



हर कदम, हर डगर  
किसानों का हमसफर  
भारतीय कृषि अनुसंधान परिषद  
*AgriSearch with a human touch*

# ICAR - KVK ERNAKULAM newsletter

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MALAYALAM  
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Shri. S.Sharma, M.L.A Vypeen releasing KVK's Product Nutrisluny Pallipuram



Shri. K.P.Mohan, Minister for Agriculture, Kerala examining KVK's Neem Cake, Vazhakulam



Shri. K.V. Thomas MP Ernakulam visiting KVK's mobile sales counter, Pallipuram



**ICAR - KRISHI VIGYAN KENDRA (ERNAKULAM)**

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सी एम एफ आर आई  
**CMFRI**

# MANDATES



## Director's Message

The overall mandate of ICAR-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 for the whole district. The specific activities envisaged 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 in farmers fields
- Organizing need based training for 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.



Any production system for its success requires quality input supply, economic production technologies, storage system and efficient marketing channels working in tandem. So is the case with Agriculture too. Whereas this production system has to face additional burden of uncertain climate and related parameters also. We believe viewing agriculture in a holistic way and by taking care of all the above parameters only can be sustainable and profitable. The ICAR-Krishi Vigyan Kendra (KVK) Ernakulam of

ICAR-Central Marine Fisheries Research Institute is working towards betterment of Agriculture and its allied fields by keeping the above concept as centre of all its programmes.

KVK Ernakulam is currently concentrating on organic/safe farming for safe food production, particularly in homesteads. The slogan we use for the expression of this idea is *Self Farming for Safe Food*. Under this programme, the KVK produce organic manures, organic pesticides, pheromone traps, quality seeds, planting materials and supplying through CMFRI ATIC-KVK sales counter. We are proud to share that as many as 5000 farmers visited the sales counter last year. We believe farmer's foot prints are most important for institutions like ours. Sales melas are being conducted regularly wherein good quality seedlings, indigenous poultry chicks etc. are being supplied to farmers. In addition, literature, folders, books etc. on homestead farming are being published and distributed to the visiting farmers. We participate in exhibitions in different parts of the district to popularize technologies. Satellite Production Centres have been established in farmer's fields in Public-Private Partnership mode to produce quality planting materials, fish seeds, poultry chicks. in large scale and supply to farmers. We have initiated concept of mobile sales counters to supply quality inputs across the district.

We understand that farmers are facing difficulty in marketing their produce. KVK conceived the idea of farm gate markets for Pokkali fish and facilitating such seasonal markets consecutively for the last 3 years as a replicable model. KVK is in the process of forming 2 farmer producer companies this year each on Pokkali and nutmeg with NABARD funding and to empower them for direct marketing by avoiding middle men.

Manpower shortage in agriculture is an issue in Kerala. In addition there is acute shortage of technically qualified persons in Agriculture. KVK has set task forces to address these issues. Kitchen garden task force started operational and the Aqua task force is in pipeline.

We strongly believe that the line Departments and all agencies working in Agriculture should converge their interventions for the benefit of farmers. KVK maintain linkages with ATMA and all line departments and provide technical backstopping in their programmes. KVK has collaboration with Kerala Agricultural University in making available quality biocontrol agents at KVK sales counter.

The objective of this newsletter is to spread information about the programmes of KVK with a view to invite fruitful future collaborations from peer institutions, line departments, research organisations and most importantly, the farmers to work together in the coming years for the betterment of Agriculture and ensuring safe food for the public.

With best wishes

(A. Gopalakrishnan)  
Director

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*With Best Compliments From*

**Director**  
ICAR- CMFRI

**Senior Scientist & Head**  
ICAR-KVK Ernakulam of CMFRI





## National Recognition for Innovative Farmer

**F**armer Innovator nominated by KVK, Shri. Sachithandanthan Veliyath received the best farmer innovator award 2015-16 instituted by ICAR- Indian Agricultural Research Institute, New Delhi. His invention- Nutmeg Decorticating machine made him qualify for the award. He received award from Shri. Radha Mohan Singh, Union Minister for Agriculture during the Krishi Unnathi Mela held at Indian Council of Agriculture Research (ICAR), PUSA, New Delhi on 21<sup>st</sup>



March 2016. Earlier in 2014, he was selected by KVK as best innovative farmer of Ernakulam district.

## World Soil Day Celebrated

ICAR-KVK celebrated World soil day at Pallippuram near Cherai on 5<sup>th</sup> December, 2015. The programme was inaugurated by Prof. K.V. Thomas, Hon. Member of Parliament, Ernakulam. He distributed Soil health cards to farmers. During the occasion, Mobile sales counter of KVK was inaugurated by Vypeen MLA, Shri.S. Sharma. Folder on soil collection technique was released by Dr. A.Gopalakrishnan, Director, CMFRI. Smt. Remani Ajayan, Vice-president, Pallippuram Grama Panchayat, Shri. Mayyatil Satyan, President, Pallippuram Service Cooperative Bank and Smt. R.Sonia, Pallippuram Agriculture Officer participated.



Dr. A.Gopalakrishnan Director CMFRI releasing folder on soil collection technique.



Shri. K.V.Thomas, MP -Ernakulam distributing soil health cards to farmers.

## Products for Organic Farming Launched

### Nutrislurry-A tonic to rejuvenate Soil

Vypeen MLA, Shri. S.Sharma launched KVK's new product- NutriSlurry on 5<sup>th</sup> December, 2015 at Pallippuram, Ernakulam. NutriSlurry is an organic tonic that can regain soil health by developing beneficial microflora and organic matter content. This is a fermented mixture of desi cowdung, neem cake and ground nut cake in certain proportions packed in convenience packing of 5 litres. The contents diluted in 5 litre water can be applied to plants. The product is available for sale at CMFRI KVK sales counter.



