9. KRISHI VIGYAN KENDRA

Trainings

On campus and Off campus training

One hundred thirty six short duration (1 to 3 days) on-campus and off-campus training courses were conducted in different disciplines for practicing farmers, rural youth and extension functionaries. In all 6181 participants including 1741 SC/ST participants benefited from the training programs. No. of female beneficiaries were 2803

Sponsored training programme

Nine sponsored training programmes were organized in the field of Crop Production, Horticulture, Plant Protection, Veterinary Science and Home Science for farmers and extension functionaries, deputed by State Agriculture Department of Maharashtra, ATMA, CIPMC, Nagpur, RCF, MAFSU Nagpur, MCED & ICDS Nagpur, NGOs. In all 737 participants attended these courses. In all 423 participants including 171 women benefitted.

Cluster Front Line Demonstrations on Oilseed and Pulses

Four CFLDs on oilseeds soybean (MAUS-158), groundnut (TAG-24)) & pulses pigeon pea(BDN-716), chickpea (Rajvijay-203) were conducted in the adopted villages of Nagpur district viz., Bendoli, Bothli, Nagazari, Amgaon, Chargaon & Surabardi. These demonstrations were conducted on 150 farmers field covering 80 ha. area.

Front Line Demonstrations

1. Horticulture

High yielding variety of Onion Bhima Shakti

Thirty six demonstrations on high yielding variety of Onion Bhima Shakti were conducted. The average yield in the demo plots was 2650 kg/ha as against 2000 kg/ha in check plots. the cost of cultivation was lower (Rs. 22, 500 per ha) in demo plots as against Rs. 23,300 in check plots.

Imparting training to the participating farmers

High yielding variety of Onion Bhima Shakti

2. Plant Protection Integrated management of defoliators in Soybean & Chickpea

Crop	No. of farmers	Area	Yield	Check	% increase	Parameters of			
						Demo plots		Check plots	
			Avg.			No. of defoliator /MRL	B:C Ratio	No. of defoliator / MRL	B:C Ratio
Soybean (MAUS-158)	13	5.2	19.5	15.25	27.87	2.48	3.20	3.59	2.59
Chickpea (Digvijay)	13	5.2	22.6	18	25.55	2.61	3.20	3.79	2.6

3. Livestock Production

1) Supplementation of Probiotic to cross bred cows

20 gm of Probiotic powder was supplemented in the daily diet of 15 crossbred cows of 15 farmers for 90 days. There was 13.04% increase in milk yield with an average daily milk yield of 7.9 l/cow and 6.9 l/cow in demonstration and local check, respectively. An increase of 13.51% was also observed in milk fat content in demonstration group (4.2%) over local check (3.7%).

2) Scientific cultivation of Hybrid Napier variety BHN-6

Hybrid Napier variety BHN-6 (BAIF Variety) was cultivated on 15 farmers field on 3 hectares of area. There was an increase of 6.42% in green fodder yield in demonstration plot (235.40 q/ha) as compared to local check variety CO4 (221.20 q/ha). On feeding greens, the average milk yield in demo group was observed as 7.85 lit/cow/day over local check i.e. 7.50 l/cow/day with 4.67% change in parameters.

3) Supplementation of mineral lick blocks to the local goats

Hanging mineral lick block were provided adlibitum to 30 local goats for the period of 90 days. Reproductive performances and milk yield of local goats supplemented with mineral blocks were improved as compared to local check. All of the 30 goats in demonstration group conceived when supplemented with mineral blocks, whereas, 27 goats conceived in local check. Average daily milk yield increased by 10% in demonstration group (0.550 kg/goat) as compared to local check (0.500 kg/goat).

4. Home Science

Performance of soymittens in harvesting soybean crop

While harvesting soybean crop using of VNMKV, Parbhani Soymitten covers 19% more area with less increase (33) in ΔHeart Rate as compared to check (39).

On Farm Trials (OFT)

Summary

For management of leaf reddening in Bt cotton, application of NPK @ 90:45:45 Kg/ha with alternate spray of 2% Urea and 2% DAP along with1% $MgSO_4$ was beneficial. This practice increased yield (17.65 q/ha as against 13.37 q/ha in farmers practice) and B:C ratio (3.22 as against 2.26 in farmers practice).

