

## 5. EDUCATION, TRAINING AND CAPACITY BUILDING

### 5.1: Education

#### 5.1.1: M.Sc. Students and Ph.D Students

ICAR-CICR has signed MOU with State Agricultural Universities and State Universities to undertake research programme and thesis work in the institute premises. During 2017-18, one M.Sc student completed the research programme and submitted his thesis

**Name** : Ravichandra MV  
**Co-Guide** : Dr. Mrs. Sandhya Kranthi  
**Discipline** : M.Sc. Ag. Biotechnology  
**University** : **Sam Higginbottom** University of Agriculture, Technology and Sciences (SHUATS)

**Thesis** : Characterization of the dominant endosymbiont in geographical population of whitefly *bemisia tabaci* (Gennadius)

#### Abstract

*Bemisia tabaci* (Gennadius) the cotton, tobacco, okra or sweet potato whitefly has recently become very important to world agriculture as a pest and as a virus vector. Whiteflies are associated with endosymbionts that are universal in nature and are responsible for the

evolution of insects for millions of years. Endosymbionts have been stabilized within the host for fulfilling the host's nutritional requirement for their physiological functions and metabolism. Endosymbionts also play a role in virus transmission.

This study identified the dominant endosymbiont present in whitefly populations collected from nine host plants across locations in Nagpur. For identification of primary endosymbiont in whitefly, 16S rRNA universal primers were used to generate the amplicon of interest. Sequence analysis of the 663bp amplicon, indicated that *Portiera* was the dominant endosymbiont present in all populations of whiteflies. *Portiera aleyrodidarum*, was hitherto reported as the first insect endosymbiont identified as capable of supplying carotenoids to the host insect. Using *Portiera* specific primers it was confirmed that *Portiera* was the dominant parasitoid present in whiteflies across crops, sampled across locations of Nagpur. Partial sequences of *Portiera*, varying in similarity, were published on NCBI and their accession numbers are as follows: LN829852.1 LN829841.1 LN829715.2 LN829731.2 HG764142.1 LC159286.1 LN829735.1 LN829733.2 LN829821.2 LN829826.2 LN829847.1 JN204494.1 JN204483.1 JN204490.1 HG764155.1 JN204494.1 JN204487.14

The following students were enrolled for M.Sc and Ph.D. programme during 2017-2018 and are pursuing their research work

#### M.Sc. Students

S. No.	Name	Discipline	Co-Guide	Topic	University
1	Ms. Mayuri V. Tamboli	M.Sc. Biotechnology	Dr. V. N. Waghmare	Assessment of genetic diversity of Cotton ( <i>Gossypium hirsutum</i> ) genotype using molecular (SSR) markers.	RTMNU, Nagpur
2.	Mr. Radhesham Hatzade	M.Sc. Crop Physiology	Dr. Sunil Mahajan	Evaluation of seed vigor tests for predicting field seeding emergence in tetraploid and diploid	Sam Higginbottom University of Agriculture, Technology and Sciences Allahabad (SHUATS), UP
3.	Mr. Swapnil Matikhaye	M.Sc. Crop Physiology	Dr. J. H. Meshram	Screening of cotton germplasm accession for drought stress tolerance using (polyethylene glycol) PEG - 6000	
4.	Mr. Satish Raut	Crop Physiology	Dr. J. H. Meshram	Effect of mepiquat chloride on cotton shoot and root growth behavior	

S. No.	Name	Discipline	Co-Guide	Topic	University
5.	Mr. Dinesh Sahu	Crop Physiology	Dr. A. Manikandan	Study on morpho-physiological characteristics of cotton under artificial salt stress condition	Sam Higginbottom University of Agriculture, Technology and Sciences Allahabad (SHUATS), UP
6.	Mr. Himanshu Kumar	Crop Physiology	Dr. Pooja Verma	Evaluation of elicitors for physio-biochemical changes in relation to drought in cotton	

### Student educational tour and field visit to ICAR-CICR

Sr. No.	College Name	Total No. of students	Class of Students	Date of Visit
1.	Shri Sant Shankar Maharaj College of Agriculture, Amravati	120	B.Sc.	04.12.2017
2.	Nilkanthrao Shinde Science and Arts College, Bhadrawati, Dist. Chandrapur	17	M.Sc.	03.02.2018
3.	Brijlal Biyani Science Collage, Amravati	80	M.Sc. and B.Sc. Department of Botany, Zoology, Biotechnology	22.02.2018
4.	Vidhya Vikas College of Science, Samudrapur, Wardha	64	M.Sc. and B.Sc.	07.03.2018



