudevan, Asst. Exe. Engineer & PA to DPP was transferred to Engg.Sub Division as AEE and Smt. K V Ajitha, AEE posted as PA to DPP w.e.f. 25-5-2001 and continuing as such.

**Expenditure**

A total of Rs 5,44,61,366/- was expended towards civil & electrical works taken up during the report period inclusive of part and final payment

**Details of works undertaken:.**

| *Sl No.* | *Name of works* | *Agt. PAC in Rs* |
|---|---|---|
| 1. | Converting Vice-Chancellor's residense to VVIP Guest house at Mannuthy | 175759 |
| 2. | ICAR-CG-2001-2002 Renovation works of boys hostel-Modernisation of sanitary and dining blocks at CV&AS, Mannuthy. | 783028 |
| 3. | ICAR-CG 2001-2002 Modification and urgent repairs to Ladies hostel (block 1&11) at MC Vellanikkara. | 232006 |
| 4. | ICAR-CG 2001-2002 Renovation, repair and modernization Of boys hostel at MC Vellanikkara. | 1437425 |
| 5. | ICAR-CG 2001-2002 Renovation, repair and modernisation of Infra structure in acad block No. III at MC Vellanikkara. | 602783 |
| 6. | ICAR-CG 2001-2002 CV&AS, Mannuthy-renovation and Repair and modernisation of labs-rewiring and additional Facilities. | 354096 |
| 7. | ICAR-CG-2001-02- Renovation/repair/modernisation of Pharmacology lab,Central instrument lab and Pathology lab At mannuthy | 334837 |
| 8 | ICAR-CG-2001-02-Renovation/repair /modernisation of UG labs Lecture hall VI& VII at CoVAS, Mannuthy | 147195 |
| 9 | ICAR-CG-2001-02-KCAET,Tavanur- Electrification- farm structures- M&R to the existing installations and providing addl. Facilities | 195145 |
| 10. | ICAR-CG –2001-02-Modernisation of lecture halls at Academic block no III at MC Vellanikkara | 392376 |
| 11. | ICAR-CG-2001-02-Renovationof prawn hatchery,laboratory, at Fisheries College, Panangad-Providing electrification | 66322 |

| Sl No. | Name of works | Agt. PAC in Rs |
|---|---|---|
| 12 | ICAR-CG-2001-02- Providing pannel boards in the existing building & providing addl. Pluggs in the plant physiology lab in the Lab & Library building COA,Vellayani | 105977 |
| 13 | Deepening, widening & silt removal of existing pond at the east side of main road NH –47,MC,Vellanikkara-Engaging Poclaine EX 100 | 159000 |
| 14 | Deepening, widening & silt removal of existing pond at the east Side of main road NH –47,MC,Vellanikkara-Engaging Tractor with Trailer | 60000 |
| 15 | Carcas utilisation plant-land devolopment / Improvements to the Existing road leading to the MTU,Mannuthy | 241541 |
| 16 | NATP-Scheme on animal resources-Biodiversity facilities for Housing of animals- Repairing of cattle shed No 8 at ULF,Mty | 167099 |
| 17 | NATP-processing of pork,broiler& eggs, Mannuthy centre-Renovation of processing plant at Mannuthy | 190789 |
| 18 | Carcas utilisation plant- Providing aluminium sheet roofing & Leach pit, toilet etc. at MTU,Mannuthy | 92217 |
| 19 | NPET-Modification of ET lab & repair works in goat shed at Dept.of animal production at COVAS, Mannuthy | 92194 |
| 20 | Urgent repairs & maintenance to the toilet blocks of C&B,Mannuthy | 19328 |
| 21 | Providing electrification to type VI quarters at COVAS, Pookode | 56805 |
| 22 | ICAR-CG-2001-02-Extending DG supply from existing 20KVA DG set to the Bio technology lab room in the Lab & Library Building at COA,Vellayani | 35867 |
| **2002-2003** | | |
| 23 | Annual maintenance Contract for 2 Nos of 40KVA DG set at Acad Block No. III Main Campus, Vellanikkara | 20000 |
| 24 | Providing electrification to type IV (duplex) quarters 2 units at COVAS, Pookode | 159168 |
| 25 | M&R to water supply at Mannuthy- De silting deepening well sinking and side protection works to the pond near Main Pump House | 185544 |
| 26 | Construction of a Compound wall to the South East boundary , Block No 10 at AMPRS,Odakkali | 258855 |
| 27 | Providing electrification to the newly constructed pump house Near to the type II quarters,Eastern block, COF, Panangad | 34475 |
| 28 | Urgent repairs to C-8 quarters,Mannuthy | 21751 |
| 29 | KAU-Regularisation of addl.load and allied matters- Availing HT connection at Mannuthy& Vellanikkara campuses- Supply Of transformers-400 KVA-6 Nos | 1018800 |
| 30 | Construction of a switch room for conversion of LT to HT supply At ULF,Mannuthy | 186359 |
| 31 | CSS on IPDS- Construction of a seed store at MC,Vellanikkara | 286182 |

## ENGINEERING SUB DIVISION, VELLAYANI

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 14,15,000.00 | 10,04,071.00 | 728.00 |

## ENGINEERING SUB DIVISION, VELLANIKKARA

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 18,310.000.00 | 15,07,270.00 | 6,574.00 |

## ENGINEERING DIVISION, TAVANUR

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 17,06,000.00 | 13,77,902.00 | 15,751.50 |
| Plan (Works) | 3,50,000.00 | 3,26,919.00 | nil |
| ICAR (Works) | 17,25,000.00 | 9,818.00 | nil |

## ENGINEERING SUB DIVISION, MANNUTHY

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 20,17,000.00 | 17,77,896.00 | 5,090.00 |

## ELECTRICAL SUB DIVISION, VELLANIKKARA

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 15,90,000.00 | 13,96,787.00 | nil |

## ELECTRICAL SUB DIVISION, VELLAYANI

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 6,12,000.00 | 5,25,900.00 | 640.00 |

## ENGINEERING DIVISION, PANANGAD

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non plan | 19,35,000/- | 15,35,805/- | 44,602/- |

## ENGINEERING SUB DIVISION
## COLLEGE OF VETERINARY AND ANIMAL SCIENCES, POOKKODE, WAYNAD

**Finance**

| Head of Account | Provision for the year | Expenditure | Station Receipts |
|---|---|---|---|
| Non-Plan | 6,66,500/- | 5,33,450/- | Nil |

## DAIRY SCIENCE COLLEGE, KOLAHALAMEDU

**Finance**

| Head of Account | Provision for the year | Expenditure | Station Receipts |
|---|---|---|---|
| Plan | 7,80,000/- | 6,68,533/- | Nil |

CHAPTER VIII

# KAU ESTATE

**Mandate of the Institution**

Instructional purpose.

**Lead functions**

Maintaining Rubber Estate.

**Resesarch Programmes**

Provided area for Rubber Board Trial.

**Production of Latex during the year**

| PLC I | PLC II | PLC III | EBC | Shell Balnket |
|---|---|---|---|---|
| 15300 kg | 5300 kg | 1850 kg | 1300 kg | 457.36 kg |

A total of Rs. 8,73,006/- was obtained from the sale of 24,207.36 kgs of Rubber during the year.

**Finance**

| Head of account | Provision | Expenditure | Receipts |
|---|---|---|---|
| Non plan | 25.245 | Rs. 23,69,148/- | Rs. 2,07,408/- |
| Plan | 0.950 | Rs. 73,009/- | |

# CAMPUS DEVELOPMENT

## Introduction

The office of Campus Development was opened in 1990 with an objective of creating a beautiful landscape for the main campus of KAU by a harmonious combination of buildings, roads and crop fields. Development of a cropping plan and irrigation system for the whole campus is also under its purview. The station is now undertaking bulk production and sales of planting materials also.

## Mandate of the unit

General development and beautification of the Vellanikkara campus and large-scale production of planting materials.

## Conducting 2 ABARD Training Programmes

1. Vegetable seed and seedling production
2. Rapid multiplication of pepper Horticultural Nursery Unit-II-Orchid, anthurium and foliage plants.

## Extension services rendered

1. Farm Advisory Service – 300 nos.
2. Large-scale production of planting materials
3. Handling training classes at ETC
4. Attending farmers' seminar

## Finance

| Head of A/C | Provision for the year | Expenditure | Receipts |
|---|---|---|---|
| Plan | 69.615 | 71.157 | 8.305 |
| Revolving Fund | | 39.391 | 41.265 |

CHAPTER IX

# FINANCE AND ACCOUNTS

Sri. K. Ravindran, Joint Secretary to Government of Kerala continued as the Comptroller of Kerala Agricultural University till 30-10-2001. Smt. P. Chandramathi Amma took charge for the Comptroller, on 12-11-2001. Three Internal Audit Circles viz. Northern, Central and Southern zone headed by Assisstant Comptrollers also functioned during the period.

Budget Estimate

The University formulated a Budget Estimate for Rs. 11510 lakhs as receipts and Rs. 13366 lakhs as expenditure for 2001-02 in anticipation of grant-in-aid of Rs. 6550 lakhs (Rs. 4400 lakhs under Non-plan and Rs. 2150 lakhs under Plant from the State Government, ICAR assistance of Rs. 1007 lakhs, Rs. 475 lakhs towards the U.G.C. package 1-1-96 (20% State share) from the State Government, Rs. 75 lakhs from OEAPS, Rs. 701 lakhs from internal sources. Rs. 355 lakhs from Institutional funding and Rs. 160 lakhs from other sources. Through the budget is formulated with the expectation of Rs. 7025 lakhs as grant from the State Government, the Government released Rs. 5425 lakhs only.

Receipt and expenditure for 2001-02 are as follows (The figures are subject to change on completion of accounts for the year 2001-02.

**Receipts**

| *Item* | *Rs. in lakhs* |
|---|---|
| Grand-in-aid from Government – Plan | 1075.000 |
| Non-Plan | 4400.000 |
| Grant-in-aid from ICAR | 119.568 |
| U.G.C. arrear from ICAR | 90.568 |
| Other agencies | 254.040 |
| Internal sources | 527.410 |
| Income from Revolving fund | 23.675 |
| Other Misc. income (Non-Plan) | 25.000 |
| Foundation fund | 1.500 |
| Loan and Suspense | 2096.300 |
| Income from Investment (Plan) | 20.500 |
| Opening balance | 1001.451 |
| | **10635.122** |

**Expenditure as per Revised Estimate**

| *Item* | *Rs. in lakhs* |
|---|---|
| Non-Plan including Pension | 6343.968 |
| Plan | 1362.372 |
| ICAR | 1211.224 |
| Loans and Suspense | 992.600 |
| Foundation Fund | 5.00 |
| Clossing balance | 439.388 |
| | 10635.122 |

## INTERNAL AUDIT CIRCLE (NR)
## KOZHIKODE

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| Non Plan | 18,20,000.00 | 14,37,316.00 | nil |

## INTERNAL AUDIT CIRCLE (SR)
## VELLAYANI

**Finance**

| Head of a/c | Provision for the year | Expenditure | Station receipts |
|---|---|---|---|
| 103-10-0021-130 | 12,00,000.00 | 11,39,571.00 | nil |
| 103-10-0021-152 | 9,000.00 | 6,228.00 | nil |
| 103-10-0021-300 | 30,000.00 | 23,287.00 | nil |
| 103-10-0021-222 | 12,000.00 | 9,435.00 | nil |
| 103-10-0021-840 | 5,000.00 | 4,243.00 | nil |

APPENDIX – I

# LIST OF GENERAL COUNCIL MEMBERS (upto 25-12-2001)

**Ex-officio members**

His Excellency the Governor of Kerala,
(The Chancellor)
Raj Bhavan,
Thiruvananthapuram.

The Hon'ble Minister for Agriculture,
(The Pro Chancellor)
Government of Kerala,
Thiruvananthapuram.

The Vice Chancellor,
Kerala Agricultural University,
Vellanikkara, Thrissur – 680 656.

The Pro -Vice Chancellor
Kerala Agricultural University,
Vellanikkara, Thrissur.

The Agricultural Production Commissioner,
Government Secretariat,
Thiruvananthapuram.

The Secretary to Government,
Department of Agriculture,
Government Secretariat,
Thiruvananthapuram.

The Secretary to Government,
Department of Animal Husbandry,
Thiruvananthapuram.

The Secretary to Government,
Department of Co-operation,
Thiruvananthapuram.

The Secretary to Government,
Department of Development,
Government Secretariat,
Thiruvananthapuram.

The Principal Secretary to Government,
Department of Finance,
Government Secretariat,
Thiruvananthapuram.

The Secretary to Government,
Department of Fisheries,
Thiruvananthapuram.

The Secretary to Government,
Department of Forest,
Thiruvananthapuram.

The Director of Agriculture,
Thiruvananthapuram.

The Director of Animal Husbandry,
Thiruvananthapuram.

The Director of Dairy Development,
Thiruvananthapuram.

The Director of Fisheries,
Thiruvananthapuram.

The Chief Conservator of Forests,
Thiruvananthapuram.

The Registrar of Co-operative Societies,
Thiruvananthapuram.

The Dean,
Faculty of Agriculture,
College of Agriculture, Vellayani-P.O.,
Thiruvananthapuram, Pin- 695 522.

The Dean,
Faculty of Veterinary & Animal Sciences,
College of Veterinary & Animal Sciences,
Mannuthy-P.O., Thrissur.

The Dean,
Faculty of Fisheries,
College of Fisheries, Panangad,
Ernakulam. Pin – 682 506.

The Dean,
Faculty of Agricultural Engineering & Technology,
Kelappaji College of Agricultural Engineering & Technology,
Tavanur, Malappuram. Pin – 679 573.

The Director of Extension,
Kerala Agricultural University,
Mannuthy - P.O., Thrissur.

The Director of Research,
Kerala Agricultural University,
KAU (P.O), Thrissur.

The Director of Students Welfare,
Kerala Agricultural University,
Mannuthy-P.O., Thrissur.

**Elected members**

***Members of Legislative Assembly (5 members, one from SC/ST)***

N.R. Balan, MLA (upto 15.5.2001)
Nalupurakkal Veedu,
Ponnor P.O.,
Thrissur Dist

K. Kutty Ahammed Kutty MLA,
(From 22.11.2001 onwards)
Masters House,
Thanur,
Malappuram District – 676 302

V. Balaram, MLA,
House No. XV/694, Rose Gardens,
Peringavu-P.O.,
Thrissur- District.

Johny Nelloor, MLA,
House No. 8, Nelloor House,
Housing Board Colony,
Muvattupuzha,
Ernakulam.

K.P. Rajendran, MLA,
Kuttankulangara,
Poonkunnam-P.O.,
Thrissur-2.

V.K. Chandran, MLA,
Vettukadu Valappil House,
Mezhathur-P.O.,Thrithala,
Palakkad -679 534.

***Representatives of students of the Post Graduate Courses (Two members)***

Fen Antony (99-17-02),
Post Graduate Student,
College of Forestry,
Vellanikkara.

Asita T.V. (99-13-14)
Post Graduate Student,
College of Veterinary & Animal Sciences,
Mannuthy, Thrissur –680 651.

***Representative of students of the Doctorate Degree Courses (One member)***

Sherin K.J. (99-21-04)
Ph.D. Student,
College of Horticulture,
Vellanikkara.

***Representatives of students of the Under Graduate Courses (Two Members)***

Kishore S. (98-01-141)
UG Student,
College of Agriculture,
Vellayani,
Thiruvananthapuram.

Sandeep. B. (98-01-262)
UG Student,
College of Horticulture,
Vellanikkara.

***Representatives of teachers (other than Dean) of the Faculties (Not more than four members)***

***I - Faculty of Agriculture***

Dr. F.M.H. Kaleel Associate Professor,
College of Horticulture,
Vellanikkara.

***ii – Faculty of Veterinary & A.S.***

Dr. K. Anilkumar,
Assistant Professor,
Dept. of Animal Breeding & Genetics,
College of Veterinary & Animal Sciences,
Mannuthy,Thrissur – 680 651.

*iii – Faculty of Fisheries*

Dr. C.G. Rajendran,
Associate Professor
Rice Research Station,
Vyttila.,
Ernakulam Dt. Pin- 682 019

*iv – Faculty of Agricultural Engineering & Technology*

P. Sudheer Babu,
Assistant Professor
College of Veterinary & Animal Sciences,
Mannuthy,
Thrissur. Pin- 680 651

***Representatives of Non-teaching staff (Two members)***

K. Chandramohanan,
Deputy Registrar,
KAU Headquarters,
Vellanikkara.

M.T. Varghese,
Farm Supervisor Gr.II,
AICRP on M&AP
College of Horticulture,
Vellanikkara.

***Representatives of Presidents of the Grama Panchayaths in the state (7members) (5 General, 1 Woman & 1 SC/ST)***

a. General

P. Chandran,
President,
Vallachira Grama Panchayat,
Purayampilly House,
Cherusserry, PO-Thycattusserry,
Thrissur - District.

T.O. Narayanan,
President,
Mayyil Grama Panchayat,
Velam, P.O. Mayyil,
Kannur District. Pin- 670 602

Padhur Kunjammu,
President,
Chemmanade Grama Panchayat
"DARUSAFFA", Padoor,
P.O-Thekkil, Kasaragode District.

M. Sathyapalan,
President,
Kumarapuram Grama Panchayat,
Thazhchayil, Erikavu,
Karthikappally, P.O., Alappuzha - District.

Adv. C.S. Vidyasagar,
President,
Vithura Grama Panchayat,
"AISWARYA",
Chennanpara, Vithura,
Thiruvananthapuram District.

*b. Woman Reservation*

K.P. Sheela,
President,
Balaramapuram Grama Panchayat,
K.P.S. Bhavan, Thalayil,
Aralummoodu- P.O., Thiruvananthapuram
District.

*c. SC/ST Resevation*

S. Sivaraman,
President,
Lakkidi Perur Grama Panchayat,
School Parambil,
Lakkidi-P.O.,
Palakkad - District. Pin- 679 301

***Representatives of Presidents of Block Panchayaths in the state (Three members)***

P. Ismail,
President,
Kanhangad Block Panchayat,
Palakunnu, Bekal-P.O.,
Kasaragode District. Pin – 671 318

M. Kunhammad,
President,
Perambra Block Panchayat,
'GRANMA', Avala -P.O.,
Meppayur (Via),
Kozhikode District. Pin 673 524

V.V. Muraleedharan
President,
Ollukkara Block Panchayat,
Vyakkattil Veedu, Puthur-P.O.,
Thrissur District.

*Representative of the Presidents of the District Panchayats in the State (One member)*

K.V. Ramakrishnan,
President,
Palakkad District Panchayat,
Kundukulangara valappil,
Kannambariyaram,
Kannadi, Palakkad - District.

*Representative of Mayors of the Municipal Corporations and the Chairmen of the Municipal Councils in the State (One member)*

P.K. Aboobaker,
Chairman, Chavakkad Municipality,
Chavakkad, Thrissur- District.

*Representatives of the Permanent labourers of the University (Two members)*

N.V. Chandran,
Permanent Labourer,College of Horticulture,
Vellanikkara.

P. Maniyan Keezhoor,
Permanent Labourer
Instructional Farm,
Vellayani, Thiruvananthapuram.

**Members nominated by the Chancellor**

*Two Agricultural Scientists*

Dr. S. Leenakumari,
Associate Professor,
Regional Agricultural Research Station,
Pattambi. - Pin 679 306

Dr. A. Ramakrishnan,
'Anand', Santhi Nagar,
P.O. Mannuthy,
Thrissur. – 680 651.

*Five Farmers of whom One shall be a member belonging to a Scheduled Caste or Scheduled Tribe*

C.K.P. Padmanabhan,
Thekkumpatt,
Kunjimangalam, Kovvappuram. P.O.,
Kannur Dist – 670 309.

Cyriac John
P.O. Kattippara,
(via) Thamarassery,
Kozhikode.

Sri. N. Chandrasekharan Nair,
L3/14. 'Dwaraka',
KSHB Colony,
Kaithavana, Alappuzha – 3.

M.P. Pauly,
Maniyakku House,
Pudukkad, Thrissur. Pin – 680 301.

N. Santhakumaran Nair,
Anjana Madam, Perunna. P.O.,
Changanassery, Kottayam - Dist.

*One non-official representative from each of the following sectors*

*Co-operation*

A.P. Abdul Rahman,
President,
Service-co-operative Bank,
Porur, Porur P.O., Malappuram Dist.

*Fisheries*

N. Sajeevan,
Kunnumpurathu Veedu,
Valiyazheekal. P.O.,
Kandallur – (via), Alappuzha. Dist.

*Animal Husbandry*

Dr. P.V. Mohanan,
Karthika,
Velapuram, P.O. Pappinissery,
Kannur. Dist.

*One non-official representative of the Plantation Industry in the State*

C.J. Mathew,
Chengalth, Devalogam – P.O.,
Kottayam. Dist.

*Two Women*

P.P. Sudhadevi,
'Rajana',
Onakkoor. P.O., Pambakuda,
Ernakulam. Dist.

E.S. Bijimol,
Elavungal House,
4th mile, Chinnar. P.O.,
Elappara (via), Idukki – 685 501.

*One Engineer who has specialised in agricultural Engineering or Irrigation*

Dr. P. Basak,
Director,
CWRDM, Kozhikode.

*One Educationist*

Sri. P.R. Rajan,
23/316. Kanattukara,
P.O.Kanattukara. Pin-680 011.

*Four members to represent Agricultural Labour, of whom one shall be a member belonging to a Scheduled Caste*

K.R. Sodaran,
Kanjiramkalil,
Kattappana south. P.O.,
Mettukuzhi., Idukki. Dist.

K.P. Sreedharan,
Kalarikkal,
South Paravur. P.O.,
Udhayamperur, Ernakulam. Dist.

Valliyadan Santha,
A.K. Nivas,
Mambram. P.O.,
Kannur. Dist.

V.R. Sivarajan,
Chaitram,
Mallassery. P.O.,
Pathanamthitta.

*One member to represent the Plantation Labour in the State*

Y. Natarajan,
Thalayar Estate,
Kadukumudi Division,
Thalayar. P.O.,
(Via) Munnar, Idukki. Dist.

*Two members belonging to the Scheduled Caste and One member belonging to a Scheduled Tribe of whom one shall be a member of the Legislative Assembly of the State*

P.V. Velayudhan,
Mankutty, Poolappura,
P.O.Puthankunnu, Sultan Battery,
Wayanad. Dist.

P.K. Kannan,
Thottakkad, Alli,P.O.,
(Via) Mukkom,
Kozhikode. Dist – 673 602.

P. Narayanan, M.L.A.,
Lakshmi Narayana Bhavan,
V.M.C. 16, Thekkenada.P.O.,
Vaikom, Kottayam. Dist.

*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 Dist. 686 004.

The Chairman,
Kerala Agro Machinery Corporation Ltd.,
Athani.P.O.,
Ernakulam. - 683 585.

The Chairman,
Kerala State Horticultural Products,
Development Corporation Ltd.,
Thiruvananthapuram – 695 012.
The Chairman,
Oil Palm India Ltd.,
Kottayam.

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*

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. Pavithran. T.M.,
Thachappully House.,
P.O. Engandiyoor,
Thrissur. Pin – 680 615.

*Five eminent Scientists in the field of Agriculture and allied subjects, not being employees of the University.*

Dr. M.S. Jayasooriyan.,
Jyothis', Ashok Nagar,
Kanjani Road,
Ayyanthole,Thrissur – 3.

Dr. M. Aravindakshan.,
'Aravindam',68 - Green Park ,
Peringavu.P.O.
Thrissur – 680 018.

Dr. R. Gopalakrishnan.,
Plot No.228,
Hill Gardens, Kuttanellor.P.O.,
Thrissur. 680 014.

Dr. Sreekumar Chattopadhyay.,
Scientist E2,
Centre for Earth Science Studies,
Akkulam, Thiruvananthapuram.

Dr. A. Visalakshi,
'SABARIGIRI',
T.C.29/282, W&C Hospital Road, Thycaud,
Thiruvanathapuram. –695 014.

**Other members**

*Representatives of University Senates (Three members)*

*University of Kerala*

P. Krishnan Nair
33-'Kamalini',Akshaya Nagar,
Neeramankara, Kaimanam-P.O.,
Thiruvananthapuram - Dist. Pin-694 050.

*Cochin University of Science & Tecnology*

K. Mohanachandran,
Assistant Librarian Grade II,
Cochin University Library,
Cochin University of Science and Technology,
KOCHI – 682 022.

*Calicut University*

P.N. Prakash,
Senior Grade Lecturer,
Government College,
Kuttanelloor
Thrissur-District.

*Representative of ICAR (One member)*

Dr. S. Bala Ravi,(upto 31.10.2001)
Assistant Director General (IPR),
ICAR, Krishi Bhavan,
New Delhi-110 001.

*The M.L.A. Representing the Constituency in which the headquarters of the University is situated (One)*

C.N. Jayadevan, MLA (upto 15.5.2001)
Chirukandath House,
Manalur .P.O., Thrissur.

P.P. George MLA, (From 25.5.2001)
Pulikkal House,
Zion Road, Pudukkad,
Thrissur.

As per KAU (Amendment) Act 2001 (Act 16 of 2001) published vide Notification No. 16101/ Leg B1/ 2001 /Law dated 26.12.2001, Kerala Agricultural University Act (Act 33 of 1971) was amended and the General Council was dissolved. Hence no General Council exists in the University for the remaining period of Annual Report 2001-2002.

**LIST OF EXECUTIVE COMMITTEE MEMBERS (From 1.4.2001 to 25.12.2001)**

*I. Ex-officio Members*

1. The Vice Chancellor
   Kerala Agricultural University.
2. The Pro Vice Chancellor,
   Kerala Agricultural University
3. The Agricultural Production Commissioner,
   Government of Kerala.
4. The Secretary to Government,
   Department of Agriculture.
5. The Secretary to Government,
   Department of Animal Husbandry.
6. The Secretary to Government,
   Department of Fisheries.
7. The Secretary to Government,
   Department of Finace(Expenditure).

II. **Other members**

*i. Member representing the Inidan Council of Agricultural Research*

8. Dr. S. Bala Ravi, (upto 31.10.2001)
Assistant Director General (IPR & Seed)
ICAR, New Delhi.

*ii. Dean of Faculty elected by the General Council*

9. Vacant

*iii. One elected Teacher*

Vacant

*iv. Eight elected Non-official Members-one shall be a member belonging to SC/ST and one shall be a woman*

10 – 18 Vacant

*v) Elected student*

19. Vacant

*vi) Three Scientists of the General Council nominated by the Chancellor*

20 – 22 Vacant

*vii) The MLA representing the Constituency in which the Head quarters of the University is situated*

23 Sri. C.N. Jayadevan MLA, (upto 15.5.2001)
Chirukandath House,
(PO) Manalur,
Thrissur District.

P.P. George MLA, (From 25.5.2001)
Pulikkal House,
Zion Road, Pudukkad,
Thrissur.

As per Notification No. 16101/Leg B1/ 2001 / Law dated 26.12.2001 of Government of Kerala, the existing General Council has been dissolved with effect from 26.12.2001. The structure of the Executive Committee as per the amended Act is as follows with effect from 26.12.2001.

**Ex-Officio Members**

1. The Vice Chancellor
2. Agricultural Production Commissioners
3. Principal Secretary/Secretary or Special Secretary to Government as the case may be in the Finance Department.

**Other Members**

4. The Member representing the Indian Council of Agricultural Research in the General Council

vacant

5. One Dean of Faculty elected by the General Council

vacant

6. One member elected from among the teachers in the General Council by the Council

vacant

7. Five non-official members of the General Council elected by the Council of whom one shall be a member belonging to a SC or a ST and one shall be a woman

vacant

8. The member of the Legislative Assembly representing the Constituency in which the Headquarters of the University is situated.

Sri. P.P. George MLA,
Pulikkal House,
Zion Road,
P.O. Pudukkad.
Thrissur Dist.

**Sub Committees**

The Sub Committees have not been re-constituted after 30.1.2001 and hence no meetings of the Sub-Committees were held during the period of the Annual Report 2001-2002.

APPENDIX II

# LIST OF STAFF AT KAU HEADQUARTERS, VELLANIKKARA

| *Name of Post* | *Name of Incumbent* |
|---|---|
| Vice Chancellor | Dr. R. Gopinathan (acting)<br>1/4/2001 to 19/6/200<br>Dr. K.V. Peter<br>20/6/2001 to 31/3/2002 |
| Pro Vice Chancellor | Dr. R.Gopinathan<br>1/4/2001 to 25/12/2001 |
| Registrar | K.R. Muraleedharan IAS<br>1/4/2001 to 29/11/01<br>Dr. A.I. Jose (i/c)<br>30/11/01 to 16/12/01<br>K.R. Muraleedharan, IAS<br>17/12/2001 to 31/3/02 |
| Comptroller | K.P. Raveendran<br>1/4/2001 to 31/10/2001<br>V.M. Lalithakumari (i/c)<br>1/11/2001 to 11/11/2001<br>P. Chandramathy Amma<br>12/11/01 to 31/3/02 |
| Director of Extension | Dr. A.I. Jose |
| Director of Research | Dr. K.V. Peter 1/4/01 to 19/6/01<br>Dr. K. Kumaran (i/c)<br>20/6/2001 to 31/3/2002 |
| Dir. of Pl. Plant | P.R. Govindan (i/c) |
| Dir.of Students' Welfare | Dr.V.S. Balakrishnan i/c)<br>1/4/2001 to 4/5/2001<br>Dr. Jose John Chungath i/c.<br>5/5/2001 to 10/9/2001<br>Dr.T. Sreekumaran i/c.<br>1/9/2001 to 1/10/2001<br>Dr. Jose John Chungath i/c.<br>2/10/02 to 31/3/02 |
| Dy. Dir. of Students' Welfare (S&G) | O.K. Paul i/c.<br>1/11/01 to 31/3/02 |
| Dir. (Acad & PGS) | Dr. M. Mohandas i/c.<br>1/4/2001 to 6/6/2001<br>Dr. P.A. Wahid<br>7/6/2001 to 31/3/2002 |
| University Librarian | M.C. Lalitha i/c. |
| Assoc.Dir.of Res. (V&AS) | Vacant |
| Assoc.Dir.of Res.(Pl.) | Dr.K. Kumaran i/c.<br>1/4/2001 to 22/7/2001 |
| Assoc. Director of Research (AR & T) | Dr. C. Sundaresan Nair<br>23/7/2001 to 31/3/2002 |
| Assoc. Dir.of Res.(F) | Dr. K. Kumaran |
| Assoc. Dir.of Res.(M & E) | Dr. K. Kumaran i/c. |

| *Name of Post* | *Name of Incumbent* |
|---|---|
| Assoc. Prof. (Agron) DOR | Dr. P.S. John<br>Assoc.Professor<br>26/12/01 to 2/1/02 |
| Assistant Professor | Dr. P. Prameela<br>26/3/02 to 31/3/02 |
| Asst. Prof. (Computer Science), DOR | Josephina Paul<br>(On Leave Without Allowance for 5 years from 29/8/01 A.N. |
| Joint Registrar | A. Kuriakose |
| Deputy Registrar | K. Ravikumar<br>K. Chandramohanan |
| Deputy Comptroller | V.R. Vijayamma 1/4/01 to 31/5/01<br>V.M. Lalithakumari<br>26/4/2001 to 31/3/2002 |
| Deputy Comptroller (DD & A) | R. Rugmini Amma<br>19/6/2001 to 16/8/2001 |
| Asst. Comptroller (DD & A) | K.K. Subramanian<br>18/8/2001 to 31/3/2002 |
| „ (B & P) | K.I. Chakkunni |
| „ (P & L) | E.K. Bharathy 1/4/01 to 31/1/02 |
| „ IAC (CR) | K.P. Sreedharan |
| Asst. Registrar (Admn I) | T.A. Zainaba Beevi<br>1/4/2001 to 25/6/2001<br>K.A. Mohammed<br>26/6/01 to 31/3/ 02 |
| Asst.Registrar (Admn II) | S. Vanaja |
| Admn.Officer Gr.II (Directorate of Res.) | K.A. Mohammed<br>1/4/2001 to 25/6/2001<br>T.A. Zainaba Beevi<br>26/6/2001 to 31/3/2002 |
| Recruitment Officer | K.K. Subramonian<br>1/4/2001 to 25/6/2001<br>B. Arumughan 26/6/01 to 31/3/02 |
| Labour Officer | M. N.Sasidharan |
| Public Relations Officer | V. Viswambharan |
| Section Officers | K.P. Saramma<br>P.E. Haleema Beevi<br>C.C. Rosily 1/4/01 to 31/5/01<br>M. Jaseentha 11/6/01 to 31/3/02<br>K. Subramanian<br>V.S. Skanda Kumar |
| Section Officers | A.Subhalakshmi Ammal<br>Lillykutty Thomas<br>Shirly Mathew<br>N. Usha Rani<br>V. Chellamma<br>C.M. Omana<br>A.Abdul Karim<br>K.P. Mary<br>V. Sreekumaran |

