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Towards branding Pokkali fish: Sales mela
Inaugurated by Pallippuram Grama Panchayath President



Honourable Union Minister for Agriculture examining KVK's Neem-de-Pest



First sale from CMFRI - ATIC/ KVK sales counter
at CMFRI, Kochi on 10th November 2014



ICAR - KRISHI VIGYAN KENDRA (ERNAKULAM)
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MANDATES

The overall mandate of KVK is to develop and disseminate location specific technological modules at district level through Technology assessment, refinement and demonstration and to act as knowledge and resource centre for agriculture and its allied activities. The specific activities to carry out this mandate are:

- Conducting on-farm testing to identify the location specificity of agricultural technologies under various farming systems
- Organizing frontline demonstrations to establish production potential of various crops and enterprises on the farmers fields
- Organizing need based training of farmers to update their knowledge and skills in modern agricultural technologies related to technology assessment, refinement and demonstration, and training of extension personnel to orient them in the frontier areas of technology development.
- Creating awareness about improved technologies to larger masses through appropriate extension programmes.
- Production and supply of good quality seeds and planting materials, livestock, poultry and fisheries breeds and products and various bio-products to the farming community.
- Work as resource and knowledge centre of agricultural technology for supporting initiatives of public, private and voluntary sector for improving the agricultural economy of the district.



Director's Message



ICAR-KVK (Ernakulam) of Central Marine Fisheries Research Institute is becoming more farmer friendly by implementing various programmes and facilities for public. The CMFRI ATIC/KVK sales counter at CMFRI near High Court junction is visited by average 30 farmers daily for purchase of seeds and organic agro inputs. We are able to supply organic inputs in its purest form to ensure hassle free farming to produce safe food. In order to ensure further reach for KVK products, we are planning to initiate a mobile sales counter service in the district in collaboration with Kerala Agricultural University. The Kisan Mobile Advisory Service which we are commencing shortly is intended to pass on timely and seasonal advices to farmers through mobile phone networks.

We appreciate that quality seed material is the primary requirement of farmers. Keeping this in view, we have commenced few satellite seed production centres across the district which ensure seed production under close technical guidance of KVK professionals. Pearlspot seed production centre at Kumbalangi, Vegetable seedling unit near Palluruthy, Rabbit kit production unit at Kalamassery etc. are examples of KVK's farmer partnership towards quality seed production.

KVK's interventions in rejuvenating Pokkali farming—a unique paddy-shrimp integrated organic farming system in Ernakulam district has completed its 3rd year with funding from National Innovations on Climate Resilient Agriculture. Recent step in Pokkali programme is to brand the produce and promote its marketing. This is a classical example of advancement of KVK activities from Technology led extension mode to Market led extension mode.

Attracting and Retaining Youth in Agriculture (ARYA) is yet another thrust area of KVK (Ernakulam). There is an urgent requirement for cultivating interest in farming among youngsters to ensure sustainability of this primary production sector in coming years. KVK intends to create examples across the district which showcases young farmers as profit making farm entrepreneurs. This would definitely further attract youngsters to this field.

The objective of this Newsletter is to spread information about the programmes of this KVK during 2014-15 with a view to invite fruitful future collaborations from peer institutions, line departments, research organizations and most importantly, the farmers to work together in the coming years for the betterment of farming sector in the district.

With best wishes

(A. Gopalakrishnan)
Director

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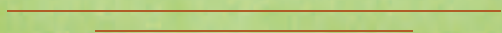
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With Best Compliments From

Director
ICAR -CMFRI

**Programme Co-ordinator/
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ICAR-KVK Ernakulam of CMFRI



KVK COMMENCED SATELLITE PRODUCTION CENTRE (SPC) FOR PEARL SPOT SEEDS

In order to meet the ever increasing demand of Pearl spot seeds, KVK commenced a Satellite Production Centre (SPC) in the farm of Shri. Shibu Kochery near Kumbalangi, Ernakulam. KVK supplied quality broodstock and the farmer trained on scientific seed production technology. Technology backstopping extended from KVK. This SPC supply fingerlings acclimatized to both fresh water and brackish water environments. First sale from this SPC was held on 19th January 2015. Kumbalangi Grama Panchayath President, Smt. Susan Joseph inaugurated the sales. This SPC has a production capacity of 35,000 number of seeds per



First sale from the satellite Pearl spot seed production centre of KVK near Kumbalangi, Ernakulam

annum. The contact number of Shri. Shibu Kochery is 9496090363.

KVK CONDUCTED ENTREPRENEURSHIP DEVELOPMENT PROGRAMME (EDP) ON TAPIOCA PROCESSING

KVK initiated EDP on tapioca processing at Vengola, Ernakulam on November 5th, 2014. More than 100 candidates including farmers, Kudumbashree self help group members and officials participated. Dr. Sajeev M.S, Principal Scientist from ICAR-Central Tuber Crops Research Institute (CTCRI), Thiruvananthapuram was the subject expert. He introduced scope of preparing

a spectrum of products from cassava including noodles, pasta, variety of snack foods, starch etc. The programme was inaugurated by Shri. M.M. Avaran, President, Vengola Grama Panchayath. An exhibition of cassava products was also arranged. Subsequently, KVK is providing technology backstopping to interested groups to commence tapioca processing units.