KVK's New products for organic farming

### Enriched Cowdung, Desi Gomutra and Vermicompost

Enriched Cowdung and Desi Gomutra are produced from cowdung and urine obtained from wild grazed cows. Vermicompost is also produced using wild grazed cattle dung. Enriched cowdung and vermicompost are recommended for basal application and Desi Gomutra for foliar application. These products were released by Dr. A. Gopalakrishnan, Director, ICAR-CMFRI on 10<sup>th</sup> March 2016 at Kochi.

### CTCRI's Cassava leaf extract based bio pesticides

Nanma, Menma, Sakthi and Shreya are the bio pesticides developed by ICAR- Central Tuber Crops Research Institute, Thiruvananthapuram from cassava leaf extracts. KVK purchased the technology from CTCRI and produce these in a commercial scale and supply through its sales counter. These products were launched by Director ICAR- CMFRI, Dr. A. Gopalakrishnan during a function held at CMFRI, Kochi on 10<sup>th</sup> March 2016.



Dr. A.Gopalakrishnan, Director CMFRI releasing KVK products

## ICAR-KVK Demonstrated Farm Gate Markets for Pokkali Fish

**K**VK demonstrated “Farm gate markets” at Kadamakkudy on 26<sup>th</sup> March 2016 to popularize nutritionally rich, naturally organic Pokkali fish while ensuring enhanced income for farmers. The programme was inaugurated by Dr. A. Gopalakrishnan, Director, CMFRI. Kadamakkudy Grama Panchayath president Smt. Shalini Babu. Market Fed Managing Director Dr. Michael Vedashiromany and District Panchayat member, Smt Sona Jayaraj were present. Live fishes were sold at premium price which avoided middlemen and thus helped the farmers to earn more profit.



Dr. A.Gopalakrishnan, Director CMFRI inaugurating pokkali fish farmgate market

## SHG’s Organic Manure Manufacturing Unit with KVK Technology Backstopping

**K**rishi Vigyan Kendra Ernakulam, as part of its mission to make available Quality Agricultural Inputs for the Organic farmers of the district, joined hands with District Kudumbashree Mission to commence an organic manure manufacturing unit. M/s Jeeva Kudumbashree Micro enterprise – an all women joint liability group (JLG) of Kudumbashree was trained and nurtured by KVK to start the unit and a sales outlet under Kudumbashree brand name at Mazhavannur, Ernakulam. The group produce and sell products like Neem cake, Castor cake, Vermicompost, Sprayable Neem Oil, Dolomite, Grow bags, Grow bag mixture,

etc., with technology backstopping from KVK. The unit started functioning in Airapuram Village of Mazhuvannur Grama Panchayath on 23<sup>rd</sup> February 2016.



Inauguration of jeeva Kudumbashree Organic Manure Manufacturing and sales unit.

## Commenced Satellite Production Centre (SPC) - Planting Materials

**S**PC's are units run in farmers' fields with KVK technology backstopping to produce seeds, planting materials, fish fingerlings, poultry chicks, bio products, etc in a Public Private Partnership (PPP) mode. ICAR-KVK initiated one of such units to produce planting materials at Brothers of St Joseph cottolengo, Palluruthy, Ernakulam. Vegetable seedlings, curry leaf and drumstick seedlings were produced and supplied from this unit. It is envisaged to scale up this SPC to provide all kinds of planting materials of district specific crops. Dr. A. Gopalakrishnan, Director,



Vegetable seedlings getting ready at KVK's SPC

CMFRI signed an MoU with the said SPC on 30<sup>th</sup> November, 2015.

## Demonstrated Genetically Improved Farmed Tilapia (GIFT) Farming

**G**enetically Improved Farmed Tilapia (GIFT) farming in small scale cages was demonstrated in a 1 ha granite quarry at Karukutty, Angamaly. During the course of this demonstration, KVK conducted on-farm awareness programs to students, youth and farmers. A harvest mela was conducted on 23<sup>rd</sup> March

2016 to popularize the technology. Karukutty Panchayat President, Shri. Shaju V. Thekkekkara inaugurated the programme. The fish reached 350 gm weight during a period of 6 months recording a survivability of 80 percent.



Cage culture of GIFT in granite quarry and Harvest Mela

## Seedling Sales Melas Organized

Three Sales melas were organized at CMFRI during November and December, 2015. Quality vegetable seedlings, seed propagated curry leaf seedlings and Drumstick seedlings were distributed to 700 farmers.



Seedling sales mela at KVK sales counter

## Pre- Rabi Awareness Campaign Conducted

A Pre-Rabi awareness campaign was conducted in association with Ernakulam Agri-Horti society during 2<sup>nd</sup> to 10<sup>th</sup> January, 2016 at Ernakulathappan ground, Ernakulam. Pre-rabi awareness programmes were conducted by all KVK's across the country during this period as per the direction from Ministry of Agriculture. The recent technologies relevant in Agriculture and allied sector for Ernakulam district were popularized through posters, booklets and display of KVK



Pre - Rabi awareness programme: Exhibition

products. Around 35,000 farmers and 450 extension personnel visited KVK stall during this one week long programme.

## Field Experience Training Conducted for Agricultural Scientist Probationers

Field experience training of 21 days duration was conducted for Scientist probationers of Indian Council of Agricultural Research at KVK. The programme was conducted as part of their Foundation Course for Agricultural Research Service (FOCARS) at National Academy of Agricultural Research Management (NAARM), Hyderabad. The study was conducted from 8<sup>th</sup> to 28<sup>th</sup> February, 2016 at Nayarambalam village. Their findings were explained to the villagers during a function held on 22<sup>nd</sup> February, 2016. Nayarambalam Panchayat President, Shri. E.P.Shibu inau-



Discussion between scientists and farmers/public representatives.

gurerated the programme. Panchayat members, line department officials and KVK officials were present.

## KVK's Technology Backstopping to Department Programmes

**K**VK provided technology backstopping for the Fish Farmers Development Agency (FFDA) for their district specific demonstration programs on Cage Aquaculture and high density fish culture. Hands on trainings were given to Self Help Group partners of Fish Farmers Development Agency as and when required.