## 5.2: Training and Capacity Building

### 5.2.1: Training Received

#### Scientists

Sr. No.	Name	Course / Training	Place	Period (days)
1.	Dr. Shah Vivek	DST-SERB workshop on chemical ecology	NCBS, Bangalore	03-17 Jul 2017 (15 Days)
2.	Dr. Ramkrushna G.I.	Analytical tools and techniques for development of soil health card	ICAR-NBSS & LUP, Nagpur	02-11 Aug 2017 (10 Days)
3.	Dr. V. S. Nagrare	Sixth IBO training workshop	Bangalore	10 <sup>th</sup> Sept 2017 (one day)
4.	Mr. Prabhulinga Tenguri	Recent developments in statistical modeling and forecasting in agriculture	ICAR - IASRI, New Delhi	28 Dec 2017 - 17 Jan 2018 (21 Days)
5.	Mr. Madhu T.N.	Insect resistance to Bt toxins and insecticides in cotton	ICAR-CICR, Nagpur	18 Jan - 07 Feb 2018 (21 Days)
6.	Dr. A Mannivannan	Recent advances and accomplishments in heterosis breeding of crops	TNAU-CPBG, Coimbatore	31 Jan - 20 Feb 2018 (21 Days)
7.	Dr. Neelakanth Hiremani	Bio-pesticides for crop protection and improvement : Emerging technology to benefit farmers	GBPUA & T, Pantnagar (Uttarakhand)	02-22 Feb 2018 (21 Days)
8.	Dr. V. Chinna Babu Naik	Fundamental of plant health management for plant health doctors	NIPHM, Hyderabad	13 Feb - 05 Mar 2018 (21 Days)
9.	Dr. Jayant H. Meshram	Program on competency enhancement program for effective implementation of training function by HRD Nodal Officer of ICAR	ICAR-NAARM, Hyderabad	15-17 Feb 2018 (3 Days)

#### Technical Staff :

Sr. No.	Name of the Officials	Name of the Course / Training	Place	Period
1.	Mr. R.M. Lokhande	Value addition to cotton seed	ICAR - CIRCOT, Mumbai	20-22 Jul 2017 (3 Days)
2.	Mr. R.K. Chaturvedi			
3.	Mr. R.K. Chaturvedi	Enhancing efficiency and effectiveness of institutional administrations management and effective implementation of official language policy in ICAR system	ICAR - IIHR, Bangalore	11 Aug 2017 (1 Day)
4.	Mr. R.M. Ramteke	Layout and maintenance of field experiments and recording observations	ICAR-IARI, New Delhi	03-12 Oct 2017 (10 Days)
5.	Mrs. Sunita N. Chauhan	Capacity building of home science experts	ICAR - ATARI-PUNE KVK, JALNA(MS)	27-29 Nov 2017 (3 Days)
6.	Mr. Mayurkumar R. Meshram	Agro meteorological data collection, analysis and management	ICAR - CRIDA, Hyderabad	11-23 Dec 2017 (13 Days)
7.	Mrs. Swati Dixit	Training program on KOHA for Library staff	ICAR-NAARM, Hyderabad	31 Jan - 09 Feb 2018 (10 Days)

### Administrative Staff :

Sr. No.	Name of the Officials	Name of the Course / Training	Place	Period
1.	Mr. Nandkishor V. Dhande	Enhancing efficiency and effectiveness of institutional administrations management and effective implementation of official language policy in ICAR system	ICAR - IIHR, Bangalore	11 Aug 2017 (1 day)
2.	Mrs. Rama Gajanan Iyer	Enhancing efficiency and behavioral skills of Stenographers Grade-III, PA, PS, PPS and Sr.PPS of ICAR	ICAR-NBSS & LUP, Regional Station, Kolkata	05-11 Jan 2018 (7 Days)
3.	Mr. Mahesh Tiwari	Enhancing efficiency and behavioral skills of stenographers grade -III, PA, PS, PPS and Sr.PPS of ICAR	ICAR - CIFE, Mumbai	03-09 Aug 2017 (7 Days)

### 5.2.2: Training Imparted

#### 5.2.2.1 International Training

##### In-country training programme on bio-pesticide laboratory operations and research at Uganda

A five-day in-country training programme on "Bio-pesticide laboratory operations and research" was organized by Government of India under Cotton-Technical Assistance Programme (TAP) for Africa by ICAR-Central Institute for Cotton Research from 22 to 26 August, 2017 at National Semi-arid Resources Research Institute (NaSARRI), Serere, Uganda. This led to the establishment of a modern facility with amenities for mass rearing of the locally available biopesticides and biofertilizers. Thirty two scientists, technical officers and communication development officers of Cotton Development Organization, National Semi-arid Resources Research Institute (NaSARRI), Makerere University and Gulu University of Uganda were trained by Dr. S K Sain, Senior Scientist (Plant Pathology) and Dr. A. Manikandan, Scientist (Soil Science) of ICAR-CICR. The programme commenced with the welcome address by Dr. Michael Ugen, Director, NaSARRI,