Dr Sajeev M.S taking class in the EDP on tapioca processing at Vengola, Ernakulam



Aquaculture Entrepreneurship development programme participants with KVK & NICRA officials

ENTREPRENEURSHIP DEVELOPMENT PROGRAMME FOR YOUNGSTERS CONDUCTED

KVK conducted four day Entrepreneurship development programme (EDP) on 'Climate resilient aquaculture' at CMFRI, Kochi during March, 6th to 10th 2015. Fifteen selected youth attended this programme funded by National Innovations on Climate Resilient Agriculture (NICRA). Dr. P.U. Zacharia, Principal Investigator of NICRA project inaugurated the programme. Interaction with fisheries scientists, successful farmers and Entrepreneurs were

the highlights of the programme. The programme concluded with interaction of the trainees with Dr.K.Sunil Muhammed i/c Director, CMFRI. KVK is extending technology backstopping to these candidates for initiating enterprises in aquaculture. KVK is assisting the trainees in project report preparation for availing loans and also in establishing assured market linkages.

Help desk functional at KVK for registering farmer's seeds

Help desk functional at KVK to facilitate farmers, farmer communities, tribals *etc.* in registering the seeds conserved by them. The registration is under Protection of plant varieties and farmers rights Act 2001 at Protection of Plant Varieties and Farmers Rights Authority (PPV&FRA) under Ministry of Agriculture, Govt. of India. The contact number is: 9400257798.





Kochi Corporation councillor Shri. Sreejith inaugurating the training programme for differently abled youth.



Vegetable seedling production: Hands-on training



VEGETABLE SEEDLING PRODUCTION: CAPACITY BUILDING OF DIFFERENTLY ABLED YOUTH

KVK as part of its Farmer's Field School programme conducted series of capacity building programmes on "Scientific vegetable seedling production" exclusively for differently abled youth (male and female) at Cottolenko house near Palluruthy, Ernakulam. KVK scientists practically demonstrated and trained the participants on seedling raising. The polyhouse sanctioned to Cottolenko last year from State Horticulture Mission was utilized for the programme. Nearly 25,000

number of seedlings of Tomato, Brinjal, Chilli, Capsicum, Cabbage, Cauliflower, Okra and Cowpea were produced by the trainees. These seedlings were later supplied through sales melas organized at CMFRI, Kochi during 26th to 28th November and 15th December 2014. KVK is planning to initiate such Satellite production centres (SPCs) for vegetable seedlings in vacant polyhouses in the district.

KVK ORGANISED KADAKNATH CHICKS SALES MELA

KVK organized purebred Kadaknath poultry chicks sales mela at CMFRI, Kochi on 31st December 2014. Sixty days old chicks reared in a Satellite production centre of KVK were supplied to farmers. The hatching eggs of parent stock were obtained from Central Poultry development Organisation (CPDO), Mumbai.



Kadaknath chicks

HONOURABLE UNION MINISTER FOR AGRICULTURE VISITED KVK PRODUCTS EXHIBITION

Honourable Union Minister for Agriculture Shri. Radha Mohan Singh visited exhibition of KVK products at ICAR-Central Marine Fisheries Research Institute (CMFRI), Kochi on 6th November 2014. Hon'ble minister was accompanied by Dr.A.Gopalakrishnan, Director, CMFRI. The products are manufactured and marketed by KVK for organic/ safe farming.



KVK products for Organic/ Safe farming

SWACHH BHARATH ABHIYAN INITIATED AT KVK

Honourable Prime minister's call for Clean India (Swachh Bharath) initiated at KVK on 2nd October 2014 during Gandhi Jayanthi. The programme was commenced by staff taking cleanliness oath (Swachh Bharath shapath). Subsequently office and its premises were cleaned. The KVK team also cleaned mangrove forests located

by side of the backwaters in KVK campus. Huge quantities of plastic wastes were removed from the root zone of mangrove ecosystem which is the natural habitat and breeding place for brackish water fish species. On this historic day, KVK urged all its partner farmers, colleagues and all citizens of India to work towards a Clean India.



Swachh Bharath Abhiyan Initiated with cleaning of mangrove ecosystem in KVK campus.



Dr. A. Gopalakrishnan, Director, CMFRI chairing the SAC Meeting

The Scientific Advisory Committee (SAC) meeting of KVK for the year 2014-15 was held at CMFRI, Kochi on 10th February 2015. The meeting was chaired by Dr. A. Gopalakrishnan, Director, CMFRI. Dr. Sreenath Dixit, Zonal Project Director, Belgaluru and Dr. P.V. Balachandran, Director of Extension, Kerala Agricultural University

KVK SCIENTIFIC ADVISORY COMMITTEE MEETING HELD

were present. It was decided that KVK may start Kisan Mobile Advisory service to spread recent technologies among farmers. It was also decided to initiate mobile sales counter for KVK products, soil testing facility at CMFRI and to expand the existing Sales counter. KVK would adopt any coastal village in the district and showcase various technologies. The unused polyhouses in the district would be used for vegetable seedling production. KVK would undertake suitable programmes to attract young school and college students into agriculture. It was decided to shift KVK to an accessible place in the district.