Vasantham Women SHG doing cage culture with KVK technology backstopping at Chengamanad

## INTER KVK COLLABORATIONS

**ICAR-KVK Malappuram** P.Sreeletha, Subject Matter Specialist (Home science) conducted one day training on value addition of fish for the selected entrepreneurs at ICAR-KVK, Malappuram on 31st December, 2015 .

**ICAR-KVK, Udupi** Supplied Pearlsport seeds to KVK, Udupi, Karnataka for distributing to farmers of Udupi district. Supplied Pearlsport fish feed also to them.

**ICAR-KVK, Namakkal** Sourced exotic fodder seeds from KVK, Namakkal, Tamilnadu and sold through CMFRI Sales Counter. This is made as a permanent arrangement for the benefit of dairy farmers of Ernakulam.

**ICAR-KVK, Pathanamthitta** The Head and Subject matter Specialists of both KVK, Pathanamthitta and KVK, Ernakulam had a brain storming session on 21<sup>st</sup> September, 2016 at KVK Ernakulam on areas of mutual collaboration. Subsequently Dr. P.A. Vikas, Subject Matter Specialist (Fisheries) conducted one day fresh water fish farmers interface at ICAR-KVK Pathanamthitta and delivered a

lecture on Homestead Aquaculture: Prospects and Practices" on 27<sup>th</sup> October 2015. On another instance, Dr. K. Smita Sivadasan, Subject Matter Specialist (Animal Husbandry) formulated antibiotic and performance enhancer free poultry feed ration for KVK, Pathanamthitta.

**All KVKs of Kerala** Ernakulam KVK produce and supply Neem oil in bulk quantities to all KVKs in Kerala who are involved in production of neem based organic pesticides. The objective is to ensure quality of Neem oil based products supplied from KVK system



Team KVK Pathanamthitta Visiting sales Counter

## Programmes to Attract Youth to Agriculture

**K**VK conducted 2 numbers of six days On the Job training programme on Fish processing for VHSE Students, Govt. VHSE, Kadamakudy and Govt. VHSE, Narakkal during the month of October. A total of 90 students attended. They were trained on Production, packing, labelling and marketing of fish products viz., Fish pickle, Prawn pickle, Prawn wafers, Prawn cutlets, Dried Prawn roast and prawn chutney powder. They were also trained on production, branding and marketing of organic manure from sea fish extract. Students



Students undergoing fish processing training at KVK

of St Thomas UP School, Karukutty were taken to Cage farming site for an exposure visit on 8<sup>th</sup> September 2015.

## PARTICIPATION IN EXHIBITIONS

### ANNAM exhibition, Ernakulam

**K**VK participated in the ANNAM 3<sup>rd</sup> National Food and Agro Biodiversity festival organized by Centre for Innovation in Science and Social Action (CISSA), at Rajendra Maidan, Ernakulam from 10<sup>th</sup> -14<sup>th</sup> December 2015. Various technologies and organic products popularized by KVK were displayed and products kept for sale. Kadaknath poultry chicks produced in a Satellite Production Centre of KVK were sold during the exhibition. Approximately 2000 farmers visited the stall.



Smt. Vandana Shiva at KVK Exhibition Stall

### State Dairy Development Expo, Kolenchery

**K**VK participated in the Ksheera Sangamam-2016, State-level dairy farmers' meet held at St. Peter's College ground, Kolenchery during 25<sup>th</sup> and 26<sup>th</sup> February, 2016 organized by the Dairy Development Department. KVK facilitated the test marketing of Organic agro inputs produced by KVK promoted SHG, Jeeva Kudumbashree Micro Enterprise. Around 1000 farmers visited the stall.

### Pineapple fest, Vazhakulam

**K**VK participated in the National Pineapple Fest – 2016 organised by State Horticulture Mission, Kerala during February 5<sup>th</sup> to 7<sup>th</sup> 2016 at Vazhakulam, Ernakulam. A stall was setup in which various Organic agri inputs of KVK were displayed along with posters depicting the recent technological interventions. Test marketing of the Organic Agro Inputs of Jeeva Kudumbashree Micro Enterprise was also conducted. 700 number of farmers visited the stall during the programme.



Test Marketing of Kudumbashree organic manure products at KVK stall

## ATMA -KVK LINKAGE

### Participation in ATMA Technology week celebration

**K**VK participated in the ATMA technology week celebrations held at Muvattupuzha during 10<sup>th</sup> and 11<sup>th</sup> December, 2015. A stall showcasing the technological products of KVK was put up. Around 1500 farmers visited the stall. KVK Subject Matter Specialists delivered lectures on “*New entrants in fruit farming in Kerala*” and “*Homestead fish farming*”.



KVK Stall at ATMA Technology week celebration.

### KVK provided technology backstopping for ATMA projects

**K**VK provided technology backstopping for implementing ATMA PLUS 2015-16 project entitled “*Integrated farming of fin fish in Pokkali shrimp farming system*”. Project formulation, site selection, species selection, feed management, etc. were the areas of collaboration. The project was implemented in the Pokkali field of Mr. Mariyadasan C. B., Chingathara, Nayarambalam. KVK also accorded technical vetting of the ATMA project –Modification of Paddy Thresher-An innovation of farmer, Mr. K.K.Baby, Kalathiparambil, Edavanakkad.



Dr. P.A.Vikas Delivering Lecture on Homestead fish farming

### Participation in ATMA extension programmes

**K**VK conducted one day orientation on “*Homestead Aquaculture*” for 25 farmers of Kunnathunad Gramapanchayath on 28<sup>th</sup> January 2016 organized by ATMA, Ernakulam. KVK attended the Farmer-Scientist Interface organized by ATMA at Town Hall Thrikkakara on March 10<sup>th</sup>, 2016.

### ATMA Management Meetings

**K**VK attended 3 ATMA Monthly Technology Advisory (MTA) meetings during the report period and provided technical support in formulating printed advisories. Also KVK attended District Farmers Advisory Committee meeting of ATMA



ATMA Monthly Technology advisory meeting

at Collectorate on November 20<sup>th</sup>, 2015 and the Governing Body Meeting on 18<sup>th</sup> March, 2016 at Kakkanad.