| *Name of Post* | *Name of Incumbent* |
|---|---|
| Section Officers | M.K.Shylaja |
| | K.V.Sugunan |
| | R. Thankamany |
| | Mercy John |
| | Shirly Bai George |
| | K.K.Radhakrishnan |
| | P.P.Annamma |
| | N. Parameswaran Nair |
| | K.S.Natarajan |
| | K.Haridasan |
| | P.V.Nalini 1/4/01 to 15/11/01 |
| | V.R.Santhakumary |
| | 16.11.01 to 31.3.02 |
| | A.Santhakumary |
| | 1/4/2001 to 1.6.2001 |
| | C.Sobhanakumary |
| | 2.1.2001 to 31.3.2002 |
| | Susy Mathew |
| | Jacob Simon V. |
| | K.K.Gouthamy |
| | Jeslet Mercy 21.4.01 to 20.6.01 |
| | P. Jameela 29.6.01 to 31.3.02 |
| | A.K.Lyla |
| | Purushothaman Nampiathiry |
| | M.N.Vijayakumar |
| | 20.6.2001 to 31.3.2002 |
| | K.P.Narayanikutty |
| *Directorate of Students Welfare, Mannuthy* | |
| | T. Vijayalakshmy |
| | 1/4/2001 to 18/5/2001 |
| | P.M.Cherukutty 5.6.01 to 31.3.02 |
| *Directorate of Extension* | |
| | A.T.Gracy 1.1.02 to 30.6.01 |
| | S. Ushadevi 7.7.01 to 31.12.02 |
| | C.Usha 21.12.01 to 31.3.02 |
| | T.A.Mridulakumari |
| *Directorate of Research* | |
| Section Officers | Y.Rajas 1.4.01 to 6.6.01 |
| | S. Ramachandran Nair |
| | 7.6.2001 to 31.3.2002 |
| | K.F. Mathew |
| *Directorate of Physical Plant* | |
| | Sophiamma Joseph |
| | P.R.Sreedevikutty |
| | 25.5.2001 to 31.3.2002 |
| | A.A.Kousalya |
| | K.A.Vareed 2/6/01 to 31.3.02 |
| | V.A.Achuthan |
| Seln. Grade Assts. | Baby Saroja |
| | Girindra Babu K. |
| | Jagadesan T. |
| | Krishnaprakash P. |
| | Latha T.B. |
| | Sethumadhavankutty O. |

| *Name of Post* | *Name of Incumbent* |
|---|---|
| Seln. Grade Assts. | Sreejith P. |
| | Vasanthakumari K.P. |
| | Pushpaja P.K. |
| | Prabhavathy C.K. |
| | Suneetha K.K. |
| | Narayanan V.N. |
| | Meera K. |
| | Jayasankar K.V. |
| | Radhakrishnan K.N. |
| | Mary Joseph |
| | Narmada M.P. |
| | Daisy Anto |
| | Jacob Joe |
| | Rajan M.E. |
| | Pradeep A. |
| | Amminikutty P.V. |
| | Boby Abraham |
| | Jose T.C. |
| | Abdul Muthalavi M |
| | Mohimi. P. |
| | Pradeep C. |
| | Lathika M.V. |
| | Sudha K.B. |
| | Sheela I.C. |
| | Sheela A. Attokkaren |
| | Chamunni P.V. |
| | Dinesan K. from 2.6.2001 |
| | Sudha P. from 1.6.2001 |
| Senior Grade Assts. | Sreekumar P. |
| | Sreekumar K. |
| | Anithakumari A. |
| | Tony P.D. |
| | Dalika E.K. |
| | Prema P.P. |
| | Vijayalakshmi P. |
| | Saraswathy P.A. |
| | Raphi C.P. |
| | Ramesh P.N. |
| | Rajeswari A. |
| | Madhusoodanan P.G. |
| | Harinath K. |
| | Anitha Venugopal |
| | Ajayakumar P.K. |
| | Ajayakumar M.K. |
| | Babu Varghese M. |
| | Sivadasan C. |
| | Antony Joseph |
| | Ajithakumar B. |
| | Preleema Peter C. from 2.6.2001 |
| | Unni V. from 2.6.2001 |
| | Rathi Devi A.V. from 30.7.2001 |
| | Abdul Kader P.B. |
| | Kochupaul P.K. |
| | Jayanthi M.N. |
| Assistant Gr.I | Ally T. |
| | Anju M.L. |

| *Name of Post* | *Name of Incumbent* |
|---|---|
| Assistant Gr.I | Baburaj T.P. |
| | Sundararaj C. |
| | Shaibu E.M. |
| | Manikantan M.B. |
| | Kumaranandan N.S. |
| | Joy M.U. |
| | Jitha K.S. |
| | Vijayan K. |
| | Baby K.P. |
| | Narayani T.R. |
| | Babu K.D. |
| | Denny C.V. |
| | Arun Sankar from 1.6.2001 |
| | Manikuttan C. |
| | Joy Paul Kanthi T.R. |
| | Manojkumar K.C. |
| | Raphijan P.H. |
| | Valsala P.V. |
| | Santhamma K.N. |
| | Santhosh P. |
| | Beena V.K. |
| Assistant Gr.II | Gopakumar C.S. |
| | Jayan N.B. |
| *Directorate of Research* | |
| Selection Grade Asst. | C. Rajalakshmi |
| Senior Grade Assistant | V.S.Sathiaseelan |
| Assistant Gr.I | Anju M.L. from 21.6.2001 |
| | Sobha K.S. |
| | Radhakrishnan. N. from 1.6.01 |
| Assistant Gr.II | Priyalakshmi M. |
| | Malathy T.V. |
| *Directorate of Extension* | |
| Selection Gr. Asst. | Sureshkumar P.S. |
| | Kuruvilla K.J. upto 6.5.2002 |
| | Komalam M.from 1.6.2001 |
| Assistant Gr.I | N. Vidhyarani |
| *Directorate of Students Welfare, Mannuthy* | |
| Senior Grade Assistant | Jaya K.B. 1.1.2002 to 31.3.2002 |
| | Joy M.U. from 2.6.2001 |
| Assistant Gr.I | Haridas P.C. |
| E.D.P. Manager i/c. | Vacant |
| (Central Comp.Facility) | M. Viswanathan Nair |
| | Programmer i/c. |
| Programmer | M. Viswanathan Nair |
| | T.A. Sebastian |
| Pool Officer | K.K. Ramachandran Nair |
| | Upto 30/4/2001 |
| | A. William 28/5/2001 |

| *Name of Post* | *Name of Incumbent* |
|---|---|
| Section Officer FC & D | V.P. Asokan |
| | P.Haridasan |
| | V.T. Kurien |
| | R. Sadan |
| | M.K. Jainuva |
| | K. Sathiavathi Bai |
| | P. Subhashini |
| | M.A. Bhargavi |
| | K. Saraswathi Amma |
| | G. Shanmughan |
| | K.N. Santhakumari |
| | V.M. Sulaiman |
| | T.D. Jose |
| | K.M. Mary |
| Office Supdt. | P.K. Kousallia Upto 31/8/01 |
| | P. Radha Upto 19/5/01 |
| | V.C. Mariamma |
| | S. Sudhakaran Nair |
| Sel. Gr. Typist | T.K. Sukumari |
| | P.K. Sreedeviamma |
| | K. Girija |
| | Noel R. |
| | K.T. Vijayalekshmi |
| | K.R. Nirmala |
| | V.H. Umaiva |
| | P. Prasannakumari |
| | S. Indiramma From 6/2001 |
| | Abdul Azeez.M. From 10/7/01 |
| | S. Geetha Bai |
| | I.A. Surendran |
| Sr. Gr. Typist | Meera T.M |
| | T.A. Vincent |
| | Manjula Mercy Patrick |
| | Upto 8/2001 |
| | Malathy A.N. Upto 6/2001 |
| | Rosemary Upto 19/5/01 |
| | Sreemathikumari P. From 5/6/01 |
| | B.Retnavally Amma From 20/6/01 |
| | S. Fathima Beevi |
| | B. Shiras |
| | Mini Joseph Upto 21/5/2001 |
| | T. Santha From 1/6/01 to 19/11/01 |
| Gr.I Typist | M.A. Rajini |
| | Remani P. |
| | Parukutty M.K. |
| | K.S. Xavier |
| | C.C. Babu |
| | T.P. Narayanan |
| | Jayamoni.V. Upto 19/5/01 |
| | Sthanulekshmi.S. From 1/6/01 |
| | T.D. Baby |

| *Name of Post* | *Name of Incumbent* |
|---|---|
| Gr.I Typist | V.Lalitha Upto 19/5/2001 |
| | Lalithakumari.B. Upto 19/5/2001 |
| | Ushakumari.P From 6/2001 |
| Typist Gr.II | P.K. Radhakrishnan |
| | Seema B. Upto 31/5/2001 |
| | A.K. Salim From 1/6/2001 |
| | Thressiamma John Upto 11/6/01 |
| Lab Assistant Gr.III/ | T.N. Aravindakshan |
| Clerical Asst.Sel.Gr. | V. Sreedevi |
| | A.N. Saraswathy |
| Lab Asst. Gr.III/ | T. Sasi |
| Clerical Assistant Sr. Gr. | K.K. Ramachandran |
| | V.A. Ittiara |
| | K.T. Rajan |
| | P. Christy John |
| | V.M. Baby From 1/4/01 to 31/7/01 |
| Vehicle Supervisor | V.N. Sankarankutty |
| Vehicle Supvr. (HDV) | K.V. Kochappan Retd.on 31/5/01 |
| Sel. Gr. HDV Driver | P.K. Devassy |
| | K.O. John Stephen |
| | Upto 31/5/2001 transferred to |
| | CCBM, Vellanikkara in June 01 |
| | V.R. Chandran |
| Sr. Gr. HDV Driver | P.V. Sudhakaran |
| | K.C. Chinnan |
| | C.A. Alikhan w.e.f. 12/9/01 |
| | N.A. Sukumaran w.e.f. 2/7/01 |
| Gr. I HDV Driver | K.K. Thankappan |
| | P.K. Sasidharan |
| | P.K. Santhosh |
| | P.R. Karthikeyan w.e.f. 1/7/01 |
| | K.M. Aboobacker |
| | Mohandas P.K.Demised on 9/7/01 |
| | T.M. Chacko |
| | U. Ravichandran From 9/7/01 |
| | upto 11/9/2001 |
| | Manjith Kumar T.R. |
| Gr.II LDV Driver | P.M. Sudhakaran |
| | K.A. Jabbar On LWA |
| Binder | R. Vijayan |
| Bus Attendant | Abdul Rasheed.K. |
| | Chandran N.P. From 1.6.01 |
| | Jabbar.M. Retired on 30.9.01 |
| | Krishnan K.C. |
| | Radhakrishnan T.G. Retd. 31/5/01 |
| | Rajendran A.G. Retd.on 31/3/02 |
| | Saji Antony K. From 29.5.01 |
| | Velayudhan C.R. Retd.on 31/8/01 |

| *Name of Post* | *Name of Incumbent* |
|---|---|
| Bus Attendant | Beer Bahadursingh 1.4.2001 to |
| | 1.6.01 FN and from 17.9.01 F.N. |
| Dupli. Machine Oper. | R.G. Babu |
| | Manikkan A.P. |
| | Paulose A.V. |
| Duffedar | P.D. Annamma |
| Class IV/Peon | Abdulla T.K. |
| | Chandru K.K. |
| | Indira P.N. |
| | Indira P.S. |
| | Jayarajan C.K. From 2.4.2001 |
| | Kousallya C.P. |
| | Lakshmikutty M. |
| | Mary P.A. |
| | Mukami M.K |
| | Noushad T.P. |
| | Relieved on 14.1.2002 |
| | Padmanabhan E.K. |
| | Ponnumon K.M. |
| | Rajan M.K. From 2.7.2001 |
| | Ramachandra Bahadur A. |
| | Ramankutty K.K. |
| | Ramachandran K.V. |
| | Raveendran T.R. |
| | Santha O.G. |
| | Santha T.V. |
| | Santhakumari K. |
| | Santhakumari P.A. |
| | Sasidharan |
| | Shylan A.K. |
| | Solly K. Jacob |
| | Relieved on 20/3/2002 |
| | Sumesh C.G. |
| | Sumesh P.B. |
| | Thankappan P.E. |
| | Thirumalai P |
| | Unni V.R. |
| | Unnikrishnan T.A. |
| | Vasu M.N. |
| | Vilasini I.R. |
| | Vinod K.A.From 3.4.2001 |
| | Vinu Solomon |
| | Relieved on 29.12.01 |
| | Lakshmi Bai A.V. |
| | From 28.9.2001 |
| | Sujith J.S. From 8.10.2001 |
| | Thressia K.V. From 4.7.2001 |
| | A. Kochammu |

APPENDIX III

# LIST OF STAFF IN VARIOUS CAMPUSES

## COLLEGE OF AGRICULTURE, VELLAYANI

| Dept. And designation | No. of posts | | | Remarks |
|---|---|---|---|---|
| | Sanctioned | in position | Vacant | |
| 1 | 2 | 3 | 4 | 5 |
| *Scientific staff* | | | | |
| **Agronomy** | | | | |
| Professor | 1 | | | |
| Assoc.Prof. | | 10 | | |
| Asst.Prof. | | 3 | | |
| **Plant Breeding and Genetics** | | | | |
| Professor | 1 | 3 | | |
| Assoc.Prof. | 8 | 6 | | |
| Asst.Prof. | 2 | 2 | | |
| N.A.R.P (SR) Assoc.Prof. | 1 | 1 | | |
| Asst.Prof. | 1 | 1 | | |
| AICRP (Forage) Assoc.Prof. | | | | |
| **Soil Science and Agrl: Chemistry** | | | | |
| Professor | 2 | 2 | | |
| Assoc.Prof. | 8 | 7 | | |
| Asst.Prof. | 4 | 4 | | |
| **Agrl: Entomology** | | | | |
| Professor | - | 5 | | |
| Assoc.Prof.(NARP) | 2 | 2 | | |
| AICRP (Nematodes) | 1 | 1 | | |
| AICRP (Pesticides - Residues) | 1 | 1 | | |
| Asst.Prof. | | | | |
| AICRP (Nematodes) | 2 | 2 | | |
| AICRP (Pesticide-Residues ) | 3 | 3 | | |
| AICRP (Honey bees) | 1 | 1 | | |
| **Plant Pathology** | | | | |
| Professor | | 6 | | |
| Assoc.Prof. | | 9 | | |
| Asst.Prof | | 3 | | |
| **Agrl: Engineering** | | | | |
| Professor | 1 | 1 | | |
| Assoc.Prof. | 1 | 1 | | |
| Asst.Prof | 1 | 1 | | |
| **Animal Husbandry** | | | | |
| Professor | 1 | 1 | | |
| Assoc.Prof. | 1 | 1 | | |
| Asst.Prof | 1 | 1 | | |

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| **Agrl: Extension** | | | | |
| Professor and Head | 1 | 1 | | |
| Professor | 1 | 1 | | |
| Assoc.Prof. | 6 | 6 | | |
| Asst.Prof. | 2 | 2 | | |
| **Agrl Economics** | | | | |
| Professor | | | | |
| Assoc.Prof. | 3 | 2 | | |
| Asst.Prof. | | | | |
| **Agrl: Statistics** | | | | |
| Professor | 1 | - | 1 | vacant from 3.5.89 |
| Assoc.Prof. | 2 | 1 | - | *One post is shifted |
| Asst.Prof. | 6 | 1 | 5 | to College of |
| NARP(SR) | | | | Horticulture in 1979 |
| Assoc.Prof. | 1 | 1 | | |
| Asst.Prof. | 1 | 1 | | |
| **Physical Education** | | | | |
| Professor | | | | |
| Assoc.Prof. | 2 | 1 | | |
| Asst.Prof. | | | | |
| **Olericulture** | | | | |
| Professor | | | | |
| Assoc.Prof. | 2 | 2 | | |
| Asst.Prof. | | | | |
| **Pomology and Floriculture** | | | | |
| Professor | 1 | - | 1 | |
| Assoc.Prof. | 4 | 4 | 0 | |
| Asst.Prof. | | | | |
| **Plantation Crops and Spices** | | | | |
| Professor | - | - | | |
| Assoc.Prof. | 3 | 3 | | |
| Asst.Prof. | 1 | 1 | | |
| **Processing Technology** | | | | |
| Professor | | | | |
| Assoc.Prof. | 1 | 1 | | |
| Asst.Prof | | | | |
| **Biotechnology** | | | | |
| Professor | | | | |
| Assoc.Prof. | 1 | 1 | | |
| Asst.Prof. | | | | |
| **Home Science** | | | | |
| Professor | 1 | 1 | | |
| Assoc.Prof. | 2 | 2 | | |
| Asst.Prof. | 7 | 6 | | |

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| **Plant Physiology** | | | | |
| Professor | 1 | 1 | | |
| Assoc.Prof. | | | | |
| Asst.Prof | 3 | 3 | 1 | |
| **Agrl: Meteorology** | | | | |
| Professor | | | | |
| Assoc.Prof. | 1 | | | |
| Asst.Prof | | | | |
| **Instructional Farm** | | | | |
| Professor | | | | |
| Assoc.Prof. | 3 | 3 | | |
| Asst.Prof | 2 | 2 | | |
| ***Administrative and supporting staff*** | | | | |
| **Agronomy** | | | | |
| A.KAU Post | | | | |
| Typist | 1 | 1 | | |
| Lab Asst. ( Grim) | 2 | 2 | | |
| Peon | 1 | 1 | | |
| ***Technical staff*** | | | | |
| a. K.A.U Post | | | | |
| Farm Asst/Supervisor | 2 | 2 | | |
| b.NARP | | | | |
| Farm Asst/Supervisor | 1 | 1 | | |
| Lab.Asst | 2 | 2 | | |
| c. AICRP ( Forage ) | | | | |
| Farm Asst | 1 | 1 | | |
| **Plant Breeding and Genetics** | | | | |
| A.KAU Post | | | | |
| Typist | 1 | 1 | | |
| Lab Asst. ( Gr.III) | 2 | 2 | | |
| Peon | 1 | 1 | | |
| ***Technical staff*** | | | | |
| a. K.A.U Post | | | | |
| Farm Asst/Supervisor | 1 | 1 | | On WA in NST.Farm |
| b.NARP | | | | |
| Farm Asst/Supervisor | 2 | | | one FA WA in the Inst : Farm |
| c. AICRP ( Forage ) | | | | |
| Farm Asst. | 1 | 1 | - | |
| **Soil Science and Agrl: Chemistry** | | | | |
| Asst.Chemi. | 2 | 1 | 1 | |
| Tech.Asst. | 0 | 1 | | |
| Typist ( Grade - I ) | 1 | 1 | Nil | |
| Lab Asst. | 4 | 1 | 3 | |
| Class IV | 2 | 2 | Nil | |
| Skilled labour | 1 | 1 | Nil | |

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| **Entomology** | | | | |
| Typist | 1 | 1 | — | |
| Peon | 2 | 2 | — | |
| Class IV | 1 | 1 | | |
| ***Technical staff*** | | | | |
| Farm Asst. Gr.I | — | 1 | | |
| Farm Asst.( Sel.Gr) | — | 1 | | |
| Lab Asst.( Gr-II) | 6 | 2 | | |
| Lab Asst.( Gr-III) | 3 | | | |
| **Plant Pathology** | | | | |
| Class IV | 2 | | | |
| Farm Supervisor | 1 | | | |
| Lab Asst. Gr-I | 1 | | | |
| Lab Asst.Gr-III | 1 | | | |
| **Agrl: Engineering** | | | | |
| Peon | 1 | 1 | Nil | |
| Lab.Asst. | 1 | — | — | |
| Technician Sr.Grade | 3 nos | 1 | 2 | |
| **Animal Husbandary** | | | | |
| Farm Supervisor | 5 | Nil | | |
| **Agrl: Extension** | | | | |
| Artist | 2 | 1 | | one working to Planning Board from 4.8.97 onwards |
| Photographer | 1 | nil | 1 | |
| Typist | 1 | nil | 1 | |
| Farm Asst. | 2 | 1 | 1 | |
| Lab Asst. Gr-II | 1 | nil | 1 | |
| Peon/ Class IV | 2 | 1 | 1 | |
| Permanent labourer | 1 | 1 | nil | |
| Selection Grade. Asst. | 1 | 1 | nil | |
| Selection Grade Typist | 1 | 1 | nil | |
| Peon ( Hr.Gr) | 1 | 1 | nil | |
| Farm Asst.Gr.II | 1 | nil | 1 | |
| **Agrl: Statistics** | | | | |
| Assistant Gr-I | 1 | 0 | 1 | |
| Typist | 1 | 0 | 1 | |
| Peon | 1 | 0 | 1 | |
| Programmer | 1 | 0 | 1 | |
| Jr.Programmer | 1 | 1 | 0 | |
| Technical Asst. | 2 | 1 | 1 | One post shifted to the College of Horti. Vellanikkara. |

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| **Pomology and Floriculture** | | | | |
| Classs IV | 1 | 1 | — | |
| Farm Supervisor | 1 | 1 | — | |
| Laboratory Asst. | 1 | 1 | — | |
| **Plantation crops and spices** | | | | |
| Senior Farm Supervisor | 1 | — | 1 | transferred |
| **Processing Technology** | | | | |
| Lab Asst. | 1 | 1 | — | |
| **Biotechnology** | | | | |
| Administrative staff: Nil | | | | |
| **Home Science** | | | | |
| Administrative staff: Nil | | | | |
| Technical supervisor Gr-I | 1 | 1 | — | |
| Lab Asst | 3 | — | 3 | |
| Typist | 1 | 1 | — | |
| ***Administrative and supporting Staff*** | | | | |
| **Plant Physiology** | | | | |
| Peon | 1 | 1 | — | |
| Technical staff - Nil | | | | |
| **Agrl: Meteorology** | | | | |
| Farm Asst. | 1 | 1 | — | |
| Peon | 1 | 1 | | |

## COLLEGE OF HORTICULTURE, VELLANIKKARA

| Dept. And designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| ***Scientific Staff*** | | | | | |
| **Agronomy** | | | | | |
| Professor | 1 | - | Dr.N.Neelakantan Potty retired on superannuation on 28-2-02 and Dr.C.T.Abraham, Assoc. Prof. took over as Head | 1 | - |
| Assoc. Professor | 4 | 4 | Dr.R.Gopinathan<br>Dr.Jose Mathew<br>Dr.Savithri, K.E.<br>Dr.Mercy George | - | |
| Asst. Professor | 1 | 1 | Dr.A.Latha | - | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| **Agrometeorology** | | | | | |
| Professor | 1 | 1 | Dr. G.S.L.H.V.Prasada Rao | - | |
| Assoc. Professor | | | | | |
| Asst. Professor | 2 | 1 | Dr. E.K. Lalitha Bai | 1 | Assoc. Prof. |
| **Soil Science & Agrl. Chemistry** | | | | | |
| Professor | 1 | - | | I | |
| Assoc. Professor (Soil Physics) | 1 | 1 | Dr.K.C.Marykutty | | Holding the charge of Prof. |
| Assoc. Professor | 3 | 3 | Dr. K.A. Mariam | | |
| | | | Dr. P.K. Sushama | | |
| | | | Dr. Sam.T. Kurumthottickal | - | |
| Assoc. Prof. (Biochem) | 1 | 1 | Dr. Jacob John | - | |
| Asst. Professor | 1 | 1 | Dr. Betty Bastin | - | |
| Asst. Prof. (Biochem) | 1 | 1 | Dr. S. Mini | - | |
| **Plant Breeding & Genetics** | | | | | |
| Professor | 1 | 2 | Dr.K.Pushkaran | | |
| | | | Dr.Achamma Oommen | - | |
| Assoc. Professor | 1 | 2 | Dr.V.V.Radhakrishnan | | |
| | | | Dr.K.Nandini | - | |
| Asst. Professor | 6 | 4 | Dr.C.R.Elsy | 2 | |
| | | | Dr.K.Arya | | |
| | | | Dr.Mareen Abraham | | |
| | | | Dr.Dijee Bastian | | |
| **Plant Pathology** | | | | | |
| Professor | 1 | 1 | | 1 | |
| Assoc. Professor | 3 | 3 | Dr. Koshi Abraham | 1 | Holding the charge of Prof. and Head |
| | | | Dr. M.V. Rajendran Pillai | | |
| | | | Dr. Rehmath Niza | | |
| Asst. Professor | 6 | 4 | Dr. Sheela Paul | 2 | |
| | | | Dr. S. Beena | | |
| | | | Dr. Surendra Gopal | | |
| | | | Dr. D. Girija | | |
| **Agrl. Entomology** | | | | | |
| Professor | 3 | - | | 3 | |
| Assoc. Professor | 1 | | Dr. Jim Thomas | 1 | Holding the charge of Prof. and Head |
| | | | Dr. A.M. Ranjith | | Posted against the post of Prof. |
| | | | Dr. Maicykutty P.Mathew | | |
| Asst. Professor | 2 | 2 | R. Ushakumari | | |
| | | | Dr. Haseena Bhaskar | - | |
| Asst. Professor (AINPAO) | 2 | 1 | Dr. Mani Chellappan | 1 | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| **Agrl. Extension** | | | | | |
| Professor | 1 | - | | 1 | |
| Assoc. Professor | 3 | 3 | Dr. F.M.H. Khaleel | - | in the charge of Prof. and Head |
| | | | Dr. Joy Mathew | | |
| | | | Dr. P. Ahamed | | |
| | | | Dr. P.S. Geethakkutty | | |
| Asst. Professor | 2 | 1 | Dr. Jayasree Krishnankutty | 1 | |
| **Agrl. Economics** | | | | | |
| Professor | 2 | 1 | Dr. E.K. Thomas | 1 | Assoc.Prof. posted against the post of Prof. |
| Assoc. Professor | 1 | 1 | Dr. K. Jessy Thomas | 0 | |
| Asst. Professor | 3 | 3 | Dr. Sathees Babu | 0 | |
| | | | Dr. P. Indira Devi | | |
| | | | T.Paul Lazarus | | |
| **Agrl. Statistics** | | | | | |
| Professor | 1 | - | | 1 | |
| Assoc. Professor | 1 | 1 | Dr.V.K.G.Unnithan | - | |
| Asst. Professor | 6 | 5 | Graceamma Kurian | 1 | |
| | | | T.K.Indira Bai | | |
| | | | P.Soudamini | | |
| | | | S.Krishnan | | |
| | | | Laly John, C. | | |
| **Pomology & Floriculture** | | | | | |
| Professor | 1 | - | | 1 | |
| Assoc. Professor | 5 | 5 | Dr. P.K. Valsalakumari | - | |
| | | | Dr. K. Lyla Mathew | | |
| | | | Dr. N.K. Parameswaran | | |
| | | | Dr. C.K. Geetha | | |
| | | | Dr. Sarah T. George | | |
| | | | Dr. T. Radha | | Shifted from KHDP |
| | | | Dr. K. Aravindakshan | | |
| | | | Dr. A.K. Babylatha | | |
| Asst. Professor | 5 | 5 | | - | |
| AICFIP, Assoc. Professor | 1 | 1 | Dr. P.K. Rajeevan | - | Holding the charge of Prof.& Head. |
| AICFIP, Asst.Professor | 2 | 2 | Dr. A. Sobhana | - | |
| | | | Dr. Jyothi Bhaskar | | |
| **Plantation Crops & Spices** | | | | | |
| Professor | 1 | 1 | | - | |
| Assoc. Professor | 4 | 4 | Dr. E.V. Nybe | - | Holding the charge of Prof. |
| | | | Dr. P.C. Rajendran | | |
| | | | Dr. Alice Kurian | | |
| | | | Dr. M.R. Shylaja | | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Asst. Professor | 4 | 4 | Dr. V.S. Sujatha<br>Dr. M. Asha Sankar<br>Dr. N. Miniraj<br>B. Suma | - | |
| **Olericulture** | | | | | |
| Professor | 1 | - | Dr.T.R. Gopalakrishnan | 1 | Assoc. Prof. posted against the vacancy |
| Assoc. Professor | 4 | 4 | Dr. T.E.George<br>Dr. Salikutty Joseph<br>Dr.P. Indira<br>Dr.Baby Lissy Markose | - | |
| Asst. Professor | 3 | 3 | Dr. K.V. Suresh Babu<br>Dr. K.Krishnakumary<br>Dr. Mini.C. | - | |
| **AICVIP** | | | | | |
| Professor | 1 | 1 | Dr. P.G. Sadhankumar | - | |
| Assoc. Professor | 1 | 1 | Dr. S. Nirmala Devi | - | |
| Asst. Professor | 1 | 1 | Dr. Sally K. Mathew | - | Assoc. Prof. |
| **Processing Technology** | | | | | |
| Professor | 1 | - | Dr.P. Jacob John | 1 | Assoc.Prof. posted against Professor |
| Assoc. Professor | 1 | 1 | Dr. V.K. Raju | - | |
| Asst. Professor | 2 | 2 | Dr. K.B. Sheela<br>Dr.P. B. Pushpalatha | - | |
| **Agrl. Engineering** | | | | | |
| Professor | 1 | 1 | M. R. Sankaranarayanan | - | |
| Assoc. Professor | 1 | 1 | Dr. Joby V Paul | - | |
| Asst. Professor | 2 | 2 | Levan K V<br>P K Sureshkumar | - | |
| **Home Science** | | | | | |
| Asst. Professor | 4 | 3 | Dr. V. Indira<br>Dr. V. Usha<br>Omana Pavunny | 1 | Assoc.Prof.<br>On WA at COF, Panangad |
| **Physical Education** | | | | | |
| Asst. Professor | 1 | 1 | E. Soman | - | Assoc.Prof. |
| **Centre for Biotech & Plant Mole. Biology** | | | | | |
| Associate Professor | 3 | 3 | Dr. P.A. Nazeem<br>Dr. R. Keshavachandran<br>Dr. P. Rajendran<br>Dr. P.A. Valsala | -<br>- | Head<br>From 28.9.01 to 31.1.02<br>Joined on 25.3.02 |
| Assistant Professor | 1 | 1 | Dr. D. Girija | - | On WA from Dept.of Pl. Path. |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| **DISC** | | | | | |
| Assistant Professor | 1 | 1 | T. K. Ajitha | - | - |
| **Radiotracer Lab** | | | | | |
| Professor (Radiotracer) | 1 | - | | 1 | |
| Assoc. Prof.(Safety Officer) | 1 | 1 | N.V. Kamalam | - | Prof. & Head |
| Assoc. Professor (Agron.) | 1 | 1 | Dr. P. Sreedevi | - | |
| **Instructional Farm** | | | | | |
| Professor | | | | | |
| Assoc. Professor | 1 | 1 | K.P.Pradeep | - | Asst.Prof. (S.S) is posted against the post of Assoc. Prof. |
| Asst. Professor | 1 | - | M.Murugan (On study leave) | 1 | Deputed for higher studies |
| **AICRP on weed control** | | | | | |
| Assoc. Professor (Agron) | 1 | 1 | Dr.C.T.Abraham | - | Holding charge of Prof.& Head, Agron. |
| Asst. Professor | 2 | 2 | K.M.Durga Devi | | |
| | | | Dr.T.Girija | - | |
| **Vegetable seed production complex** | | | | | |
| Asst. Professor | 1 | 1 | Dr. K. Krishnakumari | - | |
| **AICRP on BCCP &W** | | | | | |
| Assoc. Professor | 2 | 2 | Dr. S. Pathummal Beevi | | |
| | | | Dr. K.R. Lyla | - | |
| **AICRP on STCR** | | | | | |
| Assoc. Professor | 1 | 1 | Dr. M.A. Hassan | - | |
| Asst. Professor | 1 | 1 | Dr. P. Sureshkumar | - | |
| **Coc.Nutr. & Phy. Dis.** | | | | | |
| Assoc. Professor | 2 | 2 | C.S. Gopi | | |
| | | | Dr. N. Saifudeen | - | |
| **AICRP on M& AP** | | | | | |
| Assoc. Professor | 1 | 1 | Dr. K.T. Prasannakumari | - | |
| Asst. Prof.(Biochem.) | 1 | 1 | Dr.A. Augustine | - | Assoc. Prof. |
| Asst. Professor (Agron.) | 1 | 1 | Dr. Meera. V. Menon | - | |
| **Cadbury's Cocoa Res. Project** | | | | | |
| Professor | 1 | 1 | Dr. V.K. Mallika | - | Head |
| Assoc. Professor | 3 | 3 | Dr. S. Prasannakumari Amma | | |
| | | | Dr. Koshy Abraham | | |
| | | | Dr. C. George Thomas | - | upto 17-2-01 |
| **Instrumentation Centre** | | | | | |
| Assoc. Professor | 1 | 1 | K. Madhavan Nair | - | Professor |

| Dept. and designation | No. of posts | | | Remarks |
|---|---|---|---|---|
| | Sanctioned | in position | Vacant | |
| 1 | 2 | 3 | 4 | 5 |
| ***Administrative and supporting Staff*** | | | | |
| Administrative Officer | 1 | 1 | - | |
| Section Officer | 5 | 4 | 1 | |
| Section Officer (FC &D) | 1 | 1 | - | |
| Assistants | 17 | 17 | - | |
| Typists | 10 | 9 | 1 | |
| Class IV | 11 | 4 | 7 | |
| HDV Driver | 1 | 0 | 1 | |
| LDV Driver | 5 | 2 | 3 | |
| Duplicator Operator | 2 | 1 | 1 | |
| Matron | 1 | 1 | - | |
| Hostel Manager | 1 | 1 | - | |
| ***Technical Staff*** | | | | |
| Asst. Engineer | Nil | 1 | | |
| Technical Supervisor | 2 | 2 | | |
| Technical Assistant | 2 | 1 | 1 | |
| Farm Supervisor/ Farm Assistant | 18 | 15 | 3 | |
| Lab Assistant | 21 | 9 | 12 | |
| Junior Programmer | 2 | 2 | | |
| Asst. Librarian | 2 | 2 | | |