KVK INITIATED ENTREPRENEURSHIP DEVELOPMENT PROGRAMME (EDP) ON MELIPONICULTURE

KVK initiated EDP on meliponiculture as part of its programmes to attract enterprising youth to agriculture. The programme was launched at Kothamangalam on 24th October 2014 by extending a preliminary training to more than 100 candidates and followed up on 24th January 2015. Capacity building on honey processing, obtaining small food safety licenses, packing, test marketing, establishing marketing channels, etc. were included in the programme. KVK supplied stingless bee hives and colonies at reasonable price to the participating entrepreneurs. Stingless bees are safe and easy to rear. Entrepreneurship in meliponiculture is suitable for women and children too as additional source of income. Stingless honey costs INR 1500 to 2000 per kilogram. Centralized marketing of quality split hives is also envisaged in the programme.

THE TIMES OF INDIA, KOCHI
FRIDAY, OCTOBER 31, 2014

It's money-making stingless bees

New CMFRI Programme Promotes Meliponiculture

Times News Service

Kochi: The Krishi Vigyan Kendra at Central Marine Fisheries Research Institute (CMFRI) has come up with an innovative programme to encourage meliponiculture or rearing stingless bees on a commercial scale.

"The aim is to attract youth and women into meliponiculture as unlike apiculture (breeding of sting bees) this is not dangerous. Honey from stingless bees has medicinal value and is an essential ingredient in ayurvedic medicines," said Shiny Subramanian, programme coordinator, Krishi Vigyan Kendra.

About 100 persons have already registered for the training programme which will include honey processing, packing, test marketing, establishing marketing channels and applying for small scale industry food safety licenses, etc. Stingless honey bee breeding and

hive splitting are also on the agenda, he said. "Stingless honey costs Rs 1,500 to 2,000 per kg. We train people to catch bees which are found not just in rural areas but also in urban areas. Since there is no queen bee, the hives can be split and made into two. One does not need much space or investment to start the business," says Sajan Jose, professor of zoology, St. Joseph's College, Moolamattom, Idukki.

Jose who has about 200 hives is also one of the 200 farmers involved in meliponiculture. He extracts about 40-50kg of honey from his hives. "But this is just not enough. We have a problem of marketing and, hence, most of us find it difficult to sell," he explained.

According to the honey producers, a hive on an average produces up to 1 kg of honey a year. A single hive can be split into three in a

year. "Centralized marketing of quality split hives is also on the anvil. Stingless bees are safe and easy to rear. They are efficient in pollination and, hence, meliponiculture is a promising enterprise which can be taken up with homestead farming and high-tech farming in poly houses," says Shiny.

According to Jose, stingless bees can be found on roofs, walls and garages in urban areas. "People can identify and collect colonies of bees and transfer them into pots, PVC pipes, laminated sheets, etc. All you need is about a minimum of space of one cent to set up in hives," Jose added.

According to honey producers, a hive on an average produces up to 1 kg of honey a year. A single hive can be split into three in a



Panchayath President Smt. Silvi Jose inaugurating Njavara Harvest Mela

KVK DEMONSTRATED MEDICINAL PADDY VARIETY, NJAVARA

KVK demonstrated the cultivation of medicinal paddy variety Njavara as part

of a front line demonstration (FLD) programme. Njavara is a unique rice cultivar grown in Kerala and used in Ayurvedic medicine. The programme was undertaken at Manjapra and Karingalikkad. The harvest mela was inaugurated by Panchayat president Smt. Silvi Jose on 5th February, 2015.

KVK LAUNCHED PEARL SPOT FEED

KVK launched exclusive feed for Pearl spot under the trade name-Pearlplus. The feed was developed by ICAR - Central Marine Fisheries Research Institute, Kochi. The launching was done as part of National Initiative on Climate Resilient Agriculture (NICRA) project. The feed contains 47% protein, 6% fat and also other essential nutrients such as vitamins, minerals, etc. The Pearl plus is available in five different sizes PS1 (250 μ m), PS2 (500 μ m), PS3 (1000 μ m), PS 4 (1.4 mm) and PS5 (2 mm). PS1 and PS2 are ideal for feeding Pearl spot fry's of 1 cm to 2.5cm size while PS3 and PS4 are suitable for fingerlings of size 2.5 to 8cm. PS5 is ideal for feeding fingerlings above 10 cm size. Pearl plus is available for sale in 1kg and 5 Kg packets at CMFRI-ATIC/KVK sales counter.



BRANDING & MARKETING OF POKKALI PRODUCE FOLLOWS KVK'S TECHNOLOGY DEMONSTRATIONS

KVK is moving towards branding and marketing of Pokkali produce subsequent to its technology demonstrations. The NICRA technology demonstration was conducted at Selected 7 farmer partners fields located at Kadamakkudy, Pizhala and Nayarambalam. This is with the objective of enhancing the income from unit area for Pokkali farmers and ensuring availability of nutritionally rich naturally organic Pokkali produce to the consumers. The rice, and its value added products, Pearl Spot (Karimeen), Mullet (Thirutha), Shrimp (Chemmeen) marketed for a premium price in a common brand would

also ensure more remuneration for the Pokkali farmers, thereby ensuring sustainability of this traditional and world renowned farming system of Kerala. The paddy straw of the previous crop, the peaty soil and the saline water in the Pokkali ecosystem together imparts a characteristic taste to the fish from Pokkali fields. This fish is currently being mixed up in the market with low quality fish from elsewhere. The brand name and farm gate market for the Pokkali fish is to ensure safe-to eat product for the consumers at a reasonable price while enhancing the income from Pokkali farming towards its sustainability.