1. For **weed management in soybean**, post emergence application of Imazelhapyr 35% and Imazimix @ 40 g/acre was beneficial. This practice gave higher weed control efficiency (67.1 as against 58.7 in farmers practice), higher yield and higher B:C ratio.
2. **Bt cotton varieties** viz., ICAR-CICR PKV081 Bt and ICAR-CICR Rajat Bt were found promising for HDPS under rainfed conditions.
3. **Short duration marigold varieties**-Pusa Basanti and Arka Bangara gave higher yields than farmers practice (variety Suvan). The B:C ratio were 3.6:1for Suvan, 6.2:1 for Pusa Basanti and 5.4:1 Arka Bangava.
4. **Tomato hybrids** Arka Rakshak (350 t/ha) and Arka Samrat (210 t/ha) gave higher yield compared to local check Abhinav (195 t/ha).Highest B:C ratio (3.5:1)was with Arka Rakshak as against 3.1:1 with Abhinav.
5. **Integrated management of pink bollworm (PBW) in Bt cotton hybrid**: Among the technologies assessed the following integrated management gave better control of PBW. The yield also increased by 28.3% over farmers practice.
   i. Installation of pheromone traps @2/acre for monitoring at square formation
   ii. Spray azadiractin 300 ppm @ 50ml/10 l at flower initiation
   iii. 6 to 7 inundative releases of *Trichogramma chilonis* 60,000 per acre
   iv. Plucking of rosette flowers.
   v. ETL based application of Thiodicarb 75 WP 20 g per 10 l water at boll formation followed by Deltamethrin 2.8 EC 10 ml per 10 l water

6. **Integrated management of pod borer complex in Pigeon pea :** Among the technologies assessed the schedule comprising of 1st spray Azadirachtin 300 ppm 50 ml /10 l water 2nd Spray Emamectin Benzoate 5 SG 3 g/10 l water 15 days after 1st spray . 3rd spray Lamda cyhalothrin 5 EC 10 ml/10 l water based on ETL gave best control of pod borer and improved yield by 25%over farmers practice.
7. **Assessment of performance of new breeds of Chicken under Back Yard System :** A total of 130 birds (6 weeks old) of each improved varieties i.e. CARI-Nirbheek and Giriraja were distributed to 13 farmers of Panjari village of Nagpur Tahsil. These birds were reared under free range system with minimum inputs. The details of the parameter of evaluation were as follows :

Sr. No.	Parameters	Farmer's Practice (TO1) Local chicken	Technology Option (TO2) CARI-NIRBHEEK	Technology Option (TO3) GIRIRAJA
1	Mean body weight kg/bird	1.10	1.78	1.77
2	Age at sexual maturity days	185.71	170.42	160.26
3	Gross cost (Rs/bird	315.00	315.00	315.00
4	Gross return (Rs/bird)	688.00	995.00	820.00

Thus, CARI-Nirbheek birds may be recommended for rural back yard poultry system instead of local breed to fetch more income.

Backyard Poultry birds of breed CARI-Nirbheek

8. **Evaluation of fodder hybrid Napier varieties under scientific management** was conducted at Umred tahsil, Nagpur district. Two multi-cut perennial varieties - Super Napier and BNH-10 were compared with local prevalent variety CO4 on 4.68 ha area on 13 farmer's field. Both Super Napier and BNH-10 showed better performance in terms of green fodder yield, number of tillers, number of leaves and milk yield on feeding of greens than locally grown CO4 variety. Green fodder intake was more when Super Napier was fed to the cows. That might be due to less serration, high succulence and good palatability of Super Napier.

9. **Assessment of different models of Nutrition Garden for small land holders for Nutritional Sustainability at farmers backyard :** Area under production of vegetables in Nutrition Garden in all trials is 21 sq m. for four family members. Quantity of Green leafy vegetables (GLV) , cucurbitaceous vegetables & other vegetable produced through improved practice in T3 is 96 kg in Rabi season which is higher and better as compared to T2 (71 kg) & T1 (32 Kg) .Thus it helps to save Rs. 1003/ month /family.

