KAU NEWS

HOUSE JOURNAL OF THE KERALA AGRICULTURAL UNIVERSITY

KAU bags Sardar Patel Award

The Kerala Agricultural University (KAU) has been chosen for the prestigious 'Sardar Patel Outstanding Institution Award' instituted by the Indian Council of Agricultural Research (ICAR).

The award would be presented to the university at a function to be held in New Delhi on October 19, 2004.

The citation of the award disclosed that among the 34 State Agricultural Universities (SAUs) in India, the KAU secured the first position in the All-India examinations held in agriculture and allied subjects for the junior and senior research fellowships conducted by the ICAR in 2001 and 2002.

The KAU also stood first in the national level Agricultural University Youth Festival in which 12 SAUs participated, implying its eminence in co-curricular activities too, the citation said.

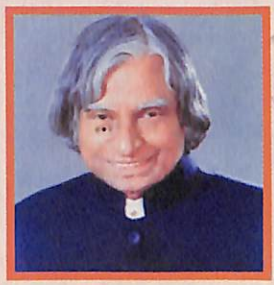
It said that the Centre for Plant Biotechnology and Molecular Biology of the KAU's College of Horticulture was awarded the Biotech Product and Process Development and Commercialisation Award for 2003.

The citation recalled that agriculture in the State was confronted with several problems such as low productivity of crops and low returns and profitability, topographic peculiarities, high rainfall intensities and accelerated soil erosion.

"Although the challenges are daunting, especially in view of the abundant bio-physical resources, physiographic heterogeneity, changing social fabric and the mounting environmental consideration, the academic and research programmes of the KAU had been designed to address the problems of the agricultural sector and the dilemmas of the 21st century signified by globalisation, liberalisation and international competition", it said.

"The KAU has been striving to fulfil its commitment by reorienting and restructuring its programmes. In the bachelor's level education, professionalism has been fortified with entrepreneurship; and at the post-graduate level training is being imparted in emerging areas integrating relevant disciplines," the citation said.

PRESIDENT
REPUBLIC OF INDIA



MESSAGE

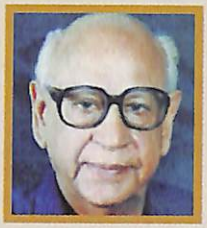
I am happy to know that the Association of Indian Universities is organising the South Zone Vice-Chancellors' Conference at the Kerala Agricultural University during September 2 - 4, 2004.

Universities have a major responsibility in nation building through enriching science, engineering and technology and by providing value-based education to students to make them moral leaders. It is, therefore, appropriate that new approaches to the teaching of higher education should be formulated so that the challenges of education in the era of dynamic technological changes can be met with confidence.

I extend my warm greetings and felicitations to the organisers and the participants and wish the Conference all success.

New Delhi
July 20, 2004

(A.P.J. Abdul Kalam)



KERALA RAJ BHAVAN
THIRUVANANTHAPURAM
PIN - 695 099

12 July, 2004

MESSAGE

I am happy to learn that the Kerala Agricultural University is hosting the South Zone Vice Chancellors' Conference under the auspices of the Association of Indian Universities from 2 – 4 September, 2004 and that a Souvenir is being brought out in this connection.

I hope that the Conference would facilitate effective interaction among the participants vis-a-vis the problems and prospects, in the wake of technical advancements both in agriculture and industry.

I wish the Conference as well as the Souvenir all success.

Sd/-
(R. L. BHATIA)

K. R. GOURI AMMA
MINISTER FOR AGRICULTURE & COIR

Phone { Office 2327759, 2327561 / Res. 2316045, 2316035

THIRUVANANTHAPURAM

Date : 5-5-2004

MESSAGE

I send my best wishes to the Association of Indian Universities' South Zone Vice Chancellors' Conference at the picturesque campus of the Kerala Agricultural University from September 2 - 4, 2004.

With the digital revolution at our doorstep, the educational programmes and processes in our country are undergoing drastic changes. Availability of e-resources, in particular, will accelerate this transformation from conventional courses to "virtual" and learning programmes.