## REPUBLIC DAY CELEBRATED

**K**VK celebrated republic day on 26<sup>th</sup> January, 2016. First time in the history of KVK, Director of the host institute, CMFRI hoisted the National flag at KVK campus. During the republic day speech, he suggested to take part in the Union government's Pulse development programme by popularizing vegetable pulses in the district.



Dr.A.Gopalakrishnan, Director, CMFRI hoisting National Flag at KVK

## RECOGNITIONS AND HONOURS

**T**he paper "Sustainable intensification of food production from Pokkali farming system through Cage farming" authored by Vikas P.A, Shinoj Subramannian, John Bose and P.U. Zachariya received best poster award during the 5<sup>th</sup> International Symposium on Cage Aquaculture in Asia (CAA5) held during 25<sup>th</sup> to 28<sup>th</sup> November 2015 at Kochi.



Best poster Award presented together by Dr. A.Gopalakrishnan and Dr.J.K.Jena

## TELEVISION DOCUMENTARIES

- ❖ Doordarshan (Malayalam) telecasted a documentary on KVK activities covering Satellite Production Centre- Planting materials and Pearlsport and Quality organic input production in their Krishidarshan programme on 3<sup>rd</sup> December, 2015.
- ❖ Doordarshan (Malayalam) telecasted a documentary on KVK activities covering topics on Cage fish culture in granite quarries, Genetically Improved Farmed Tilapia (GIFT) farming and Kadaknath poultry on 31<sup>st</sup> December, 2015 in their Krishidarshan programme



Krishidarshan Malayalam 03-12-2015



ഉപഗ്രഹ കരിമീൻ കുഞ്ഞുങ്ങളുടെ ഉത്പാദനം വിപണനം

Doordarshan Documentry

## RADIO PROGRAMMES

- ❖ Shri. Shoji Joy Edison, Subject Matter Specialist (Horticulture) delivered a talk on “*Marunadanpachakkarikal-Paripalanamurakal*”(Care and management of exotic vegetables) broadcasted in AIR, Kochi 102.3 FM on 19<sup>th</sup> November, 2015.
- ❖ Dr. A. Gopalakrishnan, Director CMFRI & Dr. Shinoj Subramannian , Sr. Scientist and Head participated in a radio programme on KVK-Kudumbashree Joint venture in Samakaliam in AIR, Kochi 102.3 FM on 9<sup>th</sup> January, 2016.

## PUBLICATIONS

### Popular articles/Conference proceedings/ Technical bulletins

- ❖ N.V.Dipti and Shinoj Subramannian. 2015. *Sastriya Mannu parishodhana* Krishi Vigyan Kendra publication series-1/ 2015, December 2015.
- ❖ K. Smita Sivadasan and Shinoj Subramannian. 2015. *Puthen Theettapullu Vilakal*. Krishi Vigyan Kendra publication series-2/2015, December 2015.
- ❖ Vikas P.A, Shinoj Subramannian, John Bose and P.U. Zachariya (2015). Sustainable intensification of food production from Pokkali farming system through Cage farming. International Symposium on Cage Aquaculture in Asia (CAA5). IPS P11.
- ❖ Dipti N V, Shinoj Subramannian and Pushparaj Anjelo F. 2016. Popularization of Panchagavya: Story of Ernakulam in a four year time scale. Abstracts of First KVK symposium Zone VIII. Technology delivery mechanisms of KVKs for higher productivity and profitability in Agriculture. Pg 4.
- ❖ Pushparaj Anjelo F and Shinoj Subramannian .2016. Bio pesticide Nanma of ICAR-CTCRI in controlling banana pseudostem weevil : A success story from Ernakulam district of Kerala . Abstracts of First KVK symposium Zone VIII. Technology delivery mechanisms of KVKs for higher productivity and profitability in Agriculture. Pg 11.
- ❖ Vikas P.A, Shinoj Subramannian, John Bose and P.U. Zachariya 2016. *Ekiikrut Chaaval-Chingat pakh machhalii paalan dvara paramparagat pokkali chaaval kheti ka punarnaviikaran*. National Scientific Hindi Seminar, CMFRI, Kochi. ISSN :0972-2351. Pages 41-47.

## PROGRAMME PARTICIPATION

- ❖ Dr. Shinoj Subramannian, Sr. Scientist and Head attended the Agro-Climatic Wise Zonal Workshop for West Coast Plain and Hill regions at ICAR-Central Coastal Agricultural Research Institute, Goa on 16<sup>th</sup> October, 2015.
- ❖ Dr. P.A. Vikas, Subject Matter Specialist (Fisheries) participated in the Kerala Fish Farmer's Capacity Building Meet 2015 held on 17<sup>th</sup> and 18<sup>th</sup> October 2015 at CMFRI, Kochi and delivered a lecture on Pokkali farming- issues and possible solutions.
- ❖ Shri. Shoji Joy Edison, Subject Matter Specialist (Horticulture) attended the Workshop on Organic vegetable cultivation organized by Kongorappalli service cooperative Bank and delivered a lecture on Organic vegetable cultivation on 20<sup>th</sup> October, 2015 at Kongorappalli.
- ❖ Dr. Shinoj Subramannian, Sr. Scientist and Head attended the National Seminar on Contextual Relevance of ITKs in Plant protection at ICAR-Indian agricultural Research Institute (IARI), New Delhi during 28<sup>th</sup> to 29<sup>th</sup> October, 2015.
- ❖ Dr. P.A. Vikas, Subject Matter Specialist (Fisheries) participated as resource person in the staff capacity building programme organized by National Institute of Fisheries Administration and Management, Kadungalloor and delivered a lecture on Brackish water fin fish seed production on 12<sup>th</sup> November 2015.
- ❖ Dr. P.A. Vikas, Subject Matter Specialist (Fisheries) participated as resource person in one day fin fish farmers sensitization workshop organized by Jansree mission at Eramalloor and delivered a lecture on Cage farming on 28<sup>th</sup> November 2015.
- ❖ Dr. P.A. Vikas, Subject Matter Specialist (Fisheries) participated in the Seminar cum Exhibition programme organized by Asha-kiranam –an initiative to support women children of Friends Forum, Edappaly and delivered a lecture on High density fish farming on 1<sup>st</sup> December 2015.
- ❖ Dr. Shinoj Subramannian , Sr. Scientist and Head participated in the Workshop on Strategies for promoting Farmers producer Organizations organized at ICAR-National Academy of Agricultural Research Management (NAARM), Hyderabad during 9<sup>th</sup> -11<sup>th</sup> December, 2015.
- ❖ Shri. Shoji Joy Edison, Subject Matter Specialist (Horticulture) attended the review meeting of coconut project funded by Kerala State Planning Board at Planning board at Pattom, Thiruvananthapuram on 14<sup>th</sup> December 2015.
- ❖ Dr. Shinoj Subramannian , Sr. Scientist & Head and Smt. Dipti N.V., Programme Assistant attended Farmer-Scientist Interaction meet organized as part of 25<sup>th</sup> Swadeshi Science Congress held at Sree Sankaracharya University of Sanskrit, at Kalady on 16<sup>th</sup> December 2015.