10. **Assessment of cultivation of Cole crops in Nutrition Garden through IPM Model with Organic input**

    Cultivation of Cabbage and cauliflower (cole crops) along with trap crop such as marigold, Coriander, mustard, sorghum using organic input jivamrut, Panchgavyapulse seed based micronutrients and Dashparni, waste decomposer result excellent quality produce with increased yield of Cole crops in T3 .The BC Ratio of T3 is 2.68.

Attracting and retaining rural youth in Agriculture (ARYA)

Under ARYA, KVK-CICR, Nagpur is focusing on two enterprises to improve the lively-hood of rural youth under this project. 1) Production of disease free sampling Nagpur mandarin 2) Fruits and vegetable processing.. During the year 2021-2022, the KVK trained 375 rural youths on the production of disease-free seedlings of Nagpur mandarin and 485 rural youth on custard apple processing, its value addition, and preparation of pickles, citrus juice and solar drying of vegetables. Additionally, KVK provided technical support to rural youth of Katol block for the multiplication of Nagpur mandarin seedlings. 15 rural youth beneficiaries developed their own nursery after successfully completing the training. Five Green shade net houses are built at the farms of rural youth for developing diseases free citrus nursery. Three units of pickle processing; two units of sugarcane processing, one unit each of custard apple pulper, solar drying unit for chilli processing are running successfully at Besa, Beltarodi, Chichbhuvan, Gondbori, Wakodi, Bhiwapur. A total of 2000 citrus plants are being raised in nursery for budding process at KVK, Nagpur. Ten rural youths from Ladgoan, Kukadipanjara villages of Katol Tahsil have established disease-free nurseries of citrus and Nagpur mandarin after acquiring training under ARYA.

Integrated Farming System (IFS) for Doubling Farmer's Income

Krishi Vigyan Kendra, Nagpur has developed an Integrated Cotton based IFS module in 2021 covering one hectare area. This IFS is having three components *viz*., crop component (Cotton + Soybean), Horticulture component (vegetable & fruits) and animal components (Goat, cow, fish) and allied enterprise (mushroom cultivation).

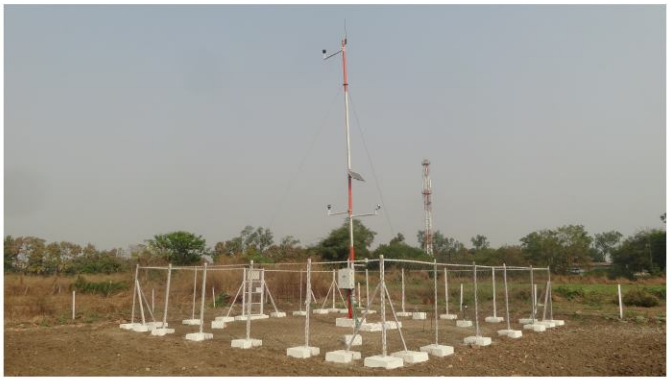
- In Horticulture Component all seasonal vegetables of Kharif and Rabi crop are grown organically.

- Organic waste is also converted into manure using Waste Decomposer.
- 179 Mango plants of Amrapali was planted in March 2021 in high density method and 56 Guava of L-49 variety are planted in June 2021 on mulch
- Nearly 750 Dignitaries, Tribal & Schedule Caste farmers, Farm Women, RAWE students, SHG were visited. Skill training on Nursery raising, Seedling transplanting on mulch, Operation of drudgery reduction tools were provided.
- A model of Cole Crops with Bio Control was demonstrated.
- A low cost, Outdoor, Mobile Oyster Mushroom Unit was established
- A model shade for a family of 2-4 person for care and maintenance was established. A low cost shades for goat and Desi Cow were also constructed
- A fish pond having Rohu, Katla, Mrigal was established.

Events

Installation of Agro Automatic Weather Station

The India Meteorological Department has installed an Agro Automatic Weather Station at the Agromet observatory of KVK, ICAR- CICR, Nagpur on 07thMarch, 2021. Observations on the air temperature, humidity, rainfall, wind speed and direction at 3 and 10 meter height, duration of sunshine, soil moisture and temperature at depth of 10, 30, 70 and 100 cm at 15 minute interval are being recorded. Data is used for the preparation of



Agromet Advisory Service. The weather data recorded from the observatory is available at http://aws.imd.gov.in/

International Women Day on 8th march-2021

International women's day was celebrated at KVK, ICAR-CICR, Nagpur with great zeal and enthusiasm on 8th March 2021.