The mantra of this current era is "job placement". Career preparation is widely seen as the function of higher education. Indeed, the expectations of a new generation of students are driving the shape of higher education in India. I do hope the Vice Chancellors and the policy makers who are attending the conference will give a serious thought to this and bring about policy changes appropriate for making the Indian Universities including the state agricultural universities agents of social change.

Sd/-
K.R. Gouri Amma

Knowledge Management- Emerging Perspectives

The Kerala Agricultural University is organizing the South Zone Vice-Chancellors' Conference (2-4 September 2004), with a focal theme on "challenges in agricultural education and knowledge management". "Knowledge is power" and it is crucial to address and improve the generic knowledge management process to tackle community concerns.

Knowledge is an asset, but its effective management requires investment of other assets and a lot of basic requirements. Although our "Vision Statements" proclaim that India would be a "developed country" in another quarter century or so, many of our academic institutions acutely lag behind in infrastructure, and in disparate aspects of knowledge management. A vast majority of our universities and educational institutions, both within and outside the agricultural university system are also on the "other side" of the Digital Divide. Although these institutions have made significant contributions throughout the long history, we have a major challenge in recognizing when to abandon old models and paradigms and create new approaches for providing access to learning opportunities, university expertise, and solutions to community problems.

The aim of agricultural education is to transform the agriculture sector into an engine of our economic growth, by providing human resources, skills and technology for sustainable development. The challenges to agriculture and natural resource managers for more intensive management and more accurate predictions of environmental impacts are, also unprecedented. Throughout the world agricultural education has had intimate linkages with general higher education. Yet, in the Indian context, they remain more or less as water-tight compartments, implying the need for greater synergies between them. The tasks of knowledge management in agricultural higher education are, therefore, never-ending. As free natural resources and cheap labour are exhausted, the last untapped source of commercial advantage is the knowledge of people in our organizations. It is very early days for knowledge management, and even the principles and rules of thumb are yet to evolve and anything that an institution does in managing knowledge will certainly be a step forward.

Prof. K. V. PETER
Vice Chancellor, KAU

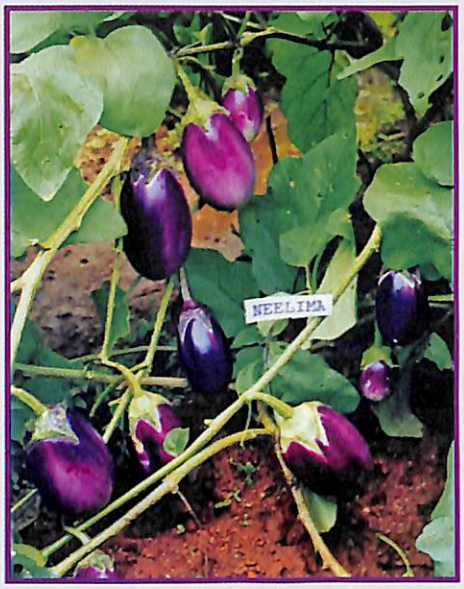
Centre for Studies on Gender Concerns in Agriculture – A new approach by KAU

The Indian agriculture is characterized by farming systems wherein women and men are major partners. Men and women perform mutually dependent or independent roles as farmers, labourers, entrepreneurs right from production, processing and decision-making. Eventhough both men and women play significant roles in farming, often the contribution of women is not fully recognized and accounted for. Mostly farm women lack access to, and control of resources, market technologies, information and necessary support services notwithstanding their substantial and critical contribution in farming. Often many of the newly introduced farm policies, strategies, technologies, institutions and systems remain male oriented and create adverse impact on farm women, even displacing and denying their existing job opportunities, income and hence livelihoods. Drudgery, health hazards, lack of land ownership and discriminating wages are some of the crucial gender issues in the farming scenario. The enormous socio-cultural, technological and economic constraints to which farm women are subjected to, demand basic reforms and restructuring of gender roles, power relations and value systems if empowerment of women is to happen in farming. KAU in appreciation of the contextual significance of addressing gender concerns in achieving equitable development which alone is sustainable, as a proactive response had taken initiative in institutionalizing the promotion of gender perspective in agriculture and gender sensitivity in the University environment by establishing the Centre for Studies on Gender Concerns in Agriculture (CSGCA) during 1999-2000.