Serere on 22 August 2017. Training comprised theory and hands-on practice on bio-pesticide and biofertilizer production. The biopesticide laboratory was inaugurated on 28 August 2017 by Shri. Ravi Shankar, High Commissioner of India to Uganda. The following dignitaries were present at the inaugural programme which includes Personnel Secretary, Minister of Agriculture Animal Industry & Fisheries, Director General, National Agricultural Research Organization (NARO), Mrs. Jolly. Sabune, Managing Director, Cotton Development Organisation and Board of Directors (CDO), Dr. Michael Ugen, Director, NaSARRI, Serere, Officers Member of Parliament Local County Member and officials from NARO. The training implementing agency was IL&FS Clusters (P) Ltd, India.

#### 5.2.2.2 National Training

##### i) Training to State seed testing officials :

Training program of "Molecular Technologies for Transgene detection in GM cotton" for seed testing officers from Maharashtra State Agriculture department was conducted at Biotech Lab. Division of Crop Improvement from 16-18 Oct. 2017. Six participants from State seed testing laboratory, Nagpur, 3 from SSTL, Pune and 3 from SSTL, Parbhani was participated in the training.

The training was co-ordinated by the following scientist - Dr G. Balasubramani, Dr J. Amudha, Dr Raghavendra K.P., Dr. Chandrashekhar N. and Sh Joy Das of the Institute.

##### ii) Training to Students

Scientists of ICAR-CICR imparted 1 month (5-30<sup>th</sup> June, 2017) training to the following students to upgrade their skills



S. No.	Name of Student	Training Co-ordinators & Supervisors	Topic	University
1.	Mr. Nikhat Shakeel Siddique	Dr. S. P. Gawande , Dr. D. T. Nagrale	Basic techniques of Microbiology and Plant Pathology	Sam Higginbottom University of Agriculture, Technology and Sciences Allahabad (SHUATS), UP.
2.	Mr. Shrikant Pravinrao Tiwaskar	Dr. A. Manikandan, Dr. Savitha Santosh	Basic laboratory techniques & Instrumentation in Microbiology	Sam Higginbottom University of Agriculture, Technology and Sciences Allahabad (SHUATS), UP.
3.	Mr. Abhishek Shrikrishna Ghanwat			
4.	Mr. Mahesh Vilasrao Thombare			

### iii) Training to Farmers

#### Nagpur

#### Precautions to be taken by the farmer/farm labourers while handling pesticides

A team comprised of Dr V. N. Waghmare, Director, Dr A. R. Raju, Principal Scientist (Agronomy) and Dr Vishlesh Nagrare Principal Scientist (Entomology) visited Savargaon village, Kalamb Taluka in Yavatmal district on 13.10.2017 and demonstrated the precautions to be taken by the farmer/farm labourers while handling pesticides. The programme was organized by IFFCO. Precautionary aids/safety kits and a booklet on pink bollworm management in local language recently published by ICAR-CICR were distributed.



#### Farmer Workshops and Seminar on Integrated Management of Pink bollworm organized

#### At Jambha Khurd village, Akola (Maharashtra)

One day workshop on “Integrated Management of Pink bollworm” was organized by CICR in collaboration

with Namdev Maharaj Agro Producer Company and Janamanch on 16<sup>th</sup> January, 2018 at the Chakrapani Udyog Sankul, Jambha Khurd, Tal. Murtijapur, Dist. Akola. Speaking on the occasion Dr V. N. Waghmare, Director, CICR mentioned that widespread infestation of pink bollworm in Bt cotton in Maharashtra state has added to the woes of farmers and it is necessary to implement pink bollworm management strategies devised by ICAR-CICR. He pointed out that different stakeholders including farmers, seed producers, ginners, State Agriculture Department, social organizations, NGO's, KVKs, State Agriculture Universities etc. need to work in tandem through their collective efforts for effective management of Pink bollworm in the coming season.

Dr. Vishlesh Nagrare gave detailed information to the stakeholders about integrated management of pink bollworm. Dr. Chinna Babu Naik briefed about past and present situation of pink bollworm. Dr Babasaheb Fand spoke about safe use of pesticides and advised farmers for strict adherence to label claims, avoiding mixtures and overuse of pesticides and need based spray of only recommended chemicals. Dr. Nandini Gokte-Narkhedkar, Head, Division of Crop Protection, welcomed all the participants and briefed about organizing farmers' workshop. Dr. S.M. Wasnik, Principal Scientist (Extension), acquainted the farmers about the program of e-Kapas and “Mera Gaon Mera Gaurav” and appealed them to register under e-kapas programme. Dr. Jayant Meshram, Dr. Rachna Pandey, Dr. S. P. Gawande, Dr D.T. Nagrale, and Mr Madhu T.N. interacted with farmers and answered queries raised by the participants. Dr. Shailesh Gawande proposed the vote of thanks. More than 500 farmers from Murtijapur Tehsil participated in training programme.



