

## 9. KRISHI VIGYAN KENDRA

### Training Achievements

Ninety nine short duration (1 to 3 days) on and off-campus training courses were conducted in different disciplines for practicing farmers, rural youth and extension functionaries. Out of 3150 participants 989 SC/ST farmers were benefited from the training programs conducted by Subject Matter Specialists (SMS) and Programme Assistants of KVK.

In addition to the above trainings, 17 sponsored training courses were organized in Crop Production, Horticulture, Plant Protection, Veterinary Science and Home Science for farmers and extension functionaries deputed by State Agriculture Department, Maharashtra, ATMA, CIPMC, Nagpur, RCF, MAFSU Nagpur, MCED and ICDS Nagpur, NGOs. In all, 853 participants attended these training programmes.

S. No.	Disciplines	No. of courses	No. of Total participants	SC/ST participants
1	Crop Production	14	517	138
2	Horticulture	06	212	55
3	Plant Protection	18	442	128
4	Veterinary Science	20	812	242
5	Soil Science	05	282	112
6	Home Science	19	448	199
7	Extension	17	437	115
	<b>Total</b>	<b>99</b>	<b>3150</b>	<b>989</b>

### High Density Planting System (HDPS)

High Density Planting System in cotton was implemented in 6 talukas of Nagpur district viz., Katol, Kalmeshwar, Saoner, Ramtek, Parshioni and Umred in collaboration with State Department of Agriculture. Cotton variety (Suraj) was demonstrated on 350 farmers field. Frequent visits were made and farmers were guided on production and protection aspects. Director and HODs CICR visited and guided the farmers.

A Scientist- farmer's group discussion on HDPS was arranged in Chargaon village of Parshioni taluka on September 22, 2015 and Taluka Agriculture Officer in this programme.

### Fruits crops at KVK farm

Krishi Vigyan Kendra, CICR, Nagpur has established fruit crops such as Guava (L-49), Pomegranate (Bhagva), Orange (Nagpur mandarin) and Sweet Orange (Katol Gold), Mango and Sapota (Kali Patti) at its farm for the benefit of farmers and other visitors.

### Front Line Demonstrations (FLDs)

Four FLDs on crops and five FLDs on other aspects were demonstrated on farmer's field in adopted villages of Nagpur district viz., Boruzwada, Angewada, Junewani, Patkakhedi, Tirkhura, Karhandla and Patansawangi. Several extension activities like field day, field visit of farmers, group discussions and scientist-farmer meet etc. were arranged for effective implementation of FLDs. Data on important production parameters as well as feedback from the farmers and visitors were recorded.

### Details of Assessment of technologies under Front Line Demonstrations and On Farm Trials

S. No.	Crop	Technology demonstrated	No. of farmers	Area (ha)	Yield (q/ha)		Increase over FP (%)
					FLD	FP	
1	Cotton	HDPS/IPM	50	20	8.75	8.1	7.43
2	Chickpea (Cluster FLD)	IPM/Production technology	50	20	17.17	14.25	17.01
3	Cotton	Management of sucking pests in Bt-cotton	12	4.8	18.74	15.56	16.96
4	Soybean	Management of Girdle beetle in soybean	12	4.8	18.13	14.73	18.75

### FLD's on Livestock Enterprises

Enterprise	Breed	No. of farmers	No. of animals	Performance parameters / indicators	Data on parameter in relation to technology demonstrated		% change in the parameter
					Demo	Local check	
Feeding by-pass fat @ 200 g/cow/day	Jersey Crossbred cows	10	20	a) Avg. Milk yield (lit/cow/day)	11.43	9.62	19.18
				b) fat %	4.3	3.86	11.45
				c) BC Ratio	1:1.75	1:1.62	--
Goat (Oral administration of single dose of liquid closantel 15% @ 10 kg body wt. for Ecto-endo parasite control)	Local goat	10	40	Body weight gain in kg/2 months	4.43	3.45	28.77
				C:B ratio	1:1.76	1:1.38	--

### Performance of FLD Under Home Science

S. No.	Name of Technology	No. of farmers	Crop	Performance Evaluation of different parameter								
				ΔHR beats min <sup>-1</sup>			Area covered m <sup>2</sup> /h			Yield picked kg / hour		
				Demo	Local check	Percent Reduction in drudgery over local	Demo	Local check	% increase in area	Demo	Local check	Increase in yield picked (%)
1	Bhindi/Brinjal plucker	20	Bhindi plucker	15	18	20	33	26	27	5.06	4.1	21
2	Improved Cotton Picking bag	20	Cotton	12	16	25	42.9	35.2	22	5.4	4.2	25
3	Maize Sheller	20	Maize	11	14	21	--	---	--	400 g/m	310 g/m	29