POKKALI TECHNOLOGY DEMONSTRATION : PARTNER FARMERS

Mr. Pushpangathan K.A	Kadamakkudy	8547305812
Mr. Murali P.R.	Kadamakkudy	9496975998
Mr. Wincent V.A.	Kadamakkudy	9847559999
Mr. Vinod Kumar D.V.	Kadamakkudy	9895255781
Mr. Shyam Sunder P.R.	Nayarambalam	9349249558
Mr.K.K Ramakrishnan	Pizhala	04842430638
Mr. A.R Saigal	Ezhikkara	9846823043



KVK's fin fish integrated Pokkali farming adds to profit says Mr. Murali, Pokkali farmer from Kadamakkudy

KVK DEMONSTRATED ITS PRODUCTS IN FARMER'S FIELDS

As part of the Crop Health Management project funded by the Department of Agriculture, Government of Kerala, KVK conducted 20 farmer's field demonstrations on the technology products from KVK Ernakulam viz. Panchagavya, Pheromone traps, Fruit fly bait traps and Neem de pest (Neem soap) at Edakkattuvayal and Pampakkuda near Ernakulam. Panchagavya sprays in bittergourd and snake gourd at 20,30,40 days after planting initiated more (10-15%) female flowering. Prophylactic sprays of Neem de pest were effective in preventing while flies, aphids and leaf minors. Pheromone traps and bait traps were demonstrated



KVK products demonstrated in farmer's fields.

as effective in controlling fruit flies. The infection level reduced to 7-10 percent from 20-25 per cent.

KVK DEMONSTRATES OPEN PRECISION FARMING IN VEGETABLES

As part of the front line demonstration, KVK demonstrated a precision farming module for bitter gourd. The objective was to enhance production while lowering pesticide contamination. Bitter gourd is a nutritionally rich vegetable popular in Kerala. High pesticide residues are observed in bitter gourd as the crop is prone to pest and diseases. Fertigation through ventury system and plastic mulching were the main components of precision farming. Mulching in addition to saving nutrient loss also reduced labour required for weed management. "Pheromone traps" were used for pest control against fruit fly and "yellow sticky traps" were used against white flies. Apart from this, neem oil spray was also done as an organic pest repellent. A harvest mela conducted on 17th February was inaugurated by Regi Ittoopp, Koovappadi Block Panchayath President.



Open precision farming doubles bitter gourd production.



Dr.R. Narayanakumar, Principal Scientist and Head, SEETD, CMFRI inaugurating the sales counter in presence of Dr.N. Aswathy, Scientist-in-charge, ATIC and farmer representatives

THE CMFRI-ATIC/KVK SALES COUNTER OPERATIONAL

The sales counter of Agricultural Technology Information Centre (ATIC) and KVK, both functioning under ICAR-Central Marine Fisheries Research Institute (CMFRI) is operational at the ground floor of CMFRI building by the side of Goshree road near High court junction in Kochi. The counter was inaugurated by Dr.R.Narayanakumar, Principal Scientist and Head, SEETD, CMFRI on 10.11.2014. The counter is open for public on all working days from 10:00 am to 4:00 pm. Objective is to supply quality inputs

primarily to farmers of the district for safe farming and to inspire them to follow Good Agricultural Practices (GAP). KVK products like Panchagavya, Aminoplus, Neem oil, Neem cake, Organo excel, Neem-de-Pest, Vegetable top up, Banana top up, Fruit fly trap, Pheromone trap (vegetables), Pheromone trap (mango), Vegetable seeds, Pearl plus feed etc. are available. In addition, various publications, posters etc. of CMFRI are also available.

KVK'S VEGETABLE TASK FORCE

KVK has formed a task force for promoting kitchen gardens and organic vegetable production in urban homes. Vegetables planted in grow bags and a 100 days chart indicating crop care and management will be supplied by the task force. They also supply quality organic inputs. Initially the service is available in Kochi city limits. Technology backstopping is provided from KVK. Contact Smt. Dipti N.V., Programme Assistant-9895523463.

Findings from field

Silver Pompano culture in different saline conditions (10 to 30 ppt) in the district indicated significantly low survival rate.

Fruit rot disease in Nutmeg can be controlled by applying 40 Kg cow dung enriched with 4 kg neem cake and 500g Trichoderma applied in 2 split doses per plant per year in combination with pseudomonas 20g diluted in 1 litre sprayed over the canopy at monthly intervals.

There is no difference between yield of vegetables grown in Flat planting beds and Grow bags whereas cost of flat planting bed is on higher side.

Mini tillers are suitable for ploughing in those Pokkali paddy fields dried to such an extent that a man can walk over it. Pokkali fields can be dried in summer by pumping water out. The field capacity of mini tiller is 1.5 acre per day.

Application of Verticillium leccanii 4 doses of 20g diluted in 1 litre of water can control banana rhizome mealy bugs. First application at the end of 3rd month of planting and subsequently at monthly intervals.