Vishlesh Nagrare, Dr. Jayant Meshram, Dr. M. Saravanan, Dr. Ramkrishna G. I., Dr. Chinna Babu Naik, Dr. S. P. Gawande, Dr D. T. Nagrale, Dr. Vanita Salunkhe, Dr. Vivek Shah, Dr. Neelkanth Hiremani and Mr Madhu, T. N. interacted with farmers and answered queries raised by the participants.

#### At Wani, Yavatmal (Maharashtra)

Farmer's workshop on Integrated Management of Pink bollworm in collaboration with white cotton group Wani was held on 24<sup>th</sup> Jan, 2018 at Shetkari Mandir Sabhagruha, at Wani, Dist. Yavatmal. Dr V. N. Waghmare, Director(Acting), ICAR-CICR, Nagpur pointed out that different stakeholders including farmers, seed producers, ginners, state agriculture department, social organizations, NGO's, KVKs, State Agriculture Universities etc. need collective efforts for effective management of Pink bollworm in the ensuing season.



#### At Girad, Wardha (Maharashtra)

Farmers workshop on Integrated Management of Pink bollworm was organized on 28<sup>th</sup> Dec, 2017 at the Magan Sangrahalaya of Natural Farming Development Center, Girad, Tal. Samudrapur, Dist. Wardha. Dr V. N. Waghmare, Director, ICAR-CICR, Nagpur in his remarks pointed out that different stakeholders including farmers, seed producers, ginners, state agriculture department, social organizations, NGO's, KVKs, State Agriculture Universities etc. need to work in tandem for effective management of Pink bollworm in the next season. Dr. S. M. Wasnik, Principal Scientist (Extension), acquainted the farmers about the program of e-Kapas and "Mera Gaon Mera Gaurav".

Dr. Nandini Gokte-Narkhedkar, Head I/C, Division of Crop Protection, ICAR-CICR welcomed all the participants and briefed about organizing farmers workshop at Girad. Dr. Vishlesh Nagrare, Principal scientist (Entomology) gave detailed information to the stakeholders about integrated management of pink bollworm. Dr Babasaheb Fand, Scientist (Entomology) delivered a lecture on 'Safe use of pesticides'. More than 500 farmers from 72 villages in Samudrapur Tahsil of Wardha District participated in this workshop. Dr.

Dr. Vishlesh Nagrare, Principal scientist (Entomology) explained in detailed about integrated management of pink bollworm. He discussed the importance of several points like termination of crop latest by first fortnight of January, crop rotation, adoption of early maturing varieties, sowing of next season's crop in mid-June, installation of pheromone traps after 45 days of sowing, etc. for the management of pink bollworm in the next kharif season.

Dr Shailesh Gawande, Scientist (Plant Pathology) delivered a lecture on 'Safe use of pesticides'. He called farmers attention mainly towards strict adherence to label claims, avoiding mixtures and overuse of pesticides and need based spray of only recommended chemicals. More than 1200 farmers from Wani Tahsil of Yavatmal District were participated in this workshop. Dr. Nandini Gokte-Narkhedkar, Head I/C, Division of Crop Protection, ICAR-CICR welcomed all the

participants and Shri. Yuvraj Jangle AO panchayat Samitee Wani proposed the vote of thanks.

#### At Daryapur, Amravati (Maharashtra)

A seminar on “Advanced techniques of cotton farming and pink bollworm management” was jointly organized by ICAR-Central Institute for Cotton Research, Nagpur, All India Maheshwari Samaj, Daryapur and Dr. Panjabrao Deshmukh Krishi Vidyapeeth (PDKV), Akola on 15 February, 2018. Dr Sharad Naimbalkar, former Vice Chancellor of PDKV inaugurated the seminar and spoke on the current issues in cotton farming. ICAR-CICR Director Dr. V.N. Waghmare and Scientists Dr. S.M. Wasnik, Dr. Vishlesh Nagrare and Dr. Babasaheb Fand participated and guided the farmers. Dr. Waghmare, while calling the attention of participants towards the issue of widespread damage caused by pink bollworm infestation in Bt cotton this year, expressed a need for collective efforts from all the stakeholders of the cotton farming for effective management of this dreaded pest. Extension specialist Dr. Wasnik appealed the farmers to register their mobile numbers with the institute for availing the benefit of cotton advisories provided as voice messages through mobile. Dr. Nagrare gave detailed presentation on measures to be followed throughout the cotton-growing season for effective management of pink bollworm. Dr. Fand delivered his talk on safety measures to be taken while handling the pesticides. About 450 cotton farmers from Daryapur and the vicinity participated.