Thoughts of elders – Smt. K. R. Gouri Amma, Minister for Agriculture and Coir and Mrs. Mina Swaminathan discuss the Gender issues

The overarching objectives of the CSGCA is that of bringing about gender sensitivity and gender perspective in research, extension and educational efforts in agriculture and allied fields set in the larger context of natural resource management, through increasing and facilitating women's roles and participation in agricultural development along with men and attaining gender justice in the context of the planned efforts in the socio economic development in Kerala and the country at large. The CSGCA focus its activities through four pronged efforts - research, policy advocacy, capacity building and documentation of gender issues in farming. In depth field studies on gender issues involved in farming are being taken up by the CSGCA. These studies aimed to bring integration and internalization of gender perspective in research, education and extension in agriculture, are implemented in collaboration with the agencies like Food and Agriculture Organisation (FAO), Indian Council of Agricultural Research (ICAR) and MS Swaminathan Research Foundation (MSSRF). Capacity building Programmes on gender analysis and gender perspectives in agricultural development context are being imparted to various stake holders like Scientists, Extension Personnel, Bank officials, Rural Development Workers, Commodity Boards, NGOs, farmers, Students of KAU etc in collaboration with Ministry of Agriculture, Government of India, Development Departments of Kerala, Small Farmers' Agri-business Consortium etc. Together with Department of Biotechnology, Government of India, the Centre has initiated a project to popularize women friendly biotechnologies among rural women. In various forums of policy making also the Centre takes part and influence in the right policy advocacy towards gender justice in agricultural development.

Ujwala



Neelima

Salient achievements of vegetable research in KAU

Vegetable research in Kerala has only a short history of three decades. The Department of Olericulture, College of Horticulture, Vellanikkara, the Department of Plant Breeding at the College of Agriculture, Vellayani; Sugarcane Research Station, Thiruvalla; Regional Agricultural Research Station (RARS) at Pattambi, Kumarakom and Pilicode made good progress in vegetable research. Research on cool season vegetables at RARS, Ambalavayal is providing support to vegetable growers of high altitude zones of Kerala.

The contribution of KAU in the development of high yielding and pest and disease resistant vegetable varieties is significant. So far 44 improved vegetable varieties varying in productivity, consumer acceptance, resistance to pests and diseases and also suited to specific agroclimatic zones and situations were developed and released by KAU for cultivation in the State of Kerala. This has great relevance considering the varying consumer preference in different parts of the state. Out of 44, eight varieties were recommended nationally.

The production breeding programmes in different vegetable crops resulted in the development of a number of high yielding vegetable varieties like Sharika, Malika, KMV-1, Vyjayanthi, Lola (yard long bean), Bhagyalakshmi (bush cowpea), Kanakamani, Anaswara and Varun (semi trailing cowpea), Revathy (winged bean), Arun and Mohini (amaranth), Kiran, Salkeerthi and Aruna (okra), Priya, Preethi and Priyanka (bitter gourd), Kaumudi and Baby (snake gourd), Haritham (ridge gourd), Ambili, Suvarna and Saras (pumpkin), KAU local and Indu (ash gourd), Saubhagya, Mudicode and Arunima (oriental pickling melon), Nidhi (coleus), Indu (greater yam) and a number of advanced high yielding cultures like TA-19 (snake gourd), CM-350 (pumpkin), CA 517 (chilli) etc.

Salkeerthi

The bitter gourd varieties Preethi and Priya and pumpkin varieties Ambili and CM 350 were recommended nationally.

