



April to June, 2021

Volume - 2 : Issue - 2



### Director's Message

In the last 15 years, agriculture in India has undergone a considerable change towards diversification and market orientation. With the limited scope for area expansion, three most effective instruments for reducing rural poverty, increasing income and improving livelihood security are: (i) increasing productivity, (ii) enhanced post-harvest activity in production catchments, and (iii) reducing costs leading to greater share of consumer rupee being passed on to the grower. Thus, accessibility to relevant agriculture knowledge, technologies, materials, skills and services becomes a critical determining factor. To a reasonable extent, available knowledge and technologies can solve agricultural and environmental problems, meet local food and nutrition needs, and create business opportunities in India and other developing regions.

The existing knowledge is required to be given in the safe hands of entrepreneurs, businesses and agencies who can adapt them to local economic structures and markets. KVKs need to provide the necessary knowledge in five broad dimensions: i) knowledge about relevant agriculture technologies, farming and production system, and about markets and policies; ii) therein facilitating the critical technical resources and capacity development; iii) problem solving consultancy and critical technology products (e.g. seed, planting material, bio-agents, small tools / equipment / machinery, etc.), iv) organizing farmers - for exchange of information and support in decision making; and the ultimate but most critical, v) inculcating the very competence in individual farmer / entrepreneur to themselves evaluate technologies, appreciate the requirements of agri-logistics, develop market intelligence, harness synergies from group dynamics (FPOs), and be ready to capture opportunities and manage any possible threats in their business of farming and related sectors.

During the annual review and action plan meetings organised, KVKs were also sensitised towards meeting the above five requirements for promoting agri-entrepreneurship and strengthening their programmes to meet the current needs of farmers and entrepreneurs. Let us strengthen our capacity development programmes by providing Knowledge and Skills in the above five dimensions. Wishing you all a safe time and protection from the pandemic. Jai Kisan Jai Bharath.

( V.Venkatasubramanian )

### Annual review cum action plan meetings of KVKs

Due to COVID 19 pandemic, the annual review cum action plan meetings of 48 KVKs of Zone-XI comprising Karnataka, Kerala and Lakshadweep were conducted in five phases in virtual form. During the meetings, the progress of KVKs for the year 2020 were reviewed, and action plan for the period 2021-22 were discussed and finalized. Presentation of individual KVK was reviewed by the experts from respective Agricultural Universities, ICAR Institutes and ICAR-ATARI, Bengaluru under the chairmanship of Dr. V. Venkatasubramanian, Director, ICAR-ATARI, Bengaluru. Dr. S. Prabhu Kumar, Former Zonal Project Director (Zone-VIII and Zone-I), Dr. M.R. Hegde, Former Zonal Coordinator (Zone-V) and Dr. Rajinder Parshad, Former ADG (AE), ICAR were invited as Experts. Details are given below: Contd.....2



A view of participant dignitaries in the meeting



# Annual review cum action plan workshops of KVKs

(Continued from Page: 1)

**Phase-I:** Two-days virtual meeting was organized for 10 KVKs in the jurisdiction of UAS Bengaluru viz., Bengaluru Rural, Chamarajanagara, Chikkaballapura, Hassan, Kolar, Mandya, Mysuru, Ramanagara, Tumakuru-I and Tumakuru-II during 15-16 April, 2021. Dr. S. Rajendra Prasad, Vice Chancellor, UAS, Bengaluru inaugurated the meeting. Dr. M. Byregowda, Director of Extension, UAS, Bengaluru, Dr. M.J. Chandre Gowda, Principal Scientist and Dr. D. V. Kolekar, Scientist ICAR ATARI coordinated the event.