#### Coimbatore

##### NFSM Trainig

The ICAR- Central Institute for Cotton Research, Regional Station, Coimbatore in collaboration with the Directorate of Cotton Development, Ministry of Agriculture and Farmers' Welfare, Government of

India, Nagpur had conducted one day farmers' training program under NFSM-CC-Cotton 2017 on 22.09.2017. The program was convened by Dr. A.H. Prakash, Project Coordinator and Head and Co-convened by Dr. S. Usha Rani, Principal Scientist and Dr. M. Sabesh, Senior Scientist. The main purpose of the programme is to provide knowledge to cotton farmers of Tamil Nadu state on the best package of practices of cotton cultivation, particularly pests' management including pink bollworm to accelerate the production and productivity of cotton. A total of fifty seven farmers from 20 villages of Coimbatore district, Tamil Nadu had participated. A total of 12 lectures were delivered by the Scientists on various aspects of “Best Package of Practices for Cotton Cultivation”. Dr. Sukumar Mandi, Joint Director, DCD, Nagpur distributed certificates to the participants.



#### iv) Training to Scientists / Technical / Govt. Officials/NGO's

##### National Training on “Bt Resistance monitoring of pink bollworm on cotton”

Three day National Training on “Bt Resistance monitoring of pink bollworm on cotton” was held at ICAR-CICR, Nagpur from April 20-22, 2017. Purpose of this

training was to enable cotton researchers to detect and manage resistance to Bt toxins in Pink bollworm populations as Pink bollworm is re-emerging as major pest of cotton. The training aimed to provide hands on experience on pink bollworm rearing and monitoring of pink bollworm resistance to Cry toxins. A total of 35 participants from 9 cotton growing states including Scientists, Research scholars and personnel from Industries participated. The programme was inaugurated by Dr VN Waghmare, Head Division of Improvement, CICR, Nagpur. In his inaugural address, Dr. Waghmare briefed about importance of Pink bollworm resistance management. Dr Blaise, Head Division of Production, Head PME Cell and Head Biotechnology section also addressed the participants.

The three day training programme included lectures on

various topics as Current Scenario of Pink bollworm on Bt cotton, Sampling and rearing procedure for PBW, Bioassays methods Pink bollworm management on cotton, Production Strategies for limiting damage by Pink bollworm and immuno diagnostic tests for detection of Bt (cry) toxins.

The Valedictory session was graced by Dr. S.V Sarode, Ex Director of Research, PDKV, Akola as Chief Guest. Dr. Sarode informed about damage caused due to pink bollworm in extended cotton crop and strategies for its management. Dr.M.S. Ladaniya Director, ICAR-CICR, Nagpur emphasized on importance of early sown, early maturing, short duration cotton (150-160 days) varieties to escape the pink bollworm in cotton. Dr S. Kranthi explained about the current scenario of pink bollworm on Bt cotton in India and also remedial measures for its management.



**This training was coordinated by Dr Sandhya Kranthi, Principal Scientist, Head/Ic, Division of Crop Protection, CICR, Nagpur and Dr V. Chinna Babu Naik, Scientist (Entomology).**

### **ICAR sponsored Winter School on Insect resistance to Bt toxins and insecticides in cotton**

ICAR-Central Institute for Cotton Research, Nagpur conducted an ICAR sponsored 21 days Winter School on "Insect resistance to Bt toxins and insecticides in cotton" during 18 January - 07 February, 2018. The winter school was aimed at providing hands on training to the participants on recent advances in IRM such as monitoring techniques for resistance development, mechanism of resistance, case histories of emerging and re-emerging pest problems and strategies for IRM. A total of 25 participants from ICAR institutes, Agricultural Universities, KVKs, etc. across eight major cotton growing states of the country participated in the training.

The training programme was inaugurated at the hands of Dr. S.A. Nimbalkar, Ex. Vice Chancellor, Dr. PDKV, Akola. Dr. Nimbalkar in his inaugural address

highlighted the importance of IPM in bringing down the insect resistance and restoring the susceptibility. He further stressed that any single technology cannot be viewed as sole and permanent solution to the agricultural pest problems; because it may lead to aggravation of resistance problems in the context of innate desire of every living being to survive.