Kerala Agricultural University made significant contributions in the field of bacterial wilt resistance breeding. The wilt resistant varieties like Surya, Swetha and Haritha (brinjal), Shakthi, Mukthi and Anagha (tomato), Ujwala, Manjari and Anugraha (chilli) are a few examples. The wilt resisant brinjal varieties Swetha and Surya and tomato varieties

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CPBMB – A Centre of National recognition

Centre for Plant Biotechnology & Molecular Biology(CPBMB), College of Horticulture, started functioning in 1996. Initial thrust was on tissue culture work, but later on research in plant molecular biology was also initiated. Masters degree programme in Plant Biotechnology was started in the centre during 2003. Several externally aided projects funded by agencies like Department of Biotechnology (DBT), Indian Council of Agricultural research (ICAR), Department of Science & Technology (DST), Kerala State Council for Science, Technology & Environment (KSCSTE) are being implemented at the centre. It was so far mobilized an amount of Rs. 3 crores from various external funding agencies. It is the co-ordinating centre for two net work programmes funded by DBT. Nine externally funded pojects on various aspects of biotechnology are being operated at the centre. The research work carried out at the centre includes standardization of protocol for *in vitro* propagation of various spices (black pepper and vanilla), plantation crops (cashew), medicinal plants (Holostemma, Trichopus, Gymnema and Aristolochia) and vegetables (bell pepper); genetic fingerprinting (black pepper, vanilla, teak, banana and cashew), gene isolation and cloning (glucanase and hmgr genes), genetic transformation (black pepper, ginger, bell pepper and Holostemma) and secondary metabolite production (Coscinium and Sida).

National Recognition

The centre was awarded the Biotech Product & Process Development and Commercialization Award for the year 2003 instituted by Department of Biotechnology, Ministry of Science and Technology, Govt. of India to recognize the outstanding contributions of scientists, innovators, entrepreneurs and institutions/companies both in public as well as private sector for a new process, product development and commercialization of a technology or a product. The centre offers regular training on plant tissue culture to entrepreneurs, on various aspects of biotechnology & molecular biology to college teachers, students and supports various training programmes conducted by the Central Training Institute of KAU. The DBT funded project on 'On farm evaluation of tissue culture black pepper plants', being operated at the Centre involves distribution of the TC plants to selected farmers all over the State and their evaluation against conventional propagules. The farmers are also given training on scientific cultivation and management of the crop. The Bioinformatics Centre attached to CPBMB offers training on various aspects of bioinformatics to scientists of KAU in addition to supporting the research work at the Centre. This Centre, supported by the DBT has been recently upgraded from a sub centre into a full-fledged one.

Dr. P. A. Nazeem receiving the award from Shri. Bhairon Singh Shekhawat His Excellency the Vice-President of India

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Mukthi and Anagha were considered as excellent sources of resistance to bacterial wilt in the country and are nationally released. Neelima (brinjal), the first F1 hybrid from KAU and also the first hybrid in the country having high resistance to bacterial wilt and high yield, is yet another break through. Mosaic resistant vegetable cowpea variety Kairali and yellow vein mosaic resistant variety Susthira are also major achievements in the field of resistance breeding. Research on inter specific hybridization and mutation breeding helped to unravel the relationship between species and identification of promising genotypes in *Abelmoschus, Capsicum* and *Solanum* spp.

Out of 44 improved varieties from KAU, 29 were developed in the Dept. of Olericulture, College of Horticulture, Vellanikkara. The prestigious "Krishi Vigyan Award" instituted by Government of Kerala for the best Scientist in the field of agriculture and related fields was awarded to Dr.T.R.Gopalakrishnan, Head, Department of Olericulture, College of Horticulture,Vellanikkara in recognition for the significant contributions of the University in vegetable research.

Conservation of Native Breeds of Kerala

The Centre of Advanced Studies in Animal Genetics & Breeding of the College of Veterinary and Animal Sciences, Mannuthy has been successful in conserving a number of native cattle breeds of Kerala. The following is a brief account of the native breeds.