Dr. Y.G. Prasad, Director ICAR-CICR, Nagpur graced the occasion as chief guest while A. A. Goswami, Sr. Administrative Officer, Dr. Nandini Gogte, Head Crop Protection Division, Dr. Suman Balasingh, Principal Scientist, Division of Crop Improvement, were present. During the event, staff who are superannuating in the coming months were felicitated for their excellent contribution and dedicated service to the institute. To showcase the talent of women, various competitions like essay writing on topic "Strong Women for a Strong Nation", rangoli competition, fancy dress competition and singing competition were organized. The winners were honoured with cash prizes.

National Campaign on Poshan Abhiyan and Tree Plantation on Sept. 17, 2021

The programme was jointly organized by KVK, ICAR-CICR, Nagpur and IFFCO to create awareness amongst the stakeholders about importance of millets in our diet and their beneficial role in providing good health.

Hon'ble Union Minister for Agriculture and Farmers Welfare, Shri Narendra Singh Tomar ji inaugurated the Mega Convention through video conferencing. At CICR-KVK, the key note address on the "Importance of millets in human diet" was delivered by Dr. Renuka Mainde, Professor (Food and Nutrition), LAD college, Nagpur. The SMS (Home Science) and SMS (Horticulture) also delivered lectures on the importance of tree planting. Around 100 seed packets and 1000 plants supplied by IFFCO, Nagpur were distributed to the women of self help group, girl students and farm women.

World Soil Day

The"World Soil Day" Programme, organised at Chargaon village on 05-12-2021, was attended by 140 participants including 110 farmers and 20 Students. The Guest of Honour, Mrs Shalutai Parteki, Member Gram Panchayat, urged the farmers to take full advantage of information given by the Scientists. Dr Subhash Patil explained the causes of ill health of soil and urged the farmers to follow good agronomic operations for maintenance of soil health. Dr Ulhas Galkate urged the farmers to use organic manures to improve the physical condition of soil. Dr Sachin Wankhede spoke on effect of climate change on soil health.

***Swachhta Pakhawada* -** Under this program various activities related to cleanliness were carried out from 16/12/2021 to 31/12/2021.

Meetings/ Workshop/Conference/Training attended

Name of the officials	Name of event	Location	Date
Meetings			
Smt. Sunita Chauhan	Hortalk-55 International Year of Fruits and Vegetables	Webinar	03.01.2021
Dr. S. N. Rokde	Israel's Agriculture best practices	Webinar	12.01.2021
Dr. S. N. Rokde	Identification of Thrust Areas & State Training Needs in Agriculture & Allied Sectors	Online Workshop	18-19.01.2021
Dr. S. N. Rokde	Government's New Initiatives in Agriculture	National Webinar	22.01.2021
Dr. P.B. Deulkar	Know your Milk Food: Facts & Myths of A1 &A2 Milk	Webinar	23.01.2021
Dr. S. N. Rokde	Inaugural session of National Horticultural Fair 2021	Online	08.02.2021
Dr. S. N. Rokde	State Level Annual Action Plan Workshop	Online	09-10.02.2021
Dr. S. N. Rokde	VAMNICOM & CNRI's Global Conclave on Structural changes required for Innovative Agriculture Value Chain: Opportunities ahead for Collectives	Online	12-13.02.2021
Dr.S.N. Rokde, Dr. U. V. Galkate	Sensitizing Extension Professional for Successful Livestock Farming Models to Develop *Atamnirbhar Kisan*	Webinar	19-20.02.2021
Dr. S. N. Rokde	Agriculture Research through Knowledge Discovery	Webinar	23.02.2021
Dr. S. N. Rokde, Dr. S. S. Patil	KVKs as Leaders in Natural Farming Education	Webinar	25.02.2021
Dr. S. N. Rokde	Agricultural Extension and Advisory Services: Innovations to Impact	Online MANAGE International Conference 2021	25-27.02.2021
Dr. S. N. Rokde, Dr. S. S. Patil	Enterprise Solutions for FPO Management Experiences from Agri-Startups	Webinar	27.02.2021
Dr. S. N. Rokde, Dr. S. S. Patil	FPO Orientation Workshop for KVKs	Webinar	05.03.2021
Dr. S. N. Rokde, Dr. S. S. Patil	Block chain – Disrupting the Agriculture Sector	Webinar	06.03.2021