**Phase-II:** Five-days virtual meeting was organized for 15 KVKs viz., Alappuzha, Ernakulam, Idukki, Kannur, Kasaragod, Kollam, Kottayam, Kozhikode, Malappuram, Palakkad, Pathanamthitta, Thiruvananthapuram, Thrissur, Wayanad and Lakshadweep under the jurisdiction of KAU, Thrissur during 20-23 April, 2021 and 28 April, 2021. Dr. Madhu Subramanian, Director of Research, KAU, Thrissur inaugurated the meeting. Dr. Jiju P. Alex, Director of Extension, KAU, Thrissur, Dr. D.V.S. Reddy, Principal Scientist, and Dr. M.B. Hanji, CTO, ICAR-ATARI, Bengaluru coordinated the meeting.

**Phase-III:** Four-days virtual meeting was organized for the seven KVKs viz., Chikkamagaluru, Chitradurga, Davanagere, Dakshina Kannada, Kodagu, Shivamogga and Udupi under the jurisdiction of UAHS, Shivamogga on 11-12 May, 2021 and 19-20 May, 2021. Dr. M. K. Naik, Vice Chancellor, UAHS, Shivamogga inaugurated the meeting. Dr. K.C. Shashidhar, Director of Extension, UAHS, Shivamogga, Dr. B.T.Rayudu and Dr. Thimmappa K., Principal Scientists, ICAR-ATARI, Bengaluru coordinated the meeting.

**Phase-IV:** Three-days virtual meeting was organized for the nine KVKs viz., Bagalkote, Belagavi-I, Belagavi-II, Dharwad, Gadag, Haveri, Uttara Kannada, Vijayapura-I and Vijayapura-II under the jurisdiction of UAS, Dharwad during 26-28 May, 2021. Dr. M.B. Chetti, Vice-Chancellor, UAS, Dharwad inaugurated the meeting. Dr. Ramesh Babu, Director of Extension, UAS, Dharwad, Dr. B.T.Rayudu and Dr. Thimmappa K., Principal Scientists, ICAR-ATARI, Bengaluru coordinated the meeting.

**Phase-V:** Two days virtual meeting was organized for seven KVKs viz., Ballari, Bidar, Kalaburagi-I, Kalaburagi-II, Koppal, Raichur and Yadgir under the jurisdiction of UAS, Raichur during 9-10 June, 2021. Dr. K.N. Kattimani, Vice-Chancellor, UAS, Raichur inaugurated the meeting. Dr. D.M. Chandaragi, Director of Extension, UAS, Raichur and Dr. M.J. Chandre Gowda, Principal Scientist of ATARI, Bengaluru coordinated the meeting.

## Consultation Meet on Horticultural Development in Lakshadweep



A view of consultation meet

Meeting was coordinated by Dr. P. N. Ananth, Senior Scientist and Head, KVK-Lakshadweep



ICAR-ATARI Bengaluru and KVK-Lakshadweep organised a consultation meet towards promotion of horticulture in the islands on 10<sup>th</sup> April, 2021 at the Secretariat Conference Hall, Kavaratti.

Consultation meet was inaugurated by Mr. A. Anbarasu, IAS, Advisor to Administrator in the presence of Mr. A.T. Damodhar, IFS, Secretary (Agriculture), Lakshadweep, Dr. V. Venkatasubramanian, Director and Dr. Mallikarjun B. Hanji, Chief Technical Officer, ICAR-ATARI, Bangalore. The Advisor in his speech emphasised that administration will provide the required support to ICAR in its efforts to make the islands self sufficient in vegetable and fruit production through convergence.

Dr. V. Venkatasubramanian spoke on the plans envisaged by ICAR-ATARI and KVK-Lakshadweep in promoting of horticulture in the islands. He suggested that the focus of KVK should be introduction of new vegetable and fruit crops and varietal improvement through technological backstopping by ICAR - Indian Institute of Horticulture Research (IIHR), Bengaluru. He further mentioned that convergence of different ICAR institutes is needed for carrying out KVK activities effectively.

Consultation meet was organised on the topic "Food, Nutrition and Livelihood Security through Appropriate Technological Interventions in Horticulture Crops in Lakshadweep" with lectures from ICAR-IIHR, Bengaluru for the benefit of KVK staff. Dr. Senthil Kumar, Principal Scientist, ICAR-IIHR Bengaluru delivered lecture on potential horticultural crops for the KVK and then joined the team for surveying the potential for planning the horticultural interventions. Meeting was coordinated by Dr. P. N. Ananth, Senior Scientist and Head, KVK-Lakshadweep.