- ❖ Shri. F. Pushparaj Anjelo, Subject Matter Specialist (Agril. Extension) participated in the First KVK Symposium Zone VIII organized by ICAR- Agricultural Technology Application Research Institute(ATARI), Bengaluru at UAS Dharwad during 21<sup>st</sup> -22<sup>nd</sup> January 2016 and presented two papers.
- ❖ Dr. P.A. Vikas, Subject Matter Specialist (Fisheries) participated in three days Sensitization work shop on Produce Fund for POPI Resource persons organized jointly by National Bank for Agriculture and Rural Development (NABARD) and School of Management Studies Cochin University of Science and Technology at Hotel Presidency, Ernakulam, from 21<sup>st</sup> to 23<sup>rd</sup> January 2016 and also during 28<sup>th</sup> – 30<sup>th</sup> March, 2016.
- ❖ Shri. Shoji Joy Edison, Subject Matter Specialist (Horticulture) attended a Workshop organized by Spices board and conducted a training class on Scientific Nutmeg cultivation on 29<sup>th</sup> January, 2016 at Thura-voor, Angamaly.
- ❖ Shri. Shoji Joy Edison, Subject Matter Specialist (Horticulture) attended HRD training on Profitable production, processing and marketing mechanism in coconut at Central Plantation Crops Research Institute (CPCRI), Kasaragod during 2<sup>nd</sup> and 3<sup>rd</sup> February, 2016.
- ❖ Shri. Shoji Joy Edison, Subject Matter Specialist (Horticulture) participated as resource person in the Phase I - Inferential learning programme for young educated women participants from Ernakulam district organized by Central Marine Fisheries Research Institute and Society for Assistance to Fisher women (SAF), Kerala and delivered a lecture on Building self confidence and competence on 12<sup>th</sup> February, 2016.
- ❖ Shri. Shoji Joy Edison, Subject Matter Specialist (Horticulture), Dr. P.A Vikas, Subject Matter Specialist (Fisheries), Shri. F. Pushparaj Anjelo, Subject Matter Specialist (Agricultural Extension) and Dr. K. Smita Sivadasan, Subject Matter Specialist (Animal Husbandry) attended the Pre-action plan meeting of KVKs at Communication Centre, Mannuthy on 18<sup>th</sup> February, 2016.
- ❖ Dr. Shinoj Subramannian, Sr.Scientist and Head attended the final Action Plan meeting of KVKs at CPCRI, Kasargod from February 21<sup>st</sup> to 23<sup>rd</sup> , 2016.
- ❖ Dr. P.A. Vikas, Subject Matter Specialist (Fisheries) participated as resource person in the Phase I - Inferential learning programme for young educated women participants from Ernakulam district organized by Central Marine Fisheries Research Institute and Society for Assistance to Fisher women (SAF), Kerala and delivered a lecture on Scope of Fish farming on 23<sup>rd</sup> March 2015.

**ICAR-CMFRI / KVK SALES COUNTER**

ICAR-CMFRI /KVK sales counter supply various products useful for organic/safe farming. The sales counter is located in the ground floor of ICAR-CMFRI building by the side of Goshree road near High court junction in Kochi. The counter is open for public on all working days from 10:00 am to 4:00 pm.

**PRICE LIST**

Sl. No	Item	Quantity	Price at Sales Counter(Rs)*
1	Amino plus	200 ml	40
2	Organo excel	1 kg	70
3	Panchagavya	200 ml	45
4	Neem de pest	250 g	60
5	Neem oil	200 ml	65
6	Neem Cake	1 kg	30
7	Tobacco decoction kit	1 No	42
8	Fruit fly trap	1 No	30
9	Pheromone trap (Vegetables)	1 No	145
10	Pheromone trap (Mango)	1 No	145
11	Vegetable Top Up	500 g	75
12	Banana Top Up	500 g	75
13	Fishlizer	500 g	30
14	Vermicompost	1 kg	25
15	Enriched cowdung	1 kg	35
16	Desi Gomutra	1 litre	40
17	Nanma	500 ml	150
18	Menma	200 ml	75
19	Shreya	200 ml	55
20	Shakti	200 ml	65
21	NutriSlurry	5 litre	150
22	Pseudomonas (KAU)	1 kg	75
23	Trichoderma (KAU)	1 kg	105
24	Beauveria (KAU)	1 kg	75
25	Verticillium (KAU)	1 kg	75
26	Vegetable seeds	As per size	10 to 25
27	Fodder seed-Hedge Lucerne	50 g	50
28	Fodder seed-Subabul	20 g	20
29	Fodder seed-Agathi	20 g	20
30	Fodder seed-Stylo	50 g	40
31	Fodder cowpea seed	100 g	35
32	Fodder maize seed	100 g	25
33	Pearl plus feed PS 1 to 4	1 kg	95
34	Pearl plus feed PS 5	1 kg	85

\*Competent authority may change price from time to time

ICAR-KVK'S PRICED PUBLICATIONS

Sl.No.	Name of Publication	Price (in Rs.)
1	100 days schedule for vegetable cultivation in grow bags (User's Manual)	5
2	Jaiva Pachakkari Krishikkoru Kaipusthakam	30
3	Ernakulam KVK yude Jaiva Karshika Ulpadana Upadhikal	10
4	Nadan Vittinangalude Registrationum Karshakarude Anubandha Avkashangalum	5

**KARIMEEN ( PEARL SPOT )  
SEEDS FOR SALE**

Pearl spot seeds are ready for sale at KVK's satellite seed production unit.