## COLLEGE OF AGRIICULTURE, PADANNAKKAD

| Dept. and designation | No. of posts | | | Remarks |
|---|---|---|---|---|
| | Sanctioned | in position | Vacant | |
| 1 | 2 | 3 | 4 | 5 |
| ***Scientific staff*** | | | | |
| **Plant Breeding and Genetics** | | | | |
| Professor | 2 | Nil | 2 | Created-1<br>Shifted-1 |
| Assoc.Prof. | 1 | 1 | Nil | Created-1 |
| Asst. prof. | 2 | 2 | Nil | Shifted-2 |
| **Plant Physiology** | | | | |
| Assoc. Prof. | 2 | 1 | 1 | Created-1<br>Shifted-1 |
| **Biotechnology** | | | | |
| Assoc. Prof. | 1 | Nil | 1 | Created-1 |
| **Home science** | | | | |
| Asst. Prof. | 2 | 1 | 1 | Created-1<br>Shifted-1 |
| **Agrl. Economics** | | | | |
| Professor | 1 | Nil | 1 | Created-1 |

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| Assoc. Prof. | 1 | 1 | Nil | Created-1 |
| Asst. Prof | 2 | Nil | 2 | Shifted-2 |
| **Agrl. Statistics** | | | | |
| Asst. Prof. | 2 | Nil | 2 | Created-1<br>Shifted-1 |
| **Entomology** | | | | |
| Professor | 1 | Nil | 1 | Created-1 |
| Assoc. Prof. | 1 | Nil | 1 | Created-1 |
| Asst. Prof. | 4 | 3 | 1 | Created-1<br>Shifted-3 |
| **Plant Pathology** | | | | |
| Professor | 2 | Nil | 2 | Created-1<br>Shifted-1 |
| Assoc.Prof. | 1 | 1 | Nil | Created-1<br>Asst.Prof. Posted against the vacancy of Assoc. Prof. |
| **Soil Science and Agrl. Chem.** | | | | |
| Professor | 1 | Nil | 1 | Created-1 |
| Assoc.Prof. | 1 | Nil | 1 | Created-1 |
| Asst.Prof. | 2 | 1 | 1 | Shifted-2 |
| **Horticulture** | | | | |
| Professor | 1 | Nil | 1 | Created-1 |
| Assoc. Prof. | 3 | 1 | 2 | Created-2<br>Shifted-1 |
| Asst. Prof. | 3 | 2 | 1 | Shifted-3 |
| **Agronomy** | | | | |
| Professor | 1 | Nil | 1 | Created-1 |
| Assoc.Prof. | 4 | Nil | 4 | Created-2<br>Shifted-2 |
| Asst. Prof | 4 | 3 | 1 | Created-1<br>Shifted-3 |
| **Agrl.Extention** | | | | |
| Professor | 1 | Nil | 1 | Created-1 |
| Assoc.Prof. | 1 | 1 | Nil | Created-1 |
| Asst. Prof. | 3 | 1 | 2 | Created-1<br>Shifted-2 |
| **Agrl. Engineering** | | | | |
| Assoc. Prof. | 1 | Nil | 1 | Created-1 |
| Asst. Prof. | 1 | 1 | Nl | Shifted-1 |
| **Computer Science** | | | | |
| Asst. Prof. | 1 | Nil | 1 | Created-1 |
| **Phycical Education** | | | | |
| Asst. Prof. | 1 | 1 | 1 | Created-1 |

| 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|
| **Agrl. Meteorology** | | | | |
| Asst. Prof. | 1 | Nil | 1 | Created-1 |
| **Animal Husbandry** | 1 | Nil | | |
| Asst. Prof. | 1 | Nil | 1 | Created-1 |
| Associate Dean | 1 | 1 | Nil | Created-1 |
| Officer in charge Academic | 1 | Nil | 1 | Created-1 |
| Officer in charge Library | 1 | Nil | 1 | Created-1 |

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Administrative and Supporting Staff* | | | | | |
| Admn. Officer Gr. II | 1 | 1 | P.V. Nalini | | |
| Section Officer (Hr.Gr.) | 3 | 3 | K. Balachandran | | |
| | | | C.T. Mukundan | | |
| | | | P.M.F. Babu | | |
| Assistant Gr. II | 6 | 1 | K. Rajagopalan | 5 | 3 (Employ-ment hand) |
| Typists | 4 | 4 | K. Raveendran | | Steno to Assoc. Dean |
| | | | V.P. Shyamala | | |
| | | | P. Sarasu | | |
| | | | Sarath Soman | | |
| L.D.V. Driver | 1 | 1 | A.V. Kunhikrishnan | | |
| H.D.V. Driver | 1 | 1 | M.P. Unnikrishnan | | |
| Duplicator Operator | 1 | 1 | Madhusoodhanan Nair | | |
| Class IV | 3 | 3 | K. Kunhikannan | | |
| | | | V.V. Sureshan | | |
| | | | K. Anitha | | |
| Regular Mazdoor | 1 | 1. | Kottan | | |
| Part-time Sweeper | 2 | - | - | 2 | |
| ***Technical Staff*** | | | | | |
| Farm Assistant | 3 | 3 | Surendran P.V. | | |
| | | | Suresh Babu | | |
| | | | Sasidharan | - | - |
| Data Entry Operator | 1 | - | - | 1 | |
| Library Assistant | 2 | - | - | 1 | 1 (Employ ment hand) |
| Lab Assistant Gr. III | 5 | 1 | Ashokan. K. | 4 | 4 (Employ ment hands) |

## COLLEGE OF FORESTRY, VELLANIKKARA

| Dept. and designation | No. of posts | | | Remarks |
|---|---|---|---|---|
| | Sanctioned | in position | Vacant | |
| 1 | 2 | 3 | 4 | 5 |
| ***Scientific staff*** | | | | |
| **Dept.of Silviculture and Agroforestry** | | | | |
| Professor | Nil | Nil | Nil | |
| Assoc.Professor | 2 | 2 | Nil | |
| Asst.Professor | Nil | Nil | Nil | |
| **Dept.of Tree Physiology and Breeding** | | | | |
| Professor | 2 | 2 | Nil | |
| Assoc.Professor | 1 | 1 | Nil | |
| Asst.Professor | Nil | Nil | Nil | |
| **Dept.of Forest Management and Utilization** | | | | |
| Professor | Nil | Nil | Nil | One Asst.Prof.is on |
| Assoc.Professor | 1 | 1 | Nil | leave for study |
| Asst.Professor | 3 | 3 | Nil | purpose |
| **Dept.of Wood Science** | | | | |
| Professor | Nil | Nil | Nil | One Asst.Prof. |
| Assoc.Professor | Nil | Nil | Nil | is on leave for |
| Asst.Professor | 2 | 2 | Nil | study purpose |
| **Dept.of Wildlife Sciences** | | | | |
| Professor | Nil | Nil | Nil | |
| Assoc.Professor | Nil | Nil | Nil | |
| Asst.Professor | 3 | 3 | Nil | |
| ***Administrative and Supporting staff:*** | | | | |
| Administrative Officer | 1 | 1 | Nil | |
| Section Officer | 1 | 1 | Nil | |
| Office Assistant | 3 | 3 | Nil | |
| Typist | 2 | 2 | Nil | |
| Stenographer | 1 | 1 | Nil | |
| Driver | 2 | 1 | 1 | |
| Office Peon | 1 | 1 | Nil | |
| ***Technical staff:*** | | | | |
| Laboratory Assistant | | | | The skilled work is |
| Farm Assistant | | | | managed by perman- |
| Asst.Librarian | | | | ent labourers, who |
| Reference Assistant | | | | are trained in the college. |
| Caretaker (Hostel) | 1 | Nil | | 1 On daily wages |

# COLLEGE OF CO-OPERATION, BANKING & MANAGEMENT, VELLANIKKARA

| Dept. And designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | | 5 6 |
| ***Scientific Staff*** | | | | | |
| Associate Dean | 1 | 0 | Dr.M. Mohandas | 1 | Assoc.Dean I/c. |
| **Department of Co-operative Management** | | | | | |
| Professor | 1 | 0 | Nil | 1 | |
| Associate Professor | 2 | 0 | Nil | 2 | |
| Assistant Professor | 5 | 5 | Dr.Philip Thomas | 0 | Assoc.Prof. through Career Advancement. |
| | | | | | On Leave Without Allowance for taking employment abroad |
| | | | Dr.A.M. Jose | | Asst.Professor (Sr.Scale) through Career Advancement |
| | | | | | On Leave Without Allowance for taking employment abroad |
| | | | E.Vinaikumar | | Asst.Professor (Sr.Scale) through Career Advancement |
| | | | Dr.G.Veerakumaran | | |
| | | | E.G.Ranjithkumar | | |
| **Department of Rural Banking & Finance Management** | | | | | |
| Professor | 0 | 0 | Nil | 0 | |
| Associate Professor | 1 | 0 | Nil | 1 | |
| Assistant Professor | 5 | 4 | Dr.Molly Joseph | 1 | One Asst.Prof.resigned with effect from 15.11.1997 |
| | | | | | Assoc.Prof. through Career Advancement |
| | | | | | Head of the Department |
| | | | Dr.E.V.K.Padmini | | Assoc. Prof. through Career Advancement |
| | | | Dr.K.M.George | | Asst.Prof. (Sr.Scale) through Career Advancement |
| | | | Dr.M.A.Lizy | | |
| **Department of Rural Marketing Management** | | | | | |
| Professor | 1 | 0 | Nil | 1 | |
| Associate Professor | 2 | 0 | Nil | 2 | |
| Assistant Professor | 5 | 5 | | 0 | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Assistant Professor | | | Dr.A.Sukumaran | | Assoc.Prof. through Career Advancement |
| | | | | | Head of the Department |
| | | | | | Head of Department I/c., Co-operative Management |
| | | | Sri.Philip Sabu | | Asst.Prof. (Sel.Gr.)through Career Advancement |
| | | | M. Mohanan | | " |
| | | | Dr.Vanaja Menon | | |
| | | | Ushadevi.K.N. | | |
| **Department of Development Economics** | | | | | |
| Professor | 1 | 0 | Nil | 1 | |
| Associate Professor | 1 | 1 | | 0 | |
| | | | Dr.M.Mohandas | | Associate Dean I/c. |
| | | | | | Head of the Department |
| Assistant Professor | 4 | 4 | Dr.K.A. Suresh | 0 | Assoc.Prof. through Career Advancement |
| | | | Dr.K.P.Mani | | " |
| | | | Shaheena.P. | | Asst.Prof. (Sr.Scale) through Career Advancement |
| | | | K.A.Sunandha | | |
| ***Other Disciplines*** | | | | | |
| **Quantitative Methods/Agrl. Statistics** | | | | | Attached to the Dept. of Development Economics |
| Associate Professor | 1 | 1 | Dr.U. Ramachandran | 0 | Assoc.Prof. through Career Advancement |
| | | | | | Posted in the Department of Development Economics |
| Assistant Professor | 1 | 1 | Jacob Thomas.M. | 0 | Asst.Prof.(Sel.Gr.)through Career Advancement |
| **Computer Science** | | | | | Attached to the Department of Development Economics |
| Assistant Professor | 1 | 1 | P.J. Boniface | 0 | |
| **Agricultural Extension** | | | | | Attached to the Department of Co-operative Management |
| Assistant Professor | 1 | 1 | Sakeer Hussain.N. | 0 | |
| ***Administrative & Supporting Staff*** | | | | | |
| Administrative Officer | 1 | 1 | K.N. Pushpangathan | 0 | |
| Section Officer | 2 | 2 | E.K.Prabhavathy | | |
| | | | T.K.Ambika | | |
| Assistants | 6 | 4 | T.J.Babychan | 1 | One post of Assistant shifted temporarily |
| | | | Jayaraj.T.K. | | |
| | | | Baburaj.T.P. | | |
| | | | K.V.Subramanian | | |

| 1 2 | | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Typists | 5 | 5 | Girija.V.G.<br>Sarada.P.<br>Sukumaran Nair.G.<br><br>Thankamany.M.K.<br>Radhamany.K. | 0 | Steno to Associate Dean<br><br>On working arrangement at Onattukara w.e.f. 23.12.00 |
| Driver | 1 | 1 | John Stephen.K.O. | 0 | |
| Class IV | 2 | 2 | P.I.Kunjumol | 0 | |
| | | | Sujatha.S.V. | 0 | |
| Duplicating Operator | 1 | 0 | Nil | 1 | |
| Hostel Manager | 1 | 1 | M. Radhakrishnan | 0 | |
| Permanent Labourers | 3 | 3 | K.P. Thanka<br>K.K.Thanka<br>K.K.Baby | | |
| *Technical Staff* | | | | | |
| Assistant Librarian | 1 | 1 | T.K.Shylaja | 0 | |
| Lab.Assistant | 1 | 1 | Santhakumari.M. | 0 | |

## COLLEGE OF VETERINARY & ANIMAL SCIENCES, MANNUTHY

*Scientific Staff*

| Sl. No | Department | Designation & No. of post sanctioned | | | In position | | | Vacant | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Prof.& Head | Assoc Prof. | Asst. Prof. | Prof.& Head | Assoc Prof | Asst Prof | Prof.& Head | Assoc Prof | Asst. Prof | |
| 1. | Veterinary Epidemiology and Preventive Medicine | 1 | 2 | 7 | - | 1 | 2 | 1 | 1 | 5 | |
| 2. | Anatomy | 1 | 3 | 6 | - | 3 | 4 | 1 | - | 2 | Out of 4 one on long leave and two on study leave. |
| 3. | Bio-Chemistry | - | - | - | - | 1 | 1 | | - | - | Transferr-ed post. |
| 4. | Physiology | 1 | 3 | 4 | - | 2 | 2 | 1 | 1 | 2 | One post is shifted to Bio - chemistry |
| 5. | Livestock Production Management | 1 | 2 | 4 | 1 | 2 | 1 | 1 | - | 3 | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6. | Extension | 1 | 1 | 4 | - | - | 3 | 1 | 1 | 1 | |
| 7. | Animal Breeding & Genetics | 1 | 2 | 3 | - | 0 | 2 | 2 | 1 | 1 | |
| | CASAG | 1 | 1 | 2 | 1 | 1 | - | - | - | 2 | |
| 8. | Statistics | 1 | 1 | 4 | - | - | 4 | 1 | 1 | - | One Asst. Prof is at working arrange-ment at RARS Pattambi. |
| 9. | Parasitology | 1 | 4 | 4 | - | 1 | 2 | 1 | 3 | 2 | |
| 10. | Pathology | 4 | 3 | 6 | 3 | 1 | 1 | 1 | 2 | 5 | |
| 11. | Microbiology | 2 | 2 | 5 | - | 2 | 4 | 2 | - | 1 | Dr. M. Anil & Dr. S. Mathew are on long leave. |
| 12. | Pharmacology & Toxicology | 1 | 4 | 6 | 0 | 6 | 1 | - | - | 5 | |
| 13. | Animal Reproduction | 3 | 5 | 12 | - | 2 | 3 | 3 | 3 | 9 | |
| 14. | Surgery | 2 | 4 | 6 | - | 2 | 1 | 2 | 2 | 5 | Two Asst. Professors are on long leave and one Asst. Prof transferred to Kokkalai |
| 15. | Clinical Medicine | 2 | 2 | 5 | 1 | 1 | 3 | 1 | 1 | 2 | |
| 16. | Vety. Public Health | 1 | 2 | 6 | 1 | 0 | 2 | - | 2 | 4 | |
| 17. | Dairy Science | 1 | 3 | 4 | - | 2 | 2 | 1 | 2 | 2 | |
| | Dairy Plant | 1 | 2 | 3 | - | 1 | 2 | 1 | 1 | 1 | |
| 18. | Nutrition | 1 | 3 | 5 | 0 | 2 | 2 | 7 | 1 | 3 | |
| | ICAR Project | 1 | | | 1 | | | | | | |
| 19. | Livestock Products Technology | 1 | 2 | 1 | 1 | 2 | - | - | - | - | One Asst. Prof on working arrangement from VPH. |
| 20. | PoultryScience | 3 | 3 | 4 | 0 | 2 | 1 | 1 | 1 | 3 | |
| 21. | Vety. Hospital Mannuthy | - | - | - | - | - | - | - | - | - | |
| 22. | Vety. Hospital Kokkalai | - | 1 | - | - | 2 | 1 | - | - | - | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 23. | Research Co-ordination | 1 | - | - | 1 | - | - | - | - | - | |
| 24. | Instrumenta-tion Centre and Central Instruments Laboratory | - | 1 | - | - | 1 | - | - | - | - | |

***Administrative and Supporting Staff***

| Sl. No. | Name of Department | Designation & No. of post sanctioned | | Imposition | | Vacant | | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | Farm Asst. Sel. Grade | Class IV | Farm Asst. Sel. Grade | Class IV | Farm Asst. Sel. Grade | Class IV | |
| 1. | Veterinary Epidemiology and Preventive Medicine | 1 | 2 | 1 | 2 | - | - | |
| 2. | Anatomy | 1 | 1 | 1 | 1 | - | - | |
| 3. | Bio-Chemistry | - | - | - | - | - | - | |
| 4. | Physiology | 2 | 2 | - | 1 | 2 | 1 | |
| 5. | Livestock Production Management | 1 | 1 | 1 | - | - | 1 | |
| 6. | Extension | 1 | 2 | 1 | - | - | 2 | |
| 7. | Animal Breeding & Genetics | 7 | - | 6 | - | 1 | - | |
| 8. | Statistics | - | 1 | - | 1 | - | - | |
| 9. | Parasitology | 1 | 1 | 1 | 1 | - | - | |
| 10. | Pathology | 3 | 2 | 1 | 1 | 2 | 1 | |
| 11. | Microbiology | 1 | 2 | 1 | - | - | 2 | |
| 12. | Pharmacology & Toxicology | 1 | 1 | 1 | 1 | - | - | |
| 13. | Animal Reproduction | 4 | 2 | 3 | 2 | 1 | 1 | |
| 14. | Surgery | - | 2 | - | 1 | - | 1 | |
| 15. | Clinical Medicine | 1 | 1 | 1 | 1 | - | - | |
| 16. | Vety. Public Health | 1 | 1 | - | - | 1 | 1 | |
| 17. | Dairy Science | 1 | 3 | 1 | 1 | - | 2 | |
| | Dairy Plant | 1 | 1 | 1 | 1 | - | - | |
| 18. | Nutrition | 2 | 2 | 2 | - | - | 2 | |
| 19. | Livestock Products Technology | 1 | 2 | 1 | 1 | - | 1 | |
| 20. | Poultry Science | 1 | 1 | - | - | 1 | 1 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 21. | Vety. Hospital Mannuthy | - | - | - | - | - | - | |
| 22. | Vety. Hospital Kokkalai | 2 | 4 | 2 | 2 | - | 2 | |
| 23. | Instrumenta-tion Centre | - | 1 | - | 1 | - | 1 | |

***Technical Staff/Para Technical Staff***

| Designation | Sanctioned | In position | Vacant | Remarks |
|---|---|---|---|---|
| Farm Supervisor/Farm Assistant | 33 | 23 | 10 | |
| Lab Technician/ Technician | 6 | 5 | 2 | |
| Audiovisual operator | 2 | 2 | - | |
| Artist | 1 | 1 | - | |
| Driver | 3 | 3 | - | |
| Radiographer | 1 | 1 | - | |
| Office Superintendent | 2 | 2 | - | |
| Typist | 2 | 2 | - | |
| Programmer | 1 | 1 | - | |
| Technical Assistant | 1 | 1 | - | |
| Computer Operator | 1 | - | 1 | |
| Marker | 1 | 1 | - | |
| Steno | 1 | 1 | - | |
| Assistant | 4 | 3 | 1 | |
| Librarian | 1 | 1 | - | |
| Library Assistant | 2 | 2 | - | |
| Reference Assistant | 1 | - | 1 | |
| Class IV | 34 | 17 | 17 | |
| Fitter | 1 | - | 1 | |
| Permanent Labourer | 6 | 4 | 2 | |
| Electrician | 1 | - | 1 | |
| Animal Attendant | 2 | 2 | - | |
| Pharmacist | 1 | 1 | - | |
| Senior Section Officer | 2 | 2 | - | |
| Workshop attendant | 1 | 1 | - | |

## COLLEGE OF VETERINARY AND ANIMAL SCIENCES, POOKODE

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Scientific Staff* | | | | | |
| Special Officer | 1 | 1 | Dr.P.P.Balakrishnan | Nil | Nil |
| Assistant Professor | | | Dr.K.M.Lucy | | |
| | | | Dr.T.V.Aravindhakshan | | |
| | 13+1 | 5 | K.S.Anil | | Teaching Assts.on daily |
| | | | Dr.K.Karthaiayini | | wages are engaged in |
| | | | Dr.R.S.Jiji | | the vacant posts |
| *Administrative and supporting staff* | | | | | |
| Steno to Special Officer (Typist Sel. Gr.) | 1 | 1 | K.K.Parameswaran | Nil | |
| Assistant Gr.II | 1 | 1 | Brigit Kuruvilla | Nil | |
| Typist Gr.I | 1 | 1 | M.C.Devassy | Nil | upto25-3.02 to |
| Class IV | 1 | 1 | O.G.Mohanan | | 30.3.02 onwards Engaged on daily wages |
| *Technical Staff* | | | | | |
| Data Entry Operator | 1 | 1 | Shaju M.Balan | | Engaged on daily wages |
| LDV Driver | 1 | 1 | Reghunandhanan, P. | | - do- |

## COLLEGE OF DAIRY SCIENCE & TECHNOLOGY, MANNUTHY

| Dept. And designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| ***Scientific staff*** | | | | | |
| Special Officer | 1 | 1 | Dr. V. Prasad | - | |
| ***Administrative and supporting staff*** | | | | | |
| Admn.Asst./Sn. Officer | 1 | 1 | K.R. Santha | - | |
| Senior Grade Asst. | 1 | 1 | P.R. Murali | - | |
| Assistant Gr. II | 2 | 2 | Mohammed Shereef E.A. | | |
| | | | Manoj T.R. | - | |
| Sele. Grade Typist (Steno) | 1 | 1 | E.R. Vilalsini | - | |
| Class IV | 2 | | V. Mohammed | | 1 (Regular) 1 (daily wages) |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| ***Technical staff*** | | | | | |
| Driver | 1 | 1 | K.A. Basheer | - | |
| Data Entry Operator | 1 | | | - | 1 (daily wages) |
| Lab Assistant | 2 | 1 | Shibu Thimothy | - | |
| **New posts sanctioned/ created/shifted (at Kolahalamedu)** | | | | | |
| *Scientific staff* | | | | | |
| Asst. Professor, Dairy Science | 2 | | | 1 | 1 daily wages) |
| Asst. Prof., Agronomy | 1 | 1 | Nimmy Jose | - | |
| *Administrative and supporting staff* | | | | | |
| Assistant | 1 | 1 | K.C. Varghese | - | |
| Farm Asst./ Farm Supervisor (Agri) | 1 | 1 | T.V. Kuttichan | - | |
| Farm Asst./ Farm Supervisor (Vety.) | 2 | 2 | M.K.Rajendran Nair<br>Rajeev S | - | |

## COLLEGE OF FISHERIES, PANANGAD

| Dept. And designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| ***Scientific staff*** | | | | | |
| Dean | 1 | — | — | 1 | Vacant from 02.02.02 |
| Prof. (Fisheries Res.) | 1 | — | — | 1 | Vacant from 01.08.01 |
| **Dept. of Aquaculture** | | | | | |
| Professor | 1 | — | — | 1 | |
| Assoc Professor | 3 | 3 | Dr.Suseela Jose<br>Dr.Jayasree Vadhyar<br>Dr.C.Mohanakumaran Nair | — | |
| Assistant Professor | 7 | 6 | Dr.Thresiama James<br>Dr.C.Thankappan Pilla<br>Dr.M.V.Mohan<br>Aneykutty Joseph<br>Dr.S.Syama<br>Dr.Devika Pillai | 1 | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| **Dept. of Fishery Biology** | | | | | |
| Professor | 1 | — | — | — | |
| Associate Professor | 2 | 2 | Dr.K.V.Jayachandran<br>Dr.J.Rajasekharan Nair | | |
| Assistant Professor | 7 | 3 | Dr.T.M.Jose<br>Dr.T.V.Anna Mercy<br>Dr.K.G.Sunny | 4 | |
| **Dept. of Fish Processing Technology** | | | | | |
| Professor | 1 | — | — | 1 | |
| Assoc Professor | 1 | 1 | Dr.D.Damodaran-Nambudiri | — | Acting as Dean i/c from 02.02.02 |
| Assistant Professor | 7 | 5 | Dr.P.M.Sherief<br>Dr.M.C.George<br>Dr.Sajan George<br>S.Krishnakumar<br>Dr.Lizy Behanan | 2 | |
| **Dept. of Fishery Hydrography** | | | | | |
| Assoc Professor | 2 | 2 | Dr.K.Kerala Varma<br>Dr.C.J.Cherian | — | |
| Assistant Professor | 5 | 2 | P.S.Mrithunjayan<br>N.N.Raman | 3 | |
| **Dept. of Fishery Engineering** | | | | | |
| Assoc Professor | 1 | — | — | 1 | |
| Assistant Professor | 2 | 1 | George Mathew | 1 | |
| **Dept. of Management Studies** | | | | | |
| Associate Professor | 1 | 1 | T.M.Sankaran | — | |
| Assistant Professor | 7 | 7 | Dr.M.S.Raju<br>Dr.K.M.Mathew<br>Dr.V. Ambilikumar<br>Alphy Korath<br>V. Malika<br>Dr.T.I.Manoj<br>Daisy C.Kappan | — | |
| **Dept. of Fishing Technology** | | | | | |
| Assoc Professor | 1 | 1 | — | 1 | |
| Assistant Professor | 2 | 1 | Dr.B.Manoj Kumar | 1 | |
| ***Administrative and Supporting Staff*** | | | | | |
| Administrative Officer | 1 | 1 | T.V.Rajasekharan Nair | — | |
| Section Officers | 3 | 3 | K.Vinaya Bai<br>M.S.Zulaika Beebi<br>K.M.Vincent Pereira<br>P.G.Sreekanta Pai | | from 01.04.01 to 31.12.01<br>from 05.01.02 to 31.03.02 |
| Assistants | 10 | 10 | M.D.Kunjamma<br>C.S.Baburaj<br>A.S.George<br>K.P.Sajan | — | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Assistants | | | Piusa Felix<br>B.Anujan<br>P.R.Sreekumar<br>K.S.Anitha<br>M.Nazeerkhan<br>Elizabeth L.Edward | | |
| Section Officers (FC&D) | 3 | 3 | M.I.Balamani<br>R.Sarada Devi<br>K.T.Thanka | — | |
| Typists/Office Supdts. | 4 | 4 | H.K.Khadeeja Beevi<br>T.K.Ponnamma<br>K.M.Retnamma<br>V.Vijayan | — | |
| Class IV : Peon : 5<br>Full Time Sweeper : 2 | 7 | 5 | K.N.Sasikumar<br>T.K.Abdul Majeed<br>K.M.Khadeeja<br>P.B.Nabeesa<br>E.Leelamani | 2 | |
| ***Technical Staff*** | | | | | |
| Assistant Librarian | 1 | — | — | 1 | |
| Reference Asst./Lib. Asst. | 2 | 2 | V.S.Kunjumuhammed<br>Sebastian Dominic | — | |
| Junior Programmer | 1 | — | — | 1 | |
| Skipper Gr. II | 1 | — | T.R.Ravindran | — | |
| Lab Asst. Gr.II | 2 | 2 | V.R.Lates<br>P.Madhavankutty | | |
| Lab Asst. Gr.III | 4 | — | P.P.Pushpakaran | — | |
| Clerical Asst. | 1 | — | A.N.Reghu<br>John Mendez<br>M.A.Sebastian<br>T.K.Kunjumon | — | |
| HDV Driver | 1 | 1 | P.Moideen | | |
| LDV Driver | 3 | 2 | A.M.Abdulkhader<br>L.Vasudevan | 1 | |
| Bus Attendant | 1 | — | — | 1 | |
| Fieldman (Fisheries) | 2 | 2 | V.Balakrishnan<br>N.Chakrapani | | |
| Fishermen | 5 | 1 | P.J.Kunjappan | 4 | |
| Technician | 1 | 1 | K.P.Sreedharan Nair | — | |
| Dupicator Machine Oper. | 1 | 1 | K.Rajendra Babu Pillai | — | |
| Pump Operator | 1 | 1 | E.Parameswaran Nair | — | |
| Senior Farm Supervisor | 1 | 1 | P.Jayamany | — | |
| Farm Assistant/F.S. Gr.II | 2 | 2 | M.C.Sachidanandan<br>P.N.Sadasivan | — | |
| Hostel Manager | 1 | — | — | 1 | |
| Engineer i/c | 1 | 1 | V.C.Sivarajan | — | |
| Deck Hand | 3 | 3 | K.P.Ponnappan<br>K.B.Karthikeyan<br>P.K.Benny | — | |
| Matron | 1 | 1 | T.P.Santhamma | — | |