# Kerala Government Declares ICAR-KVK Wayanad as 'Green Office'



Officials of Haritha Kerala Mission of Government of Kerala inspected the ICAR-Krishi Vigyan Kendra, Wayanad and awarded KVK with A Grade for observing green protocol measures as envisaged in the parameters laid down.

## Dr. Shankara Bagged Best Agriculture Extension Scientist Award from Agriculture Today Group



Dr. Shankara M. H working as Scientist (Agricultural Extension) at KVK, Konehalli, Tumakuru-I bagged National Level Best Agriculture Extension Scientist Award 2021 for excellence in agricultural extension for farmers and farm women empowerment in India.



Award was presented by Agriculture Today Group during Virtual Award Ceremony held on 9 April, 2021 with the Chief Guest Dr. T. Mohapatra, Secretary, DARE and Director General, ICAR, New Delhi and Chaired by Dr. A.K. Singh, DDG (AE), Krishi Anusandhan Bhawan-I, ICAR, New Delhi and Dr. M.J. Khan, President, Agriculture Today Group.

# Innovative approach to manage wild animal menace in hill agriculture at Idukki

The forests in Idukki district are highly fragmented due to settlements and agriculture. Crop damage by wild animals like Elephant (*Elephas maximus*), Wild Boar (*Sus scrofa*), Indian Porcupine (*Hystrix indica*), Gaur (*Bos gaurus*), Sambar (*Cervus unicorn*), Bonnet Macaque (*Macaca radiata*), Mouse Deer (*Tragulus merminna*), Blacknaped Hare (*Lepus nigricoflis*), Malabar Giant Squirrel (*Ratufa indica*) and Pea Fowl (*Pavo cristatus*) in agricultural fields and adjoining the forest areas is a serious problem.

Among these, Elephant, Monkey and Wild Boar are doing maximum damage to agriculture crops all over the district. Among the areas assessed, Mathikattenchola Forest Range showed highest crop damage (55%) followed by Munnar Forest Range (39%). Highest damage was recorded on small cardamom. The Idukki district has 1.45 lakh ha of small cardamom plantation damaged by elephant and monkey with losses accounting to an average of 27 percent. To solve the problem, ICAR-KVK, Idukki has initiated innovative technology of KR-LED lighting system for deterring crop raiding by wild elephants in small cardamom plantation. Multi-location trials conducted by KVK recorded 15 % increase in yield of small cardamom.

Further, wild pig populations are doing damage to the agricultural crops all over the district, especially in and around the protected areas or managed forests for their food requirements. To address the problem, KVK had introduced innovative technology of castor based herbal extract (Souce: NIPHM) whose smell is responsible for repelling the wild pigs and saving more than 90 per cent crop damage in banana, tapioca, cabbage, cauliflower, potato, carrot and sugarcane .



About 700 farmers have adopted the technology and also horizontally expanded through Kerala Forest Development Corporation and ATMA in Idukki district. Based on the demand, KVK has planned to supply technological products at village level covering more area during 2021-2022.

# KARUTH : A Replicable Model for Empowerment of Special Youth in Agriculture

Realizing the complex nature of problems of the differently abled youth, a unique first ever Opportunity Learning Centre (OLC) for developing skills among special youth is being set up by ICAR-Krishi Vigyan Kendra, Pathanamthitta at three selected special schools in the district. The purpose is to make the special youth self reliant through agriculture based vocations after acquiring knowledge and skills. This effort was recognised with four special entrepreneurs awards at national and district level and a best school award. These special youth could earn a monthly income ranging from Rs.1000 to 1500. A total of 26 units were established at household level by these special youth. The initiative increased the confidence of parents and children, enhanced their mental and physical ability, developed skill of differently abled youth and brought a positive change in attitude of parent towards their Intellectually Disabled wards.