Application of azospirillum in banana mixed with neem cake and FYM in 1:2:20 ratio at 3rd, 60th and 120th days of planting can reduce usage of chemical fertilizers by 25%. This reduces production cost.

Yield of Thumburmuzhi TM-1 (170 t/ha) was found to be less than Hybrid napier variety CO3 (245 t/ha). However TM-1 was found to be more suitable for feeding small animals like goats and rabbits.

Technologies Proven in field

Application of PGPR mix I increase yield of vegetables. 62 per cent more production observed for Cowpea variety Anaswara.

Application of PGPR Mix II reduces disease incidence in vegetables. Disease incidence reduced by 5 per cent in Cowpea variety Anaswara.

Liming increases crop yield. Liming at the rate of 3.5 kg per one cent increased yield of Tapioca by 18 per cent.

System of Rice Intensification (SRI) method of paddy cultivation increases yield while ensuring low production cost. The method resulted in 25-30% per cent increase in yield of paddy variety Uma. The cost of production reduced by 8-10%.

High density cage culture is a perfect method for utilizing granite quarries for fish production. Tilapia, punggacious and pearlspot are the suitable candidate species.

Integrated crop management (ICM) in paddy increases yield by 25%. ICM included application of Lime, Neem cake, Azospirillum, Panchagavya, Fish amino acid, Trichoderma enriched vermicompost, Beauveria, Verticillium and Neem oil spray. Seed treatment with pseudomonas and as foliar spray, usage of Trichocards also included.

Integrated pest, disease and nutrient management (IPDNM) can rejuvenate senile coconut palms. The IPDNM for coconut include regular crown cleaning, application of recommended dosage of chemical fertilizers in two splits, lime application, application of Trichoderma enriched cow dung, neem cake, Bordeaux mixture and Pseudomonas. The cost of this treatment per plant per year is 500. It takes 4 years to make the changes visible in treated palms.

Integrated Pest Disease and Nutrient Management (IPDNM) of Nutmeg prevents fruit drop and fruit decay. It increases fruit set by 12 per cent and decreases fruit drop and fruit decay by 18-25%. Immature nut fall and leaf shedding would decrease considerably. The IPDNM comprise of application of trichoderma enriched cow dung, Potash, Bordeaux mixture and Kocide spray.

Alternate spray for beuveria bassiana and Pseudomonas controls Pest and Disease in Cucurbit Crops.

Njavara paddy can be profitably cultivated in Ernakulam. This variety has good medicinal properties. Yield obtained was 3.5 MT/ha in the demonstration.

Monoculture of indigenous fish Varal resulted high rate of cannibalism and low survival percentage. A unique species specific feed for varal is required to carry out its monoculture.

Open precision farming enhances vegetable yield. Open precision farming requires initial investment of 75,000/- per acre. This method increased yield of bitter gourd by 85 per cent.

Integration of high value fin fish such as Pearl spot, Mullet and Asian Seabass along with shrimp and paddy in Pokkali fields is a best method to ensure high remuneration per unit area.

Breeding and seed production of Pearl spot in ponds is a profitable venture. Small sized ponds (0.5 to 1 acre) are ideal for community breeding of pearl spots. Seed collection can commence from 75 days of stocking the brood fish.

Onion variety Agrifound dark red is suitable for growing in riverine alluvial and sandy loam soils of Ernakulam district.

Spray of Sulphate of Potash (SOP) in Nendran banana bunches increased yield (bunch weight) by 15-20%.

PROGRAMMES TO ATTRACT YOUTH TO AGRICULTURE

As part of its programmes to attract students/youth to agriculture, KVK conducted one day training on Aquaculture practices and prospects for students from Government Fisheries Vocational higher Secondary School, Narakkal and Government Regional Fisheries Vocational Higher Secondary School, Thevara on October 21st, 2014. The students were trained on various vocational projects in aquaculture and location specific technologies like cage culture, scientific mullet farming, Pearl Spot seed production etc.



Demonstrating cage fabrication methods to students



MSW Students from Sree Sankaracharya University of Sanskrit

Master of Social Work (MSW) Students from Sree Sankaracharya University of Sanskrit, Kalady visited KVK on December 15th, 2014 as part of their field orientation programme. They were given orientation on agriculture scenario of Ernakulam district and activities of KVK.

KVK conducted six days On-Job Vocational training for plus two students of Govt. VHSE, Narakkal on 'Demonstration of value added products from fish, prawn and clam from 18th to 24th October 2014. In addition to preparation of different types of fish pickles, fish wafer, fish fingers, fish cutlets, fish balls, dried prawn roast and chutney powder etc., packing, labelling, branding and test marketing of the products were also included in the curriculum.



On Job training to students on Value added products from fish, prawn and clam

PARTICIPATION IN EXHIBITIONS



Kerala Minister for public works Shri.V.K.Ibrahim Kunju visiting KVK stall

KVK participated in the sixth edition of India International Food and Agri-Aqua Expo held at Kerala University of Fisheries and Ocean studies (KUFOS), Kochi from 30th October to 3rd November 2014. The expo was inaugurated by Kerala Minister for Public Works Shri. V. K. Ibrahim Kunju on 30th October. About 1000 number of farmers visited.