Dr. Sudhir Meshram, Ex. Vice Chancellor, North Maharashtra University, Jalgaon was the chief guest for valedictory session of the winter school held on 07 February 2018. Dr. Meshram in his address expressed a need for inclusion of lab to land programmes as one of the activity under training programmes to percolate the knowledge to the neglected sections of the society. Dr. V.N. Waghmare, Director (Acting), ICAR-CICR chaired both the inaugural and the valedictory sessions. Dr. Waghmare in his remarks expressed a gratification over successful conduct of the winter school and advised the

participants to keep a good track of recent developments in their respective research fields.

Dr. Blaise Desouza, Head, Division of Crop Production expressed his indulgence on coverage of all the relevant topics in the training course and thrown light on importance of agronomic measures in insect resistance management.

Dr. Nandini Gokte-Narkhedkar, Head, Division of Crop Protection briefed about the importance of this winter school in the present context of increasing challenges of insect resistance in cotton. Dr. V. Chinna Babu Naik, Course-Director briefly explained about the lectures and practicals covered in the winter school. Dr. Vishlesh Nagrare, Principal Scientist (Agril. Entomology) proposed vote of thanks.

## Sirsa

Seminars/Conferences/Symposia/ Workshops/ Meetings	Place	Date
Workshop on whitefly management for extension officials sponsored by USIEF Alumni Award	ICAR-CICR Regional Station, Sirsa	16.06.2017
Workshop on whitefly management for farmer s sponsored by USIEF Alumni Award	ICAR-CICR Regional Station, Sirsa	16.08.2017

## Trainings Organized

Name of training	Date & Venue	Organised by
Training for champion farmers adopted by Bayer Crop Sciences on cotton production and protection technology	May 4-6, 8-9, 2017 at ICAR-CICR, Sirsa	Dr. D. Monga, Dr Rishi Kumar, Dr. S.K. Sain
Training cum exposure visit on whitefly for the scouts of Bharat Cotton factory and Ambuja Cement Foundation under the aegis of Better Cotton Initiative (BCI)	22.07.2017 at CICR, Sirsa	Dr. D. Monga and Dr. Rishi Kumar
Training cum exposure visits cum training for the scouts of Bharat Cotton factory and progressive farmers	17.10.2017 at CICR, Sirsa	Dr. D. Monga and Dr. Rishi Kumar
Training on surveillance and scouting of cotton insect pests	08.08.2017-10.08.2017 at CICR, Sirsa	Dr. D. Monga and Dr. Rishi Kumar

## Meeting

Meeting to review, evaluation and refinement of strategy for effective management of whitefly in north zone	Sept 13, 2017, at CICR Regional Station, Sirsa	Dr B. Rajender, IAS, Joint Secretary, Dr. Monga, Dr S.S. Siwach, Dr N.S. Bains and scientists from SAU's and officers of Dept. of Agriculture Punjab /Haryana /Rajasthan
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### 5.2.2.2 Mera Gaon Mera Gaurav Programme

Under the 'Mera Gaon Mera Gaurav (My Village My pride)' programme, the Scientists remain in touch with the adopted villages and provided information to farmers on technical and other related aspects in the time frame through personal visits to hasten the process of Lab to Land. ICAR-CICR has implemented the programme through the team of scientists. The programme is now being implemented in 71 adopted villages with 14 clusters i.e. nine, four and one respectively from Nagpur, Coimbatore and Sirsa. Dr. S. M. Wasnik, Principal Scientist, Extension over see's the activity as a Nodal Officer.

### Major Problems Identified in MGMG villages

During the year, in majority villages problem of pink bollworm attack was recorded in addition to illegal cultivars of HT cotton by the cotton growers. The other problems identified were, lack of technological interventions, low productivity due to undulating topography, lack of soil and water conservation measures, leaf reddening & sucking pest problem in cotton, yellow mosaic virus in soybean, virus problem in vegetables, scarcity of water for irrigations, lack of knowledge for drip/sprinkler, more marginal farmers, marketing network for disposals of farm produce, price fixation for agricultural products, summer drinking



water shortage, wide spread unemployment, lack of allied enterprises, stray animals (Nilgai, wild pig etc.). In addition, some cluster villages adopted are situated under forest area with major population belongs to tribal families of resource poor category. They are not in a position to adopt new technological interventions unless it is supported by the line department. Again, they mostly have to depend on rainfall, on many occasions. Due to erratic distribution of monsoon rains their kharif crop suffers from deficit moisture during the crop growing period.