Vechur cattle

The Vechur cattle, a native cattle breed of Kerala State is the smallest breed ever known. These animals derived this name from the Village of origin, Vechur, a small place by the side of Vembanad lake near Vaikom in Kottayam district of Kerala. These animals have solid colour. Red white and sandal

Crossbred and Vechur cow-a comparison

white are commonly seen. The hump is very prominent and tail almost touches the ground. These animals are small sized with an average weight of about 130 kg. for cows, 170 kg. for bulls, and height below 90 cm. The average milk yield is 2-3 kg per day. The milk of Vechur cows was considered having high medicinal value and was extensively used in the Ayurvedic system of medicine. The extensive effort made by a team of Scientists of Centre of Advanced Studies in Animal Genetics & Breeding in College of Veterinary & Animal Sciences succeeded in identifying and conserving a few animals of this kind at this Centre and now these cows are considered the pride of Kerala.

Kuttanad Buffalo

The Kuttanad buffalo, a native germplasm of Kerala derived its name from its breeding tract Kuttanad area which is situated in two districts of Kerala namely Kottayam and Alappuzha. These buffaloes are mainly used as work animals in paddy fields. These animals have good capacity to work in marshy areas of

Kuttanad buffalo

Kuttanad. The coat colour is described as grey and they possess two chevrons. These animals have two distinct white lines, one at brisket region and second in the upper part of vertical side of neck. The farmers consider these marking as a mark of purity of the animals. These animals generally have long hairs. The horns are directed slightly outward, then backward, upward and finally inward. The Scientists of Centre for Advanced Studies in Animal Genetics & Breeding, College of Veterinary and Animal Sciences, Mannuthy surveyed and characterized these animals and recommended for conservation.

Malabari goat

The Malabari breed is one among the famous goat breeds of India reared mainly for meat and milk. The home tract of the breed is the Malabar region of the Kerala State comprising the Kasargod, Kannur, Kozhikode and Malappuram districts. The synonyms of the breed are Tellichery or Badagara goat. The breed was evolved by the crossing Jamunapuri, Surti and Arab goats with the local goats of Kerala. Malabari goats are generally medium in size and the coat colour varies from white to white with brown or white with black. Only 12 per cent of animals have tassels and 6.24 per cent are beared 50% of goats have horizontal ears. The udder of the does is generally round in shape with funnel shaped pointed tips. The average birth weight of the kids was 1.69 kg. and at 12 months of age

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Malabari goat

'Anagha' for national release

Anagha is a bacterial wilt resistant variety in tomato released for cultivation in the bacterial wilt sick areas of Kerala. Recently in the XXII Group Meeting of AICRP (Vegetable crops) held at ANGRAU, Hyderabad, this variety was identified for release in Zone I (Jammu & Kashmir, Himachal Pradesh and Hills of U.P.), Zone V (Eastern Madhya Pradesh, Orissa and Andhra Pradesh) and Zone VIII (Karnataka, Tamil Nadu and Kerala). This variety is resistant to both radial and concentric cracking. It is also tolerant to leaf curl and mosaic.

This is a semi determinant variety producing round, reddish, medium sized fruits which are free from green shoulder. It takes 57 days from sowing to flowering. The crop is ready to harvest 99 days after sowing.

This is an early variety which comes to harvest in 99 days (seed to fruit). The fruits are slightly acidic and is suited for table purpose. Due to its slightly acidic nature, it is suited for 'sambar' and 'rasam' preparation.

This variety was developed by the scientists in the Department of Olericulture, College of Horticulture, Kerala Agricultural University, Vellanikkara under the leadership of Dr. P.G. Sadan Kumar.