The meet was inaugurated by Hon'ble union minister for Agriculture Shri Radha Mohan Singh. KVK's stall showcased various technologies and products for Good Agricultural Practices-GAP and safe farming. About 1500 number of farmers and extension personnel from all over the state visited.

KVK participated in Vasantholsavam 2014, organized jointly by District administration



Dr. A. Gopalakrishnan, Director, CMFRI visiting KVK stall at Global Agro Meet

and District Tourism Promotion Council during 23rd December 2014 to 4th January 2015 at Jawaharlal Nehru International stadium ground, Kaloor, Kochi. The KVK stall displayed various KVK products, publications, posters etc. About 2500 number of farmers and public visited.

KVK participated in one day exhibition in connection with Ksheerasangamam organized by Dairy Development Department at NSS Auditorium, Perumbavoor on December 29th 2014.

KVK participated in one day exhibition at St. Stephen Higher secondary School, Keerampara in connection with Platinum Jubilee Celebration of St. Stephen Higher Secondary School and Farmers Meet on 31st December 2014.



KVK stall at India International Food and Aqua Show

KVK participated in the Global Agro meet-an International Conference and Exposition on Value Added Agriculture and Food Processing held at Adlux International Convention Centre, Angamaly, Ernakulam during November 6th - 7th, 2014. The programme was organized by Department of Agriculture, Government of Kerala in association with Kerala State Industrial Development Corporation (KSIDC) and Confederation of Indian Industry (CII).

ATMA-KVK LINKAGE

KVK participated in the Technology Meet organized by Agricultural Technology Management Agency (ATMA), Ernakulam at Mahathma Gandhi Town hall, Aluva during October 28th and 29th 2014. KVK Subject matter specialists handled class on “Recent advances in Banana cultivation” to the farmers during the meet. KVK showcased its products and technologies that support family farming and safe food production. The programme was inaugurated by Shri. Anvar Sadath, Member of Kerala Legislative Assembly.



**KVK Stall
in the ATMA technology meet**

KVK conducted one day training programme on Recent trends and Prospects of Aquaculture for ATMA Block Technology Managers (BTMs) from Ernakulam and Thrissur districts on November 30th, 2014 at Narakkal Campus. Twenty six officials attended the training programme. The main objective was to update the knowledge of base level extension workers so as to strengthen ATMA fisheries activities.

KVK experts attended ATMA Kisan Ghoshti programme at Kuzhuppilly and delivered lectures on Pokkali Fin fish Shrimp farming, organic vegetable cultivation and banana cultivation on 26th February 2015.

KVK attended 6 ATMA Monthly Technology Advisory (MTA) meetings during the report period.



**ATMA Block Technology Managers
at KVK for training**

MICRONUTRIENT MIXTURE FOR VEGETABLES (VEGETABLE TOPUP)

KVK supplied vegetable micronutrient mixture (Vegetable Top up) to Department of Agriculture, Government of Kerala in all the districts for the consecutive 2nd year to conduct micronutrient demonstrations as part of their vegetable development programme. The micronutrient mixture, as per the previous year's reports from the different districts, were found to have a definite positive impact on yield. An increase in yield of about 15-20% was reported from different districts.

SPONSORED TRAINING OFFERS

Organisations can sponsor candidates in batches only

Aquaculture technician course

Aquaculture is the fastest growing food production sector in the world. Technically skilled persons are essentially required for successful implementation of any aquaculture ventures. However skilled manpower is limited in this field. In order to develop professional aquaculture consultants, Ernakulam KVK offers Aquaculture technician course for enterprising youngsters with fisheries/aquaculture background. This 4 day long programme cost INR 30,000/- for a batch of 10 candidates. Refreshments, lunch and training materials are included. Successful trainees can commence Aquaculture ventures or consultancy services with continued free technical backstopping from KVK.

Operation and maintenance of upland agro machinery

Labour shortage is one of the main reasons preventing growth of agriculture sector in Kerala. Popularizing mechanization and developing skilled labour force to operate and maintain agro machinery is the only alternative. This KVK has devised a package for 4 days Field training programme on Opera-

tion and maintenance of upland agro machinery for farmers/youngsters. The machines covered are Mini tiller, Brush cutter, Earth auger, Mister blower, Power duster and 3 types of hand operated sprayers. The training would be conducted in any field selected by the sponsor within Ernakulam district. Cost of the package is INR 20,000/- for a batch of 10 candidates. Refreshments and lunch included.

Rain shelter installation and maintenance course

Growing vegetables in rainy season has always been a challenge. Rainshelters are structures used to protect crops from rain to ensure vegetable production round the year. Kerala Government has started giving subsidies for rain shelters. Rain shelters can be installed in rooftops and in open fields. This 3 days course covers construction of rain shelters and maintenance of crops in rain shelters with special emphasis to organic farming. Cost of the training package is INR.20,000 for a batch of 10 candidates. Refreshments and lunch included. The successful trained personnel would get continued free technology backstopping from KVK.

Personalia

Dr. Vikas P.A, Subject Matter Specialist (Fisheries) presented a paper entitled Innovative Initiative For Enhancing Inland Fish Production Utilizing Granite Quarries: A Case Study From South India at the “Global Conference on Inland Fisheries” organized by FAO Headquarters, Rome, Italy during January 26th -28th, 2015. He also received a fellowship from Science and Engineering Research Board of DST, Govt. of India.