## COLLEGE OF AGRICULTURAL ENGINEERING & TECHNOLOGY, TAVANUR

| Dept. And designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Scientific Staff* | | | | | |
| Dean | 1 | 1 | Dr. K. John Thomas | 0 | |
| **Dept. of LWRCE:** | | | | | |
| Professor | 1 | 0 | | 1 | |
| Assoc. Professor | 2 | 1 | *Smt. P. Suseela | 1 | Asst. Prof. Working against the post of |
| Asst. Professor | 5 | 4 | | 1 | Assoc. Prof. |
| | | | Rema K.P. | | |
| | | | Renukakumari,J. | | |
| | | | *Kurien E.K. | | |
| | | | Sathian, K.K. | | |
| **Dept. of IDE:** | | | | | |
| Professor | 1 | 0 | | 1 | |
| Assoc. Professor | 2 | 0 | | 2 | |
| Asst. Professor | 5 | 4 | *Mary Regina, F. | | |
| | | | Shyla Joseph | | |
| | | | Alexander Seth | | |
| | | | Abdul Hakkim,V.M. | | |
| **Dept. of PHT & AP:** | | | | | |
| Professor | 1 | 0 | | | |
| Assoc. Professor | 2 | 2 | Dr. V. Ganesan | 1 | |
| | | | Dr.Santhi Mary Mathew | | |
| Asst. Professor | 3 | 2 | Prince, M.V. | 1 | |
| | | | Dr. K.P. Sudheer | | |
| **Dept. of FPME:** | | | | | |
| Professor | 2 | 1 | Prof.C.P. Muhammad | 1 | |
| Assoc. Professor | 3 | 0 | *Jayan, P.R. | 3 | Asst. Profs. working against the post of |
| | | | *Joby Bastian | | |
| Asst. Professor | 8 | 7 | Manoj Mathew | 1 | Assoc. Prof. |
| | | | Geetha Susan Philip | | |
| | | | Dr.V.R.Ramachandran | | |
| | | | Sureshkumar P.K. | | |
| | | | Dr. Shaji James | | |
| **Dept. of SAC:** | | | | | |
| *Mathematics* | | | | | |
| Professor | 1 | 1 | Dr. K. I. Koshy | 0 | |
| Asst. Professor | 2 | 2 | V. P. Lakshmikutty | 0 | |
| | | | Dr. V. Anilkumar | | |
| *Agronomy* | | | | | |
| Professor | 1 | 0 | | 1 | |
| Assoc. Professor | 1 | 1 | Dr.P.V.Habeeburrahman | 0 | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| *Agrl. Chemistry* | | | | | |
| Assoc. Professor | 1 | 1 | Dr. P. C. Antony | | LWA for 5 years |
| *Chemistry* | | | | | |
| Asst. Professor | 1 | 0 | | 1 | |
| *Physics* | | | | | |
| Assoc. Professor | 1 | 0 | | 1 | |
| Asst. Professor | 1 | 1 | Dr. K.M. Valsamma | 0 | On suspension w.e.f. 1-1-02 |
| *Plant Physiology* | | | | | |
| Asst. Professor | 1 | 0 | | 1 | |
| *Computer Science* | | | | | |
| Asst. Professor | 1 | 0 | | 1 | |
| Asst. Professor (Farms) | 1 | 0 | | 1 | |
| Asst. Prof. (Pharmaco.) | 1 | 0 | | 1 | |
| Asst. Prof. (P.E.) | 1 | 1 | M.Velayudhan Kutty | 0 | |
| Asst. Prof. (Poultry Sci.) | 1 | 0 | | 1 | |
| Asst. Prof. (Ani.Br. & Gen.) | 1 | 1 | *Dr. K.A. Bindu | 0 | |
| Asst. Prof. (Civil Engg) | 1 | 1 | Sasikala, D. | 0 | |
| Asst. Prof. (Ele. Engg.) | 1 | 0 | | 1 | |
| Asst. Prof (Mech Engg) | 2 | 1 | Hamza Mollakkadavath | 1 | LWA |
| **R&D of FIM:** | | | | | |
| Assoc. Professor | 1 | 1 | Dr. M. Sivaswami | | |
| **Plasticulture Development Centre:** | | | | | |
| Assoc. Prof (Agrl. Engg.) | 1 | 0 | | 1 | |
| Asst. Professor (Hort.) | 1 | 0 | | 1 | |
| **AICRP – ERAS:** | | | | | |
| Assoc. Professor (FM) | 1 | 1 | Jippu Jacob | 0 | |
| Asst. Professor (FM&E) | 1 | 1 | Dr. Sathyajith Mathew | 0 | |
| **Instructional Farm:** | | | | | |
| Asst. Professor (Hort) | 1 | | | | Post shifted to COH vide ord.No.GA/C3/ 21761/99 dt.15-9-01 |
| **NARP: Phase I** | | | | | |
| Asst. Prof. (Agronomy) | 1 | 1 | Dr. Shalini Pillai | 0 | |
| Asst. Prof. (Agrl.Engg.) | 1 | 1 | Vishnu, B. | 0 | |
| * Asst. Professors working against the post of Assoc. Professor | | | | | |
| ***Administrative and Supporting Staff*** | | | | | |
| Administrative Officer | 1 | 1 | C.Assainar | - | |
| Section Officer | 4 | 4 | P. Janardanan<br>M. P. Balan<br>M. Radhakrishnan<br>Razia Beegum | | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Section Officer (FC&D) | 1 | 1 | Abdurahiman, K.P. | 0 | 1 |
| Assistants | 12 | 9 | M. Rajan | 3 | |
| | | | C. Gopi | | |
| | | | M. Muraleedharan | | |
| | | | Radha Gopan, P. | | |
| | | | K. Velayudhan | | |
| | | | Johnson, P.I. | | |
| | | | Shanavas Kuruniyan | | |
| | | | Suresh Babu, K. | | |
| | | | Sivaprasad, P. | | |
| Typists | 6 | 5 | **R.Balasubramanyan | | |
| | | | M. P. Damodaran | | |
| | | | V. M. Muraleedharan | | |
| | | | T. Kamalam | | |
| | | | Sakeer Hussain | | |
| | | | Karivadan | 1 | |
| Matron | 1 | 0 | | 1 | |
| Hostel Manager | 1 | 0 | | 1 | |
| Class IV | 15 | 10 | T. Gangadharan | 5 | |
| | | | C. Narayanan | | |
| | | | Moideenkutty, K.V. | | |
| | | | Arjunan Nadar, A. | | |
| | | | A. V. Dasan | | |
| | | | K. Parameswaran | | |
| | | | K. Abu | | |
| | | | P. Krishnan | | |
| | | | K. Prasanthkumar | | |
| | | | T. N. Balan | | Workshopmate |
| ***Technical Staff:*** | | | | | |
| Asst. Engineer (Mech). | 1 | 0 | | 1 | |
| Design Engineer | 1 | 0 | | 1 | |
| Junior Programmer | 1 | 0 | | 1 | |
| Reference Assistant | 1 | 1 | K.P. Sathian | 0 | |
| Technical Asst. (Library) | 1 | 1 | K. Harris | 0 | |
| Draftsman (Civil) | 1 | 0 | | 1 | |
| Draftsman (Mechanical) | 1 | 0 | | 1 | |
| Technical Supvr. Sr. Gr. | | | | | |
| -do- Gr.I | 5 | 2 | C. Velayudhan | 3 | |
| | | | K.T.Ramachandran | | |
| Trade Asst. (Electrical) | 3 | 1 | Surendran Pillai | 2 | |
| Pump Operator | 2 | 2 | A. P. Ayyappan | 0 | |
| | | | A. Kotha | | |
| Driver (LDV) | 3 | 3 | M. V. Ramachandran | | |
| | | | M. K. Narayanan | 0 | |
| | | | Abdul Majeed, P.P. | | |
| Technician | 15 | 7 | V. K. Asokan | 8 | |
| | | | K. Aravindan | | |
| | | | N. Narayanan | | |
| | | | K. V. Johny | | |
| | | | T. P. Ramakrishnan | | |
| | | | K. Sreekumar | | |
| | | | **M. K. Balakrishnan | | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Lab. Assistant | 6 | 6 | K. K. Subramanian<br>P. V. Kumaran<br>I. Jayaprakash<br>K. Abdurahiman<br>N. T. Lakshmy<br>T. Pankajam | 0 | |
| Farm Supervisor (Agri) | 2 | 2 | Saidalikutty, M.N.<br>K. Sethumadhavan | | |
| Farm Supervisor (Vety) | 1 | 1 | T. Venu | 0 | |
| Farm Assistant (Agri) | 4 | 4 | K. Muhammad<br>T. P. Aboobacker<br>Alikutty, C.P.<br>K. Pradeepkumar | 0 | |
| Farm Assistant (Vety) | 1 | 0 | | 1 | |
| Research Assistant | 1 | 0 | | 1 | |
| Gardener | 1 | 1 | Mammikutty, K. | 0 | |
| Dupl.Machine Operator | 1 | 1 | Kunhan, C. | 0 | |
| Audio Visual Operator | 1 | 0 | | 1 | |

* AICRP on R & D of FIM ** AICRP on ERAS

## K. A. U. SCHOOL, VELLANIKKARA

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| Headmaster | | | Abraham A.J. | | On leave for 5 years |
| Headmistress i/c | | | Thresiamma K.P. | | |
| Teacher Eng.Med. | | | Deborah Cyril | | |
| Teacher Eng.Med. | | | Latha Balaraman | | |
| Teacher Eng.Med. | | | Lilly A.J. | | |
| Teacher Eng.Med. | | | Indiradevi K.S. | | |
| UPSA Mal. | | | Magy T.J. | | |
| UPSA Mal. | | | Najeema Unnikkammu | | |
| UPSA Mal. | | | Leena K.S. | | |
| LPSA | | | Sasidharan V. | | |
| LPSA | | | Bhaskaran P.K. | | |
| LPSA | | | Alli.M.A. | | |
| LPSA | | | Mary M.V. | | |
| LPSA | | | Mallika M.K. | | |
| Teacher Music | | | Nasseera K. | | |
| Nursery School Asst. Mal | | | Devika P. | | |
| Nursery School Asst. Mal | | | Shylaja D.V. | | |
| Ayah | | | Sumithra K.R. | | |
| Ayah | | | Soudamini M. | | |
| Sweeper cum attendant | | | Parvathy M | | |
| Sweeper cum attendant | | | Janaky P.R. | | |
| Peon | | | Govindan C. | | |
| Assistant Gr.I | | | Balakrishnan K. | | |

| Dept. and designation | No. of posts | | | Remarks |
|---|---|---|---|---|
| | Sanct-ioned | In position | Vacant | |
| 1 | 2 | 3 | 4 | 5 |
| Headmaster | 1 | - | 1 | |
| Eng. Med. teacher | 7 | 5 | 2 | |
| UPSA Mal. | 3 | 3 | - | |
| UPSA Hindi | 1 | 1 | 1 | Filled through employment |
| UPSA Mal | 3 | 3 | | |
| UPSA | 5 | 5 | | |
| HAS | 7 | 7 | 7 | Filled through employment |
| HSA Hindi | 1 | 1 | 1 | Filled through employment |
| Music | 1 | 1 | | |
| Phy. Edn. | 1 | 1 | 1 | Filled through employment |
| Drawing | 1 | 1 | 1 | Filled through employment |
| Nursery School Asst. Mal | 2 | 2 | 2 | Filled through employment |
| Nursery School Asst. Eng. | 2 | 0 | | |
| Ayah | 4 | 2 | 2 | |
| Peon | 1 | 1 | - | |
| Sweeper cum attendant | 2 | 2 | - | |
| Assistant | 1 | 1 | - | |

## NARP (SOUTHERN REGION), VELLAYANI

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Scientific staff* | | | | | |
| **NARP Phase I** | | | | | |
| Assoc. Director | 1 | 1 | Dr. R. Vikraman Nair | | |
| Assoc.Professor | 3 | 2 | Dr. P. Saraswathi (Prof.) | | Agrl. Stat |
| | | | Dr.K.M.Abdul Khader | | P.B.&Gen. |
| | | | Vacant (SS & AC) | 1 | from 2-3-02 |
| Asst. Professor | 9 | 8 | Susan Thomas | | Comp. Sci. |
| | | | Dr. P. Manju (Assoc.Prof.) | | P.B.& Gen. |
| | | | Dr. Sudharmai Devi (Assoc.Prof.) | | SS&AC |
| | | | Dr.L.Rajamony (Assoc.Prof.) | | Olericulture |
| | | | Dr.I.Sreelathakumari | | Horticulture |
| | | | Dr.Arthur Jacob(Assoc.Prof.) | | Agrl.Entom. |
| | | | Dr. Hebsy Bai (Assoc.Prof.) | | Agrl.Entom. |
| | | | Dr. M.S.Hajilal (Assoc.Prof.) | | Agrl. Engg. |
| | | | Vacant (Agrl. Extension) | 1 | Agrl. Ext. |
| **AICRP on Forage Crops** | | | | | |
| Assoc. Professor | 1 | 1 | Dr. D.I. Suma Bai | | P.B.& Gen. |
| Asst. Professor | 1 | 1 | Dr. S. Lekshmi | | Agronomy |
| **AICRP on Nematode Pests** | | | | | |
| Assoc. Professor | 1 | 1 | Dr. M.S. Sheela | | Agrl.Entom |
| Asst. Professor | 2 | 2 | Dr. T. Jiji | | Agrl.Entom |
| | | | K.D. Prathapan | | Agrl.Entom |
| **AICRP on Pesticide Residues** | | | | | |
| Assoc. Professor | 1 | 1 | Dr. S. Naseema Beevi | | Agrl.Entom. |
| Asst. Professor | 1 | 1 | Dr. Thomas Biju Mathew | | Agrl.Entom. |
| **AICRP on Honey Bee** | | | | | |
| Assoc. Professor | 1 | 1 | Dr. S. Devanesan | | Agrl.Entom |
| Asst. Professor | 3 | 3 | K. S. Premila | | Agrl.Entom |
| Dr. M.H. Faizal | | | | | Agrl.Entom. |
| Dr. N. Anitha | | | | | Agrl.Entom. |
| **AICRP on Soil Tillage** | | | | | |
| Asst. Physicist | 1 | 1 | Dr. P.B. Usha | | SS&AC |
| **DST Project on AAS** | | | | | |
| Technical Officer | 1 | 1 | L. Girija devi | | Agronomy |
| **AICRP on Mushroom** | | | | | |
| Asst.Professor | 1 | 1 | Dr. K.S. Meenakumari | | Pl. Pathology |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| *Admn. and supporting staff* | | | | | |
| **NARP Phase I** | | | | | |
| Admn. Officer | 1 | 1 | M.N. Sreedevi | | |
| Section Officer | 2 | 2 | V. Leela | | |
| | | | S.Viswakumaran Nair | | |
| Section Officer (FC&D) | 1 | 1 | C. Rajendran Nair | | |
| Typist Gr.I (Steno) | 1 | 1 | B. Sukumari Amma | | |
| Typist Grade I | 2 | 2 | S.Raghavan(Off.Supdt) | | |
| | | | K. Gopikuttan Nair | | |
| Assistants | 6 | 6 | B. Sobhana (Sel.Gr.) | | |
| | | | B. Sulekha (Sr. Gr.) | | |
| | | | A. Georgekutty (Sr.Gr.) | | |
| | | | T.S. Saritha,. (Gr. I) | | |
| | | | C. Jayakumari, (Gr. I) | | |
| | | | S. Sreedevi (Gr.I) | | |
| Driver (LDV) Grade II | 3 | 3 | P.S.Vijayakumaran Nair | | |
| | | | M. Xavier | | |
| | | | V.P. Madhukumar | | |
| Photographer | 1 | 1 | A. Sulaimankutty | | |
| Duplicating Machine Operator | 1 | 1 | P. Kesavan Nair | | |
| Class IV | 2 | 2 | M. Nagappan | | |
| | | | S. Manikantan | | |
| **Plan Scheme – Information Base** | | | | | |
| Technical Asst. (Computer) | 1 | 1 | P. Sreekumar | | |
| **AICRP (Forage Crops)** | | | | | |
| Assistant Gr. II | 1 | 1 | K. Indirakumari | | |
| Typist Grade II | 1 | 1 | L. Sobhanakumari | | |
| **AICRP (Soil Tillage)** | | | | | |
| Peon | 1 | 1 | M. Anilkumar | | |
| *Technical staff* | | | | | |
| **NARP Phase I** | | | | | |
| Farm Supervisor | 1 | 1 | D. Sulochanan | | |
| Farm Asst.(Agri.)Gr.I | 1 | 1 | Jones Charles | | |
| Lab. Asst. Gr. I | 1 | 1 | S. Indirakumari | | |
| **AICRP (Forage Crops)** | | | | | |
| Farm Asst.(Agri.) | 3 | 3 | David Dharmakumar | | |
| | | | K. Justin | | |
| | | | K.S. Sajeev | | |
| Technical Asst. | 1 | 1 | Krishnakumar | | |
| Lab. Asst. Gr. II | 1 | 1 | C. Gopalakrishnan | | |
| **AICRP (Nematode Pests)** | | | | | |
| Farm Asst.(Agri.)Gr.II | 1 | 1 | K. V. Valsan | | |
| Lab. Asst. Gr. III | 1 | 1 | S. Sanilkumar | | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| **AICRP (Pesticide Residue)** | | | | | |
| Lab. Asst. Gr. III | 1 | 1 | R. Raveendran Nair | | |
| **AICRP on Honey Bees** | | | | | |
| Farm Asst.(Agri.) Gr.I | 1 | 1 | C.S. Vijayakumar | | |
| Lab. Asst. Grade II | 1 | 1 | S. Santha | | |
| **AICRP on Soil Tillage** | | | | | |
| Lab. Asst. Grade III | 1 | 1 | K. Prasannakumari | | |

## INSTRUCTIONAL FARM, VELLAYANI

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| ***Scientific staff*** | | | | | |
| Assoc. Prof. & Head | 1 | 1 | Dr.K.Harikrishnan Nair | Nil | |
| Assistant Professor | 5 | 4 | Dr.M.Suharban (Assoc.Prof.) | 1 | |
| | | | Dr.M.Vijayan (Assoc. Prof.) | | |
| | | | Dr.D.Geetha (Assoc. Prof) | | |
| | | | Dr. A.S. Anilkumar | | |
| Associate Professor | | | Dr. M.S. Hajilal | | On working arrangement) |
| | | | S.M. Shahul Hameed | | On working arrangement |
| Farm Assistants | | | S.R. Sharu | | On daily wages |
| | | | R.S. Remya | | |
| *Admn. and Supporting Staff* | | | | | |
| Administrative Officer Gr II | 1 | 1 | G.Joice | Nil | |
| Section Officer | 2 | 2 | Fathima Malar | | |
| | | | Reghupathy Chettiar | Nil | |
| Assistants | 7 | 6 | N.Indira Devi (Sel.Gr.Asst.) | 1 | |
| | | | P.L.George „ | | |
| | | | T.C.Latha (Sr.Gr.Asst) | | |
| | | | K.Sudharma „ | | |
| | | | K.Balachandran Nair (HG) | | |
| | | | Sobhana (Asst Gr. I ) | | |
| Typist | 2 | 2 | S.Majida Beevi (Offi. Supdt.) | | |
| | | | P.Aswathy, Typist Gr II | Nil | |
| Watchman | 2 | 2 | A. Santhosh Kumar | | |
| | | | M. Suresh | Nil | |
| Peon | 1 | 1 | G. Nagappan | Nil | |
| LDV Driver | 2 | 2 | R. Gopalakrishnan | Nil | |
| | | | S.Anilkumar | | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| *Technical staff* | | | | | |
| Tech. Supervisor Gr I | 1 | 1 | N. Sambasivan Nair | Nil | |
| Senior Farm Supervisor | 1 | 1 | M. V.Raveendran (upto 19.12.01) | | |
| Farm Supervisor Gr.I | 2 | 2 | G.Raveendran Assari from 20.12.01 | | |
| | | | S.R.Rajeevan | Nil | |
| Farm Assistants | 7 | 2 | M.S.Krishna Kumar(Sr.Gr.) | 5 | |
| | | | A.S.Harish Kumar (Sr.Gr.) | | |
| | | | I. Gershan (Sr.Gr.) upto 5.10.01 | | |
| | | | C.S.Vijayakumar (Sl. Gr.) | | On working arrangement |
| | | | Johnes Charles | | On working arrangement |
| Establishment Farm Worker | 21 | 11 | R.Vijayan | 10 | |
| | | | A.Thajudeen | | |
| | | | B.Kamalasana Panicker | | |
| | | | M.Natarajan | | |
| | | | R.K.Sanal Kumar | | |
| | | | S.Asokan | | |
| | | | J.Roby | | |
| | | | P.Anilkumar | | |
| | | | R.Sadasivan | | |
| | | | S.Suresh Kumar | | |
| | | | S.Usha Kumari | | |

## CROPPING SYSTEMS RESEARCH CENTRE, KARAMANA

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Scientific staff* | | | | | |
| Professor (Agro.) | 1 | 1 | | – | Assoc.Prof. i/c |
| Asst. Prof. (Stat.) | 1 | 1 | | – | Assoc.Prof. i/c. |
| Asst.Prof. (SS & AC) | 1 | 1 | | – | |
| Asst. Prof. (Pl. Path.) | 1 | 1 | | – | Assoc.Prof. i/c |
| *Admn.and Supporting staff* | | | | | |
| Administrative Asst. | 1 | 1 | | – | |
| Senior Gr. Assistant | 1 | 1 | | – | |
| Typist | 1 | 1 | | – | |
| Messenger (Class IV) | 1 | 1 | | – | |
| Part-time sweeper | 1 | 1 | | – | |
| *Technical staff* | | | | | |
| Farm Asst. (Sr.Gr) | 2 | 1 | | – | (One F.A. working on daily wage basis) |
| Lab Assistant (Gr.III) | 1 | 1 | | – | |

## COCONUT RESEARCH STATION, BALARAMAPURAM

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| **Agronomy** | | | | | |
| Assoc. Prof. and Head | 1 | 1 | Dr.N.Purushothaman Nair | Nil | |
| Asst. Professor | 1 | 1 | Dr.K.Viswambharan | Nil | Assoc.Prof. |
| **Plant Pathology** | | | | | |
| Assistant Professor | 1 | 1 | Dr.Annamma George | Nil | Assoc.Prof. |
| *Admn. and Supporting Staff* | | | | | |
| Administative Asst. | 1 | 1 | S.Vallinayakom Pillai | Nil | |
| Assistant | 2 | 2 | Catherine Mercy | | |
| | | | G.Sivakumari | Nil | |
| Typist | 1 | 1 | T.Santha | Nil | |
| Peon | 2 | 1 | K.Mohanan | 1 | |
| Watchman | 1 | 1 | J.Soman | Nil | |
| *Technical Staff* | | | | | |
| Farm Supervisor | 1 | Nil | | 1 | |
| Farm Assistants | 2 | 1 | L.Mohandas | 1 | |

## FARMING SYSTEMS RESEARCH STATION, SADANANDAPURAM

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Scientific staff* | | | | | |
| Assoc. Professor (Hort.) | 1 | 1 | Dr. V. L. Sheela | | On working arrangement at CoA, Vellayani |
| Assoc. Prof. (Soil Science) | 1 | 1 | Dr. R. S. Shehana | | |
| Asst. Prof. (Plant Path.) | 1 | 1 | Kunjamma P. Mathew | | On working arrangement at SCRS,Konni |
| Asst. Prof. (Agrl. Engg.) | 2 | 3 | Dr. Noble Abraham | | |
| | | | Bini Sam | | |
| | | | Jayasree G. S. | | On working arrangement at SCRS, Konni on study leave |
| Asst. Prof. (Agri. Econ.) | 1 | 1 | Dr. S. Regeena | | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Asst. Prof. (Agronomy) | 1 | 0 | | 1 | |
| Asst. Prof. (Entomology) | 1 | 0 | | 1 | |
| Asst. Prof. (Animal Mgt.) | 1 | 1 | Dr. M.O. Kurien | | |
| *Admn. and Supporting Staff* | | | | | |
| Administrative Assistant | 1 | 1 | C. Chandrikakumari | | |
| Assistant Gr. I | 2 | 3 | D. Suprabha<br>T. F. Ignatius<br>M. S. Noble | | On working arrangement from CoA, Vellayani |
| Typist Gr. II | 1 | 1 | Bhamini Amma | | |
| Class IV | 1 | 0 | | 1 | |
| Peon | 1 | 0 | | 1 | |
| *Technical Staff* | | | | | |
| Technician Gr. I | 1 | 1 | A. Raju | | |
| Lab Assistant | 1 | 0 | | 1 | |
| Farm Asst (Agri) Gr. I | 3 | 3 | D . Vigrahanathan<br>S. Naseema<br>P.G. Ajayakumar | | |
| Farm Asst (Vety.) Gr. II | 1 | 1 | P. Valsalakumari | | |

## SOIL CONSERVATION RESEARCH STATION, KONNI

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc. Professor and Head | 1 | 1 | Kunjamma P. Mathew | | |
| Asst. Professor (Ag. Engg.) | 1 | 1 | K. R. Anil | | Principal Investigator, Collaborative Project on Coir geotextiles |
| Asst. Professor (Sel. Gr.) | 1 | 1 | Dr. Noble Abraham | | On working arrangement |
| *Admn. and Supporting staff* | | | | | |
| Section Officer | 1 | 1 | Jeslet Mercey | | |
| Sr. Gr. Assistant | 1 | 1 | N. K. Valsala | | |
| Assistant Gr. I | 2 | 2 | T. F. Ignatius<br>S. Anitha | | |
| Sr. Gr. Typist | 1 | 1 | S. Kaladevi | | |
| LDV Driver | 1 | 1 | C.C. Chacko | | |
| *Technical staff* | | | | | |
| Farm Supervisor Gr. II | 2 | 2 | G. Shaji<br>E. N. Raveendran Nair | | |
| Farm Supervisor Sr. Gr. | 1 | 1 | Haridas | | |
| Farm Assistant Sr. Gr. | 1 | 1 | M. Rajendran | | |

## REGIONAL AGRICULTURAL RESEARCH STATION, PATTAMBI

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Scientific staff* | | | | | |
| Assoc. Prof. (Pl. Breeding) | 2 | – | | 2 | |
| Asst. Prof. (Agronomy) | 2 | 1 | Gracy Mathew | 1 | |
| Asst. Prof. (Pl. Path.) | 2 | – | | 2 | |
| Asst. Prof. (Pl. Phy.) | 1 | | | 1 | |
| Asst. Prof. (Agrl. Extn.) | 1 | 1 | Helen S. | – | |
| **NARP Phase I** | | | | | |
| Prof. (Soil Sci. & Chem.) | 1 | | | | |
| Prof. (Pl.Breeding & Gen.) | 1 | | | | |
| Assoc. Prof. (Agronomy) | 2 | | | | |
| Assoc. Prof. (Agrl. Engg.) | 1 | | | | |
| Assoc. Prof. (Agrl. Econ.) | 1 | | | | |
| Asst. Prof. (Agrl. Engg.) | 1 | | | 1 | |
| Asst. Prof. (Agrl. Econ.) | 1 | 1 | A. Prema | | |
| Asst. Prof. (Agrl. Extn.) | 1 | 1 | B. Shanmughasundaram | | |
| Asst. Prof. (Biochemistry) | 1 | 1 | Dr. C. Beena | | |
| Asst. Prof. (Horticulture) | 1 | 1 | Dr. M.C. Narayanankutty | | |
| Asst. Prof. (Pl.Br. & Gen.) | 1 | 1 | | 1 | |
| Asst. Prof. (Entomology) | 1 | 1 | | 1 | |
| **NARP Phase I** | | | | | |
| Asst. Prof. (Horticulture) | 1 | 1 | Dr. M.L. Jyothi | | |
| Asst. Prof. (Agrl. Engg.) | 1 | 1 | P.E. Deepthi Susan | | |
| **NSP/BSP** | | | | | |
| Asst. Prof. (Pl.Br. & Gen.) | 1 | – | | 1 | |
| **AICRP on Arid Legumes** | | | | | |
| Assoc.Prof. (Pl.Br. & Gen.) | 1 | 1 | Dr. Sreenivasan | | Asst. Prof. |
| Assoc. Prof. (Agronomy) | 1 | 1 | S. Anitha | | Asst. Prof. |
| Asst. Prof. (Pl. Path.) | 1 | 1 | S.M. Purushothaman | | |
| **AICRP on Double Cropping** | | | | | |
| Assoc. Prof. (Agronomy) | 1 | 1 | Dr. P.V. Balachandran | | Assoc. Prof. i/c. of ADR |
| Assoc. Prof. (Entomology) | 1 | 1 | K. Karthikeyan | | |
| Assoc. Prof. (Pl. Path.) | 1 | 1 | P. Raji | | Asst. Prof. |
| Assoc.Prof. (Pl.Br. & Gen.) | 1 | – | | 1 | |
| Asst. Prof. (Pl.Br. & Gen.) | 2 | 2 | Gregory Zachariah<br>Dr. Rose Mary Francies | | |
| Asst. Prof. (Pl. Path.) | 1 | – | | 1 | |
| **AICRP on LTFE** | | | | | |
| Assoc. Prof. (Soil Sci. & Chem.) | 1 | 1 | Dr. Prabhakumari | | |
| Prof. & Chem.) | 1 | – | | 1 | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| *Admn. and supporting staff* | | | | | |
| **Non-Plan A.** | | | | | |
| Section Officer | 4 | 4 | K.P. Kalliani<br>C. Rajagopal<br>T. V. Ravindramohan<br>A. Ahamed | | |
| Assistant | 9 | 8 | G. Sudheer<br>P. M. Suresh<br>K. Surendran<br>M. S. Ramakrishnan<br>S. Bijuram<br>C.M. Ahmmed Abbas<br>P. Ramadas<br>P. N. Indu<br>B. Venugopal | | Deputed as PA to MLA |
| Office Supdt. | 1 | 1 | P. Nataraja Pillai | | |
| Typist | 2 | 2 | E. Gopinath<br>K. Krishnakumari | | |
| Peon | 3 | 3 | P. Kunjilakshmi<br>P. K. Aboo<br>N. Hamza | | |
| **Non-Plan B.** | | | | | |
| Sr. Farm Supervisor Gr. I | 1 | 1 | M. V. Ravindran | | |
| Farm Supervisor Gr.I | 3 | 1 | CPMA Azeez | 2 | |
| Farm Assistant | 5 | 2 | V. P. Ramakrishnan<br>C. Subramanian | 3 | |
| Lab Assistant | 5 | 2 | N. Saffiya<br>Mohandas | 3 | |
| Driver (HDV) | 1 | – | | 1 | |
| Technician | 1 | 1 | P. Surendran | | |
| Tractor Driver | 1 | – | | 1 | |
| Regular Mazdoor | 5 | 5 | M. Narayanan<br>A. Mohammedkutty<br>P. C. Koya<br>N. Rugmini | | Class IV |
| Class IV | 7 | 7 | K. C. Surya Bahadoor<br>Beg Bahadur<br>C. Ramakrishnan<br>M. P. Mohanan<br>N. P. Thankamoni<br>A. P. Yasoda<br>C. Mohammedkutty<br>C. Parukutty | | Class IV |
| Watchman | 2 | 2 | Vasunni<br>M. Mohammedshaji | | Class IV<br>Class IV |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| **AICRP on Longterm Fertilizer Experiments** | | | | | |
| Class IV | 1 | 1 | A. Unnikrishnan | | |
| **NARP 1** | | | | | |
| Sr. Admn. Officer | 1 | 1 | K. Rangaswami | | |
| Typist | 2 | 2 | V. Santhakumari<br>K. Vijayalakshmi | | |
| Dupli. Operator | 1 | 1 | T. Rugmini | | |
| Lab Asst. Gr. II | 1 | – | | 1 | |
| Tractor Driver | 1 | – | | 1 | |
| **NARP II (Non-plan)** | | | | | |
| F.S. (V) | 1 | 1 | K. V. Mohanan | | |
| Technician | 1 | 1 | E. Abdul Hakkim | | |
| Asst. Gr. II | 1 | 1 | P. V. Girija | | |
| **AICRIP** | | | | | |
| Farm Asst. Gr. II | 4 | 2 | P.K. Rajasekharan<br>M. V. Yusaf | 2 | |
| Tr. Jp. Driver Gr. II | 1 | 1 | M. V. Arumughan | | |
| Tr. Jeep Driver-I | 1 | 1 | K. Parameswaran | | |
| **Pulses AICRP on Gaur (Arid Legumes)** | | | | | |
| Farm Asst. Gr. II | 2 | 2 | K. Radhakrishnan<br>T. Velayudhan | | |
| Lab Asst. Gr. II | 1 | 1 | T. Ramakrishnan | | |
| **NSP-BSP** | | | | | |
| Tech. Assistant | 2 | 2 | Johny Varghese<br>Abdu Saboor | | |
| Fld/Lab Assistant | 1 | 1 | Suresh Babu | | |
| Driver | 1 | – | | 1 | |

## CASHEW RESEARCH STATION, ANAKKAYAM

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Scientific staff* | | | | | |
| **Plant. Br./Agro./Hort.** | | | | | |
| Professor & Head | 1 | – | | 1 | |
| **Statistics** | | | | | |
| Assoc. Professor | 1 | 1 | M. P. Abdurazak | – | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| **Horticulture** | | | | | |
| Asst. Professor | 1 | – | | 1 | |
| **Any discipline-Agro./Pl. Br./Ento./Path.** | | | | | |
| Asst. Professor | 1 | – | | 1 | |
| *Admn. and Supporting staff* | | | | | |
| Admn. Assistant | 1 | 1 | K. K. Satheesan | | |
| Assistant | 1 | 1 | B. Hareesh Babu | | |
| Typist | 1 | 1 | Abdul Raheeem Machingal | | |
| Peon | 1 | 1 | K. V. Balakrishnan | | |
| Class IV | 1 | 1 | K. P. Sobhana | | |
| *Technical staff* | | | | | |
| Farm Supervisor | 1 | 1 | K. Aboobacker | | |
| Farm Assistant | 1 | 1 | Sreenivasan Palasseri | | |
| Lab Assisitant | 1 | 1 | V. Ponnappan | | Upto 31-1-02 |
| Mali | 1 | – | | 1 | |

## AGRICULTURAL RESEARCH STATION, MANNUTHY

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc. Professor & Head | 1 | 1 | | Nil | |
| Assoc. Professor (Agron) | 1 | 1 | | Nil | |
| Asst. Professor (Hort) | 1 | 1 | | Nil | |
| Assoc. Professor (Plant Breeding) | 2 | 2 | | Nil | |
| *Admn. and Supporting staff* | | | | | |
| Administrative Asst. | 1 | 1 | | Nil | |
| Asst. Sr. Gr. | 1 | 0 | | 1 | |
| Asst. Gr. II | 1 | 1 | | Nil | |
| Selection Gr. Asst. | 1 | 1 | | Nil | |
| Typist Sel. Gr. (OS) | 1 | 1 | | Nil | |
| Peon | 2 | 2 | | Nil | |
| Jeep driver | 1 | 1 | | Nil | |
| Watchman | 2 | Nil | | 2 | |
| *Technical staff* | | | | | |
| Sr. Farm Supervisor | 1 | 1 | | Nil | |
| Farm Supervisor | 2 | 1 | | | One post shifted |
| Farm Assistant Sr. Gr. | 2 | 2 | | Nil | Nil |
| Lab Assistant | 1 | 1 | | Nil | Nil |
| Tractor Driver | 1 | Nil | | 1 | |
| Technician | 1 | 1 | | Nil | Nil |

## CASHEW RESEARCH STATION, MADAKKATHARA

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc. Professor (Agro.) | 1 | 1 | Dr. M. Abdul Salam<br>Dr. P.S. John | Nil<br>Nil | Upto 2-1-02<br>From 2-1-02 till date |
| Asst. Prof. (Ent.) | 1 | 1 | Dr. Susannamma Kurien | Nil | |
| Asst. Prof. (Pl. Breeding) | 1 | 1 | Dr. V.G. Jayaleshmy | Nil | |
| Sr. Tech. Asst. | 1 | 1 | Meagle Joseph | Nil | |
| *Admn. and Supporting staff* | | | | | |
| Asst. Gr. Seln. | 1 | 1 | K.M. Akberali | Nil | |
| Lab Asst. | 1 | 1 | P.A. Remani | Nil | |
| Class IV Employee | 1 | Nil | Nil | 1 | |
| Driver | 1 | 1 | P.I. Rappai | Nil | |
| *Technical staff* | | | | | |
| Farm Supervisor Gr. I | 1 | 1 | T. Ravindran | Nil | |
| Farm Assistant Sr. Gr. | 1 | 1 | K. G. Sathisan | Nil | |
| Tech. Asst. | 1 | 1 | V.V. Suresh | Nil | |
| Grafter | 1 | 1 | S. Sasi | Nil | |