Please contact

**Mr. Shibu C.V**

Cochiery House, Kumbalangi  
9496090363, 0484 - 2492450

Farmers who possess brackish water ponds (30 cent to 1 acre) can contact KVK for starting such units.(0484 - 2492450)



**KVK'S VEGETABLE TASK FORCE**

**Want to grow safe vegetables at home but do not have idea on 'how to start'?**

Call our vegetable task force for help:  
Angel Kudumbashree, Edvanakkad  
9895714598

**They undertake**

- Supply of KVK specified potting mixture
- Turnkey basis instalation of kitchen garden
- Supply of KVK 's organic inputs



**KVK - Kudumbashree collaboration to supply quality Organic manures**



**Jeeva Kudumbashree Micro Enterprise**

Kudumbashree Building | Airapuram | Airapuram P.O.  
Ernakulam Dt. | Kerala - 683 541

Customer Care: 96561 93873, 97476 53163

## FINDINGS &amp; RECOMMENDATIONS

## Agriculture

Ginger accession Soma Clone 8640 developed by Plantation Department, College of Horticulture, Vellanikkara (Kerala Agricultural University) is promising to use for vegetable purpose. Average yield was 2.5 MT/acre, with less disease incidence. This is suitable for curry/candy making.

Fishlizer, the organic fertilizer from marine fish waste enhance flowering and fruit setting in vegetables. The standard recommendation is 200 g per growbag as basal dose and subsequent 50 g at every 15 days interval

Applying 400 kg/ha of dolomite along with application of Pseudomonas, beauveria and fish amino acid augmented the paddy production by 22%.

Banana sucker treatment with Cow dung slurry mixed with Metarhizium and subsequent basal application of Metarhizium 2 g dispersed in 1 litre water at 2 months and 4 months after planting control rhizome weevil effectively.

Abnormal leaf fall in nutmeg can be controlled with the sprays of 1% Bordeaux mixture during May 3<sup>rd</sup> week and 0.15% spray of Kocide during 1<sup>st</sup> week of July (150g Kocide in 100 litres of water).

Fruit drop in nutmeg can be controlled with sprays of Pseudomonas 2% (20gram in 1 litre of water) during September and Boric acid 0.2% (2 gram in 1 litre of water) during October.

Calcium- Boron deficiency in Banana can be corrected with the sprays of Calcium nitrate 0.5% ( 5 gram diluted in 1 litre of water) followed by a spray of 0.1% Boric acid (1gram in 1 litre of water), one week after the Calcium nitrate spray. Lime application of 350g/ plant can also correct the deficiency.

Rhinoceros beetle in coconut can be well controlled by placing 250 g Sand + Ferterra mixture in the leaf axils (50 g of Ferterra is mixed with 2 kg sand for this purpose).

Cool season vegetables like cabbage, cauliflower, carrot *etc.* should be transplanted within the first fortnight of October to get better results. Delayed transplanting results in smaller sized curds and heads.

Neem Cake is the residue obtained after de-oiling neem kernels. It is considered adulterated if it contains powdered neem shells or any other foreign matter.

## Fisheries

Genetically Improved Farmed Tilapia (GIFT) is found to be ideal species for high density cage culture in granite quarries. License from Fisheries Department, Govt. of Kerala is mandatory for GIFT farming. Seeds are available at the bio secured farm and breeding unit of Rajiv Gandhi Centre for Aquaculture (RGCA), Manikonda, Vijayawada, Andrapradesh.

Asian Seabass is a good candidate fish suitable for cage culture in low saline water bodies. Fingerling size (10 cm) fishes are ideal for stocking in cages. Periodical grading is essential to check cannibalism and to attain uniform growth.

Mullet is a good candidate fish for open farming in brackish water bodies. Its seed collection generally commence after the south west monsoon. Nursery rearing in happa nets is essential to get good survival. Formulated diet of high protein and fat is essential during nursery rearing phase.

Integration of Fin fish farming in Pokkali farming system is an ideal practice to enhance income from unit area of the Pokkali field. Asian Seabass, Pearl spot, Mullet are ideal candidate species for Pokkali fields. All these fishes requires eight months growth period to attain the marketable size.

## Animal Husbandry

Farmer's can feed Calf Milk Replacer as replacement of half of whole milk ration. This can reduce the milk consumed by calves without affecting their health and growth rate. KVK recommends to adopt this technology in large farms.

*Soviet Chinchilla* rabbits have shown improved litter size, less foot diseases, reduced kit mortality and 16% more weight gain in 5-6 month old kits.

The leg disorders and egg deformities in case of layer poultry due to Calcium deficiency can be prevented by supplementary feeding of raw lime shell powder along with layer mash.

Kadaknath poultry is suitable for growing in kerala backyards for safe meat and egg. KVK supply Kadaknath chicks.

Legume fodders and tree fodders can also be used in cattle diet to increase fat percentage in milk, while reducing pellet feed quantity. Such fodder seeds can be purchased from KVK.

## PERSONALIA

**D**r. P.A. Vikas, Subject Matter Specialist (Fisheries) received fellowship from Netherlands for attending the International course “Responsible aquaculture development for food security and economic progress” organized by Centre for Development Innovation (CDI), Wageningen UR during 29<sup>th</sup> February – 11<sup>th</sup> March, 2016.