Broad areas of activities undertaken:

- Field crop demonstrations on tribal farmers fields
- Extending technical advices on integrated cotton production to the farmers of adopted villages
- Monitoring of insects/pests, updating with latest measures of controlling diseases and insect pests of major crops of locality
- Delivering need based weekly mobile advisory to the farmers registered with Institute e- Kapas advisory system
- Organising meetings/ Gosthies at villages
- Providing literature support to farmers
- Creating linkages with other Departments/ Organizations/NGOs
- Updating farmers about soil health card importance
- Creating awareness about Pradhan Mantri Fasal Bima Yojana
- Providing technical inputs related to goat farming for better farm profitability
- Creating awareness about cleanliness of village premises
- Awareness cum skill development on subsidiary income generating activities- dairy, horticulture, poultry etc.
- Soil Health Card and its use to rationalise fertilizer application.

The various teams organised interactive meet with

farmers at MGMG villages to discuss issues farmers are facing on regular basis. The farmers and scientists interacted on various issues related to insect pest management of agricultural, horticultural crops and animal husbandry issues. A training and demonstration was given to the farmers for the collection of soil samples from the field with due precautions. The farmers also been advised to protect the crops from wild animals by fencing with iron wires and old colourful sarees or strips.

### Soil health awareness training and distribution of soil health cards

ICAR- Central Institute for Cotton Research (CICR) Nagpur organised one day workshop at Muradpur, Umred tahsil in Nagpur District on 17 August 2017 for the tribal farmers of Umred-Bela Cluster under Mera Gaon Mera Gaurav (MGMG) programme. On the occasion, training was imparted to the farmers on importance of soil testing, analysis and soil health card. The team of scientists comprising of Dr. S.M. Wasnik Principal Scientist, Extension and Nodal Officer, MGMG, CICR Nagpur; Dr. S.B. Nandeshwar, Principal Scientist (Biotechnology), Dr. A. Manikandan Scientist (Soil Science), Mr. T. Prabhulinga Scientist (Entomology), Dr. U.V. Galkate, SMS (Veterinary Science) & Dr. S. S. Patil, SMS (Extension), KVK CICR Nagpur participated in the programme. The lectures on the importance of the soil health card in maintaining soil fertility, the animal husbandry enterprise for income generation, technical guidance on how to prepare farmyard manure (FYM) by different methods and its appropriate use in rainfed areas. Sixty Six Geo-referenced soil samples were collected during April 2017 from seven villages; namely Muradpur, Suraburdi, Chargaon, Khapri, Nissanghat, Bendoli, Bothali of Umred Taluka. The soil health cards were prepared on twelve soil parameters and distributed to the farmers on the occasion.



### Activities undertaken under MGMG

Date	Village cluster	District	Programme conducted (Participants)
18.04.2017	--	Coimbatore	Advisory on integrated crop management
29.06.2017	Navegaon	Nagpur	Distribution of cotton hybrid (H-8) and cluster bean seeds to the tribal farmers
11.08.2017	Kalmeshwar	Nagpur	Campaign on the awareness among the farmers about informal and indiscriminate use of herbicide tolerant cotton.
05.08.2017	Girad	Wardha	Farmers' meet for guidance on Animal Husbandry and discussion on Soil Health Cards
12.10.2017	Umred	Nagpur	Farmers meet and distribution of leaflets for the pink boll worm management
30.10.17	Kanjappalli block	Annur Taluk, Coimbatore district	Symptoms of Tobacco streak virus (TSV) in <i>G. hirsutum</i> was observed in farmer's field at Kanjappalli village and management options were suggested to control the problem
23.11.17	Kanjappalli block	Annur Taluk, Coimbatore district	Sucking pest management
11.12.17	Parseoni	Nagpur	To distribute Cotton Picking bags through TSP-NSP funds

**Table 1: Updated lists of Scientists involved cluster wise**

Team	Name of scientists with discipline	Name of village	Name of block	Name of district
1	2	3	4	5
<b>Nodal Officer: Dr S. M. Wasnik, Principal Scientist, Extension</b>				
Team 1	Dr. Nandini Gokte Narkhedkar (Nematology) Dr. Shailesh Gawande (Pathology) Dr. Saravanan (Breeder) Dr. Joy Das (Biotechnology)	Arvi Jogingumpha Shivanphal Faridpur Mohgaon	Samudrapur	Wardha
Team 2	Dr. S.B. Nandeshwar (Genetics & Cytogenetics) Dr. Vinita Gotmare (Genetics & Cytogenetics) Dr. Manikandan, (Soil Science) Dr. Prabhulinga T. (Entomology) Dr Chandrashekar N (Biotechnology)	(Murathpur) Nissanghat Khapri Suraburdi Kawdapur	Umred - Sarandi	Nagpur
Team 3	Dr. R. B. Singandhupe Agronomy Dr. P.R. Vijaykumari (Seed Technology) Dr T. R. Loknathan (Plant Breeding) Dr. K. P. Raghvendra (Biotechnology) Dr. Vivek Shah (Entomology)	Narhar Kolitmara Nehara Banera Dhawalpur	Parseoni	Nagpur
Team 4	Dr. Suman Bala Singh (Plant Breeding) Dr. Dipak Nagrale (Plant Pathology) Dr HB Santosh (Plant Breeding) Dr Rakesh Kumar (Biotechnology) Dr Savitha Santosh (Agril. Microbiology)	Junewani Nanda Khurd Ukhadi Salaimanda Mangli	Hingna	Nagpur
Team 5	Dr. Punit Mohan (Economic Botany) Dr. G. Balasubramani (Biotechnology) Dr. J. H. Meshram (Plant Physiology)	Ganeshpur Digras Zadgaon	Ganeshpur	Wardha