### Details of assessment of livestock production technologies under On Farm Trial (OFT) on farmer's field-

S. No.	Animal	Technology demonstrated	No. of farmers	No. of animals	Yield		% Increase over Farmers Practice
					Demonstration	Farmers Practice	
1	Cows	Feeding of area specific mineral mixture @ 50 gm/cow/day	30	60	Milk yield-9.10 lit/cow/day	Milk yield-8.63 lit/cow/day	5.41
2	Lactating dose (Cow)	Feeding of bag silage to milking cow	10	20	Milk yield-7.56 lit/Cow/day	Milk yield-7.00 lit/Cow/day	8.00
		Fat content in milk			Fat content in milk 4.27	Fat content in milk 3.96	7.8

## Assessment of cotton pellets an alternative cooking fuel

S. No.	Description N=10	Cooking with cotton stalk briquettes		% saving over farmers practice
		Local	Demonstration	
1	Rice and Dal (g)	250	250	-
2	Quantity of coal required (g)	310	260	19
3	cost of coal (Rs)	8.7	3.9	56
4	Time required for cooking (minute)	29	23	21
5	Ash recovered (%)	05	2.5	58

Food cooked through cotton pellets is cost effective and eco-friendly by 56% and 58% respectively.

### IRM in Nagpur district

The IRM project was implemented successfully in five major cotton growing blocks of Nagpur district, covering 45 villages. In all 1150 farmers were enrolled as district beneficiaries to implement IRM strategies in 2250 acre area. The IRM strategies were widely accepted by all farmers across various blocks in district wherever introduced and made positive impact on reduction in insecticide usage, associated with significant yield and ecological

benefits. On an average, the number of insecticide sprays were reduced to 3.25 in IRM fields as compared to 5.20 sprays in non-IRM fields resulting in an overall 37.50% decrease in number of sprays. Across all the participating villages, IRM farmers harvested on an average 13.50 q/ha seed cotton yield compared to 12.80 q/ha by non-practicing farmers. This amount to 5.46% increase in yield and additional profit of Rs. 5830/ha over non-practicing farmers.

### Diagnostics Surveys Conducted

S. No.	Discipline	Date	Crop	Title	Area Covered (ha)	No. of farmers benefitted
1	Plant Protection	24.07.15	Bt-cotton	Sucking pests under ETL	15	38
2	Horticulture	06.08.15	Chilli	Dying of seedlings in nursery	8 nurseries	25
3	Plant Protection	18.08.15	Bt-cotton	Sucking pest incidence	19	27
4	Agronomy	20.08.15	Cotton	INM in cotton	4	20
5	Vet. Science	25.08.15	Cows	Infertility in cows	32 cows	17
6	Vet. Science	15.09.15	Cows	Low milk yield in cross breed cows	42 cows	26
7	Agronomy	22.09.15	Cotton	Parawilt in cotton	5.6	14
8	Agronomy	28.10.15	Cotton	Leaf reddening in cotton	5	12
9	Horticulture	06.10.15	Nagpur mandarin	Pre harvest fruit drop in Nagpur mandarin	10 orchards	28
10	Plant Protection	07.10.15	Redgram	Less incidence of wilting	9	25
11	Plant Protection	20.10.15	Bt-cotton	Sucking pest incidence	10	15
12	Plant Protection	17.11.15	Redgram	Helicoverpa incidence	6	18
13	Plant Protection	12.12.15	Chickpea	Helicoverpa incidence	11	22
14	Plant Protection	05.01.16	Chickpea	Helicoverpa incidence	20	50
15	Plant Protection	08.01.16	Nagpur Mandarin	Sucking pest incidence, fruit drop	8.5	10
16	Home Science	12.01.16	Soybean processing	Curdling of Soymilk	-	11

S. No.	Discipline	Date	Crop	Title	Area Covered (ha)	No. of farmers benefitted
17	Home Science	22.01.16	Soybean processing	Hardening of Tofu	-	15
18	Home Science	07.02.16	Fruit processing	Colour maintenance of lemon squash	-	32
19	Vet. Science	12.02.16	Goats	Low weight gain in kids	40 kids	20

### World Soil Day Organized

Krishi Vigyan Kendra CICR, Nagpur organized "World Soil Day" at village Gumthala, taluka Kampthee on 5<sup>th</sup> December, 2015. On this occasion Dr. M. S. Kairon, Ex-Director, CICR, Nagpur was the Chief Guest. Distributed 250 soil health cards to farmers.