The success of OLC paved the way for “KARUTH” (Koipuram Model of Accept and Respect of Unlimited Talents of Hampered), which is a replicable model developed as part of Koipuram Block Panchayat of Pathanamthitta district during 2019-20 with an objective to equip the special youth selected from Koipuram Block to be self-reliant and to strengthen the skills of children above 15 years of age with a possible self-employment opportunity in agriculture and allied sectors. The approach succeeded in empowering the special children selected under the project through income generating units with vocational rehabilitation possibilities being set up at household level. During the reporting period poultry units were established at household level of 20 special youth. Presently, this programme ensures sustainable employment to 45 special youth in the district. National Institute for the Empowerment of Persons with Multiple Disabilities (NIEPMD), Chennai identified KVK, Pathanamthitta as an off campus training centre on agriculture based vocations for officials, special youth and their parents.



# Drones to Re-define Farmer Drudgery Mitigation - Facilitated to farmers by ICAR-KVK, Thiruvananthapuram

Un-manned Aerial Vehicles (Drones) are now used in agricultural sector for helping farmers to take up many agricultural operations like spraying of pesticides, fertilizers, micro-nutrients etc. to the crop and also to capture real time crop parameters using sensors. Main advantages of such an advanced system are the reduction in labour and drudgery of application in vast areas and the precision of application with respect to the location and reachability of spray fluid on the crop canopy. The recurring cost of the project is very less, which aims to help farmers and increase yields.

ICAR- Krishi Vigyan Kendra, Mitrانىketan, Thiruvananthapuram, facilitated farmers in this regard through Front Line Demonstration of drone based spraying of micro-nutrients on paddy was taken up in coordination with the State Department of Agriculture and Farmers' Welfare. Demonstration was conducted in summer crop of paddy at Valiyachira Padasekharam of Chirayinkeezhu Taluk, Thiruvananthapuram, covering an area of 20 ha. Demonstration was inaugurated by the honourable Deputy Speaker Sri. V. Sasi, Kerala Legislative Assembly on 7 January, 2021.

KAU Sampoorana, the micro-nutrient mixture for paddy developed by Kerala Agricultural University was sprayed in the field using drone. Application of this micro-nutrient directly on the leaves reduced the diseases and increased the yield by 13.71 per cent. Farmers were of the opinion that the area coverage by drone application was increased and had also helped them in reducing labour costs to a great extent.



**പഠിക്കുക**

**പാടശേഖരങ്ങളിൽ റെഗുൻ തളിക്കാൻ ഡ്രോണുകൾ**

അറ്റിക്ടൽ പാടശേഖരങ്ങളിൽ രെഗുൻ തളിക്കാൻ ഡ്രോണുകൾ ഉപയോഗിക്കാൻ തുടങ്ങി. ഇതിന് ഉത്തരവ് നൽകിയത് തിരുവനന്തപുരം കെ.എ.യുടെ പ്രത്യേക പരിശോധനയ്ക്കുശേഷമാണ്. പാടശേഖരങ്ങളിൽ ഡ്രോണുകൾ ഉപയോഗിച്ച് രെഗുൻ തളിക്കാൻ തുടങ്ങി. ഇതിന് ഉത്തരവ് നൽകിയത് തിരുവനന്തപുരം കെ.എ.യുടെ പ്രത്യേക പരിശോധനയ്ക്കുശേഷമാണ്. പാടശേഖരങ്ങളിൽ ഡ്രോണുകൾ ഉപയോഗിച്ച് രെഗുൻ തളിക്കാൻ തുടങ്ങി. ഇതിന് ഉത്തരവ് നൽകിയത് തിരുവനന്തപുരം കെ.എ.യുടെ പ്രത്യേക പരിശോധനയ്ക്കുശേഷമാണ്.