Dr.P.A.Vikas with training Participants.

## ICAR-CMFRI NEWS

### National Marine Fisheries Census-2016 conducted by CMFRI

**N**ational Marine Fisheries Census is a five yearly exercise conducted by Government of India to collect various information pertaining to marine fisheries sector in the country. This information forms basis for developing various policies at Government level. The census covers information about marine fishermen families, their social and educational profile, demographic features of marine fishing villages, information on fishing crafts and gears etc. The marine fisheries census- of the year 2016 was successfully conducted by



CMFRI Scientists collecting data

CMFRI in all maritime states and two union territories. The census deployed 3000 trained enumerators who visited 11 lakh fishermen families spread across 4250 marine fishing villages located in 73 districts to collect the details that was monitored and supervised by 220 officials of the institute posted at 26 centres

### The ICAR Best Annual Report Award to ICAR-CMFRI

**I**CAR Best Annual Report Award under large Institutes category for the year 2014-15 was won by the ICAR-CMFRI, Kochi. The award was received by Dr. A. Gopalakrishnan, Director from the Hon. Union minister for Agriculture Shri. Radha Mohan Singh during ICAR Awards ceremony held on 23<sup>rd</sup> January, 2016 at New Delhi.



Dr.A.Gopalakrishnan, Director CMFRI receiving the award.

## ICAR-CMFRI celebrated 69<sup>th</sup> Foundation Day

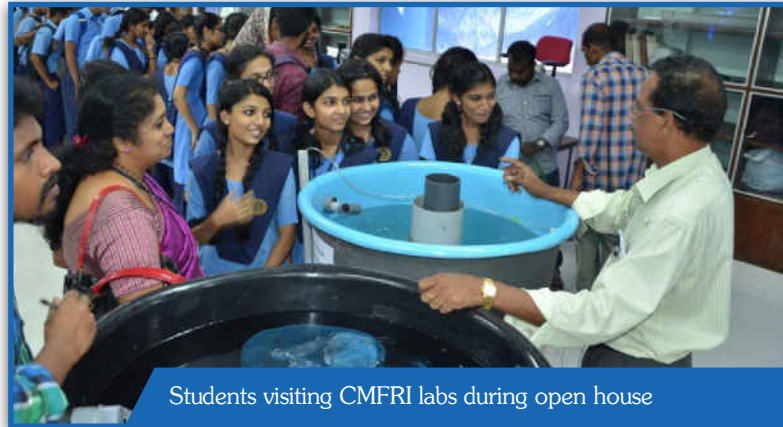
The ICAR-Central Marine Fisheries Research Institute has completed 69 glorious years of Marine fisheries research on 3<sup>rd</sup> February 2016. The Institute was established by Government of India on February 3<sup>rd</sup> 1947 under the Ministry of Agriculture and Farmers Welfare and later it joined the ICAR family in 1967. During the course of 69 years, the Institute has emerged as a leading tropical marine fisheries research institute in the world. The foundation day was celebrated by organizing an open house for the school and college students and general public which threw open the world of marine

## ICAR - CMFRI conducted Training Programme on Sea Cage Farming

Sea cage farming is an innovative way of producing quality fish under captivity in sea itself. Market based harvesting and convenience are the advantages. The ICAR-CMFRI encourage fishermen groups to manage sea cage farms with a view to augment fish production and improve livelihood opportunities of coastal population. A Training Programme on Marine Sea Cage Farming was conducted for fishers and fisheries officials at the Mandapam Regional Centre of ICAR-CMFRI, during 2<sup>nd</sup> – 6<sup>th</sup>, February, 2016. The programme was funded by the State Fisheries Department. Selected 23 participants

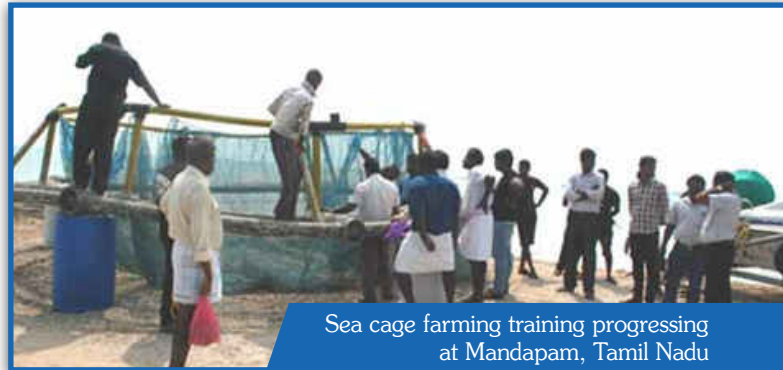
## ICAR-CMFRI achieved path breaking success in large scale seed production of Green mussel

Green mussel is a shell fish favorite to sea food lovers. The major constrained in its large scale farming is lack of sufficient quantity seeds as there is no hatchery techniques in seed production. This often force farmers to collect seeds from wild, that leads to depletion of natural stock. The ICAR-CMFRI at its Vizhinjam centre recently has achieved a path breaking success in its large scale seed production opening possibilities for mussel farming to pick up in a big way. The study revealed that a production rate of 0.1 million spat can be realized in a 1



Students visiting CMFRI labs during open house

life, products, fishing gear, socio-economics, fish biology, marine bio-technology, mariculture and fishery environment related research and development and technology before them.



Sea cage farming training progressing at Mandapam, Tamil Nadu

were given hands-on training on Sea cage farming that covered cage fabrication, net exchange, disease management, feeding etc.



Green mussel seeds

ton capacity tank in 30-40 days and that can be nursery reared to the seed size of 10-15 mm within 40-60 days recording a survival rate of more than 95%. The study also revealed that long distance transportation of seeds thus produced will not be a problem.