## ALL INDIA CO-ORDINATED RESEARCH PROGRAMME ON WEED CONTROL, VELLANIKKARA

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| Assoc. Professor (Agro.) | 1 | 1 | Dr. C. T. Abraham | Nil | |
| Asst. Prof. (Soil Science & Agrl. Chemistry) | 1 | 1 | K. M. Durga Devi | Nil | |
| Asst. Professor (Plant Physiology) | 1 | 1 | Dr. T. Girija | Nil | |
| *Admn. and Supporting staff* | | | | | |
| Asst. Gr. I | 1 | 1 | K.D. James | Nil | |
| LDV Driver | 1 | 1 | M. P. Paul | Nil | |
| Class IV | 1 | 1 | A. N. Mohanan | Nil | |
| *Technical staff* | | | | | |
| Farm Asst. Gr. I | 1 | 1 | C. P. Nandakumar | Nil | |

## ALL INDIA CO-ORDINATED RESEARCH PROJECT ON BIOLOGICAL CONTROL OF CROP PEST AND WEEDS, VELLANIKKARA

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc. Professor (Ento.) | 2 | 2 | Dr. S. Pathummal Beevi<br>Dr. K. R. Lyla | – | |
| *Technical staff* | | | | | |
| Tech. Officer Gr. II | 1 | 1 | K. V. Dinesan | – | |
| Farm Asst. | 2 | 2 | A. X. George<br>K. K. Reghuraj | | |
| Driver | 1 | 1 | K. V. Kumaran | | |

## AGRONOMIC RESEARCH STATION, CHALAKKUDY

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Professor (Agronomy) | 1 | 1 | | – | Prof.(SS&AC) in position |
| Assoc. Prof. (Soil Physics) | 1 | 1 | | – | |
| (Agronomy) | 1 | 1 | | | Asst.Prof. (Agron.) in position |
| (Agrl. Engg.) | 1 | 1 | | – | |
| (Pl. Breeding) | 1 | – | | 1 | |
| Asst. Prof. (Agronomy) | 2 | 2 | | – | |
| (Soil Physics) | 1 | – | | 1 | |
| *Admn. and Supporting staff* | | | | | |
| Admn. Assistant | 1 | 1 | | – | |
| Assistant Gr. I | 1 | 1 | | – | |
| Assistant | 1 | 1 | | – | |
| Typist | 2 | 2 | | – | |
| Driver | 1 | 1 | | – | |
| Peon | 1 | 1 | | – | |
| Pump Operator | 1 | – | | 1 | |
| Ploughman/Class IV | 1 | 1 | | – | |
| *Para Technical* | | | | | |
| Farm Supervisor | 1 | 1 | | – | |
| Farm Assistant | 6 | 6 | | – | Two FS and 4 Farm Assts. in position |
| Lab Assistant | 2 | 1 | | 1 | |

## AROMATIC AND MEDICINAL PLANTS RESEARCH STATION, ODAKKALI, ASAMANNOOR POST, ERNAKULAM DIST.

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc. Prof. (Agronomy) | 1 | 1 | | – | |
| Assoc. Prof. (Entomology) | 1 | 1 | | – | |
| Assoc. Prof. (Agrl. Chem.) | 1 | 1 | | – | |
| Asst. Prof. (Agronomy) | 1 | 1 | | - | |
| *Admn. and Supporting staff* | | | | | |
| Administrative Asst. | 1 | 1 | | – | |
| Assistant Sr. Gr. | 2 | 2 | | – | |
| Typist Gr. I | 1 | 1 | | – | |
| Peon | 1 | 1 | | – | |
| Class IV | 2 | 1 | | 1 | |
| *Technical staff* | | | | | |
| Farm Supervisor Gr. I | 2 | 2 | | – | |
| Farm Supervisor Gr. II | 1 | 1 | | – | |
| Farm Assistant | 1 | 1 | | – | |
| Lab Asst. Graduate | 1 | – | | 1 | |
| Lab Asst. Non-graduate | 1 | – | | 1 | |
| Lab Asst. Gr. III | 1 | – | | 1 | |

## CROPPING SYSTEM RESEARCH SUB CENTRE, WADAKKUMCHERRY

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc. Prof. (Agro.) | 1 | 1 | Dr. I. Johnkutty | – | |
| Assoc. Prof. (Hort.) | 1 | 1 | Dr. K. P. Prasanna | – | |
| *Admn. and Supporting staff* | | | | | |
| Typist | 1 | 1 | P. A. Mumtaz | – | |
| LDV Driver | 1 | 1 | C. Balakrishnan | – | |
| Class IV | 1 | 1 | T.E. Adbul Muthaleaf | – | |
| *Technical staff* | | | | | |
| Technician | 1 | 1 | K. V. Natarajan | – | |
| Farm Supervisor | 3 | 3 | K. Mohammed Ali | – | |
| | | | K. Vijayanarayanan | – | |
| | | | S. Sukumaran Nair | – | Upto 28-6-01 |
| Farm Assistant | 3 | 3 | A. Sasidharan | – | 29-6-01 to till date |
| | | | N. R. Rajan | – | |
| | | | P. P. Philip | – | |

## PINEAPPLE RESEARCH STATION, VAZHAKKULAM

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Asst. Prof. (Pl. Breeding) | 1 | 1 | K. P. Kuriakose | – | Asst. Prof. Sln. Gr. in position |
| Asst. Prof. (Horticulture) | 1 | 1 | Dr. V. S. Devadas | – | Assoc. Prof. in position |

## BANANA RESEARCH STATION, KANNARA

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| **AICRP (TF)** | | | | | |
| Assoc. Prof. (Hort.) | 1 | 1 | Dr. Rema Menon | – | |
| Asst. Prof. (Hort.) | 1 | 1 | Dr. Suma A. | – | |
| Asst. Prof. (Pl. Path.) | 1 | 1 | Dr. Anitha Cherian K. | – | |
| Asst. Prof. (Ag. Ento.) | 1 | 1 | Sakunthala Nair | – | |
| **NARP** | | | | | |
| Assoc. Prof. (Hort.) | 1 | 1 | Dr. Sudha Devi P. K. | – | |
| Asst. Prof. (Agron.) | 1 | 1 | Sudheesh M. V. | – | |
| *Admn. and supporting staff* | | | | | |
| **AICRP (TF)** | | | | | |
| Typist Gr. II | 1 | 1 | P. K. Gayathri | – | |
| Peon | 1 | 1 | R.K.D.B. Singh | – | |
| Watchman | 2 | 2 | | – | |
| **KAU** | | | | | |
| Admn. Assistant | 1 | 1 | M. N. Chandrasekharan | – | |
| Assistant Gr. I | 2 | 2 | Viju A.P. | – | |
| | | | Devassy T. M. | – | |
| Driver Gr. II | 1 | 1 | Mathai Kurien | – | |
| Pump Operator | 1 | – | | 1 | |
| Peon | 1 | – | | 1 | |
| *Technical staff* | | | | | |
| **AICRP (TF)** | | | | | |
| Technical Assistant | 2 | 2 | Babu K. V. | – | |
| | | | Sunny K. M. | – | |
| Farm Assistant Gr. I | 3 | 3 | P. N. Bhashajan (Sln Gr.) | – | |
| | | | A. K. Vijayakumar | – | |
| | | | T. P. Gangadharan | – | |
| Lab Asst. Gr. II | 1 | – | | 1 | |
| Oil Engine Driver | 1 | – | | 1 | |
| Mali | 2 | 1 | P. Subhadra | 1 | |
| **KAU** | | | | | |
| Farm Supervisor | 1 | – | | 1 | |
| Farm Assistant Gr. I | 1 | 1 | P.C. Uthman (Sr. Gr.) | – | |
| **NARP** | | | | | |
| Farm Assistant Gr. II | 1 | 1 | Shaiju D. Ollekkat | – | |

## CADBURY–KAU CO-OPERATIVE COCOA RESEARCH PROJECT
## COLLEGE OF HORTICULTURE, VELLANIKKARA

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Professor & Head | 1 | 1 | Dr. V. K. Mallika | – | |
| Assoc. Professor | 3 | 3 | Dr. S. Prasannakumari amma<br>Dr. C. George Thomas<br>Dr. Koshy Abraham | – | From 1-9-01 |
| *Admn. and Supporting staff* | | | | | |
| Sr. Gr. Assistant | 1 | 1 | C. Kunjunny<br>K. K. Valsa | – | |
| Assistant Gr. I | 1 | 1 | A. Reghu | – | |
| Driver | 1 | 1 | K. M. Davy<br>K. S. Jeyan | – | |
| *Technical staff* | | | | | |
| Farm Supervisor Gr. I | 1 | 1 | C. B. Sugathan | – | |
| Farm Assistant Sr. Gr. | 1 | 1 | R. Jayanthy | – | |

## INSTRUCTIONAL FARM
## COLLEGE OF HORTICULTURE, VELLANIKKARA

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc.Professor | 1 | 1 | Dr. K. P. Pradeep | – | Asst.Prof.(SS) is posted against the post of Assoc. Prof. and holding charges of farm |
| Asst. Professor | 1 | – | M. Murugan | 1 | Deputed to higher studies |
| *Admn. and Supporting staff* | | | | | |
| Administrative Assistant | 1 | 1 | N. Vijaya Kumar | – | |
| Assistant Sr. Gr. | 1 | 1 | U. P. Davis | – | |
| Assistant Gr. I | 1 | 1 | V. I. Suresh Kumar | – | |
| Typist Sel. Gr. | 1 | 1 | R. Vijayan | – | |
| *Technical staff* | | | | | |
| Sr. Farm Supervisor (Ag.) | 1 | 1 | M. J. Kochappan | – | |
| Farm Supervisor Gr. I (Ag.) | 1 | 1 | K. Kesavan | – | |
| Farm Supervisor Gr. II (Ag.) | 1 | 1 | K.S. Thankappan | – | |
| Farm Assistant Sr. Gr. (Ag.) | 1 | 1 | C. Gireesan | – | |
| Technican Sel. Gr. | 1 | 1 | P. Balakrishnan | – | |

## AICRP (M & AP), VELLANIKKARA

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc.Prof. (Pl. Breeding) | 1 | 1 | Dr. Prasannakumari K.T. | – | |
| Asst. Prof. (Agronomy) | 1 | 1 | Dr. Meera V. Menon | – | |
| Asst. Prof. (Phytochemistry) | 1 | 1 | Dr. Augustin A. | – | |
| *Admn. and Supporting staff* | | | | | |
| Assistant | 1 | 1 | K. Mohanan | – | |
| Class IV | 3 | | | | Salary of 3 per. labourers met from this head |
| *Technical staff* | | | | | |
| Technical Assistant | 2 | 2 | M. T. Varghese<br>M. J. Joseph | – | |
| Field man | 1 | 1 | T. R. Radhakrishnan | – | |
| Lab Asst. | 1 | 1 | K. S. Chandrasekharan | – | |

## REGIONAL AGRICULTURAL RESEARCH STATION, PILICODE

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Scientific staff* | | | | | |
| **Non Plan** | | | | | |
| Assoc.Prof. (Pl. Path.) | 1 | – | | 1 | |
| Asst. Prof. (Pl. Path.) | 1 | – | | 1 | |
| Assoc.Prof. (Pl. Breeding) | 1 | – | | 1 | |
| Professor (Hort.) | 1 | – | | – | |
| Asst. Prof. (Hort.) | 1 | – | | – | |
| **Training Service Scheme** | | | | | |
| Asst. Prof. (Extension) | 1 | 1 | M. J. Mercykutty | – | On LWA for study purpose |
| **NARP Phase I** | | | | | |
| Assoc. Dir. of Research | 1 | 1 | K. P. Mammootty | – | Holding full addl. charge |
| Professor (Soil Sci. & Agrl. Chem.) | 1 | – | | 1 | |
| Assoc.Prof. (Pl. Path.) | 1 | – | Dr. M. Govindan | – | |
| Asst. Prof. (Pl. Path.) | 1 | – | Yamini Varma | – | |
| Assoc.Prof. (Agronomy) | 1 | – | | – | On LWA for study purpose |
| Asst. Prof. (Agronomy) | 1 | – | P. K. Jayasree | – | |
| Assoc. Prof. (Agrostology) | 1 | – | | 1 | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Assoc. Prof. (Pl. Physiology) | 1 | 1 | Dr. G.V. Sudarsana Rao | – | Asst. Prof. |
| Assoc. Prof. (Agrl. Engg.) | 1 | – | | 1 | |
| Assoc. Prof. (Agrl. Met.) | 1 | – | | 1 | |
| Assoc. Prof. (Agrl. Micro.) | 1 | – | | 1 | |
| Assoc. Prof. (Agrl. Stat.) | 1 | – | | 1 | |
| Assoc. Prof. (Agrl. Econ.) | 1 | – | | 1 | |
| Assoc. Prof. (Pl. Br. & Gen.) | 1 | – | | 1 | |
| Asst. Prof. (Agrl. Ento.) | 2 | 2 | Dr. Madhu Subramanian | – | |
| | | | Lily Levin | | On LWA for study purpose |
| **NARP Phase II** | | | | | |
| Assoc. Prof. (Agrl.Engg.) | 1 | – | | 1 | |
| Asst. Prof. (Animal Mgt.) | 1 | 1 | Dr. Sashikanth | – | |
| Asst.Professor (Soil Sci. & Agrl. Chem.) | 1 | – | | 1 | |
| Asst. Prof. (Agrl. Micro.) | 1 | – | | 1 | |
| **AICRP on Cashew** | | | | | |
| Asst. Prof. (Hort.) | 1 | 1 | Dr. B. Jayaprakash Naik | – | Assoc. Prof. |
| **Agromet Advisory Service (DST)** | | | | | |
| Asst. Prof. (Agronomy) | 1 | 1 | Dr. G. Rajasree | – | |
| *Admn. and supporting staff* | | | | | |
| Administrative Officer | 1 | 1 | N. K. Achuthan | – | |
| Section Officer | 2 | 2 | V. Narayanan | – | |
| | | | T. Lakshmikutty | | |
| Assistants | 4 | 4 | K. M. Joseph | – | |
| | | | P. J. Simon | | |
| | | | Sabu Joseph | | |
| | | | T. K. Dileep | | |
| Section Officer (FC&D) | 1 | 1 | P. Radha | – | |
| Typist | 4 | 2 | A. N. Malathy | 2 | |
| | | | V. Anitha | | |
| Class IV | 26 | 8 | T. Damodaran | 18 | |
| | | | P. Appukkuttan | | |
| | | | K. V. Narayanan | | |
| | | | K. V Kunhiraman | | |
| | | | P. Kariyambu | | |
| | | | P. Pokkan | | |
| | | | K. V. Ambu | | |
| | | | K. Ambady | | |
| Tractor Driver | 1 | – | | 1 | |
| *Technical staff* | | | | | |
| Farm Assistant (Agri.) | 11 | 9 | K. Rukmini Amma | 2 | |
| | | | K. A. Kurian | | |
| | | | K. K. Vijayakumar | | |
| | | | A. Ramakrishnan | | |
| | | | K. J. Joseph | | |
| | | | P. Rathish | | |
| | | | P. Ajithkumar | | |
| | | | T. V. Rajeevan | | |
| | | | K. C. Jayamon | | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Farm Assistant (Vety.) | 3 | 3 | V. Bhaskaran<br>K. Santhakumari<br>E. Samikutty | – | |
| Pump Operator | 2 | 1 | P. V. Mohanan | 1 | |
| Lab Asst. Gr. I & II | 1 | – | | – | |
| Lab Asst.Gr.III/Clerical Asst. | 5 | 2 | V. Narayanan<br>M. V. Radhakrishnan | 3 | |
| Technician | 1 | 1 | Stijo George | – | |
| Asst. Engineer (Agri.Engg) | 1 | – | | 1 | |
| Technical Asst. | 1 | 1 | P. Vijayakumaran | – | |
| Programmer | 1 | 1 | Tessy K. Thomas | – | |
| **Trainees Hostel** | | | | | |
| Class IV | 2 | – | | 2 | |
| Cook cum Caretaker | 1 | – | | 1 | |

## PEPPER RESEARCH STATION, PANNIYUR

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Scientific staff* | | | | | |
| **AICRP on Spices (ICAR)** | | | | | |
| Professor (Pl. Path.) | 1 | 1 | P. K. Unnikrishnan Nair | – | Vacant from 16-4-2002 |
| Asst. Prof. (Pl. Breeding) | 1 | 1 | Dr. V. P. Neema | – | |
| Asst. Prof. (Agronomy) | 1 | – | | 1 | |
| Asst. Prof. (Pl. Path.) | 1 | 1 | Dr. Sivakumar | – | |
| **KAU (Non-Plan)** | | | | | |
| Asst. Prof. (Botany, Agon.) | 2 | 1 | Dr. Vanaja | 1 | |
| *Admn. and supporting staff* | | | | | |
| **KAU (Non-Plan)** | | | | | |
| Administrative Asst. | 1 | 1 | Merly Sarojini | – | |
| Sr. Gr. Asst. | 1 | 1 | K. M. Joseph | – | |
| Asst. Gr. II | 1 | 1 | T. Mini | – | |
| Sel. Gr. Typist | 1 | 1 | K. Pushpavalli | – | |
| Hr. Gr. Peon | 3 | 1 | | 2 | On daily wages |
| LDV Driver | 1 | 1 | J. K. Justin | – | |
| **AICRP on Spices (ICAR)** | | | | | |
| Hr. Gr. Peon | 1 | 1 | K. Rajeev | – | |
| Pump Operator | 1 | 1 | T. V. Madhavan | – | |
| *Technical staff* | | | | | |
| **AICRP on Spices** | | | | | |
| Farm Assistant | 2 | 2 | M. V. Premarajan<br>P. Krishnan | – | |
| Lab Asst. | 1 | 1 | Nirmala Chellath | | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| **Integrated Programme for Development of Spices (OAEP)** | | | | | |
| Farm Assistant | 1 | 1 | K. Lakshmanan | – | |
| **KAU (Non-Plan)** | | | | | |
| Farm Supervisor Gr. II | 2 | 2 | P. J. Joseph<br>T. Muhammed Haneefa | – | |
| Farm Assistant Sr. Gr. | 2 | 2 | P. P. Muraleedharan<br>N. K. Muraleedharan | | |

## REGIONAL AGRICULTURAL RESEARCH STATION, AMBALAVAYAL

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Scientific staff* | | | | | |
| **NARP** | | | | | |
| Assoc.Director of Research | 1 | 1 | K. C. Aipe | 1 | Assoc. Prof. (Agronomy) officiating |
| Assoc. Prof. (Agron.) | 1 | – | | 1 | |
| Asst. Prof. (Pl. Br. & Gen. | 1 | – | | 1 | |
| Asst. Prof. (Agrl. Econ.) | 1 | 1 | Chitra Parayil | – | |
| Asst. Prof. (Hort.) | 1 | – | | 1 | |
| **NARP II** | | | | | |
| Assoc. Prof. (Hort.) | 1 | – | | 1 | |
| Assoc. Prof. (Ani. Mgt.) | 1 | – | | 1 | |
| Asst. Prof. (Hort.) | 1 | – | | 1 | |
| Asst. Prof. (Pl. Path.) | 1 | – | Dr. N. V. Radhakrishnan | 1 | |
| Asst.Prof.(Farm Machinery) | 1 | – | | 1 | |
| **KAU Non-Plan** | | | | | |
| Asst. Prof. (Pl. Path.) | 1 | – | | 1 | |
| Asst. Prof. (Microbiology) | 1 | – | | 1 | |
| Asst.Prof.(SS& Agrl.Chem.) | 1 | – | | 1 | |
| **AICRP on Spices** | | | | | |
| Assoc. Prof. (Pl. Breeding) | 1 | 1 | Susamma P. George | – | |
| **DST on AAS** | | | | | |
| Asst.Prof.(Agron./Agromet) | 1 | 1 | D. Sajith Babu | – | |
| *Admn. and Supporting staff* | | | | | |
| Administrative Officer | 1 | 1 | K. P. Rajendra Prasad | – | |
| Section Officer | 2 | 2 | P. Sulochana<br>Leelamma Augustine | – | |
| Assistant (NARP-I) | 5 | 4 | P. R. Ragesh | 1 | Under orders of transfer since May 2001 |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| | | | N. Raveendran | | On long leave to undergo major heart operation |
| - | | | C. J. Shaji<br>A. C. Sreedharan | } | Provisional |
| Stenographer (NARP-I) | 1 | 1 | | | On working arrangement at Fisheries Station, Puduvypu |
| Typist | 2 | 2 | A. Sudhakaran | – | One post NARP-I |
| | | | Laya Kuriakose | | Provisional |
| Class IV/Peon/ Regular Mazdoor | 13 | 13 | E. Alavi<br>P. Saidu<br>T. Saidlavi<br>E. Ayamu<br>E. Abu<br>A. T. Muhammed<br>K. Koya<br>K. S. Prema<br>K. K. Nabeesa<br>O. Asokan<br>K. P. Pradeep<br>K. P. Mukundan<br>K. Kuttan | – | |
| Class IV | 2 | 2 | M. Kunhikrishnan<br>P. Moideen | – | Working arrangement |
| Budder | 1 | 1 | K. Ramakrishnan | – | |
| Tractor Driver | 1 | 1 | M. Muhamedkutty | – | |
| Driver LDV (NARP) | 1 | – | | 1 | |
| *Technical staff* | | | | | |
| **NARP Phase I** | | | | | |
| Lab Assistant Gr. II | 1 | 1 | M. Vasu | – | |
| Farm Assistant | 2 | 2 | K. M. George<br>C. T. Jacob | – | On working arrangement |
| **NARP Phase II** | | | | | |
| Farm Asst. (Vety.) | 1 | 1 | K. R. Sasidharan | – | |
| Technician (Engn.) | 1 | 1 | K. Vasudevan | – | |
| **Non-Plan** | | | | | |
| Sr. Farm Supervisor/ Farm Asssitant | 8 | 5 | V. K. Kuamaran<br>P. Padmavathy<br>A. Imbichili<br>S. Prabhakaran<br>A. Abdul Rehiman | 3 | |
| Field Supervisor | 1 | 1 | K. Raghavan | – | |
| Lab Assistant | 2 | 2 | K. K. Velayudhan<br>C. C. Sajeevkumar | – | |
| **CSS on Spice** | | | | | |
| Farm Assistant (Agri.) | 1 | 1 | T. T. Jacob | – | |

## CARDAMOM RESEARCH STATION, PAMPADUMPARA

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| **AICRP on Spices** | | | | | |
| Assoc.Prof. (Agro./Hort.) | 1 | - | | 1 | |
| Asst. Prof. (Ento.) | 1 | 1 | Dr. A. Joseph Rajkumar | – | |
| **NARP** | | | | | |
| Asst. Prof (Extn.) | 1 | – | | 1 | |
| Asst. Prof. (Pl. Br.) | 1 | 1 | Dr. S. Backiyarani | – | |
| **KAU Non-plan** | | | | | |
| Asst. Prof. (Pl. Path.) | 1 | 1 | P. Sainamole Kurien | – | |
| Asst. Prof. Soil Sci.) | 1 | – | | 1 | |
| Asst. Prof. (Hort.) | 1 | – | | 1 | |
| Assoc. Prof. (Botany) | 1 | – | | 1 | |
| Assoc. Prof. (Ento.) | 1 | – | | 1 | Shifted from KHDP |
| *Admn. and supporting staff* | | | | | |
| **AICRP on Spices** | | | | | |
| Peon | 1 | 1 | Paulose Mathew | – | |
| **NARP** | | | | | |
| Typist Gr. II | 1 | – | | 1 | |
| Driver Gr. I | 1 | 1 | M. Ajikumar | – | |
| **KAU Non-plan** | | | | | |
| Administrative Asst. | 1 | 1 | Suma Varghese | – | |
| Asst. Sel. Gr. | 1 | 1 | A. K. Valsala | – | |
| Asst. Gr. II | 1 | – | | 1 | |
| Typist Gr. II | 1 | 1 | A. V. Thomas | – | |
| Driver Gr. II | 1 | – | | 1 | |
| Class IV | 3 | 2 | Radhamony<br>P. S. Satheesan | 1 | |
| Pump Operator | 1 | – | | 1 | |
| ***Technical staff*** | | | | | |
| **AICRP on Spices** | | | | | |
| Farm Asst. (sln. Gr.) | 1 | 1 | C. O. Pradeep | – | |
| Lab Asst. Gr. II | 1 | – | | 1 | |
| **NARP** | | | | | |
| Farm Supervisor Gr. II | 1 | 1 | V. P. Prasadu | – | |
| Farm Asst. (Sln. Gr.) | 1 | 1 | K. G. Mohandas | – | |
| **KAU Non-plan** | | | | | |
| Farm Supervisor Gr. II | 1 | – | | 1 | |
| Farm Asst. (Sln. Gr.) | 1 | – | | 1 | |

# REGIONAL AGRICULTURAL RESEARCH STATION, KUMARAKOM

*Scientific staff*

| Dept. and designation | No.of posts S | IP | Name of the incumbent | V | Remarks |
|---|---|---|---|---|---|
| *Associate Director/* Professor of Agronomy (upgraded) | 1 | - | | 1 | Professor (Ento.) holding charge |
| *Agronomy* Associate Professor (Root Wilt) | 1 | 1 | Dr. K. Geetha | - | Assistant Professor |
| Assistant Professor (Weed Sc.) | 1 | 1 | Sri K.C. Rajan | - | Associate Professor |
| Assistant Professor (Agronomy) | 1 | 1 | Sri N.K. Sashidharan | - | Associate Professor |
| *Soil Scienc & Agrl. Chemistry* Assistant Professor | 1 | - | -- | 1 | |
| *Biochemistry* Assistant Professor | 1 | - | -- | 1 | |
| *Extension* Associate Professor | 1 | - | -- | 1 | |
| *Agrl. Economics* Assistant Professor | 1 | 1 | Dr. K.J. Joseph | - | Associate Professor |
| *Horticulture* Assistant Professor | 1 | 1 | Dr. Joseph Philip | - | Associate Professor |
| *Entomology* Associate Professor | 1 | 1 | Dr. P.Joy | - | Professor holding charge of ADR post |
| *Pl. Pathology* Associate Professor | 1 | 1 | -- | 1 | |
| Assistant Professor (Microbiology) | 2 | 1 | Dr. A.V. Mathew | 1 | Associate Professor |
| *Pl. Breeding* Assistant Professor (Pl. Breeding) | 1 | 1 | Alice Antony | - | Associate Professor |
| Assistant Professor (Pl. Physiology) | 1 | 1 | K.A. Inasi | - | Assistant Professor |
| *Agrl. Engg.* Associate Professor | 1 | 1 | Subha Rani Kurien | - | Assistant Professor |
| Assistant Professor | 1 | 1 | Asha Joseph | - | Assistant Professor |
| *Agrl. Statistics* Assistant Professor | 1 | 1 | Mathew Sebastian | - | Assistant Professor |
| *Aquaculture* Assistant Professor | 2 | 2 | Dr. K.G. Padmakumar<br>Dr. Anuradha Krishnan | - | Associate Professor<br>Associate Professor |
| *Animal Reproduction* Assistant Professor | 1 | - | -- | 1 | |

S - Sanctioned; IP – In Position; V – Vacant

*Administrative and supporting staff*

| Name of post | No.of posts S | IP | Name of the incumbent | V | Remarks |
|---|---|---|---|---|---|
| Administrative Officer | 1 | 1 | P.M. Balakrishnan | - | |
| Section Officers | 2 | 2 | M.R. Ramachandran<br>C.N. Radhakrishnan | - | |

| | | | | | |
|---|---|---|---|---|---|
| Section Officer (FC&D) | 2 | 2 | K.K. Gopikuttan Nair<br>C.B. Merlin | - | |
| Office Assistants | 6 | 6 | C.P. Jayakumar<br>P.N. Shylaja Devi<br>T.K. Thankamma<br>Gopinatha Kartha<br>P.B. Anil Kumar<br>Krishna Kumari | - | On long leave from Feb, 02 |
| Office Superintendent | 1 | 1 | M.C. Jayakumar | - | |
| Typist | 4 | 3 | Mariamma Mathew<br>Mini Joseph<br>P. Baby | 1 | |
| Driver (LDV) | 2 | 2 | T.M. Francis<br>O.R. Sasidharan | - | |
| Driver (HDV) | 1 | 1 | G. Balachandran Nair | - | |
| Duplicator Operator | 1 | 1 | C.G. Mohanan | - | |
| Class IV | 7 | 4 | M.V. Sivaraman<br>M.T. Ponappan<br>Anoop Sankara Pillai<br>E.P. Sasidharan | 3 | |
| Bus Attendant | | | | | Post transferred to CoA, Vellayani |
| Tractor Driver | 1 | - | -- | 1 | |

S - Sanctioned; IP – In Position; V – Vacant

*Technical staff*

| | | | | | |
|---|---|---|---|---|---|
| Senior Farm Supervisor | 1 | 1 | Sasidharan | - | Post shifted from CRS, Pampadupara |
| Farm Supervisor | 2 | 2 | P.V. Raghunathan<br>S. Sukumaran Nair | - | |
| Farm Supervisor (Vety) | 1 | 1 | O.K. Sukumaran | | Post shifted from CoV & A.Sc., Mannuthy |
| Farm Assistant | 5 | 5 | M.V. Sasidharan Nair<br>S. Sanal Kumar<br>Mathew Thomas<br>Karthikeyan<br>Shaji | - | One post shifted with effect from 1-4-2002 to CRS, Pampadupara |
| Farm Assistant (Vety) | 1 | 1 | Vijayamma | - | |
| Lab.Assistant | 5 | 4 | Ratnam, P.S.<br>Kareem, A.M.<br>Mary Sebastian<br>George Murikkan<br>James, T.P. | 1 | |
| Technician | 1 | 1 | Thomas Scariah | - | |
| Pump Operator | 1 | 1 | Mohan Kumar, P.N. | - | |
| Fisherman | 2 | - | | 2 | |
| Artist | 1 | - | | 1 | |

S - Sanctioned; IP – In Position; V – Vacant

## RICE RESEARCH STATION, MONCOMPU

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| **Agronomy** | | | | | |
| Associate Professor | 1 | 1 | | 0 | |
| Assistant Professor | 2 | 1 | | 1 | |
| **Plant Breeding** | | | | | |
| Professor | 1 | 1 | | 0 | |
| Associate Professor | 0 | 0 | | 0 | |
| Assistant Professor | 3 | 2 | | 1 | |
| **Agrl.Entomology** | | | | | |
| Associate Professor | 1 | 1 | | 0 | |
| Assistant Professor | 2 | 1 | | 1 | |
| **Plant Pathology** | | | | | |
| Assistant Professor | 2 | 1 | | 1 | |
| **Agrl.Chemistry & Soil Science** | | | | | |
| Assistant Professor | 2 | 1 | | 1 | 1.Study leave |
| **Statistics** | | | | | |
| Junior statistician | 1 | 0 | | 1 | |
| **AICRIP** | | | | | |
| Technical Assistant | 2 | 2 | | 0 | |
| *Admn. and Supporting staff* | | | | | |
| Administrative Assistant | 1 | 1 | | 0 | |
| Assistant | 4 | 3 | | 1 | |
| Typist | 1 | 1 | | 0 | |
| Peon | 2 | 1 | | 1 | |
| Watchman | 1 | 0 | | 1 | |
| Boat Driver | 1 | 1 | | 0 | |
| Boat Syrang | 1 | 0 | | 1 | |
| Jeep Driver | 1 | 1 | | 0 | |
| *Technical Staff* | | | | | |
| Farm Assistant | 4 | 4 | | 0 | |
| Lab Assistant | 5 | 4 | | 1 | |