Name of the officials	Name of event	Location	Date
Dr. S. N. Ro kde, Dr. S. S. Patil	Agri-Startups driving Agri-Input Sector	Webinar	13.03.2021
Dr. S. N. Rokde, Dr. S. S. Patil	MANAGE-Centre for Innovation and Agripreneurship: Offerings and Opportunities for Agri-Startups	Webinar	03.04.2021
Dr. S. N. Rokde	*Bhoomi Suposhan Jan Jagran*	Webinar	15.04.2021
Dr. S. N. Rokde, Dr. S. S. Patil	DFI Network Project	Sensitization Workshop	22.04.2021
Dr. S. N. Rokde	Agri-Startups and Contract Farming Models	Webinar	22.05.2021
Dr. S. S. Patil	Strengthening Community Based Organisations through KVKs	Webinar	03.06.2021
Dr. S. S. Patil	Virtual Conference on New Innovations & Digital Technologies for Agriculture	Online	17-18.06.2021
Dr. S. S. Patil	Role of weed biology in improving weed management strategies	Webinar	22.06.2021
Dr. S. N. Rokde	Rodent Management	Online	01.07.2021
Dr. S. N. Rokde	Emerging IoT Technologies and Application in Farming	Webinar	09.07.2021
Dr. S. S. Patil, Dr. U. V. Galkate	Training programme on *Kisan Sarathi*	Online	24.07.2021
Dr. S. N. Rokde	Annual Review Workshop of DAMU	Online	29.07.2021

Technical bulletins

i. *Fale va Bhajipala Prasanskran Papai Jam va Papaiche Cheri* [Fruits and Vegetables Processing - Papaya Jam and Papaya Cherry] by Dr Deepa Lal. Editor: Dr S.N.Rokde, PS & Head, KVK, ICAR, CICR, Nagpur. Publisher 'Dr Y.G. Prasad, Director, CICR,Nagpur

ii. Mixed Fruit Jam [by Dr Deepa Lal. Editor: Dr S.N. Rokde. PS & Head, KVK, ICAR-CICR, Nagpur. Publisher 'Dr Y.G. Prasad, Director, CICR, Nagpur

Popular articles

i. Rokde, S.N. (2021) "*Shetkaryancha Devdut : Aaj Aahe Bhartiy Kisan Diwas* [God's Messenger for Farmers : Today is Indian Farmer's Day] Published in Vichakshan e-weekly . dated 23.12.2021

ii. Rokde S.N., (2022) "*Utpann wadhisathi pratyek shelyanche shastriy padhtine vyawsthapan*"[Scientific Management of Goats for enhancing production] Published in Vichakshan e-weekly dated 31.1.2021

iii. Rokde, S.N., Pundalik Deulkar and U.V. Galkate (2022) "*Vidarbhatil Shetkaryanchasathi Chalta Firta* Demand Draft" [Walking Demand Draft for Farmers in Vidarbha- Goat] Published in Vichakshan e-weekly dated 14.2.2021

iv. Rokde, S.N., Pundalik Deulkar and U.V.Galkate (2022) "*Sankarit Gaiche dudhutpadan wadhvinyasathi uapay*" [Scientific ways to enhance milk production of crossbred cows] Published in Vichakshan e-weekly dated 14.2.2021

Radio Talks (AIR, Nagpur) delivered

i. Smt. Sunita Chauhan, SMS (Home Sci.), - "Oyster Mushroom Production and its marketing - 24.02.2021

ii. Dr. P. B. Deulkar (Farm Manager) -"Care and Management of Animals in Summer" broadcasted - 17.03.2022

TV Talks (Krishi Darshan, DDK Sahyadri channel)

Dr. Ulhas Galkate, SMS (Veterinary Science) - "Cultivation of Perennial fodder crop" - 17.03.2021