### Kisan Goshti

Krishi Vigyan Kendra CICR, Nagpur organized "Kisan Ghoshti" on the occasion of "Jai Kisan Jai Vigyan Diwas at Panchgaon, Umred on December 29, 2015.

### Jal Jagruti Saptah Programme

On the eve of World Water Day (March 22<sup>nd</sup>) as per the United Nations General Assembly Declaration of 1993 and directives of Government of India, the Krishi Vigyan Kendra, CICR Nagpur organized one week campaign from 16<sup>th</sup>-22<sup>nd</sup> March, 2016 for



effective utilization of water resources in agriculture and other sectors like domestic, industry, energy and power. More than 450 participants, comprising college students, farmers, farm women, staff of Krishi Vigyan Kendra, staff of Taluka Agriculture Office, Umred, Kamptee and ATMA Nagpur,



members of Panchyat Samiti, Umred and Kamptee were present. The Jal Shiwar activities were carried out in Umred and Kamptee block in association with Taluka Agriculture Office of respective block and DD ATMA, Nagpur. In Kamptee block, village Bhovari, Shri Ghawte, Joint Director Agriculture, Nagpur and Mrs. Kadu, Superintendent Agriculture Officer and Dr. R. B. Singandhupe explained various schemes being implemented in Nagpur district on water related activities. Dr. S. S. Patil, (SMS), Dr Ulhas Galkate(SMS) and Smt Sunita Chauhan (SMS) of Krishi Vigyan Kendra, CICR Nagpur and Shri Pandey, Taluka Agriculture Officer from Umred and Shri Dixit from Kamptee block contributed to the programme.



### Soil Testing

One thousand seven hundred and forty soil samples were collected from Umred, Bhivapur, Katol, Kalmeshwar, Kamptee, Saoner, Ramtek, Narkhed, Kuhi and Parshioni taluka of the Nagpur district through Mobile Soil Testing Van provided under Human Development Programme by Govt. of Maharashtra. These samples were analyzed for different parameters and soil health cards depicting soil test based fertilizer recommendation for different crops were distributed to the beneficiaries.

### Participation in Exhibitions

KVK, CICR Nagpur participated in the following events to display various research findings of CICR. Visitors interacted with KVK and CICR officials on various issues related to technologies developed at CICR Nagpur.

- 1) Krishi Vigyan Kendra, CICR, Nagpur participated in exhibition in "Santra Mahotsav"

held at Warud, dist. Amravati from 1<sup>st</sup>-4<sup>th</sup>, October, 2015.

- 2) On event of "Dharmmachakra Pravartan Din" at Deekshabhoomi, Nagpur during 21<sup>st</sup>-23<sup>rd</sup> October, 2015, KVK, CICR, Nagpur participated and exhibited the achievement on various activities of cotton production technologies.
- 3) Krishi Vigyan Kendra, CICR, Nagpur participated in "Agro-Vision" exhibition held at Reshimbagh, Nagpur from 11<sup>th</sup> to 14<sup>th</sup> December, 2015.
- 4) Krishi Vigyan Kendra CICR, Nagpur participated in exhibition on the occasion of "Youth Empowerment Summit" from 1<sup>st</sup>-4<sup>th</sup> February, 2016.
- 5) Krishi Vigyan Kendra CICR, Nagpur participated in exhibition held at Dr. Ambedkar College, Nagpur on the occasion of National Conference on "Innovations in Agri-Sciences and Bio-technologies" from 25<sup>th</sup>-27<sup>th</sup> February, 2016.
- 6) Krishi Vigyan Kendra CICR, Nagpur participated in Exhibition held at VNIT, Nagpur on the occasion.



### KVK staff as Guest Speaker

1. Dr. R. B. Singandhupe participated and delivered talk on 'Cotton Production Technology, Cotton Varieties and Irrigation Management in Cotton' at KVK, Kharpudi, Jalna on 05.05.2015 (500 farmers).
2. Dr. R. B. Singandhupe participated and delivered talk on 'HDPS Cotton Production Technology and Issues Related to Cultivation of HDPS Cotton' at Chargaon Village of Parshioni taluka on 20.09.2015 (150 farmers).