Dr. Vikas PA with the conference organizer Dr. Edward H Allison Professor University of Washington

Programme Participation

- Dipti N.V. Programme Assistant participated in 5 days training programme on *Organic certification and internal control system* conducted by Regional centre of organic farming, Bangalore at Directorate of Extension, Kerala Agricultural University, Thrissur from 14th – 18th October 2014.
- Dr. Shinoj Subramannian, Programme Coordinator/Sr. Scientist participated in the brain storming session on *Creating and sustaining interest in Agriculture among youth* jointly organized by The Hindu and National Agricultural Research System (NARS) on 25th October 2014 at ICAR-Central Institute for Brackishwater Aquaculture (CIBA), Chennai.
- Sreeletha P., Subject Matter Specialist participated in three days workshop on *Frontier Home Science Technologies* held at University of Agricultural Sciences, Darward during 28th to 30th October 2014.
- Dr. P.A Vikas, Subject Matter Specialist (Fisheries) attended *International Conference Organic + +: Livelihoods – BioVillages – Markets* by International Competence Centre for Organic Agriculture at ADLUX Convention & Exhibition Centre Kerala – India during November 7th and 8th, 2014.
- Shri. F. Pushparaj Anjelo, Subject Matter Specialist (Agricultural Extension) attended 5 days training programme on *Participatory Impact Monitoring and assessment (PIMA)* held at KVK, Mysooru during 5th to 10th December 2014.
- Dr. P.A. Vikas, Subject Matter Specialist (Fisheries) attended *Stakeholders interaction meet* organized by ICAR-Central Institute for Brackishwater Aquaculture (CIBA), Chennai during 12th December 2014.
- Dr. Shinoj Subramannian, Programme Coordinator/Sr.Scientist participated in the *High level committee meeting to review the performance of KVKs to suggest measures to improve their functioning* on 29th December 2014 at National Academy of Agricultural Sciences, New Delhi.
- Dipti N.V., Programme Assistant participated in 4 days training on *Zero budget farming* at Gandhi Museum, Madurai from 24th – 27th January, 2015.
- Shri. F. Pushparaj Anjelo, Subject Matter Specialist (Agricultural Extension) participated in the *4th Bharathiya Vigyan Sammelan* organised by Vigyan Bharathi in association with Govt. Of Goa and Goa University held during 5th to 8th February 2015 at Kala Academy, Panaji – Goa and presented paper entitled “Innovative farmers of Ernakulam: Selection and documentation” on 7th February 2015.
- Dr.Shinoj Subramannian, Programme Coordinator/Sr.Scientist participated in the *Project planning workshop on Attracting and Retaining Youth in Agriculture (ARYA)* at National Academy of Agricultural Research Management (NAARM), Hyderabad during 11th & 12th March 2015.

Publications

- Vikas P.A, Shinoj Subramannian, John Bose, P.U. Zachariya, G Syda Rao and A. Gopalakrishnan 2014. Farm Gate Markets: An innovative approach for marketing quality fish at premium price. International Conference Organic + +: Livelihoods – BioVillages – Markets, Adlux Convention & Exhibition Centre, Ernakulam District, Kochi, November 7th and 8th.
- Vikas P.A and Shinoj Subramannian. 2014. Value chain in Mullet farming in Kerala: scientific gaps and potential. MECOS2, on Marine Ecosystems - Challenges and Opportunities organized by Marine Biological Association of India MBAI , December 2nd – 5th.
- Vikas, P.A & Shinoj Subramannian. 2015. Innovative initiative for enhancing inland fish production utilizing granite quarries: A case study from South India”, Global Conference on Inland Fisheries organized by Food and Agriculture Organization (FAO) Headquarters, Rome, Italy, January 26th -28th.
- Vikas P.A and Shinoj Subramannian 2015. An indigenous practice of responsible brackish water fish seed collection and supply. Bhartiya Vigyan Sammelan (BVS), Goa, February 5th – 8th.
- Vikas P.A & Shinoj Subramannian (2015). Jaiva Hormone AminoPlus. Karshakasree. February, Volume 21 No.2
- Pushparaj Anjelo. F and Shinoj Subramannian 2015. “Innovative farmers of Ernakulam: Selection and documentation”. Bhartiya Vigyan Sammelan (BVS), Goa, February 5th – 8th.

Books

- “Karshika Parisheelana Sahayi” (2015) Shinoj Subramannian, Shoji Joy Edison and B. Suresh Kumar, Krishi Vigyan Kendra of Central marine Fisheries Research Institute, 62 pg.

- “Veettuvalappile pachakkari krishi” (2015) Shoji Joy Edison and Shinoj Subramannian , Krishi Vigyan Kendra of Central marine Fisheries Research Institute, 44 pg.
- “Vilakalude roga keeda niyanthrana sahaayi (Ready reckoner for diseases and pests in common crops of Kerala) (2015) Shoji Joy Edison and Shinoj Subramannian, Krishi Vigyan Kendra of Central marine Fisheries Research Institute, 100 pg.