കിഴമ്പിടം പാടശേഖരങ്ങളിൽ രെഗുൻ തളിക്കാൻ ഡ്രോണുകൾ ഉപയോഗിക്കാൻ തുടങ്ങി. ഇതിന് ഉത്തരവ് നൽകിയത് തിരുവനന്തപുരം കെ.എ.യുടെ പ്രത്യേക പരിശോധനയ്ക്കുശേഷമാണ്. പാടശേഖരങ്ങളിൽ ഡ്രോണുകൾ ഉപയോഗിച്ച് രെഗുൻ തളിക്കാൻ തുടങ്ങി. ഇതിന് ഉത്തരവ് നൽകിയത് തിരുവനന്തപുരം കെ.എ.യുടെ പ്രത്യേക പരിശോധനയ്ക്കുശേഷമാണ്.

മുഖ്യമന്ത്രി എ.ഐ.എ.യുടെ നേതൃത്വത്തിൽ നടന്ന പരിപാടിയിൽ രെഗുൻ തളിക്കാൻ ഡ്രോണുകൾ ഉപയോഗിക്കാൻ തുടങ്ങി. ഇതിന് ഉത്തരവ് നൽകിയത് തിരുവനന്തപുരം കെ.എ.യുടെ പ്രത്യേക പരിശോധനയ്ക്കുശേഷമാണ്.

കിഴമ്പിടം പാടശേഖരങ്ങളിൽ രെഗുൻ തളിക്കാൻ ഡ്രോണുകൾ ഉപയോഗിക്കാൻ തുടങ്ങി. ഇതിന് ഉത്തരവ് നൽകിയത് തിരുവനന്തപുരം കെ.എ.യുടെ പ്രത്യേക പരിശോധനയ്ക്കുശേഷമാണ്.

**FOR BETTER YIELD**

Unmanned aerial vehicle being used to spray fertilizers at Chirayankeezhu Kithuvalem paddy field on Thursday. Deputy speaker V Sasi launched the vehicle, which was jointly developed by Krishi Vigyan Kendra, Agriculture College and Velland Mitrانىketan

**MOVING WITH THE TIMES:** An unmanned aerial vehicle being used to spray fertilizers at Chirayankeezhu Kithuvalem paddy field on Thursday. Deputy speaker V Sasi launched the vehicle, which was jointly developed by Krishi Vigyan Kendra, Agriculture College and Velland Mitrانىketan

**കിസാൻ കൃഷിഭീപം**

**ഡ്രോണുകൾ കൃഷിയിടത്തിലും**

An Integrated, Multimodal Agricultural Information System for K...

**Drones in Agriculture**  
An informative video channel on Agriculture, Horticulture, Dairy, A...

YouTube | Instagram | Facebook | LinkedIn

# Organic Grape Production with Two Tier System of Fruit Bearing

by Shri Ningond Dundappa Toravi under technical guidance of KVK, Vijayapura-I

Vijayapura district is known for growing superior quality grapes for marketing not just in the state but also in the international market. Over 13400 ha of grape plantation exist across the district, where no other districts in the state have such large grape plantation and the district is popularly known for its unique taste and deliciousness. Every year grape is being exported to Middle-East, European and Australian countries. However, the grape cultivators are facing many problems and the yield is reducing by 35 to 40 per cent due to disease and pest. KVK Vijayapura-I has taken up awareness programmes on health and environment problems due to heavy use of chemicals by grape farming community in the district.

Shri Ningond Dundappa Toravi from Madabavi village in Vijayapura taluk initially adopted organic method of cultivation in grape in one acre. Later, the farmer attended training on organic cultivation of grape organized at KVK, Vijayapura-I and taken up grape crop with two tier system method that is fruit bearing at top and middle layer which is different from normal method i.e. single top fruit bearing method under the technical guidance of KVK.

He followed all the practices of organic farming from nutrient management to plant protection with different bio and plant based inputs. Last five years of his experience with organic production of grape with two tier system resulted in higher net profit with sustainable yield levels. It recorded yield levels to the tune of 40 to 50 per cent more than that of single fruit bearing method. This method of grape cultivation influenced neighboring farmers and villagers and already 30 farmers adopted and experienced positive result. Farmer is happy with scale-up of his practice of organic grape production through social media to many farmers and developing confidence in them. Also, he is allowing farmers exposure visit to his field for practical purpose.