## ONATTUKARA REGIONAL AGRL. RESEARCH STATION, KAYAMKULAM

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| **KAU. Non Plan** | | | | | |
| Professor (PP) | 1 | 1 | Dr.Bhavani Devi | | |
| Professor (Hort) | 1 | 1 | Dr.Shyam.S.Kurup | | |
| Assoc.Professor (Pl.Br) | 1 | 1 | | 1 | |
| Assoc.Professor(Ag.Ent.) | 1 | 1 | Dr.Sosamma Jacob | | |
| Assoc.Professor(Pl.Path.) | 1 | 1 | Dr.T.N.Vilasini | | |
| Asst.Prof. (S.S & Ag.Chem.) | 1 | 1 | Indira. M | | |
| Asst.Prof. (Ag.Ent.) | 1 | 1 | Suja. G | | |
| Asst.Professor (Pl.Br.) | 1 | 1 | Dr.M.R.Bindu | | |
| **AICRP on oil seeds** | | | | | |
| Assoc.Professor (Pl.Br.) | 1 | 1 | Dr.Sverup John | | |
| Assoc. Professor (Agrn) | 1 | 1 | Dr.P.Sushama Kumari | | |
| **CCCP** | | | | | |
| Project Director | 1 | | | | Professor (Agron)i/c) |
| Asst.Prof. ( Agronomy) (Professor Agron.) holding the post) | 1 | 1 | Dr.D.Alexander | | In-charge of Project Director |
| (Soil Science) | 1 | Nil | | 1 | |
| (Agrl.Extension) | 1 | Nil | | 1 | |
| *Admn. and Supporting Staff* | | | | | |
| **CCCP** | | | | | |
| Administrative Officer Gr. II | 1 | 1 | T Remadevi | | |
| Assistant Gr. II | 1 | 1 | T.A.Thahera Beegum | | |
| Steno-cum-Typist | 1 | 1 | S. Sudha Devi | | |
| **KAU – Non Plan** | | | | | |
| Section Officer | 1 | 1 | B.Thankamani | | |
| Assistants | 2 | 2 | M.P.Vijaya Chandra Babu<br>A.Manoj Kumar | | (Sel.Grade)<br>(Gr.II) |
| Typist | 1 | 1 | K.Sobhana | | (Sel.Gr) |
| Driver | 1 | 1 | P.S.Babu | | |
| Peon (Hr.Gr) | 1 | 1 | Viswanathan<br>N.Raveendran | | (upto 31.10.01)<br>(From 01.11.01) |
| Regular Mazdoor | 1 | 1 | N.Raveendran | | (31.10.01) |
| Tractor Driver | 1 | 1 | R.Thankappan | | |
| *Technical Staff* | | | | | |
| **KAU – Non Plan** | | | | | |
| Farm Supervisor | 2 | 2 | R.Satheesan<br>N.Vasudevan | | |
| Farm Assistant. | 1 | 1 | V.J.Rajmohan | | (Sei.Gr.) |
| Farm Asst. | 1 | 1 | B.Muraleedharan Pillai | | (Sr.Gr.) |
| Lab Assistants | 1 | 1 | M.G.Thomas | | (Sl.Gr.) |
| Lab Assistants | | | P. Sunil Kumar. | | (Sr.Gr) |
| **CCCP** | | | | | |
| Farm Assistant | 2 | 2 | T.K.Vijayan<br>K.C.Sanu Prasad | | (Sel.Gr.) |
| **AICRP on oil seeds** | | | | | |
| Farm Asst. | 1 | 1 | D.Prasanna Kumar | | (Sel.Gr.) |

## RICE RESEARCH STATION, VYTTILA

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc. Professor ( Agron ) | 1 | 1 | Dr. V. Sreekumaran | | |
| Assoc. Professor ( SS & AC ) | 1 | 1 | Dr. K. Anila kumar | | |
| Assoc. Professor ( Aqua ) | 1 | 1 | Dr. C.G. Rajendran | | |
| Assoc. Professor ( Pl. Br.) | 1 | 1 | Dr. K.S.Shylaraj | | |
| Asst. Professor ( Aqua) | 1 | - | | 1 | |
| Asst. Professor ( Pl. Br.) | 1 | - | | 1 | |
| *Admn. and Supporting staff.* | | | | | |
| Administrative Asst. | 1 | 1 | L. Syamala Devi | | |
| Assistant Sr. Gr | 1 | 1 | Annamma Skaria | | |
| Assistant Gr.II | 1 | 1 | H. Abdul Hakkim | | |
| Typist Sel. Gr | 1 | 1 | Salomi Silas | | |
| Driver LDV | 1 | 1 | G. Suresh kumar | | |
| Class IV | 2 | 2 | K.J. Jose | | |
| | | | N.G. Helena | | |
| Watchman | 1 | - | | 1 | |
| *Technical staff* | | | | | |
| Farm Supervisor Gr. I | 1 | 1 | George P. Puravath | | |
| Farm Assistant Sel. Gr | 2 | 2 | A.A. Abdulla | | |
| | | | P.C. Girija Vallabhan | | |
| Lab Assistant Sel. Gr | 1 | 1 | P.M.Gopi | | |
| Pump Operator | 1 | 1 | M.J. Antony | | |
| Fisherman | 2 | 1 | K.G. Gopi | 1 | |

## SUGARCANE RESEARCH STATION, THIRUVALLA

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Scientific staff* | | | | | |
| **ICAR** | | | | | |
| Assoc.Prof.(Plant Breeding) | 1 | 1 | Dr.K.Sreekumar | Nil | |
| Asst. Professor (Agronomy) | 1 | 1 | Thomas Mathew | Nil | |
| Asst. Prof. (Plant Pathology) | 1 | 1 | Dr. Babu George | | |
| **NARP** | | | | | |
| Asst. Professor (Hort) | 1 | 1 | Dr.Jessy.M.Kuriakose | Nil | |
| **KAU** | | | | | |
| Assoc.Prof. (Plant Breeding) | 1 | 1 | N.R.Nair | Nil | |
| Asst. Prof. (Plant Breeding) | 1 | 1 | Seeja.G | Nil | |
| Asst. Prof. (Agronomy) | 2 | 2 | Dr.T.M.Kurian | | |
| | | | Dr.R.Ilangovan | Nil | On long leave |
| Asst. Prof. (Ag. Chem) | 1 | 1 | Dr. Sosamma Cherian | Nil | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| *Admn. and supporting staff* | | | | | |
| **KAU** | | | | | |
| Adm. Asst | 1 | 1 | G.V.Kumar | Nil | |
| Asst.Gr.I | 2 | 1 | S.Gopakuamr | 1 | |
| Typist | 1 | 1 | A.K.Indiradevi Amma | Nil | |
| Peon | 1 | 1 | K.G.Pushpakumari | Nil | |
| LDV Driver | 1 | 1 | C.A.Chacko | Nil | |
| *Technical staff* | | | | | |
| **ICAR** | | | | | |
| Teshnical Asst. | 1 | 1 | G.Jayakumar | Nil | |
| Farm Asst. | 1 | 1 | K.M.Eldo | Nil | |
| Lab. Assistant | 1 | 1 | N.Padmakaran Pillai | Nil | |
| **KAU** | | | | | |
| Farm Supervisor Gr I | 1 | 1 | E.K.Sukumaran | Nil | |
| Farm Asst. Gr.II | 1 | 1 | T.K.Omanakuttan | Nil | |
| Lab Assistant Gr II | 1 | Nil | | 1 | |

## AICRP ON AGRICULTURAL DRAINAGE, KARUMADY

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc. Professor (Agl. Engg.) | 1 | 1 | E. K. Mathew | – | |
| Asst. Prof. (Agronomy) | 1 | 1 | Madhusudan Nair | – | |
| Asst. Prof. (Agrl. Engg.) | 1 | 1 | T. D. Raju | – | |
| *Admn. and supporting staff* | | | | | |
| Section Officer | 1 | 1 | B. Sarasamma | – | |
| Assistant Gr. I | 1 | 1 | E. V. Ambily | – | |
| Typist Gr. II | 1 | 1 | S. Mini | – | |
| Peon | 1 | 1 | K. Krishnankutty | – | |
| Watchman | 1 | 1 | K. K. Sreekumar | – | |
| *Technical staff* | | | | | |
| Farm Asst. (Agri.) Sr. Gr. | 1 | 1 | G. Udayakumar | – | |
| Farm Asst. (Agri.) Gr. II | 2 | 2 | K. O. Shahul Hameed<br>Krishnakumari | – | |
| Oversear Gr. I | 1 | 1 | M. Y. Sunny | – | |
| Lab Asst. Gr. II | 1 | – | | 1 | |
| Draftsman | 1 | – | | 1 | |
| Technicain Gr. II | 2 | – | | 2 | |
| Pump Operator | 1 | – | | 1 | |
| Driver Gr. II | 1 | 1 | C. J. Wilson | – | |

## CENTRE FOR PIG PRODUCTION AND RESEARCH, MANNUTHY

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| **CPPR** | | | | | |
| Assoc.Professor | 1 | - | | 1 | |
| Asst. Professor | 1 | - | | 1 | |
| Teaching Asst. | 1 | 1 | Dr. Kuriakose Alosh Peter | | Temporary (posted against Asst. Prof.) |
| **AICRP on pigs** | | | | | |
| Assoc.Professor | 1 | 1 | Dr. M.R. Rajan | - | |
| Asst.Professor | 2 | 2 | Dr. Joseph Mathew | | |
| | | | Dr. K. Syama | - | |
| *Admn. and supporting staff* | | | | | |
| **CPPR** | | | | | |
| Admn. Asst. | 1 | 1 | Omana A.D. | - | |
| Sr. Gr. Asst. | 1 | 1 | Flora C.V. | - | |
| Asst. Gr.I | 1 | 1 | Joju Paul | - | |
| Typist Gr I | 1 | 1 | Sandeepkumar V.C. | - | |
| Pump Operator | 1 | 1 | Balakrishnan P.V. | - | |
| Pig attendant | 2 | 2 | Pushpangadan | | |
| | | | Lineesh K.R. | - | |
| Class IV | 2 | 1 | M.L. Antony | 1 | |
| Labourers | 18 | 18 | | - | |
| **AICRP** | | | | | |
| Asst. Gr I | 1 | 1 | K.R. Devalal | - | |
| Labourers | 6 | 6 | | - | |
| *Technical staff* | | | | | |
| **CPPR** | | | | | |
| Sr. Farm Supervisor | 1 | 1 | V.M. Jacob | - | |
| Farm Supervisor | 1 | 1 | M. Lalithamma | - | |
| **AICRP** | | | | | |
| Farm Asst. | 2 | 2 | T.K. Haridasan | | |
| | - | | C.G. Varghese | - | |
| Technical Officer (Stat) | 1 | 1 | Joicy T.John | - | |

## UTY. LIVESTOCK FARM & FODDER RES. DEVELOPMENT SCHEME, MANNUTHY

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| *Scientific staff* | | | | | |
| **CPPR** | | | | | |
| Professor(Vety) | 1 | - | | 1 | |
| Associate Professor | 2 | 2 | Dr.Joseph Mathew | | |
| | | | Dr.T.N.Jagadeeshkumar | - | |
| Asst.Professors | 2 | * | Dr.A.Kannan | 2 | •On study leave till 3.12.01 Reposted at LRS, Thiruvazham-kunnu on 5.12.01. |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| *Admn.and Supporting Staff* | | | | | |
| Administrative Asst. | 1 | 1 | Vivian Jose | | |
| Section Officer | 1 | 1 | Prema.B.Nair | | |
| Assistants | 4 | 3 | Samson.J.Kolady,Gr.1<br>T.Vijayalekshmi, Gr.1<br>M.P.Rekha Nampoodiri Gr.1 | | |
| Office Supdt. | 1 | 1 | B.Kumary Sathiyabhama | | O.S.(Steno) |
| Typist | 1 | 1 | Thresiamma John | | |
| Class IV | 4 | 4 | E.Narayanankutty<br>T.Bhaskaran<br>P.Moideen (W.A.)<br>C.Anitha | | |
| *Technical Staff* | | | | | |
| Farm Supervisor | 5 | 2 | E.Narayanankutty(Sr.FS(V)<br>K.L.Jose, Sr.FS(V)<br>John David,FS(Agri)<br>Haridas | 3 | Transferred to Poultry farm, Mannuthy<br>Transferred to F.S.Puduveyppu |
| Farm Assistant | 7 | 7 | K.K.Kuttan,SelGr.F.A.(V)<br>V.Gopalakrishnan<br>K.Sivasankaran<br>V.G.Santha ( Agri)<br>K.Sachinmayan,Sr.Gr.(V)<br>M.K.Johnson Gr.1 (Agri)<br>V.V.Thulaseedharan Gr.1(V) | | |
| Lab.Asst | 1 | 1 | P.A.Mini | | |
| Pump Operator | 1 | 1 | M.V.Parameswaran | | Retired on 31.3.2002 |

## KAU DAIRY PLANT, MANNUTHY

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| ***Scientific staff*** | | | | | |
| Professor | 1 | – | | 1 | |
| Associate Professor | 2 | 1 | Dr. R. Rajendra Kumar | 1 | |
| Assistant Professor | 3 | 2 | P. Sudheer Babu<br>S.N. Rajakumar | 1 | |
| ***Admn. and supporting staff*** | | | | | |
| Assistant Gr.II | 1 | 1 | K.N. Raveendran | Nil | |
| Typist | 1 | 1 | M.P. Rajani | Nil | |
| Class IV | 1 | 1 | K. Saroja | Nil | |
| Permanent Labour | 3 | 3 | C.O Varghese<br>M.J. Devassykutty<br>M.S. Radha | Nil | |
| ***Technical staff*** | | | | | |
| Farm Assistant Sln. Gr.I | 1 | 1 | N. Gopinathan | Nil | |
| Lab Assistant | 1 | Nil | | 1 | |
| Technical supervisor | 1 | 1 | K.M. Muraleedharan | Nil | |
| Plant Maintenance and Processing Associate | 4 | 3 | I. N. Sreekumar<br>Rajesh<br>Biju | 1 | |

## AICRP ON POULTRY, MANNUTHY

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Senior Scientist | 1 | 1 | Dr. K. Narayanankutty | | |
| Farm Manager | 1 | 1 | Dr.R.Richard Churchi | | |
| Assistant Professor1 | 1 | 1 | Dr. P. Anitha | | |
| | | | Dr. P. Veeramani | | |
| *Admn. and Supporting Staff* | | | | | |
| Section Officer | 1 | 1 | P. Vijayakumari | | |
| Assistant (Sel. Gr.) | 1 | 1 | V. K. Sobhana | | |
| Typist (Gr. I) | 1 | 1 | B. Seema | | |
| Peon | 1 | 1 | P. T. Varghese | | |
| Poultry Attendant | 1 | 1 | M.K. Vilasini | | |
| Permanent Labourers | 17 | 17 | P.K. Sukumaran | | |
| | | | E.R. Mohan | | |
| | | | T.T. Jose | | |
| | | | T.O.Chacko | | |
| | | | P.A. Mohanan | | |
| | | | P.K.Kalliani | | |
| | | | C.J. Mary | | |
| | | | P.J. Thanka | | |
| | | | V.S. Lalitha | | |
| | | | M.R. Vilasini | | |
| | | | V.V. Sarada | | |
| | | | V.V. Sarojini | | |
| | | | M.T. Rugmani | | |
| | | | T.K. Parukutty | | |
| | | | C.K.Radha | | |
| | | | K.R.Meenakshi | | |
| | | | T.A.Rajalakhsmi | | |
| *Technical staff* | | | | | |
| Technical Supervisor | 1 | 1 | E.T. Paul | | |
| Farm Supervisor (Gr.II) | 1 | 1 | V.Indira | | |
| Farm Assistant (Sr. Gr.) | 2 | 2 | K. A. Mary | | |
| | | | V. K. Graisy | | |
| Driver | 1 | 1 | K. M. Davy | | |

## UNIVERSITY GOAT AND SHEEP FARM, MANNUTHY

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Admn. and Supporting staff* | | | | | |
| Assistant | 1 | 1 | | – | |
| Class IV | 1 | 1 | | – | |
| *Technical staff* | | | | | |
| Farm Assistants | 2 | 2 | | – | |

## CATTLE BREEDING FARM, THUMBURMUZHI

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc. Professor (Vety) | 1 | 1 | Dr. V. Vijayakumaran | Nil | |
| Asst. Professor (Vety) | 1 | Nil | Dr. K.M Shyam Mohan | 1 | Relieved w.e.f 31.1.02 |
| *Admn. & Supp. Staff..* | | | | | |
| Administrative Asst. | 1 | 1 | K.P Elsy. | Nil | |
| Sel. Gr. Asst. | 1 | Nil | K.K Kuttappan | Nil | |
| Asst. Gr. 1 | 1 | 1 | T.A Sadanandan | Nil | Joined w.e.f 11.6.01. |
| Sr. Gr. Asst. | 1 | 1 | P.V Asokan | Nil | |
| Sr. Gr. Typist | 1 | 1 | T.G Jalaja | Nil | |
| Peon | 1 | 1 | K.P Jose | Nil | |
| *Technical Staff.* | | | | | |
| Farm Supervisor (Vety) | 1 | 1 | V. Sukumaran Nair | Nil | |
| Sr. Gr. Farm Asst. (Vety) | 3 | 3 | P. Mohanan Nair | | |
| | | | P.K Sukumaran | | |
| | | | Polson Varghese | Nil | |
| Farm Supervisor (Agri.) | 1 | 1 | V. James | Nil | |
| Far. Asst. Gr. I (Agri.) | 1 | 1 | P.K Reghu | Nil | Joined on 21.8.01 |
| L.D.V Driver | 1 | Nil | | 1 | vacant from 31.12.00 |
| Pump Operator | 1 | Nil | | 1 | |
| Class IV | 3 | 2 | T.N Sasi | | |
| | | | K.R Valsala | 1 | |
| Lab Asst. Gr. III | 1 | 1 | C.O Marcy | | Relieved on |
| | | | K.S Dharmajan | Nil | 11.6.01 joined on 20.12.01 |

## LIVESTOCK RESEARCH STATION, THIRUVAZHAMKUNNU

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Professor | 1 | Nil | | 1 | |
| Assoc. Professor | 2 | Nil | | 2 | |
| Asst. Prof. (LPM) | 5 | 3 | Dr. A. Kannan | 2 | |
| Asst. Prof. (ABG) | | | Dr.R.Thirupathy Venkatachalapathy | | |
| Asst. Prof. (AR) | | | Dr. C. Ibraheem kutty | | transferred w.e.f. 30-04-02 |
| **AICRP on Agroforestry** | | | | | |
| Assoc. Prof. (Silviculture & Agroforestry) | 1 N | 1 | T.K.Kunhammu | Nil | on working arrangement at COF, Vellanik-kara since 16-04-01 |
| Asst. Prof. (Silviculture & Agroforestry) | 2 | 1 | V.Jamaludeen | 1 | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| *Admn. and supporting staff* | | | | | |
| Administrative Assistant | 1 | 1 | K. P. Rajan | Nil | |
| Section officer | 1 | 1 | Govinda rajan | Nil | Chronic medical leave |
| Assistants | 5 | 2 | T.G. Deenamma, Sr.Gr.<br>V.N. Sreekumar, Asst, Gr, II | 3 | |
| Typist | 2 | 2 | P. Sowmini Devi, Gr.I<br>M. Geetha, Gr. II | Nil | |
| Class IV | 2 | 2 | P.Rajagopalan<br>P.Veerankutty | Nil | Retired |
| Sweeper | 1 | 1 | K. Aysha | Nil | Retired |
| **AICRP on AF** | | | | | |
| Asst. Gr. II | 1 | 1 | M. Harigovindan | Nil | |
| Class IV | 1 | 1 | K. Mammad | Nil | |
| *Technical staff* | | | | | |
| Sr. Farm Supervisor (Vety) | 1 | 1 | K.L.Jose,<br>M.K.Vijaya Kumar | | Transferred on 10-7-2001<br>Promoted as Sr. F.S. (Vet.) |
| Farm Supervisor Gr.I (Vety) | 1 | 1 | C.Mohammed Usman | Nil | |
| Farm Supervisor Gr.II (Vety) | 1 | 0 | | 1 | |
| Farm Assistant (Vety) | 2 | 0 | K.K.Gangadharan | 2 | Transferred on 30-6-2001 |
| Farm Supervisor Gr.I (Agri) | 1 | 1 | M.Ummer | Nil | |
| Farm Supervisor Gr.II (Agri) | 1 | 1 | V.M.George | Nil | |
| Farm Assistant (Agri) | 3 | 2 | P.A.Moni<br>A.Abdurahiman | 1 | Two posts vacant since 31-5-02 due to transfer of P.A. Moni |
| Technical Supervisor | 1 | 1 | A.Sankaran | Nil | |
| LDV Driver | 1 | Nil | | 1 | Filled up w.e.f. 7-6-02 |
| Pump operator | 2 | 1 | N. Raman | 1 | |
| Field Supervisor | 1 | 1 | N. Girishkumar | Nil | |
| Maistry | 2 | 2 | C. Kumaran<br>K. Mohammedali | Nil | Retired on superannuation |
| Watch man/ Class IV | 7 | 1 | P. Rajagopalan<br>P. Mohammedali | 6 | Retired on superannuation |
| Mazdoor | 2 | 1 | | 1 | |
| **AICRP on Agroforestry** | | | | | |
| Technical Assistant | 2 | Nil | | 2 | |
| Farm Assistant | 2 | 2 | Thomas Chirakandathil<br>C. Aboobacker | Nil | |
| Lab. Assistant | 2 | 2 | V.Sunil Kumar<br>K. Sunil | Nil | |
| LDV Driver | 1 | 1 | N. Sundaran | Nil | |

## CENTRE FOR ADVANCED STUDIES IN ANIMAL GENETICS AND BREEDING, MANNUTHY

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Director | 1 | 1 | | – | |
| Assoc. Professor | 1 | – | | 1 | |
| Asst. Professor | 2 | – | | 2 | |
| **Dept of Animal Br. & Gen.** | | | | | |
| Professor | 1 | – | | 1 | |
| Assoc. Professor | 2 | – | | 2 | |
| Asst. Professor | 3 | 2 | | 1 | |
| **Field Progeny testing scheme** | | | | | |
| Assoc. Professor | 1 | 1 | | – | |
| Asst. Professor | 2 | – | | 2 | |
| **Attappadi Black Scheme** | | | | | |
| Asst. Professor | 1 | 1 | | – | |
| **AICRP on goats** | | | | | |
| Assoc. Professor | 1 | 1 | | – | |
| Asst. Professor | 1 | – | | 1 | |
| *Admn. and Supporting staff* | | | | | |
| Section Officer (FC&D) | 1 | 1 | | – | |
| Office Supdt | 1 | 1 | | – | |
| Asst. Gr II | 1 | – | | 1 | |
| **Dept. of ABG** | | | | | |
| Farm Asst. | 1 | 1 | | – | |
| ***PT Scheme** | | | | | |
| Farm Supervisor | 1 | 1 | | – | |
| Gr.I Farm Asst. | 1 | 1 | | – | |
| Sr.Gr. Farm Asst. | 2 | 2 | | – | |
| Attendant | 2 | – | | 2 | |
| Gr.II F.A. | | | | | |
| **Vechur Scheme** | | | | | |
| Gr. I Farm Asst. | 1 | 1 | | – | |
| **AICRP** | | | | | |
| Asst. Gr.I | 1 | 1 | | – | |
| Farm Asst | 2 | 2 | | – | |
| F.S. Gr.II | 1 | 1 | | – | |
| *Technical Staff* | | | | | |
| **AICRP** | | | | | |
| Technical Officer | 1 | 1 | | – | |
| **Adhoc Scheme** | | | | | |
| R.A | 1 | 1 | | – | |
| JRF | 2 | 2 | | – | |
| Surveyor | 2 | – | | 2 | |
| **NATP** | | | | | |
| JRF | 1 | 1 | | – | |
| **Vechur cattle** | | | | | |
| SRF | 2 | 2 | | – | |
| RA | 1 | 1 | | – | |
| JRF | 1 | – | | 1 | |
| **NATP Buffaloe** | | | | | |
| JRF | 2 | 4 | | – | |
| **DBT on Malabari** | | | | | |
| SRF | 2 | 2 | | – | |

## CENTRE FOR ADVANCED STUDIES IN POULTRY SCIENCE, MANNUTHY

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| **CAS in Poultry Science** | | | | | |
| Director | 1 | – | Dr. A. Jalaludeen | 1* | *Associate |
| Associate Professor | 1 | 1 | Dr. P.A. Peethambaran | - | Professor |
| Assistant Professor | 1 | 1 | | 0 | in- Charge of Director |
| **Dept. of P oultry Science** | | | | | |
| Professor | 2 | – | | 2 | |
| Associate Professors | 3 | 2 | Dr. Amritha Viswanath<br>Dr. V.K. Elizebath | 1 | |
| Assistant Professors | 4 | – | | 4 | |
| *Admn. and supporting staff.* | | | | | |
| Section officer (FC & D) | 1 | 1 | P.P. Rosy | – | |
| **Dept. of P.Sc** | | | | | |
| Class IV | 1 | – | | 1 | |
| *Technical staff* | | | | | |
| Farm Assistant | 1 | – | | 1 | |

## REGIONAL CATTLE INFERTILITY RESERACH CENTRE, KOZHIKODE

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc. Professor (Animal Reproduction) | 1 | 1 | Dr. Ramachandran | – | Holding addl. charge at KCAE&T, Tavanur from July 2001 |
| Asst. Professor | 2 | – | | 2 | |
| *Admn. and suporting staff* | | | | | |
| Assistant | 1 | 1 | A. Radhakrishnan | – | |
| Peon | 1 | 1 | C. Kunhikrishnan | – | |
| *Technical staff* | | | | | |
| Farm Asst. | 1 | 1 | K. Shanmughan | – | |
| Lab Technician | 2 | 2 | K. Velayudhan<br>K. Divakara Panicker | – | |
| Lab Attendant | 1 | 1 | P. Devadas | – | |
| Farm Assistant (Agri.) Sales and Information | 1 | 1 | K. M. George | – | On working arrangement |
| **Regional Fisheries Res. and Extension Centre** | | | | | |
| Assoc. Professor | 1 | 1 | Dr. G. S. Narayanan | – | |

## UNIVERSITY VETERINARY HOSPITAL, KOKKALAI

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc. Prof & Head | 1 | 1 | Dr.K.V.Athman | – | |
| Assoc. Prof (CM) | 1 | 1 | Dr.K.M.Jayakumar | – | On working arrangement |
| Asst. Professor (Surgery) | 1 | 1 | Dr.John Martin | – | On study leave from 14-11-2001 |
| *Admn. and Supporting Staff* | | | | | |
| Senior Grade Assistant | 1 | 1 | | – | |
| Attendant | 2 | 1 | | 1 | |
| Peon | 1 | 1 | | – | |
| Sweeper cum Scavenger | 1 | – | | 1 | |
| *Technical staff* | | | | | |
| Pharmacist | 1 | 1 | | – | |
| Farm Supervisor Gr. 1 | 1 | 1 | | – | |
| Farm Assistant | 1 | 1 | | – | |
| Lab. Assistant | – | – | | – | Person on working arrangement retired on 31.7.01 |

## FISHERIES STATION, PUDUVEYPU

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Scientific staff* | | | | | |
| Assoc.Professor (Aqua) | 1 | 1 | Dr.K.S. Purushan | - | |
| Asst. Professor (Aqua) | 1 | 1 | Dr. M.M. Jose | - | Assoc. Prof. |
| Jr. Asst. Prof. (Aqua) | 1 | – | | 1 | |
| Sr.Res.Fellow | 1 | 1 | Raghunath Ravi | - | Joined on 10.2.2000 |
| *Admn. and supporting staff* | | | | | |
| Admn. Asst. | 1 | 1 | V.M. Ammini | - | |
| Asst.Gr.I | 1 | 1 | N.B. Sudheer | - | |
| Asst.Gr.II | 1 | 1 | P.J. Cleetus | - | |
| SO (FC&D) | - | 1 | P.V. Brizitha | | On working arrange ment (wef.5/10/2001) |
| Typist Gr.II | 1 | 1 | V.K. Rema | - | |
| LDV Driver | 1 | 1 | K.B. Prasad | | (wef 17/01/2002) |
| Peon (Class IV) | 1 | 1 | K.P. Jayapalan | - | |
| *Technical staff* | | | | | |
| Farm Asst.Gr.II | 1 | 1 | Padma Narayana Pillai | - | F.A.Seln Gr |
| Fieldman (F) | 1 | 1 | K.K. Reghu | - | |
| Pump Operator | 1 | 1 | T. Chandran | - | |
| Lab Asst.Gr.II | 1 | 1 | M.S. Moni | - | |

## COMMUNICATION CENTRE, MANNUTHY

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| ***Scientific Staff*** | | | | | |
| Professor (Agronomy) | 1 | 1 | Dr. P. Prameela | 0 | Asst.Professor (Agron.) |
| Professor (Pl.Protection/ Entomology) | 1 | 1 | Dr.R.M .Prasad | 0<br>0 | Assoc.Professor (Extn.)<br>I/c of Professor |
| Assoc.Professor (Ent.) | 1 | 1 | Dr. M.K. Sheela | 0 | |
| Assoc.Professor (Pl.Protection) | 1 | 1 | Dr.Suma Paulose | 0 | Assoc.Prof. (Ent.) |
| Assoc.Prof. (Horticulture) | 1 | 1 | Dr.K.Vasanthakumar | | |
| Asst.Professor (Animal Science) | 1 | 1 | Dr.C.B.Manomohan | | (Vet.Pathology) |
| Asst.Professor (Poultry Science) | 1 | 0 | | 1 | |
| Assoc.Professor (Extn) | 1 | 1 | Dr.Ranjan S.Karippai | 0 | |
| Asst.Professor (Extn) | 6 | 5 | K.K.Santha<br>Dr.Sreevalsan J.Menon<br>Jose Joseph<br>Dr.Binoo P.Bonny<br>Dr.Jayalekshmi G. | <br><br><br><br>1 | Assoc Prof. (Hort.) |
| Asst.Professor (Aqua.) | 2 | 1 | Dr.A.D.Antony | 1 | Associate Professor |
| Asst.Professor (Soil Sci.) | 1 | 1 | Dr.Jayaasree Sankar S. | 0 | |
| Asst.Prof.(Plant Path.) | 1 | 1 | Dr.S.Estelitta | 0 | Assoc.Prof. (Pl. Path.) |
| Asst.Prof. (Anim. Sci.) | 1 | 0 | | 1 | |
| ***Administrative and Supporting Staff*** | | | | | |
| Administrative Assistant/ Section Officer | 2 | 2 | Thankam, K(A.A)<br>Sophiamma Joseph | 0 | |
| Assistant | 5 | 4 | Hymavathy, E.<br>Usha, B.<br>Babu, M.M.<br>Santhakumary, K.R. | 1 | |
| Typist | 1 | 1 | Sudha,T. | 0 | |
| ClassIV | 3 | 3 | *M.K.Ramakrishnan<br>*M.P.Unnikrishnan<br>K.G.Gopalakrishnan | <br>0 | <br>*On WA |
| ***Techinical Staff*** | | | | | |
| Language Editor | 1 | 0 | | 1 | |
| Malayalam Translator | 1 | 1 | K.N.Chandralekha | 0 | |
| Farm Supervisor | 1 | 1 | T.C.Sidharthan | 0 | |
| Farm Assistant Grade1 | 1 | 0 | | 1 | |
| Photographer | 1 | 1 | V.V.Satheesan | 0 | |
| Artist | 1 | 0 | | 1 | |
| Driver(LDV) | 1 | 1 | V.Santoshkumar | 0 | |
| Driver(HDV) | 1 | 1 | M.V.Karappan | 0 | On working arrangement. |
| Dark room assistant | 1 | 0 | | 1 | |
| Technician Hr.Gr.(AV.Oper.) | 1 | 1 | M.R.Gopinathan | 0 | |

## AGRICULTURAL TECHNOLOGY INFORMATION CENTRE, MANNUTHY

| Designation | Name | Remarks |
|---|---|---|
| ATIC Manager | Dr.K.Aravindakshan | Full additional duty |
| | Officer on Spl. Duty, ATIC | from 06-02-2001 onwards |
| Assistant Professor | Dr.Sreevalsan.J.Menon | 01.04.01 onwards WA |
| Technical Officer | U. Divakar | 01-07-2000 onwards |
| Farm Supervisor (Gr.I) | P.K.Kalyani | 01-04-2000 onwards WA |
| Farm Assistant (Sl.Gr.) | M.N.Pavithran | 01-07-2000 onwards |
| Farm Assistant (Sl.Gr.) | C.A.Mathew | 16.04.2001 onwards |
| Farm Assistant (Gr.I) | V.O.Joy | 19-06-2000 onwards |
| Assistant (Sr.Gr.) | K.Pradeep | 14-08-2000 onwards |
| Class IV | Kumari Latha | 03-10-2000 onwards WA |
| | M.P.Unnikrishnan | 05.11.2001 onwards WA |

| Dept. and designation | No. of posts | | | Remarks |
|---|---|---|---|---|
| | Sanctioned | In position | Vacant | |
| 1 | 2 | 3 | 4 | 5 |
| ***Scientific Staff*** | | | | |
| Officer on Special Duty. | | 1 | | WA |
| Asst. Prof.(Extn.) | | 1 | | WA |
| ***Administrative and Supporting Staff*** | | | | |
| Assistant | 1 | 1 | Nil | |
| ***Technical Staff*** | | | | |
| Technical Officer | 1 | 1 | Nil | |
| Farm Assistants | 3 | 3 | Nil | |
| Farm Supervisor | 1 | 1 | Nil | |

## CENRAL TRAINING INSTITUTE, MANNUTHY

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| ***Scientific staff*** | | | | | |
| Professor | 1 | 1 | Dr.S.Bhaskaran - | | Assoc. Prof. i/c.of Prof. |
| Assistant Professors | 2 | 2 | Dr.Alexander George | | |
| | | | M.Israel Thomas | - | - |
| ***Administrative and supporting staff*** | | | | | |
| Section Officer | 1 | 1 | P.K.Manikkutty - | - | |
| Assistants | 2 | 2 | K.N.Sarojini | | |
| | | | P.M.Latha - | - | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Typists | 2 | 2 | K.Padmavathy<br>K.D.Rossily - | - | |
| Dupli. Machine Operator | 1 | - | C.R.Antony | 1 | Transferred to CV&AS, Mannuthy. Vacant from 4th July, 2001 |
| Driver | 1 | 1 | M.Soorianarayanan | - | |
| Peon | 1 | 1 | P.B.Anilkumar | - | |
| Permanent Labourer | 1 | 1 | K.M.Kuttan | - | |
| ***Technical staff*** | | | | | |
| Farm Assistants | 3 | 2 | P.K.Kallyani *<br>V.J.Paul | 1 | * Farm Supervisor on WA to ATIC, Mannuthy. |