KVK Products - Price List

Amino plus	200 ml	INR. 40
	1 lit	INR. 180
Organo excel	1 kg	INR. 60
Panchagavya	200 ml	INR. 40
	1 lit	INR. 180
Neem de pest	250 g	INR. 60
	500 g	INR. 110
Neem oil	100 ml	INR. 30
	1 lit	INR. 220
Neem Cake	1 kg	INR. 30
Tobacco decoction kit	1 No	INR. 40
Fruit fly trap	1 No	INR. 30
Pheromone trap (Vegetables)	1 No	INR. 140
Pheromone trap (Mango)	1 No	INR. 140
Vegetable Top Up	500 g	INR. 75
Banana Top Up	500 g	INR. 75
Vegetable seeds		INR. 10/- to 25/-
Pearl plus feed PS 1/ PS 2/ PS 3	1 kg	INR. 95
Pearl plus feed PS 4/ PS 5	1 kg	INR. 85

CMFRI NEWS

CULTURED RED SNAPPER HARVESTED

Harvest of cultured Red Snapper (*Lutjanus argentimaculatus*), Malabar Red Snapper, locally called Chemballi in Kerala was carried out from demonstration ponds maintained at farmer's fields near Atholi, Calicut. The project was accomplished by Calicut centre of CMFRI. Since Red Snapper seeds are scarce, young ones were collected from wild and reared in a 5 cent pond beside Korapuzha River. The fish attained weight of 1 Kg in a period of 7 months. Survival rate was 100 per cent. Total 245 Kg Red Snapper was harvested from the pond and sold for Rs. 400/- per Kg. B:C ratio was 1.8. The technology is recommended for small and marginal fish farmers.

Floating laboratory launched

A floating laboratory was launched in the marine cage farm of the Karwar Research Centre to facilitate routine environment and health monitoring work of the marine farm. The launching was done on 7th October 2014.

CMFRI FACILITATED MARINE STEWARDSHIP COUNCIL (MSC) CERTIFICATION

The short-neck clam (*Paphia malabarica*) fishery in the Ashtamudi Lake in Kerala has received India's first Marine Stewardship Council (MSC) certification with the joint efforts by CMFRI, WWF, State Fisheries Department and the local fishing community. This was the third fishery in Asia to have received this recognition. The MSC certification would help boost sustainable fisheries and also protect the ecosystem.



Fisherman with handful of short necked clam catch



Address by Dr. A. Gopalakrishnan, Director, CMFRI during the MSC certification launch

Hon'ble Union Minister for Agriculture visited CMFRI.

Honourable Union Agriculture Minister Shri Radha Mohan Singh visited CMFRI on 6th November 2014 during State level Interface Meeting on Agriculture and Allied sectors. The interactive meeting with the various ICAR Research Institutes, State Agricultural Universities and KVKs functioning under ICAR was convened to discuss the issues related to research and outreach activities that would benefit farmers. The Union Agriculture Minister highlighted that farmers of this country should benefit from research activities conducted by ICAR institutes and emphasized the importance of reducing post-harvest losses, adoption of environment friendly technologies like water harvesting, solar energy and providing adequate manpower in research and outreach activities.



Honourable Union Minister for Agriculture Shri. Radha Mohan Singh interacting with officials at CMFRI.

Integrated Multi-Trophic Aquaculture successful

Integrated Multi-Trophic Aquaculture (IMTA) involves increased biomass production that can be achieved by integrating different groups of commercially important species with varied feeding habits. The scientists of CMFRI took the initiative to impart this concept of integrated farming to the fishermen group of Munaikadu village who were already practising commercial level seaweed farming.

The centre had given three numbers of low cost cages of size 4.5 m × 4.5 m × 3.5 m to be stocked with cobia fingerlings at the rate of 100 numbers per cage. The seed material (720 kg) for the seaweed was also supplied for integrating with the cages. Cobia fingerlings (average 20 cm length and 50 g weight) were stocked during the first week of April 2014. The harvest was made on 30th October 2014. A total of 652 kg of cobia was harvested. Their length ranged from 59 to 83 cm and weight from 1.8 to 4.2 kg (average weight 3.25 kg). The farm gate price of cobia was Rs. 210 per kg. The total seaweed harvested was 2,700 kg. It was observed that the seaweed rafts integrated with cobia cages had a better average yield of 225 kg per raft compared to 150 kg per raft in those which were not integrated.



Prof. (Dr.) Trevor Platt, Fellow of the Royal Society inaugurating the International Symposium- MECOS 2

International Symposium "Marine Ecosystems: Challenges and Opportunities" - MECOS 2 organized

The International Symposium "Marine Ecosystems: Challenges and Opportunities" (MECOS 2) was organized jointly by the Marine Biological Association of India (MBAI), Kochi and CMFRI during 2nd to 5th December, 2014 at the Dream Hotel, Kochi. The symposium was inaugurated by Prof. (Dr.) Trevor Platt, Fellow of the Royal Society, Plymouth Marine Laboratory (PML) and Executive Director, Partnership for the Observation of the Global Oceans (POGO), United Kingdom. The symposium was attended by scientists, researchers, and teachers working on marine resources and related fields from all over the world.



Sh. A.P. Varkey, Manjara, Ernakulam certifies PGPR mix augments production of vegetables



Seeing is believing: KVK expert extending training in farmers field



KVK's Satellite Production Centers ensure large scale production of quality seeds



Quality of agro-inputs matters a lot: Farmers purchasing KVK products



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