# KVK IN NEWS

## Training for organic farmers

Special Correspondent  
OCMC: Hundreds of enthusiasts thronged a training programme for aspiring organic farmers in the city on Monday.  
The participants at the programme, conducted by Krishi Vigyan Kendra (KVK) under Central Marine Fisheries Research Institute, are among those registered to join Operation Adukkala, an initiative to turn Ernakulam into a totally organic farming district.  
The training session was part of a series of ongoing programmes and had lessons on organic farming, fish farming in confined spaces and cage rearing of poultry birds for eggs and meat.  
Chairman of Greater Cochin Development Authority...

## Plant a seed, grow own curry leaves

Almost every fish that is bred here in the city has to be transported to the fish farms in the outskirts. This is because of the lack of space for growing fish in the city. The two-and-a-half-day training session was led by experts on organic horticulture from KVK. Venugopal inaugurated the training session on the Rajendra Mahalan where exhibition of organically-grown vegetables and fruits is on.



## KVK to market packaged cow products, bio-pharmacy

There are good things growing in the city, especially the packaged cow products. The KVK is planning to market packaged cow products like curries, pickles, and other items. The products are being developed in the KVK's bio-pharmacy. The products are being developed in the KVK's bio-pharmacy.

## Organic farms set to bloom in city

Krishi Vigyan Kendra launches user's manual on organic farming for city-dwellers

Let little organic farms flourish within the confines of the city, say farm scientists as health risks of vegetables with pesticide residue have triggered a massive movement towards organic agriculture in the State.  
User's manual: People taking up organic farming in the city do not have previous experience in it. They are retired mechanics, students, and need guidance. The manual provides inputs on how to start an organic farm in the city.

### GOING ORGANIC

- Putting mixture can be prepared using top soil, dried and powdered cowdung and compost in 2:2:2 ratio. For 100 kg of the mixture, add three kgs of neem cake, one kg each of bonemeal and trichoderma.
- The growbags should have an opening of at least 1.5 feet. Provide for water to drain by making holes in the bottom.
- Take care to prevent water seepage into the building if growbags are on terrace. A jawad situation will be avoided.

spaces. For instance, if a 300 sq. ft space is available either on the terrace or in a backyard, 100 growbags can be accommodated to grow vegetables like okra, amaranth, green chilly, paprika, thus, green chilly, paprika, flower, curry leaves, brinjal, capsicum, cabbage, cauliflower, etc., says KVK-trained supplier of growbags and seedlings, Jayan Edavakkal. These can be harvested over a period of three months with a family of four being able to source most of their vegetable requirements.

## Bio-control agents from KVK launched

bio-control agents from KVK are being launched. These agents are used to control pests and diseases in organic farming. The agents are being developed in the KVK's bio-pharmacy.

## EASTER FISH MARKET AT KADAMAKKUDY

Special Correspondent  
Kochi, March 23  
Krishi Vigyan Kendra (KVK) is organizing an Easter Fish Market at Kadammakudy on Saturday. The market will feature fresh fish from the KVK's fish farms. The market will be held from 9 a.m. to 5 p.m.

## Pokkali farmer producer company on

partners to form the company. This would be one of the 2000 farmer producer companies that the government of India has planned across the country, said the statement. Subsequently, the existing sales counter functioning at the CMFRI building located near Marine Drive in the city would be developed and relocated to sell authentic safe-to-eat produce, including pokkali rice, fish and rice derivatives. CMFRI director A. Gopinath said it was sad that the area under pokkali rice production was declining.

## Easter special Pokkali fish market on Saturday

Town News Network  
Kochi: A special Easter market for Pokkali fish will be held near Kadammakudy on Saturday. The market will feature fresh fish from the KVK's fish farms. The market will be held from 9 a.m. to 5 p.m.

## DECCAN CHRONICLE

### FARM BOOST

## KVK joins hands with Kudumbasree

SMITHA N | DC KOCHI, JAN 5  
Krishi Vigyan Kendra, Ernakulam is joining hands with Kudumbasree Mission to market quality organic agri products like manures, bio pesticides, seeds and planting materials across the state to make it self-reliant in agro-inputs. The partnership will promote organic farming in...

## They will market quality organic agri products

The initiative assumes much significance as the availability of quality organic inputs from authentic farmers and homestead sources is a major issue farmers and homestead farming faced. The scheme will be equally beneficial for KVK, Kudumbasree and farmers as there will be no agencies involved. The initiative will be implemented in the initial phase. Kudumbasree will sell the products with KVK's technical backing. A separate unit and parcelling Kudumbasree unit will be set up for this purpose.

## New organic inputs from ICAR-KVK

As part of its programme to supply quality inputs for organic farming, the Indian Council of Agricultural Research-Krishi Vigyan Kendra, Ernakulam, attached to the Central Marine Fisheries Research Institute here has released four more organic pesticides and three organic manures. The new organic pesticides have been named 'Nanna', 'Menma', 'Shreya' and 'Shakti'. They have been developed by ICAR-Central Tuber Crops Research Institute, Thiruvananthapuram, from an active ingredient extracted from tapioca leaves. 'Nanna' is effective as a prophylactic measure against banana pseudostem weevil, while 'Menma' is a post-infection injection against banana pseudostem weevil. It has to be injected into the areas. 'Shreya'...

## Now, learn how to sample your soil

Soil health is crucial to get the most out of your soil. The KVK is conducting a series of workshops to teach farmers how to sample their soil. The workshops will be held in the KVK's bio-pharmacy.

## Nat'l award for farmer from district

Sachidanandan V... a 65-year-old farmer from the district has won the National Award for Best Farmer from the Government of India. The award is for his contribution to organic farming in the district.

## Naturally Occurring Biocontrol Agents Used To Destroy Pest

Sudha.Nambudiri@timesgroup.com  
The search for organic inputs to control pests and diseases in organic farming has led to the discovery of naturally occurring biocontrol agents. These agents are used to control pests and diseases in organic farming. The agents are being developed in the KVK's bio-pharmacy.



Dr. A. Gopalakrishnan, Director CMFRI giving marketing lessons to Kudumbashree SHG members, Ernakulam



Angel kudumbashree group, KVK's vegetable task force

KVK's Kadaknath poultry sales mela, Rajendra maidan, Ernakulam



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