## KRISHI VIGYAN KENDRA - MANJESWAR

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| ***Scientific staff:*** | | | | | |
| Assoc.Prof. (Agrl.Extn.) | 1 | - | - | 1 | |
| Asst. Prof. „ | 1 | 1 | R. Sendil Kumar | - | |
| Asst. Professor (Fisheries) | 1 | 1 | B. Shantharam | - | Head of the station |
| Asst. Prof. Soil & Water conservation Eng | 1 | - | - | 1 | |
| Asst Professor (Home Science) | 1 | 1 | Soffi cheriyan | - | On WA at COA Vellayani |
| ***Administrative and supporting staff:*** | | | | | |
| Section Officer | 1 | 1 | E. V. Sasidharan | - | |
| Asst. Grade I I | 1 | 1 | M. J. Nazeeb | - | |
| Typist Gr. I I | 1 | 1 | V.P. Moideenkoya | - | |
| LDV Driver Gr. II | 1 | - | - | 1 | |
| Peon | 1 | - | - | 1 | |
| Watchman | 1 | - | - | 1 | |
| ***Technical staff:*** | | | | | |
| Farm Supervisor | 1 | 1 | M. M. Sankaran | - | |

## KRISHI VIGYAN KENDRA - AMBALAVAYAL

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| ***Scientific Staff*** | | | | | |
| Entomology, Training Organizer | 1 | 1 | C.M. George | Nil | - |
| Animal Science, Training Associate | 1 | 1 | Dr. A. Radhamma Pillai | Nil | - |
| Plant Pathology, Training Associate | 1 | 1 | Dr. T.P. Manomohan Das | Nil | - |
| Agri. Engineering Training Associate | 1 | 1 | Susan K. Cherian | Nil | Leave on Loss of Pay on Medical Grounds |
| Agri. Extension, Training Associate | 1 | 1 | G.S. Arularasan | Nil | - |
| Agronomy, Training Associate | 1 | 1 | Dr. C. Rekha | Nil | Leave on Loss of Pay from 20.3.02 For one year to join the spouse at Mumbai |
| Home Science | 1 | 0 | G.K. Beela | Nil | Leave on Loss of Pay from Training Associate 16.1.2002 for two years to join the spouse abroad |
| ***Administrative and Supporting Staff*** | | | | | |
| Office Supt./Accountant | 1 | 1 | M. Nandanandanan | Nil | - |
| Junior Steno/Computer Oper. | 1 | 1 | M.K. Manoj Kumar | Nil | - |
| Driver Cum Mechanic | 2 | 1 | T.Y. Daniel | 1 | - |
| Class IV Employees | 2 | 2 | Silak Bahadur<br>N. Chandu | Nil | - |
| ***Technical staff*** | | | | | |
| Training Assistants | 3 | 2 | K.S. Rajamani<br>K. Radhakrishnan | 1 | Vacant since 19.5.2000 |

## KRISHI VIGYAN KENDRA - PATTAMBI

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| ***Scientific staff*** | | | | | |
| Training Organizer | 1 | 1 | Dr. P. Rajendran | - | - |
| Agrl Extension Training Associates | 6 | 4 | | | |
| -Horticulture | | | T. Premalatha | | |
| -Home Science | | | B. Prasannakumari | | |
| -Agroforestry | | | A.V. Santhoshkumar | | |
| -Agronomy | | | Musthafa Kunnathadi | | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| ***Administrative and supporting staff*** | | | | | |
| Office Supdt. cum Accountant | 1 | 1 | A.W.Kishore | | |
| Assistant Sel. Grade | - | - | | | |
| Steno cum typist | 1 | 1 | M.Mohandas | | |
| Typist Sel. grade | - | - | | | |
| Driver Sel. Gr. | 2 | 2 | T.R.Sasidharan<br>K.S.Mohammed Rasheed | | |
| ***Supporting staff*** | | | | | |
| Peon Sel. Grade | 2 | 2 | C.Gopalakrishnan<br>M.Sundaran | | |
| ***Technical staff*** | | | | | |
| Training Assistants | 3 | 3 | M. K. Sreedharan<br>C.V.Ambujan<br>V.P. James | - | |

## KRISHI VIGYAN KENDRA - SADANANDAPURAM

| Dept.and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| ***Scientific staff*** | | | | | |
| **Pl. Pathology.** | | | | | |
| Assoc.Professor | 1 | 1 | Dr.S.Ravi | .. | .. |
| **Ag.Extension** | | | | | |
| Asst.Professor (SS) | 1 | 1 | Dr.N.Kishorekumar | .. | .. |
| **Home Science** | | | | | |
| Asst.Professor(SS) | 1 | 1 | M.Rajani | .. | .. |
| **Agronomy** | | | | | |
| Asst.Professor(SS) | 1 | 1 | Babu Mathew P. | .. | „ |
| **Horticulture** | | | | | |
| Asst.Professor | 1 | 1 | Dr.K.Ajithkumar | .. | .. |
| **Entomology** | | | | | |
| Asst.Professor | 1 | 0 | | 1 | Vacant since June 2001 |
| ***Administrative and supporting staff*** | | | | | |
| Office-Supt./Acct. | 1 | 1 | M.K.Mohanan | .. | .. |
| Typist | 1 | 1 | R.Usha | | |
| Driver-cum-Mechanic | 2 | 1 | S.Sasi | 1 | .. |
| Hort./A.H. attendent | 1 | .. | Vacant | 1 | .. |
| ***Technical staff*** | | | | | |
| Training Assistant | 3 | 3 | Joy S.J.<br>Ghee S.Sudha<br>A.Sarojam | .. | |

## TRAINING SERVICE SCHEME - VELLAYANI

| Dept. and designation | No. of posts | | | Remarks |
|---|---|---|---|---|
| | Sanctioned | In position | Vacant | |
| 1 | 2 | 3 | 4 | 5 |
| ***Scientific Staff*** | | | | |
| Associate Professor | 01 | 2 | - | |
| Asst. Professor | 01 | 0 | | Assoc Prof. in post of Asst Prof. |
| ***Administrative & Supporting Staff*** | | | | |
| Assistant | 01 | 01 | 0 | Asst grade I |
| Typist | 01 | 01 | 0 | Office supdt |
| Peon | 01 | 01 | 0 | |
| ***Technical Staff*** | | | | |
| Farm Assistant Grade II | 01 | 0 | 1 | Vacant since 1993 |

## KERALA AGRICULTURAL UNIVERSITY PRESS, MANNUTHY

| Dept. and designation | No. of posts | | | Remarks |
|---|---|---|---|---|
| | Sanctioned | In position | Vacant | |
| 1 | 2 | 3 | 4 | 5 |
| *Admn. and Supporting staff* | | | | |
| Section Officer | 1 | 1 | – | |
| Assistants | 3 | 3 | | |
| Typist | 1 | 1 | – | |
| Peon | 1 | 1 | – | |
| *Technical Staff* | | | | |
| Press Manager | 1 | 1 | – | |
| General Foreman | 1 | – | 1 | |
| Senior Foreman | 1 | 1 | – | |
| Junior Foreman | 1 | 1 | – | |
| Proof Reader | 2 | 2 | – | |
| Copy Holder | 2 | – | 2 | |
| Computor | 1 | 1 | – | |
| Printer | 8 | 4 | 3 | (One Printer on leave) |
| Compositor | 5 | 2 | 3 | |
| Binder | 10 | 10 | – | |
| Helper | 1 | 1 | – | |

## CENTRAL LIBRARY AND INFORMATION SYSTEM, VELLANIKKARA

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| Librarian | 1 | – | | 1 | M. C. Lalitha, Asst. Librarian, COH, Vellanikkara is in charge of Librarian w.e.f. 15-5-2000 |
| *Admn. and Supporting staff* | | | | | |
| Section Officer | 1 | 1 | K. Vasanthakumari Amma | – | |
| Office Supdt. (Steno) | 1 | 1 | K. M. Mary | – | |
| Sln. Gr. Typist | 1 | 1 | P. K. Eswary | – | |
| Sr. Gr. Asst. | 1 | 1 | K. M. George | – | |
| Lab Asst./Clerical Asst. | 1 | 1 | P. Sakunthala | – | |
| Class IV | 2 | 2 | C. J. Lizy<br>K. K. Santhosh | – | |
| *Technical staff* | | | | | |
| Reference Asst. | 6 | 4 | A. T. Francis<br>E. K. Mohanlal<br>N. B. Nisha<br>K. J. Jessy | 2 | |

## DIRECTORATE OF STUDENTS WELFARE, MANNUTHY

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| Director of Students Welfare i/c. | 1 | 1 | Dr.Jose John Chungath | 1 | Holding additional charge |
| Dy.Director of Students Welfare(S&G) | 1 | 1 | O.K.Paul | | Rejoined duty w.e.f. 1-11-2001. |
| Asst.Professor | 1 | – | | 1 | |
| Steno to DSW | 1 | 1 | S.Sudhakaran Nair | – | |
| Section Officer (Hr.Gr.) | 1 | 1 | P.M.Cherukutty | – | |
| Assistant | 3 | 3 | M.U.Joy<br>P.C.Haridas | – | |
| | 1 | 1 | K.B. Jaya. | | |
| Typist | | | I.A.Surendran | – | |
| Peon | 2 | 2 | T.A.Unnikrishnan<br>J.S. Sujith | – | |
| Driver (HDV) | 6 | 6 | V.N.Sankarankutty<br>P.K.Devassy<br>K.K.Thankappan<br>P.V.Sudhakaran<br>P.K.Sasidharan<br>M.V.Karappan | – | Vehicle Supervisor |
| Driver-LDV | 1 | 1 | Biju.N.Baby | | |
| Bus Attendant | 8 | 8 | K.A.Abdul Rasheed<br>Bir Bahadur Singh<br>K.C.Krishnan<br>Saji Antony<br>N.P.Chandran<br>T.G.Radhakrishnan<br>A.G.Rajendran<br>Velayudhan | – | |

## DIRECTORATE OF PHYSICAL PLANT, VELLANIKKARA

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In-position | Name of incumbent | Vacant | |
| Director of Physical Plant | 1 | 1 | P.R Govindan | – | DPP (i/c), Executive Engineer, Engineering Division, Panangad |
| Financial Assistant | 1 | 1 | P. K. Nataraja Pillai | – | |
| Asst. Exe. Engineer and | 2 | 2 | P.M. Vasudevan | – | upto 5/2001 |
| P.A. to DPP | | | K. V. Ajitha | – | w.e.f. 25-5-2001 |
| Asst.Engineer and | 2 | 2 | C. I. Sali | – | upto 6/2001 |
| Head Draughtsman | 1 | 1 | E. K. Radhakrishnan | | |
| Draughtsman | 5 | 5 | K. K. Anilan | – | upto 7/2001 |
| | | | K. G. Ajithkumar | | w.e.f. 8/2001 |
| | | | K. R. Abdul Rehman | | upto 4/2001 |
| | | | K. M. Anilkumar | | w.e.f. 12/2001 |
| | | | Mathews M. Kizhakoot | | |
| Section Officer | 3 | 3 | V. A. Achuthan | – | |
| | | | A. A. Kousalya | | upto 5/2001 |
| | | | K. A. Vareed | | w.e.f. 6/2001 |
| | | | Sophiamma Joseph | | upto 5/2001 |
| | | | Sreedevikutty | | w.e.f. 6/2001 |
| Section Officer(FC&D) | 1 | 1 | P. I. Ittoop | – | |
| Office Supdt. | 1 | 1 | K.A. Valsala | 1 | |
| Assistant | 10 | 9 | | | |
| Sln.Gr. Assistant | | | P. A. Geetha | | upto 5/2001 |
| | | | R. Usha | | upto 5/2001 |
| | | | P.V. Mohanan | | upto 6/2001 |
| | | | V.K. Beena | | upto 5/2001 |
| Sr.Gr. Assistant | | | M. A. Mani | | w.e.f. 6/2001 |
| | | | Naveen Narayan | | w.e.f. 6/2001 |
| | | | P.P. Prema | | w.e.f. 6/2001 |
| | | | K. L. Liza | | upto 7/2001 |
| | | | T.K. Sarada | | |
| Assistant Gr. I | | | M. Shakkeela Beegum | | w.e.f. 6/2001 |
| | | | K. T. Shaji | | upto 6/2001 (on W/A) |
| | | | Samson J. Kolady | | upto 5/2001 |
| | | | N.V. Annie | | upto 5/2001 |
| | | | A. Liakath Alikhan | | |
| | | | Smitha Varma | | upto 5/2001 |
| | | | M.D Thressiamma | | upto 5/2001 |
| Typist | 5 | 4 | Savitha Devi | 1 | upto 5/2001 |
| | | | Selmath | | |
| | | | K. Vijayalakshmi | | w.e.f. 6/2001 |
| | | | T. J. Leena | | (on W/A) |
| Duplicating Operator | 1 | 1 | P. A. Francis | – | |
| Driver LDV | 1 | 1 | P. K. Sasi | – | upto 7/2001 |
| | | | P. N. Benny | | w.e.f. 8/2001 |
| Class IV | 4 | 3 | C. V. Vijayan | 1 | |
| | | | K. V. Chetty | | |
| | | | M. K. Vasudevan | | |

## ENGINEERING SUB DIVISION, VELLAYANI

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Admn. and Supporting Staff* | | | | | |
| Section Officer | 1 | 1 | Jeslet Mercy J. | – | |
| Office Supdt. | 1 | 1 | Radha P. | – | |
| Class IV | 1 | 1 | Shailaja T. | – | |
| *Technical Staff* | | | | | |
| Assistant Engineer | 2 | 2 | V. Harikumar<br>K.H.Mohammed Abdul Khader | | |
| Overseer Gr. I | 2 | 2 | V.M.Roy<br>K.N.Satheesh | – | |
| LDV Driver | 1 | 1 | P. Reghunathan Nair | | |

## ENGINEERING SUB DIVISION, VELLANIKKARA

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Admn. and Supporting staff* | | | | | |
| Sr. Grade Assistant | 2 | 1 | I. Indira | 1 | |
| Typist Sr. Gr. | 1 | 1 | A.C. Mancy | – | |
| Class IV | 1 | 1 | C. Mukundan Nair | – | |
| *Technical staff* | | | | | |
| Assistant Executive Engineer | 1 | 1 | K.V.Ramanunni | – | |
| Assistant Engineer | 3 | 3 | P.A.Meerabai<br>C.I. Sali<br>P.H.Salim | – | |
| Overseer Gr. I | 2 | 2 | K.V.Poulose<br>K.H.Abdul Khader | – | |
| Overseer Gr.II | 1 | – | | 1 | |
| LDV Driver | 1 | 1 | U.Ravichandran | – | |

## ENGINEERING DIVISION, TAVANUR

| Dept. and designation | No.of posts | | | Vacant | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | | |
| *Admn.and Supporting staff* | | | | | |
| Section Officer | 1 | 1 | S. Ushadevi | – | |
| Seln. Gr. Assistant | 1 | – | | 1 | |
| Sr. Gr. Typist | 1 | 1 | A. Mohammedali | – | |
| Peon Gr. I | 2 | 1 | K. Bijukumar | 1 | |
| *Technical Staff* | | | | | |
| Executive Engineer | 1 | 1 | K. Suresh Babu | – | |
| Assistant Executive Engineer | 1 | 1 | C.V.Vivekanandan | – | |
| Assistant Engineer | 3 | 3 | Vijayakumari M.<br>K.T. Vasudevan<br>P. Manoj | – | |
| Overseer Gr. I | 1 | 1 | A.V.Kesavan | – | |
| Overseer Gr.II | 2 | – | | 2 | |
| LDV Driver (Sr. Gr.) | 1 | 1 | A.P.Pavithran | – | |

## ENGINEERING SUB DIVISION, KOLAHALAMEDU

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Technical staff* | | | | | |
| Assistant Exe. Engineer | 1 | 1 | M. V. Chackochan | - | |
| Assistant Engineer | 2 | 2 | A. P. Satheesan | - | |
| | | | P. T. Joy | | |
| Overseer Grade I | 1 | 1 | M.K.Devaraja Kurup | - | |
| Overseer Grade II | 1 | - | | 1 | |

## ENGINEERING SUB DIVISION, MANNUTHY

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Admn. and Supporting staff* | | | | | |
| Seln. Gr. Assistant | 1 | 1 | K.L.Liza | – | |
| Typist Gr.I | 1 | 1 | M.R.Ambujam | – | |
| Class IV (Seln. Gr.) | 1 | 1 | P.N.Raghavan | – | |
| *Technical staff* | | | | | |
| Assistant Executive Engineer | 1 | 1 | P.M.Vasudevan | – | |
| Assistant Engineer | 3 | 3 | T.N.Suresh Babu | | |
| | | | V.K.Girishkumar | | |
| | | | C.A.James | – | |
| Technical Supervisor | 2 | 2 | P.K.Vijayan | | |
| | | | T.S.Govindan | – | |
| Overseer | 3 | 2 | K.V.Sunilkumar | 1 | |
| | | | K.K.Anilan | | |
| Pump Operator | 4 | 2 | A. Narayanan | 2 | |
| | | | T.C.Suresh Babu | | |
| Permanent Labourers | 10 | 3 | P. Divakaran | 7 | |
| | | | P.K.Radhakrishnan | | |
| | | | C.R.Hariharan Thampi | | |

## ELECTRICAL SUB DIVISION, VELLANIKKARA

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Admn. and Supporting staff* | | | | | |
| Assistant | 1 | 1 | Gopi K.P. | – | |
| Typist | 1 | 1 | O.A.Ushakumari | – | |
| Class IV | 1 | 1 | M. Suresh | – | |
| *Technical staff* | | | | | |
| Assistant Executive Engineer | 1 | 1 | A.J.Anto | – | |
| Assistant Engineer | 3 | 2 | R. Raveendran Nair | 1 | |
| | | | B. Lukose | | |
| Senior Technical Supervisor | 1 | 1 | C.A.Varghese | – | |
| Technician (Electrical) | 3 | 3 | Mercy Mathew T | | |
| | | | Subin C. George | | |
| | | | P. Vasudevan | – | |
| Lineman Gr.II | 1 | – | | 1 | |
| Helper to Electrician | 1 | – | | 1 | |

## ELECTRICAL SUB DIVISION, VELLAYANI

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Admn. and Supporting staff* | | | | | |
| Assistant | 1 | 1 | Annamma Philip | – | |
| Typist | 1 | 1 | Savitha Devi B | – | |
| Peon | 1 | 1 | Mini V | – | |
| *Technical staff* | | | | | |
| Assistant Exe. Engineer | 1 | 1 | E.K.Gokulan | – | |
| Technician | 1 | – | | 1 | |
| Assistant Engineer | 1 | – | | 1 | |

## ENGINEERING SUB DIVISION, PANANGAD

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Admn. and Supporting staff* | | | | | |
| Section Officer | 1 | 1 | C. Suchetha | | 1.4.01 to 30.4.01 |
| | | | T. Vijayalakshmi | | 30.5.01 still continuing |
| Assistant | 2 | 2 | B. Bhanumathi | – | |
| | | | P.A. George | | |
| Typist | 1 | 1 | K.A. Geetha | – | |
| Class IV | 1 | 1 | R. Gopal Singh | – | |
| *Technical staff* | | | | | |
| Assistant Exe. Engineer | 1 | 1 | P.R.Govindan | – | |
| Assistant Engineer | 3 | 3 | B. Mohammed Irshad | – | |
| | | | P. Manoj | | 1.4.01 to 30.6.01 |
| | | | T.N.Suresh Babu | | 30.6.01 to continuing |
| | | | P.H.Salim | | 1.4.01 to 30.6.01 |
| | | | C.I.Sali | | 30.6.01 to continuing |
| Overseer Gr. I | 2 | 2 | Saji Markose | | |
| | | | S.R. Antony | – | |
| Overseer Gr.II | 2 | – | | 2 | |
| LDV Driver | 1 | 1 | A.S.Sukumara Marar | – | |

## ENGINEERING SUB DIVISION, POOKODE

| Dept. and designation | No.of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | In position | Name of incumbent | Vacant | |
| *Admn. and Supporting staff* | | | | | |
| Assistant Exe. Engineer | 1 | 1 | K. Savy Joseph | – | |
| Assistant Engineer | 3 | 3 | T. K. Abdul Khader | – | |
| | | | E. T. Lal | | |
| | | | V. Unnikrishnan | | |
| Overseer | 3 | – | | 3 | |

## K. A. U. ESTATE

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| ***Administrative and supporting staff:*** | | | | | |
| Estate Officer | 1 | 1 | T. Aravindan | Nil | |
| Section Officer | 1 | 1 | S. Valsala | Nil | |
| Assistants | 2 | 2 | C. Kunhunni | | |
| | | | K.N. Murukes | Nil | |
| Typist | 1 | 1 | B.K. Padmaja | Nil | |
| Class IV | 2 | 1 | P. Kunjunni | 1 | |
| ***Technical Staff*** | | | | | |
| Farm Supervisor | 1 | 1 | V.D. Thulasidas | Nil | |
| LDV Driver | 1 | 1 | M.S. Sabarinathan | Nil | |
| Field Officer | 1 | 1 | T.K. Raghavan | Nil | |
| Tapping Supervisor | 1 | 1 | M.S. Damodaran | Nil | |
| Spl.Gr.Miller | 1 | 1 | K.K. Shanmughan | Nil | |
| Tappers | 16 | 16 | P.A.Shereefa | | |
| | | | C.H. Muthu | | |
| | | | E.G. Anandan | | |
| | | | K.M. Raveendran | | |
| | | | K.V. Rajan | | |
| | | | M.V. Shanmughan | | |
| | | | A.M. Siddique | | |
| | | | M.G. Sajeevkumar | | |
| | | | J.Shabu | | |
| | | | A.V. Poulose | | |
| | | | M.I.Vijayan | | |
| | | | V.M. Lalu | | |
| | | | T.K.Shaji | | |
| | | | K.B.Anilkumar | | |
| | | | C.K.Abdulsalam | | |
| | | | P.K.Kumaran | | |

## CAMPUS DEVELOPMENT

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| 1 | 2 | 3 | 4 | 5 | 6 |
| ***Scientific*** | | | | | |
| Associate Professor | 2 | 2 | Dr. Babu M. Philip | Nil | |
| Assistant Professor | 1 | 1 | Dr. K.P. Pramila | Nil | |
| | | | K.E. Usha | | |

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| ***Technical Administrative/ supporting/ paratechnical/ ministerial and other positions (scheme-wise)*** | | | | | |
| Sr. Farm Supervisor | 1 | 1 | M.K.Chandramathy | Nil | |
| Farm Supervisor | 1 | Nil | | 1 | |
| Farm Assistant Sel.Gr. | 1 | 1 | C.Esarachandran | | |
| Sr. Grade Asst. | 1 | 1 | C.K.Maria John | Nil | |
| Office Superinntedent | 1 | 1 | P.K.Kalliani | Nil | |
| Lab Assistant | 1 | 1 | P.Narendran | Nil | |

## INTERNAL AUDIT CIRCLE (SR), VELLAYANI

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| Deputy Comptroller | 1 | 1 | B.Rugmini Amma | Nil | |
| Section Officer | 2 | 2 | C.N.Radhakrishnan | | |
| Section Officer | 6 | 6 | C. Santhakumari | Nil | |
| Seln. Gr. Assistant | 3 | 3 | P. Indira Devi | | |
| | | | K. Rajendran | | |
| | | | M.Mohammed Hamsa | | |
| Sr. Gr. Assistant | | | A.K.Shajikumar | | |
| Assistant Gr.I | | | K. Philip George | | |
| Assistant Gr.II | | | N. Bhadrakumar | | |
| Typist Gr.II | 1 | 1 | A.G.Radhakrishnan | Nil | |
| Class IV | 1 | 1 | A. Sathyan | Nil | |

## INTERNAL AUDIT CIRCLE (NR), KOZHIKODE

| Dept. and designation | No. of posts | | | | Remarks |
|---|---|---|---|---|---|
| | Sanct-ioned | in position | Name of the incumbent | Vacant | |
| Assistant Comptroller | 1 | 1 | P. Unnikrishnan | Nil | |
| Section Officer (Hr. Gr.) | 2 | 2 | S. Droupadi | | |
| | | | P.V.Raveendran | Nil | |
| Section Officer (FC & D) | 1 | 1 | K.K.Damodaran | Nil | |
| Seln. Gr. Assistant | 1 | 1 | P. Muraleedharan | | |
| Sr. Gr. Assistant | 3 | 3 | V. Mohammed Kunhi | | |
| | | | M. Manjunathan | | |
| | | | Treesamma Titus | | |
| Asst. Gr. II | | | P.V.Meeradevi | | |
| | | | K. Kishor | | |
| Typist Gr.I | 1 | 1 | P. Ratnakaran | Nil | |
| Class IV (Seln Gr.) | 1 | 1 | V. Sankaran | Nil | |