Organic fresh fruit and raisins produced from the farmer are in high demand by customers and fetch higher price compared to market price. According to Shri Ningond Dundappa Toravi, organically grown grapes are free from pesticide chemical residues.



# KVK Spectrum : ICAR-KVK, Davanagere

Krishi Vigyan Kendra, Davanagere was established during 2005 under the aegis of Taralabalu Rural Development Foundation by ICAR and has two campuses, namely Kadalivana and Kesarivana.

The following infrastructural facilities were created in the KVK viz.: Administrative building, farmer's hostel, staff quarters, sales counter, soil and water testing laboratory, dairy with modern facilities, polyhouse, azolla production unit, ornamental fish breeding unit, fish polyculture pond with horticulture integration, portable carp hatchery, fodder demo units (CoFS 29 & 31, Guinea grass, Napier X), vermicomposting units, rain water harvesting system, threshing yard, borewell recharge units, plant health clinic, jack fruit varietal block, jamun varietal block, lemon block, guava scion block (2 varieties, Lalith & L-49), ultra high density mango block, mixed fruit orchards, coconut varietal block, arecanut multi spacing block, bund plantation of coconut and drumstick, agro-forestry, soil and water conservation structures including farm ponds, check dams, trench-cum-bunds, bio-energy research demonstration unit, biofuel park with 100 % drip irrigation system.

## Salient Achievements

- ❖ **Kasa Rasa Abhiyana (Waste-to-Wealth):** Campaign and Demonstration started in 2015 for urban bio-waste degradation using microbial culture and use of compost in kitchen garden. Till now 1150 households in Davanagere city have adopted this technology.
- ❖ Weekly Sandy held at KVK premises on Saturday helped organic farmers and consumers of organic produce since 2013. Five farmers turned to entrepreneurs out of this venture.
- ❖ Produced 27.50 t micronutrient mixture for banana (ICAR-IIHR) since 2010 and supplied to 4718 farmers within and outside the district.
- ❖ A total of 7600 women are trained on Kitchen and Terrace garden and 40% of them are actively continuing the practice.
- ❖ Initiative has been taken to orient II PUC passed science students for practical tests as part of the admission to Farm Science Universities since 2013. Since then 1765 students have participated in the programme.
- ❖ Organised 15 programmes for capacity development of 320 un-employed rural youth on 'Coconut Tree Climbing and Plant Protection Management' sponsored by Coconut Development Board, Bengaluru. NRLM, Zilla Panchayath, Davanagere and Agricultural Skill Council of India, New Delhi for the past eight years. The trained youth are provided with climbing device to be self-employed in rural areas. After the capacity development, the average tree climbing by the youth has increased from 12 to 35 trees/day and average earnings increased from Rs. 2450 per month to Rs. 6900 per month.
- ❖ Initiated four WhatsApp groups which included KVK and AHRS scientists, Development Department personnel, farmers, NGOs and company manufacturers. On an average 35 queries answered every day.
- ❖ Youtube videos of this KVK are viewed by huge number of farmers, crossing 25000 views at times.



Received 'Pandit Deendayal Upadhyaya Rashtriya Krishi Vigyan Protsahan Puraskar-2018 (Zone-XI)' from Hon'ble Central Agriculture Minister Sri Narendra Singh Tomarji at New Delhi.

Received Best NICRA KVK Award 2019 during annual review meeting held at ICAR-CRIDA, Hyderabad



हर कदम, हर उभार  
किसानों का हमसफर  
भारतीय कृषि अनुसंधान परिषद

AgriSearch with a human touch

Published by Dr. V. Venkatasubramanian, Director, ICAR-ATARI, Bengaluru

Editors : Dr.D.V.Kolekar and Dr B.T. Rayudu

Editorial Board: Dr.M.J.Chandre Gowda

Dr.D.V.S.Reddy

Dr.Thimmappa K.

Dr.M.B.Hanji