Conservation of Native Breeds

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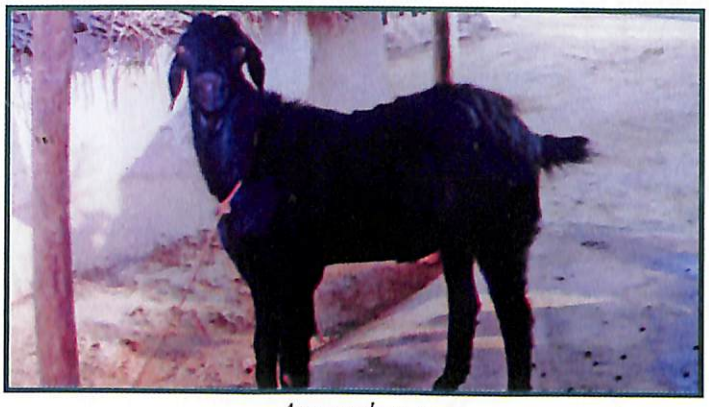
the average body weight was 27.25 kgs. At one year of age the body measurements viz., body length, height at withers, chest girth and paunch girth averaged 59.00, 61.00, 64.58 and 70.17 cm respectively.

The average age at first kidding and inter kidding interval were 418.23 and 274.09 days respectively. The percentage of single, twins, triplets and quadruplets was 32.15, 53.54, 12.86 and 1.45 respectively. Under field conditions these animals are reported to yield upto three litres of milk per day. The average yield reported is only 37.5 kg in a lactation period of 101 days under farm conditions with a maximum yield of 2 kg/day.

Attappady goat

Attappady black goats are found exclusively in Attappady area, an isolated hilly region in the Palakkad district of Kerala and are popularly known as the goats of tribes in Attappady. These goats are reared for meat purpose and maintained entirely on grazing. This group of goats is not yet recognized as a breed despite their unique characteristics. A survey on these goats was carried out in the breeding tract for breed characterization. The total population of Attappady blacks in the area was estimated to be 9351, which came around only 40 per cent of the total goat population in the area. The animals are black in colour with bronze coloured eyes. Ears are medium in length



Attappady goat

(13.5 cm) drooping over the lateral side of the face. Horns are present in both males and females and they are curved laterally upwards and backwards. Tassels are present in some animals. Their tail is bunchy type and curved. The average body length, height at withers, height at rump, chest girth and paunch girth of these goats in the adult stage were found to be 67±0.8, 80±0.8, 76±0.8, 71±1.3, 75±1.3 cm, in males and 63±0.4, 69±0.4, 71±0.3, 69±0.4, 75±0.3 cm in females. Adult males above 18 months of age weigh average 35±1.1 kg and adult females weigh 31±0.4 kg. These animals have all the potential to be developed as an excellent meat breed. Due to indiscriminate breeding with other types of bucks, the purity of this group is getting diluted. Therefore, there is an urgent need for the conservation and genetic improvement of this unique goat genetic resource of India.

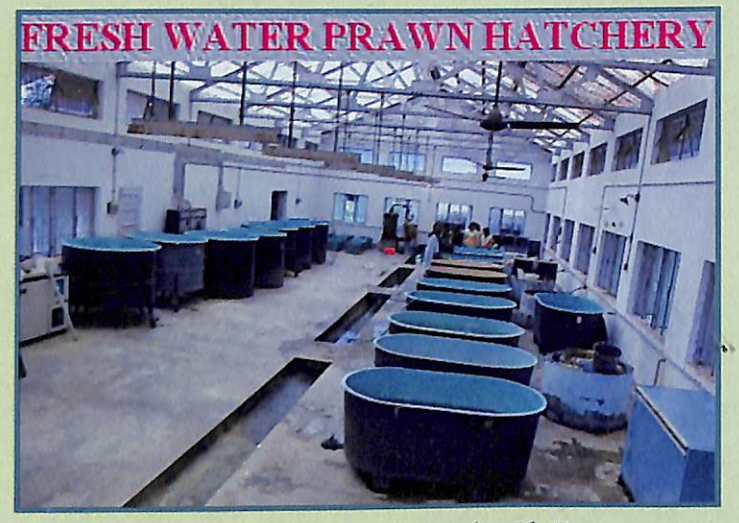
College of Fisheries Celebrates Silver Jubilee

The College of Fisheries established on October 10, 1979 is all set to celebrate its Silver Jubilee this Year.