## APPENDIX IV

# ONGOING PROJECTS UNDER KERALA AGRICULTURAL UNIVERSITY

**As on 31-03-2002**

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| ***202 College of Agriculture, Vellayani*** | | | | | | |
| 1 | Application of sterile insect technology (SIT) to control red palm weevil in coconut | Dr. Krishnakumar. R. | Dept. of Atomic Energy, GOI. | 16.000 | 31/03/2000 | 36 |
| 2 | Bio control of aphids and mites infesting crops | Dr. Sudharma. K. | Dept. of Biotechnology (GOI) | 15.000 | 11/08/1998 | 36 |
| 3 | Bio control of water hyacinth*(Eichhornia crassipes* (mart) solms) using mycoherbicides | Dr. Naseema. A. | Dept.of Science & Technology (GOI) | 6.000 | 07/09/2000 | 36 |
| 4 | Starting of experimental agrometeorological advisory services(AAS) at Vellayani | Dr. Muralidharan Nair. V. | Other Depts. (GOI) | 3.000 | 17/04/1997 | 36 |
| 5 | Watershed studies in selected districts of Kerala with special emphasis on tribal settlements -CESS, REC(Calicut), & Kerala Agricultural University | Dr. Rajendran. P. | Others | 1.000 | 09/11/1999 | 60 |
| 6 | AICRP on Honey bee | Dr. Devanesan. S. | ICAR Co-ordinated | 53.000 | 01/04/1997 | 120 |
| 7 | AICRP on Nematode Pests | Dr. Sheela. M. S. | ICAR Co-ordinated | 49.000 | 01/04/1997 | 120 |
| 8 | Bio-ecology, domestication and management of stingless bees in Kerala | Dr. Devanesan. S. | ICAR Co-ordinated | 11.000 | 09/07/1999 | 36 |
| 9 | Host parasitic relationship and ecofriendly management of important nematode associated with medicinal plants (Thippali,Piper longum, Chethikodu-veli, *K.galanga,P.rosea*, Kacholam) | Dr. Sheela. M. S. | ICAR Co-ordinated | 9.000 | 18/09/2000 | 36 |
| 10 | Soil characterisation and resource management of acid soil regions for increasing productivity (Network Research Project) | Dr. Venugopal. V. K. | ICAR Co-ordinated | 10.000 | 31/10/2000 | 60 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| 11 | AICRP on Mushroom | Dr. Balakrishnan. B. | ICAR Co-ordinated | 12.000 | 20/09/2000 | 60 |
| 12 | Land use planning for management of agricultural resources | Dr. Subramonia Iyer. M. | NATP | 13.000 | 01/01/2001 | 36 |
| 13 | Goitre incidence in Kerala.(Kerala Res. Prog. on Local Level Devt.) (Preparation of status paper) | Dr. Nandini. P. V. | Kerala Res.Prg.on Local Level Development | 0.000 | 14/11/1998 | 27 |
| 14 | Development of an integrated pest management package for the eriophyid mite of coconut in the southern states | Dr. Saradamma. K. | NATP | 30.000 | 08/05/2000 | 36 |
| 15 | Intercropping medicinal plants in oil palm plantations (Oil Palm India Limited) | Dr. Jessykutty. P. C. | Others | 9.000 | 03/10/2000 | 36 |
| 16 | Nutrient requirement of annual spices in coconut gardens of Kerala | Dr. Meera Bai | STEC/STED (GOK) | 4.954 | 27/04/1998 | 36 |
| 17 | Nutrient management in coconut based fodder production systems in the homesteads of Kerala.(Potash & Phosphate Institute of Canada-India Programme) | Dr. Lekshmy S. | Others | 4.710 | 27/07/1998 | 48 |
| 18 | Yield maximisation in cassava through Hunters systematic approach in fertilizer use (Ph.D Research Project of Ms.Susan John) | Head,Dept.of Soil Science | Others | 0.000 | 11/10/1999 | 36 |
| 19 | Methods to increase the efficiency of directly applied high grade phosphate rock concentrate (JKT) in neutral and alkaline soils | Dr. Sundaresan Nair. C | Rajastan State Mines & Minerals Ltd. | 1.000 | 01/07/1999 | 19 |
| 20 | Monitoring of residues of insecticides in vegetables collected from the markets of Kerala. | Dr. Thomas Biju Mathew | STEC/STED (GOK) | 1.000 | 01/01/1995 | 36 |
| 21 | Post harvest studies on processed products made from mango and pappaya | Dr. Prema. L. | STEC/STED (GOK) | 1.000 | 05/12/1995 | 36 |
| 22 | Monitoring of pesticide residues in milk and milk products in Kerala. | Dr. Naseema Beevi. S. | STEC/STED (GOK) | 1.000 | 01/09/1992 | 50 |
| 23 | Nutrient enrichment of vermicompost using low grade nutrient carriers. | Dr. Ushakumari. K. | STEC/STED (GOK) | 1.000 | 02/05/1998 | 36 |
| 24 | Cataloguing Ginger cultivars for photo-synthetic efficiency and shade tolerance | Jayachandran B. K. | STEC/STED (GOK) | 2.000 | 11/05/1999 | 24 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| **315** | ***CSRC, Karamana*** | | | | | |
| 144 | AICRP - Project Directorate of Cropping Systems Research - Karamana & ECF Unit, Alathur sub centre | Head | | | | |
| **321** | ***PRS, Va...*** | | | | | |
| 145 | | | Other Depts. (GOK) | 3.000 | 04/01/2000 | 12 |
| 171 | Seed multiplication and integrated pest management programme | Assoc. Director RARS, Pattambi | | 14.000 | 01/07/1999 | 48 |
| 172 | Collection, evaluation and documentation of germplasm collection of rice, brinjal chillies and other major crop species of Kerala | Dr. Leenakumari. S. | NATP | | | 18 |
| 173 | Pilot study on sustainable rice production through organic farming | Dr. Balachandran P.V. | NATP | 28.000 | 25/01/2001 | 36 |
| 174 | Evaluation of agricultural projects under people plan campaign in Malappuram district | Prema A. | Kerala ...ce & ...chnology (GOI) | 1.000 | 01/04/1995 | 60 |
| 175 | Induction of resistance in rice against blast and sheath blight through ... culture system | G. S. Others | | 8.890 | 01/06/1994 | 94 |
| 32... | | ...overup John | ICAR Co-ordinated | 27.000 | 01/04/1997 | 120 |
| **343** | ***RARS, Pi...*** | Shyam S. Kurup. Dr. | ICAR Adhoc | 16.395 | 12/12/2001 | 36 |
| 176 | ...g Main | Head | ICAR Co-ordinated | 41.650 | 01/04/1997 | 60 |
| | ***...da*** | | | | | |
| 181 | ...garcane | Station Head | ICAR Co-ordinated | 46.530 | 01/04/1997 | 60 |
| **379** | ***LRS, Thiruvazhamkunnu*** | | | | | |
| 182 | AICRP on Agroforestry (Functioning at LRS, Thiruvazhamkunnu) | Dr. Mohankumar. B. | ICAR Co-ordinated | 26.000 | 01/04/1990 | 120 |
| **385** | ***Dept. of Olericulture, CoH, Vellanikkara*** | | | | | |
| 183 | Sustainable management of plant biodiversity: vegetable cowpea and ...aranthus | Dr. Salikutty Joseph | NATP | 24.000 | 01/04/2001 | 33 |
| **403** | ***Communication Centre, Mannuthy*** | | | | | |
| 184 | Invitro production of anti-cancer secondary plant metabolates - captothecia and related alkaloids | Dr. Vasanthakumar K. | STEC/STED (GOK) | 3.000 | 04/09/2001 | 36 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| 11 | AICRP on Mushroom | Dr. Balakrishnan. B. | ICAR Co-ordinated | 12.000 | 20/09/2000 | 60 |
| 12 | Land use planning for management of agricultural resources | Dr. Subramonia Iyer. M. | NATP | 13.000 | 01/01/2001 | 36 |
| 13 | Goitre incidence in Kerala.(Kerala Res. Prog. on Local Level Devt.) (Preparation of status paper) | Dr. Nandini. P. V. | Kerala Res.Prg.on Local Level Development | 0.000 | 14/11/1998 | 27 |
| 14 | Development of an integrated pest management package for the eriophyid mite of coconut in the southern states | Dr. Saradamma. K. | NATP | 30.000 | 08/05/2000 | 36 |
| 15 | Intercropping medicinal plants in oil palm plantations (Oil Palm India Limited) | Dr. Jessykutty. P. C. | Others | 9.000 | 03/10/2000 | 36 |
| 16 | Nutrient requirement of annual spices in coconut gardens of Kerala | Dr. Meera Bai | STEC/STED (GOK) | 4.954 | 27/04/1998 | 36 |
| 17 | Nutrient management in coconut based fodder production systems in the homesteads of Kerala.(Potash & Phosphate Institute of Canada-India Programme) | Dr. Lekshmy S. | Others | 4.710 | 27/07/1998 | 48 |
| 18 | Yield maximisation in cassava through Hunters systematic approach in fertilizer use (Ph.D Research Project of Ms.Susan John) | Head,Dept.of Soil Science | Others | 0.000 | 11/10/1999 | 36 |
| 19 | Methods to increase the efficiency of directly applied high grade phosphate rock concentrate (JKT) in neutral and alkaline soils | Dr. Sundaresan Nair. C | Rajastan State Mines & Minerals Ltd. | 1.000 | 01/07/1999 | 19 |
| 20 | Monitoring of residues of insecticides in vegetables collected from the markets of Kerala. | Dr. Thomas Biju Mathew | STEC/STED (GOK) | 1.000 | 01/01/1995 | 36 |
| 21 | Post harvest studies on processed products made from mango and pappaya | Dr. Prema. L. | STEC/STED (GOK) | 1.000 | 05/12/1995 | 36 |
| 22 | Monitoring of pesticide residues in milk and milk products in Kerala. | Dr. Naseema Beevi. S. | STEC/STED (GOK) | 1.000 | 01/09/1992 | 50 |
| 23 | Nutrient enrichment of vermicompost using low grade nutrient carriers. | Dr. Ushakumari. K. | STEC/STED (GOK) | 1.000 | 02/05/1998 | 36 |
| 24 | Cataloguing Ginger cultivars for photo-synthetic efficiency and shade tolerance | Jayachandran B. K. | STEC/STED (GOK) | 2.000 | 11/05/1999 | 24 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| 25 | Exploitation of hypovirulance in *Rhizoctonia solani* Kuhn. for sheath blight disease supression and growth promotion in rice | Dr. Girija. V. K. | STEC/STED (GOK) | 1.000 | 31/10/1998 | 36 |
| 26 | Utilization of pepper phylloplane mycoflora for the biocontrol of foliar disease of pepper | Dr. Santhakumari. P. | STEC/STED (GOK) | 1.000 | 03/06/1999 | 24 |
| 27 | In vitro production of secondary metabolics of Annona sp. and evaluation of their pesticidal properties | Dr. Hebsy Bai | STEC/STED (GOK) | 4.000 | 01/12/1999 | 36 |
| 28 | Development of fluroscent pre-dominal based bio pesticide for the management of important plant pathogens of rice in Kerala | Dr. Kamala Nair | STEC/STED (GOK) | 1.000 | 21/01/2000 | 36 |
| 29 | Nematode association in Kacholam *Kaempferia galanga*. L. and its management | Dr. Sheela. M. S. | STEC/STED (GOK) | 4.000 | 04/02/2000 | 36 |
| 30 | Development of arbuscular mycorrhizal fungi & azospirillum inoculants for nursery disease management and growth enhancement in chilli & amaranthus | Dr.Meenakumari.K.S. | STEC/STED (GOK) | 2.000 | 26/07/2000 | 24 |
| 31 | Influence of microclimate on the productivity of a coconut based cropping system | Dr. Girija Devi. L. | STEC/STED (GOK) | 2.000 | 18/08/2000 | 36 |
| 32 | Development of vermicompost based mycoinoculants for plant disease control | Dr. Nair. S. K. | STEC/STED (GOK) | 1.000 | 16/08/2000 | 36 |
| 33 | Etiology and management of important diseases of anthurium | Dr. Mary. C. A. | STEC/STED (GOK) | 2.000 | 31/01/2001 | 36 |
| 34 | Organic farming for sustainable vegetable production | Dr. Meera Bai. M. | STEC/STED (GOK) | 2.000 | 08/05/2000 | 24 |
| 35 | Mass production and field evaluation of bio agents for the eco friendly management of nematodes associated with vegetables | Dr. Sheela M.S. | NATP | 18.236 | 01/04/2001 | 33 |
| 36 | Yield maximisation of banana cv. Nendran through systematic approach of fertilizer use in the red loam soils of Vellayani | Prakashmany N. (Student) | Potash & Phosphate Inst.of Canada India Program | 0.300 | 05/07/2001 | 24 |
| 37 | Comprehensive coconut management and coconut mite management, | Dr Saradamma K. | Dept. of Agriculture, Thiruvananthapuram | 29.453 | 10/10/2001 | 36 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| 38 | Sustainable techniques for domestication and commercial cultivation of medicinal plants in the humid tropics | Anilkumar A.S. | STEC/STED (GOK) | 4.150 | 06/11/2001 | 36 |
| ***204*** | ***College of Agriculture, Padannakad*** | | | | | |
| 39 | Investigation on the allelopathic effects of certain multipurpose trees commonly planted in the homesteads of Kerala | Dr. Jacob John | STEC/STED (GOK) | 3.000 | 03/02/2001 | 36 |
| 40 | Standardisation of extraction and preservation techniques of palm-sap (toddy) from coconut | Dr. Giridharan M.P. | NATP | 11.000 | 01/04/2001 | 33 |
| ***205*** | ***College of Forestry, Vellanikkara*** | | | | | |
| 41 | Role of macro and micro fauna in litter decomposition and plant production in natural forest and agroforestry systems (Dept. of Forests) | Dr. Ambikavarma | Other Depts. (GOK) | 4.000 | 21/05/1999 | 36 |
| 42 | Conservation strategy for Dipterocarp(*Ho pea parviflora* Bedd) species thro'storage of seeds using dessication treatment, synthetic seeds and cryopreservation tech. | Dr. Sudhakara. K. | Other Depts. (GOK) | 1.000 | 17/03/1998 | 48 |
| 43 | Effect of cosmopriming and accelerated ageing treatments on the germination characteristics of teak seeds (Dept. of Forests) | Dr. Sudhakara. K. | Other Depts. (GOK) | 3.000 | 17/03/1998 | 48 |
| 44 | Wood quality studies of Acacia provenances | Anoop. E. V. | Other Depts. (GOK) | 4.000 | 06/01/2001 | 36 |
| 45 | Solid waste as a component of potting media for the seedlings of agroforestry tree species | Dr. Gopikumar. K. | ICAR Co-ordinated | 6.000 | 24/07/2000 | 36 |
| 46 | Human utilization of the forest of western ghats and its effect on the bio-diversity | Nameer P.O. | Kerala Forest Development Fund | 2.320 | 26/09/2001 | 24 |
| ***206*** | ***College of Horticulture, Vellanikkara*** | | | | | |
| 47 | Cocoa research collaboration project between KAU and Hindustan Cocoa Products Limited | Dr. Mallika. V/ Vikraman Nair | CAD India Ltd. | 109.00 | 01/04/1997 | 60 |
| 48 | Establishment of distributed information sub centre at KAU. | Dr. Nazeem. P. A. | Dept. of Biotechnology (GOI) | 15.000 | 04/05/1995 | 60 |
| 49 | Triploid production in water melon and Annonas through in vitro endosperm culture | Dr. Rajendran .P .C. | Dept. of Biotechnology (GOI) | 10.000 | 05/03/1997 | 36 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| 50 | Tissue culture research in Cashew | Dr. Kesavachandran. | Dept. of R.Biotechnology (GOI) | 20.000 | 19/07/1999 | 36 |
| 51 | Establishment of a National Centre for medium range weather forecasting on experimental basis at KAU main campus-Start.of Agromet Services on exptl.basis under NCMRWF | Dr. G. S. L. H. V. Prasada Rao | Dept.of Science & Technology (GOI) | 1.000 | 08/03/1991 | 120 |
| 52 | Pricing of irrigation water in Kerala with special reference to environmental management | Dr. Indiradevi. P. | Others | 8.000 | 01/04/2000 | 26 |
| 53 | Induction of variation through tissue culture and evaluation of varieties for phytophthora, footrot tolerance/ resistance in black pepper | Dr. Shylaja. M. R. | Other Depts. (GOK) | 7.000 | 12/03/1999 | 48 |
| 54 | Identification of location specific varieties | Dr. Nybe. E. V. | Other Depts. (GOK) | 6.000 | 12/03/1999 | 48 |
| 55 | Testing of the released pepper varieties in various pepper tracts of Kerala | Dr. Nybe. E. V. | Other Depts. (GOK) | 4.000 | 12/03/1999 | 48 |
| 56 | Identification of low input reponsive varieties in relation to local technology in black pepper | Dr. Prassannakumari Amma. S. | Other Depts. (GOK) | 5.000 | 12/03/1999 | 48 |
| 57 | Use of organics and biofertilisers in black pepper for yield and quality improvement | Dr. Jose Mathew | Other Depts. (GOK) | 5.000 | 12/03/1999 | 48 |
| 58 | Standardisation of low input technology for black pepper | Dr. Jose Mathew | Other Depts. (GOK) | 5.000 | 12/03/1999 | 48 |
| 59 | Use of bio-control for checking phytophthora disease | Dr. Vilasini. T. N. | Other Depts. (GOK) | 22.000 | 12/03/1999 | 48 |
| 60 | Incorporation of biocontrol in nursery plants for checking phytophthora disease | Dr. Koshy Abraham | Other Depts. (GOK) | 21.000 | 12/03/1999 | 48 |
| 61 | Breeding for resistance to phytophthora foot rot in pepper | Dr. Sujatha. V. S. | Other Depts. (GOK) | 6.000 | 12/03/1999 | 48 |
| 62 | AICRP on Weed Control | Dr. Abraham. C. T. | ICAR Co-ordinated | 36.000 | 01/04/1997 | 120 |
| 63 | AICRP on BCCP | Dr. Pathummal Beevi | ICAR Co-ordinated | 40.970 | 01/04/1997 | 60 |
| 64 | AIC Vegetable Improvement Project | Dr. Rajan. S. | ICAR Co-ordinated | 14.000 | 01/04/1990 | 120 |
| 65 | AIC Floriculture Improvement Project | Dr. Rajeevan. P. K. | ICAR Co-ordinated | 12.000 | 01/04/1990 | 120 |
| 66 | AICRP on Medicinal & Aromatic Plants | Dr. Presannakumari.K.T. | ICAR Co-ordinated | 57.000 | 01/04/1997 | 120 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| 67 | AINP on Agricultural Ornithology | Dr. Jim Thomas | ICAR Co-ordinated | 34.000 | 01/04/1997 | 120 |
| 68 | Genetic analysis of cocoa *(Theobroma cacao* L) hybrids | Dr. Mallika. V. K. | ICAR Co-ordinated | 6.000 | 17/11/1999 | 36 |
| 69 | Agri-business opportunities in Kerala-Constraints Analysis to ensure sustainable efficiency | Dr. Indiradevi. P. | ICAR Co-ordinated | 9.000 | 19/08/2000 | 24 |
| 70 | Micropropagation & development of seedless Malabar tamarind Garcinia gummigutta var. gummigutta through in vitro techniques | Dr. Rajendran. P. C. | ICAR Co-ordinated | 8.000 | 14/09/2000 | 36 |
| 71 | Standardisation of techniques for commercial production of dry flowers and plant | Dr. Geetha. C. K. | ICAR Co-ordinated | 7.000 | 14/09/2000 | 36 |
| 72 | Biocontrol of *Ralstonia solanacearum E.F* Smith causing bacterial wilt in Solanaceous vegetable crops | Dr. Sally. K. Mathew | ICAR Co-ordinated | 11.000 | 18/09/2000 | 36 |
| 73 | Economics of teak plantations in Kerala | Indira Devi. P. | ICFRE(GOI) | 6.000 | 16/06/1997 | 36 |
| 74 | Padma Shree Paul Pothen IFFCO chair | Dr. Mukundan. K / Thomas E. K. | | | 12/08/1996 | 48 |
| 75 | Transfer of technology and studies on marketing pattern of jack fruits in Thrissur district | Dr. Lyla Mathew. K. | Kerala Res.Prg.on Local Level Development | 1.000 | 01/03/2000 | 18 |
| 76 | Integrated new production system for bananas for export and domestic needs | Dr. Valsalakumari P.K. | NATP | 13.000 | 21/06/2000 | 36 |
| 77 | Post harvest management of cut flowers of orchids and anthurium | Dr. Valsalakumari P.K. | NATP | 19.000 | 01/04/2000 | 36 |
| 78 | Transfer of technology in commercial production of anthurium | Dr. Valsalakumari P.K. | National Horticultural Board | 9.000 | 10/05/2000 | 36 |
| 79 | Transfer of technology in commercial production of orchids | Dr. Rajeevan. P. K. | National Horticultural Board | 9.000 | 18/05/2000 | 36 |
| 80 | Establishment of a centre for large scale production of vegetable seeds | Dr. Rajan. S | | 16.000 | 01/09/1999 | 84 |
| 81 | Large scale production of quality fruits and ornamentals | Dr. Rajeevan. P. K. | | 6.000 | 01/12/1997 | 84 |
| 82 | Survey and collection of elite Mauritius pineapple clones suitable for commercial cultivation in Kerala (KHDP, Vellanikkara) | Dr. Babylatha. A. K. | STEC/STED (GOK) | 1.000 | 14/07/1999 | 36 |
| 83 | Integrated management of fruit flies (Diptera: Tephritidae) in India | Dr. Jim Thomas | Others | 10.880 | 01/01/2002 | 27 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| 84 | Yellow leaf of arecanut and its agronomic management | Dr. Mercy George, | STEC/STED (GOK) | 2.920 | 23/03/2002 | 36 |
| 85 | Improvement of selected spice crops through biotechnology tools | Dr. Nazeem P.A. | Dept. of Biotechnology (GOI) | 49.000 | 03/05/2001 | 36 |
| 86 | Performance analysis of selected medicinal plants in multiple cropping system - PSR model | Dr Prasannakumari K.T. | NATP | 20.730 | 04/10/2001 | 24 |
| 87 | Persistance of herbicides in water bodies and its impact on aquatic life | Dr. Durga devi K.M. | ICAR Adhoc | 25.000 | 26/07/2001 | 36 |
| 88 | AICRP on meteorology | Dr. Prasada Rao G.H.S.L.V. | ICAR Co-ordinated | 7.680 | 01/04/1997 | 60 |
| ***210*** | ***Instructional Farm, Vellayani*** | | | | | |
| 89 | Bio-degradation of coir pith with funge for converting it into compost and standardisation of techniques for mushroom production | Dr. Geetha D. | STEC/STED (GOK) | 1.890 | 25/03/2002 | 36 |
| ***253*** | ***KCAE&T, Tavanur*** | | | | | |
| 90 | Establishment of plasticulture development centre at Tavanur. Dept.of Agri.& Co-op.,Min.of Agriculture | Dr. John Thomas. K. | Other Depts. (GOI) | 14.000 | 01/04/1995 | 72 |
| 91 | AICRP on Farm Implements & Machinery | Dr. Sivaswami. M. | ICAR Co-ordinated | 45.000 | 01/04/1997 | 120 |
| 92 | Farm machinery production and popularisation | Prof.Muhammed.C.P. | ICAR Co-ordinated | 12.000 | 31/08/2000 | 120 |
| 93 | Front line demonstration of agricultural implements and machinery in selected regions of the country. | Dr. Sivaswamy. M. | ICAR Co-ordinated | 3.000 | 02/11/2000 | 24 |
| 94 | A study on socio economic impact of combine harvester | Dr. Sivaswami. M. | NATP | 8.000 | 01/01/2001 | 24 |
| 95 | Development and testing of farm machiney for plantation crops of Kerala | Muhammed. C. P | NATP | 61.000 | 01/04/2000 | 36 |
| 96 | Alleviating occupational stresses imposed on women agricultural workers of Kerala - An ergonomic approach | Geetha Susan Philip | NATP | 28.000 | 01/04/2001 | 33 |
| 97 | Study relating to formulating long term mechanization strategy for each agroclimatic zone/state | Dr. Sivaswamy M. | Dept.of Agri.& Cooperation (GOI) | 2.018 | 01/04/2001 | 12 |
| 98 | Development and testing of a simple riding type paddy transplanter | Dr. Sivaswamy M. | ICAR Adhoc | 8.429 | 10/07/2001 | 24 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| ***262*** | ***College of Fisheries, Panangad*** | | | | | |
| 99 | Studies on circulation and mixing and their influence on productivity of Panangad region of Vembanad Lake | Dr. Kerala Varma. K. | ICAR Co-ordinated | 8.000 | 18/07/2000 | 36 |
| 100 | Germplasm inventory, Evaluation and gene banking of freshwater fishes | Dr. Anna Mercy. T. V. | NATP | 14.000 | 01/11/1999 | 48 |
| 101 | Consumer amenable technology upgradation for prevention of losses to dried, cured and smoked fish | Dr. Krishnakumar. S. | NATP | 19.000 | 01/04/2000 | 36 |
| 102 | Development of paste product from low cost freshwater fishes | Dr. Sajan George | NATP | 16.000 | 01/04/2000 | 36 |
| 103 | Production of bioactive substances from squid and cuttle fish processing waste | Dr. Sherief P.M. | NATP | 27.000 | 01/04/2001 | 33 |
| 104 | Bio-diversity survey of Palaemonid prawns of Kerala and studies on the biology of Macrobrachium latimanus | Dr. Jayachandran V. | ICAR Adhoc | 9.000 | 08/08/2001 | 36 |
| ***263*** | ***Fisheries Station, Puduveypu*** | | | | | |
| 105 | Shrimp and fish broodstock development and breeding under captive conditions | Dr. Purushan. K. S. | NATP | 14.000 | 01/07/1999 | 48 |
| ***271*** | ***College of Vety. and An. Sc., Mannuthy*** | | | | | |
| 106 | Development of molecular genotyping techniques for the diagnosis of genetic disease in diary cattle | Dr. Sisiliamma George | Dept. of Biotechnology (GOI) | 36.000 | 24/02/2000 | 36 |
| 107 | Molecular genetic characterization and genetic improvement of malabari goats | Dr.Aravindakshan T.V. | Dept. of Biotechnology (GOI) | 19.000 | 09/05/2000 | 36 |
| 108 | Formulation of low cost animal feeds using feed stuffs available in rural areas of Kerala. | Dr. Syam Mohan K .M. | Dept.of Science & Technology (GOI) | 2.000 | 20/01/1997 | 36 |
| 109 | Monitoring of health status of elephants in Wayanad wild life reserve. Chief Conservator of Forests (Wild Life) | Dr. Alex. P .C. | Other Depts. (GOI) | 3.000 | 28/08/1998 | 36 |
| 110 | *Polioencephalomalacia* in goats in Kerala | Dr. Alex. P. C. | ICAR Co-ordinated | 10.000 | 16/09/1999 | 36 |
| 111 | Chlamydiosis in livestock with special reference to abortions in livestock | Dr. Jayaprakasan.V | ICAR Co-ordinated | 21.000 | 07/10/1998 | 36 |
| 112 | AICRP on Pigs | Dr.Viswanathan T.V. | ICAR Co-ordinated | 113.00 | 01/04/1997 | 120 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| 113 | AICRP on Poultry | Dr. Narayanankutty K. | ICAR Co-ordinated | 158.99 | 01/04/1997 | 60 |
| 114 | Toxicological effects of industrial wastes in cattle | Dr. Gopakumar. N. | ICAR Co-ordinated | | 23/06/1999 | 36 |
| 115 | Molecular characterization and adaptability studies of the Vechur cattle of coastal area and dwarf cattle of high ranges of Kerala | Dr. Sosamma Iype | ICAR Co-ordinated | 37.000 | 18/08/2000 | 36 |
| 116 | Bacterial quality assurance of meat in processing plant | Dr. Nanu. E. | ICAR Co-ordinated | 14.000 | 20/09/2000 | 36 |
| 117 | AICRP on Pigs | Dean, Veterinary College | ICAR Co-ordinated | 113.00 | 08/11/2000 | 60 |
| 118 | Conservation and evaluation of Malabari breed of Goats | Dr. Raghavan. K. C. | ICAR Co-ordinated | 25.000 | 30/11/2000 | 36 |
| 119 | AINWP on Haemorrhagic Septicaemia | Dr. Krishnan Nair. G. | ICAR Co-ordinated | 11.000 | 14/03/2001 | 60 |
| 120 | Meat science and technology in the centre/team of excellence mode | Dr. Abraham. J. | NATP | 215.00 | 01/01/2001 | 36 |
| 121 | AICRP on Goat Improvement | Dr. Raghavan K. C. | ICAR Co-ordinated | 33.000 | 01/04/1997 | 60 |
| 122 | NWP on Attapady Black Goats | Dr. Stephen Mathew | ICAR Co-ordinated | 21.000 | 01/04/1997 | 60 |
| 123 | Network programme on micronutrients in Animal Nutrition and production | Dr. Gangadevi. P wef. 24.11.97 | Network | 73.000 | 01/04/1997 | 120 |
| 124 | Productivity enhancement of ducks | Dr. Jalaludeen. A. | NATP | 31.000 | 01/07/1999 | 48 |
| 125 | Strategies for enhancing the productivity of pigs for the farming community | Dr. Viswanathan. T. V. | NATP | 27.000 | 01/07/1999 | 48 |
| 126 | Animal Genetic Resources Bio-diversity | Dr. Anilkumar K. | NATP | 23.000 | 01/10/1999 | 48 |
| 127 | Animal health information system through disease monitoring and surveillance | Dr. Jayaprakasan. V. | NATP | 16.000 | 01/07/2000 | 42 |
| 128 | Weather based animal disease forecasts | Dr. Saseendranath M.R. | NATP | 12.000 | 22/09/2000 | 36 |
| 129 | Establishment of a commercial broiler hatchery | Dr. A. Jalaludeen | | 25.000 | 03/03/1998 | 84 |
| 130 | Studies on pesticide residues in meat body fat, blood and various organs of animals slaughtered for meat purpose. | Dr. Vijayan. R. | STEC/STED (GOK) | 1.000 | 21/05/1999 | 36 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| 131 | Consumer acceptability studies of coconut based dairy products Board | Dr. Geevargese P.I. | Coconut Development | 0.500 | 28/01/2002 | 3 |
| 132 | Micro satellite markers for genetic improvement of livestock | Dr. Usha A.P. | NATP | 19.003 | 01/04/2001 | 33 |
| 133 | Development of value added products and byproducts from low cost fish and processing wastes from fish and shell fish | Dr. Mercy A.D. | NATP | 13.950 | 01/04/2001 | 36 |
| 134 | Field progeny testing scheme | Dr.Stephen Mathew | ICAR Adhoc | | 01/04/1997 | 60 |
| ***274*** | ***Meat Technology, Mannuthy.*** | | | | | |
| 135 | Processing of pork, broiler and eggs | Dr. Kuttinarayanan | NATP | 16.000 | 01/04/2001 | 36 |
| ***279*** | ***College of Dairy Science & Technology, Mannuthy*** | | | | | |
| 136 | Improvement of nutritional qualities of some selected dairy products using wild strains of Bifido bacteria | Dr. Prasad. V. | ICAR Co-ordinated | 10.000 | 06/03/2000 | 36 |
| ***301*** | ***AICRP on Agrl. Drainage, Karumady*** | | | | | |
| 137 | Productivity augmentation through sub surface drainage and farming system interventions in acid, saline, coastal wetlands, Kerala | Dr. Mathew E.K. | NATP | 19.000 | 01/04/2001 | 33 |
| ***305*** | ***ARS, Chalakudy*** | | | | | |
| 138 | AICRP on Water Management | Head, ARS, Chalakkudy | ICAR Co-ordinated | 39.000 | 01/04/1990 | 120 |
| ***310*** | ***BRS, Kannara*** | | | | | |
| 139 | AICRP on tropical fruits (Banana) | Dr. Rema Menon | ICAR Co-ordinated | 48.080 | 01/04/1997 | 60 |
| ***313*** | ***CRS, Madakkathara*** | | | | | |
| 140 | AICRP on Cashew - Research on Cashew (Madakkathara & Pilicode) | Dr. Abdul Salam. M. | ICAR Co-ordinated | 14.000 | 01/04/1992 | 96 |
| 141 | Soil test based and productivity linked approach for cashew nutrition | Dr. Abdul Salam. M. | ICAR Co-ordinated | 9.000 | 01/11/2000 | 36 |
| 142 | Developing integrated production package for enhancing productivity of cashew (NATP) | Dr. Susannama Kurien | NATP | 8.000 | 14/10/2000 | 48 |
| ***314*** | ***CRS, Pampadumpara*** | | | | | |
| 143 | AICRP on Spices | Head, CRS, Papamdumpara | ICAR Co-ordinated | 32.440 | 01/04/1990 | 120 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| *315* | ***CSRC, Karamana*** | | | | | |
| 144 | AICRP - Project Directorate of Cropping Systems Research - Karamana & ECF Unit, Alathur sub centre | Head, Karamana | ICAR Co-ordinated | 64.000 | 01/04/1997 | 60 |
| *321* | ***PRS, Vazhakulam*** | | | | | |
| 145 | Studies on the use of pottassium fertilizers for improving yield and quality of pineapple on main production sites of Kerala State | Dr. Devadas V.S. | Others | 4.900 | 10/10/2001 | 36 |
| 146 | Evaluation of pineapple hybrids for higher yield quality and suitability of intercropping | Kuriakose K.P. | ICAR Adhoc | 4.818 | 17/12/2001 | 36 |
| *322* | ***Farming System Research Station, Kottarakkara*** | | | | | |
| 147 | Value addition for sweet potato by developing different food products | Dr. Chellammal. S. | ICAR Co-ordinated | 5.000 | 04/08/1999 | 36 |
| 148 | Management of soil related constraints for increasing production of Cassava in the homesteads of Kollam district | Dr. Shehana. R. S. | STEC/STED (GOK) | 1.000 | 09/03/1999 | 36 |
| 149 | Analysis and development of homestead farms of Kerala - A farmer participatory approach | Dr. Vikraman Nair R. | NATP | 57.000 | 01/04/2001 | 36 |
| *323* | ***Soil Conservation Research Centre, Konni*** | | | | | |
| 150 | Use of coir geotextiles for soil and water conservation at varying slopes | Anil. K. R. | Coir Board | 13.000 | 14/10/1999 | 12 |
| 151 | Providing canal bank protection and assessing the biodegradability of coir geotextiles | Anil. K. R. | Coir Board | 9.000 | 14/10/1999 | 12 |
| 152 | Collaborative project on the use of coir geotextiles for template planting and as a soil mulch | Anil. K. R. | Coir Board | 34.560 | 15/10/1999 | 36 |
| 153 | Use of coir geotextiles for regeneration of exposed rock patches | Anil. K. R. | Coir Board | 13.000 | 14/10/1999 | 12 |
| *336* | ***NARP SR, Vellayani*** | | | | | |
| 154 | Identification of shade tolerant genotypes and study of nutritional alternatives under shade in guinea grass | Dr. Janardhanan Pillai S. | NATP | 5.000 | 01/04/2001 | 36 |
| 155 | Induction of systemic acquired resistance against foot rot (*P.capsici*) of black pepper in micropropagated and conventionally propagated plants in nursery | Dr. Anith K. N. | STEC/STED (GOK) | 2.000 | 09/08/2000 | 36 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Duration (months) |
|---|---|---|---|---|---|---|
| 156 | AICRP on pesticide residues | Dr. Nazeema Beevi S. | ICAR Co-ordinated | 56.254 | 01/04/1997 | 60 |
| 157 | Effective use of fertilizer Phosphorous | Dr. Sundareshan . Nair C. | Others | 4.950 | 21/12/2001 | 36 |
| ***339*** | ***PRS, Panniyur*** | | | | | |
| 158 | AICRP on Spices | | ICAR Co-ordinated | 45.390 | 01/04/1997 | 60 |
| 159 | Technology mission of black pepper | Head | Dept. of Agriculture, Thiruvananthapuram | 0.050 | 22/09/2001 | 12 |
| ***340*** | ***RARS, Ambalavayal*** | | | | | |
| 160 | Starting of experimental agrometeorological advisory services (AAS) at RARS Ambalavayal | Dr. Iype. K. C. | Dept.of Science & Technology (GOI) | 1.000 | 02/03/1996 | 48 |
| 161 | Problem and prospects of agro processing units in Wayanad district of Kerala | Chithra Parayil | Kerala Res.Prg.on Local Level Development | 0.150 | 07/05/2001 | 3 |
| ***341*** | ***RARS, Kumarakom*** | | | | | |
| 162 | Fish ranching and open water fishery management in Vembanad lake. (Dept. of Fisheries) | Dr. Padmakumar K G. | Other Depts. (GOK) | 63.000 | 29/08/1997 | 36 |
| 163 | Germplasm inventory evaluation and gene banking of fresh water fishes | Dr. Padmakumar K G. | NATP | 20.000 | 01/11/1999 | 48 |
| 164 | Economic analysis of rice based cropping system in coastal agro-ecosystem of India (NATP) | Dr. Joseph K J & Padmakumar KG | NATP | 15.000 | 01/11/1999 | 48 |
| 165 | Exploiting the genetic variability in Garcinia combogia Desr. for its rehabilitation and mass production of planting materials. (Spices Board) | Inasi. K.A. | Spices Board (GOI) | 20.000 | 22/11/1996 | 60 |
| 166 | Utilisation of aquatic weeds for vermicomposting and composting | Dr. Geetha. K. | STEC/STED (GOK) | 2.000 | 18/12/2000 | 36 |
| ***342*** | ***RARS, Pattambi*** | | | | | |
| 167 | NSC -Breeder Seed Production Unit NSP - BSP Project | Dr. Leenakumari. S. | ICAR Co-ordinated | 21.000 | 01/04/1990 | 120 |
| 168 | AICRP on Arid Legumes (Guar) | Associate Director | ICAR Co-ordinated | 42.000 | 01/04/1997 | 120 |
| 169 | AICRIP - Double Cropping Main Centre | Assoc. Dir., RARS, Pattambi | ICAR Co-ordinated | 96.600 | 01/04/1990 | 120 |
| 170 | AICRP on Long term fertilizer experiment | Dr. Usha Mathew | ICAR Co-ordinated | 6.000 | 01/04/1995 | 60 |

| Sl No. | Title of project | PI | Funding Agency | Outlay (lakhs) | Date of start | Durati (month |
|---|---|---|---|---|---|---|
| 171 | Seed multiplication and integrated pest management programme | Assoc. Director RARS, Pattambi | Other Depts. (GOK) | 3.000 | 04/01/2000 | 12 |
| 172 | Collection, evaluation and documentation of germplasm collection of rice, brinjal chillies and other major crop species of Kerala | Dr. Leenakumari. S. | NATP | 14.000 | 01/07/1999 | 48 |
| 173 | Pilot study on sustainable rice production through organic farming | Dr. Balachandran P.V. | NATP | 28.000 | 01/04/2001 | 24 |
| 174 | Evaluation of agricultural projects under people plan campaign in Malappuram district | Prema A. | Kerala Res.Prg.on Local Level Development | 2.000 | 28/05/2001 | 18 |
| 175 | Induction of resistance in rice against blast and sheath blight through in vitro culture system | Dr. Beena C. | STEC/STED (GOK) | 3.035 | 25/01/2001 | 36 |
| ***343*** | ***RARS, Pilicode*** | | | | | |
| 176 | Starting of experimental agrometeorological advisory services at RARS Pilicode | Dr. Prasada Rao. G.S.L.H.V | Dept.of Science & Technology (GOI) | 1.000 | 01/04/1995 | 60 |
| 177 | Climate and Coconut (M/s Marico Industries Ltd., Bombay) | Dr. Prasada Rao. G. S. L.H.V | Others | 8.890 | 01/06/1994 | 94 |
| ***344*** | ***Onattukara RARS, Kayamkulam*** | | | | | |
| 178 | AICRP on sesame and ginger | Dr. Sverup John | ICAR Co-ordinated | 27.000 | 01/04/1997 | 120 |
| 179 | Invitro cloning techniques in *Garcinia campogia* Des | Shyam S. Kurup. Dr. | ICAR Adhoc | 16.395 | 12/12/2001 | 36 |
| ***345*** | ***RRS, Moncompu*** | | | | | |
| 180 | AICRIP - Double Cropping Main Centre | Head | ICAR Co-ordinated | 41.650 | 01/04/1997 | 60 |
| ***347*** | ***SRS, Thiruvalla*** | | | | | |
| 181 | AICRP on Sugarcane | Station Head | ICAR Co-ordinated | 46.530 | 01/04/1997 | 60 |
| ***379*** | ***LRS, Thiruvazhamkunnu*** | | | | | |
| 182 | AICRP on Agroforestry (Functioning at LRS, Thiruvazhamkunnu) | Dr. Mohankumar. B. | ICAR Co-ordinated | 26.000 | 01/04/1990 | 120 |
| ***385*** | ***Dept. of Olericulture, CoH, Vellanikkara*** | | | | | |
| 183 | Sustainable management of plant biodiversity: vegetable cowpea and amaranthus | Dr. Salikutty Joseph | NATP | 24.000 | 01/04/2001 | 33 |
| ***403*** | ***Communication Centre, Mannuthy*** | | | | | |
| 184 | Invitro production of anti-cancer secondary plant metabolates - captothecia and related alkaloids | Dr. Vasanthakumar K. | STEC/STED (GOK) | 3.000 | 04/09/2001 | 36 |