3. Dr. U. V. Galkate delivered talk on 'Role of KVK in livestock development' at VANAMATI, Nagpur on 28.10.2015 (30 Extension Functionaries).
4. Shri. Gulbir Singh, delivered a lecture on cultivation of flowers for enhancing income of the farmers on 15.07.2015 at Umred farmers meet, organized by World Vision India.
5. Dr. S. S. Patil delivered talk on "Package of Practices on Cotton Crop Production" at Bhora village on 19.03.2015 (100 rural youths farmers).

### Participated in AGRO VISION 11<sup>th</sup>-14<sup>th</sup> December 2015

#### Winter School Attended

- Dr. S. S. Patil attended winter school on "Precision Citriculture for Sustainable Production and Post-harvest Management" at CCRI, Nagpur from 15<sup>th</sup> October to 4<sup>th</sup> November, 2015

#### Meetings Attended

1. Dr. R. B. Singandhupe attended meeting with Agriculture Secretary Govt. of Maharashtra at Mumbai on 21.08.2015.
2. Dr. R. B. Singandhupe attended the meeting at ATARI, Hyderabad on 26.09.2015 to discuss and make strategies for drought mitigation in Vidharbha region.
3. Dr. R. B. Singandhupe attended the IMC meeting of ATARI, Hyderabad on 20.01.2016 and reviewed the activities of ATARI Zone-V.
4. Dr. R. B. Singandhupe attended the IMC meeting of NBSS&LUP, Nagpur on 17.02.2016.
5. Dr. R. B. Singandhupe attended the ARYA Project meeting at NAAS Complex, New Delhi on 27-28<sup>th</sup> Jan, 2016.

#### Workshop Conference Attended

1. Programme Coordinator, SMSs and Programme Assistant, of Krishi Vigyan Kendra, Nagpur participated in 'Action Plan Workshop 2015-16 of all KVKs of Vidharbha organized by Zonal Project Directorate, Zone-V, Hyderabad on 26<sup>th</sup> May 2015 at Dr. PDKV, Akola.
2. Dr. R. B. Singandhupe, Programme Coordinator attended ZREAC Kharif Workshop

held 6<sup>th</sup> June, 2015 at Yavatmal.

3. Dr. R. B. Singandhupe, Programme Coordinator attended Annual Zonal Workshop Zone-V held from 26-28<sup>th</sup> June, 2015 at Jalgaon.
4. Dr. R. B. Singandhupe, Programme Coordinator attended 7<sup>th</sup> National conference of KVK from 25-26<sup>th</sup> July, 2015 at Patna (Bihar).
5. Dr. R. B. Singandhupe Programme Coordinator attended ZREAC Rabi Workshop held on 27<sup>th</sup> October, 2015 at Yavatmal.

#### List of publications

1. Chauhan, Sunita (2015). Ergonomics of Bt cotton picking bags. *Agriculture Mechanisation in Asia, Latin America and Africa (AMA)*, 46(4): 67-71.
2. Galkate U.V. and Rokde S. N. *Dudharu Pashuoko Khilaye Azola*. Krushak Jagat, p 16-22 March, 2015

#### Radio and T.V. Talks

- ❖ Smt. Sunita Chauhan delivered a radio talk on "Krusha Apshistapasun Jaiv kolse" in Marathi, AIR, Nagpur on 17.11.2015.
- ❖ Dr. U. V. Galkate delivered a radio talk on "Diseases of Goat and their prophylaxis" in Marathi, AIR, Nagpur on 15.09.2015.
- ❖ Dr. U. V. Galkate delivered a live in programme on "Pashu Vishyak Prashnanchi Uttare" in Marathi, AIR, Nagpur on 25.02.2016, 01.03.2016 and 08.03.2016.
- ❖ Smt. Sunita Chauhan delivered T.V. Talk on "Mahilanche Sharirik Shram kami karnari Awzar" in Marathi, Sheti Darshan telecasted by Nagpur Doordashan on 17.11.2015
- ❖ Smt. Sunita Chauhan delivered T.V. Talk on "Mahilao ke liye krushi upyogi upkaran aur yantra" in Hindi, Sheti Darshan telecasted by Nagpur Doordashan on 21.02.2016

#### Advisory Services Provided

KVK provided advisory services to 23582 clients comprising of farmers, rural youth and extension works, through personnel guidance, telephonic calls and mobile services on Agricultural production, protection technology and allied fields.