The College of Fisheries is located at Panangad, which is about 10 kilometres south of Ernakulam by the side of the National Highway bye-pass. The total areal extent of the campus is 30 ha., in which class rooms, administrative building, hostels, culture ponds, play grounds etc. are built up.

Academic Highlights

The College offers a four year Bachelor of Fisheries Science (B.F.Sc) programme with an intake capacity of 50 students per annum. Post Graduate programmes are conducted in the departments of Aquaculture, Fish Processing Technology,



Fishery Biology and Fishery Hydrography. Ph.D programme has been started in the departments of Aquaculture and Fish Processing Technology in 2004.

463 students were passed out from the College with B.F.Sc. degree and 55 students with M.F.Sc. degree.

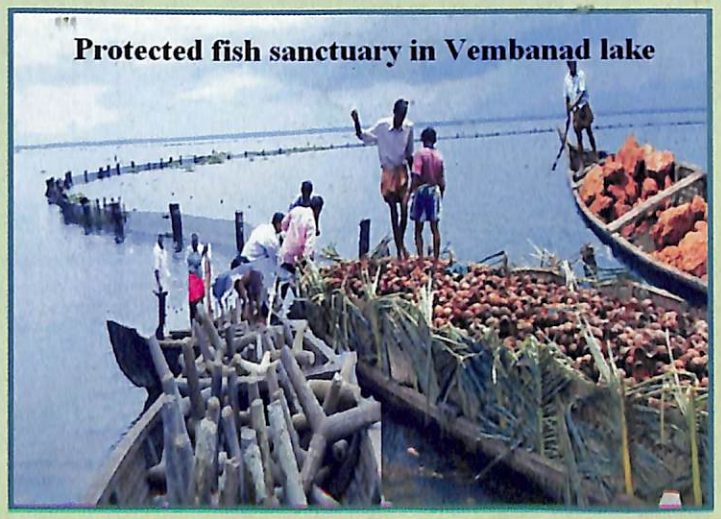
The students from this college are regularly excelling in the JRF examinations, being conducted by the ICAR for post-graduate studies. The students had bagged the first nine ranks out of 10 ranks in the year 2000. In this year, the students from this college won six ranks out of the first 10 ranks. Mr. Absar Alam, a student of this college was the first rank holder, Ms. Divya Alice Varkey of the 1998 batch of B.F.Sc. programme was selected as the 'Best Fisheries Graduate in India', for the year 2003 by the professional Fisheries Graduate Forum, Mumbai. Selection of the 'Best Fisheries Graduate in India' for the year 2004 will be conducted during 24-26 August 2004, in the College of Fisheries, Panangad.

Excellent placement facilities are available for fisheries graduates. Many of the graduates are working in Fisheries departments, fisheries institutions, hatcheries, fish farms, processing plants, banks etc. Many students are undergoing higher studies in U.S.A., U.K., Australia, Singapore etc.

Research Highlights

Fourteen externally aided projects with a total financial outlay of Rs. 268 lakhs are undertaken in the College during the past two years. The research works focus on the production of bioactive substances from marine living organism, development of solar energy based fish drier and development of captive breeding technology for indigenous ornamental fishes.

College of Fisheries is consultant to the Govts. of Karnataka and Gujarat for setting up Fresh water prawn hatcheries in these states. The College has participated in the scientific cruises in Arabian sea, conducted as a part of the Arabian sea Monsoon Experiment (ARMEX) programme of the Dept. of Science and Technology, Govt. of India.



The scientists at the Fisheries Station, RARS, Kumarakom could develop the technology for seed production of golden cat fish (Manja Koori), giant snake head (manal vaka), pearl spot (Kari mean), Kooral fish etc. They also developed a fish sanctuary in the Vembanad lake which has enabled to increase the production, especially of pearl spot. The rotational farming practice, 'one crop paddy, one crop fish/prawns' was successfully introduced in Kuttanad area based on the findings of research works at Kumarakom station.

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