Team	Name of scientists with discipline	Name of village	Name of block	Name of district
1	2	3	4	5
	Dr A. R. Reddy (Agril. Economics) Mr. Madhu TN (Entomology)	Belgaon Borgaon(Sawali)		
Team 6	Dr. S. M. Palve (Plant Breeding) Dr. M.V. Venugopalan (Agronomy) Dr. V. Shanthy (Seed Technology) Dr. V.S. Nagrare (Entomology)	Nagapur Karanji(Bhoge) Madani (Dindoda) Karanji(Kanji)	Nandura	Wardha
Team 7	Dr. A.R. Raju (Agronomy) Dr. J. Amudha (Biotechnology) Er. G. Majumdar (Agril. Engg) Dr. Anuradha Narala (Agril. Economics) Dr Babasaheb Fund (Entomology)	Sonegaon Pohi Ladai Linga Uparwahi	Kalmeshwar	Nagpur
Team 8	Dr. D.V. Patil (Plant Breeding) Dr. V. Chinna Babu Naik (Entomology) Dr. Pooja Verma (Plant Biochemistry) Dr Vanita Salunkhe (Plant Pathology)	Navegaon (Sadhu) Thana Karhandla Sev Tirkhura	Navegaon, Umred	Nagpur
Team 9	Dr Ramkrushna GI (Agronomy) Mr. Neelkanth Hiremani (Plant Pathology) Dr Rachana Pande (Entomology) Dr. Sunil S. Mahajan (Seed Technology) Dr K. Velmourougane (Agril. Microbiology)	Tumdi Sukali Navarmari Lodhi panjri Mangrul	Dongargaon Nagpur	Nagpur
<b>CICR, Coimbatore</b>				
Team 10	Dr. N. Gopalakrishnan, (Plant Biochemistry) Dr. Isabella Agarwal (Agril. Economics) Dr. K.P.M. Damayanthi (Plant Breeding) Dr. K.Sankaranarayanan (Agronomy)	Vadapudhur, Kallapuram (Kuthirampalayam) Singaiyanpudur Solavampaslayam Sikalampalayam	Eluru(post) Eluru(post) Kinathukadavu (post) Kinathukadavu (post) Sokkanur Panchayat	Coimbatore
Team 11	Dr. K. Rathinavel (Seed Technology) Dr. M. Amutha (Entomology) Dr. C.Karpagam, (Extension) Dr. M. Sabesh, ( Ag Statistics/computer)	Sokkanur Muthugoundanpudur Palapathy Veerappagoundanur Rangayagoundanputhur	Sokkanur Panchayat	Coimbatore
Team 12	Dr. P. Nalayini (Agronomy) Dr. S. Manickam, (Plant Breeding) Dr. D. Kanjana (Soil Science) Dr. J. Gulsarbanu (Nematology)	Kanjapalli Dhasarpalayam Oothupalayam Kumaragounderpudur Neelagoundarpudur	Kanjapalli Panchayat	Coimbatore
Team 13	Dr. B. Dharajothi (Entomology) Dr.R.Raja, (Agronomy) Dr. S. Usha Rani, (Extension) Dr. Manivannan (Plant Breeding) Dr Annie Sheeba, (Plant Physiology)	Konarpalayam Ruthirampalayam Mathireddypalayam Ammachettipudhur (Pasur block) Allapalayam	Allapalayam Panchayat	Coimbatore

Team	Name of scientists with discipline	Name of village	Name of block	Name of district
1	2	3	4	5
<b>CICR, Sirsa</b>				
Team 14	Dr. O.P.Tuteja (Plant Breeding) Dr. R.A.Meena (Seed Technology) Dr. S.K.Verma (Plant Breeding) Dr. Rishi Kumar (Entomology) Dr. S.K.Sain (Plant Pathology)	Jhonpra Alik Nezadela Kalan Rangari Khera Begu	Jhopra Alik Nezadela Kalan Sirsa Begu	Sirsa

**Table - 2 : Activities organised under MGMG 2017-2018**

S. No.	Name of activity	CICR - Nagpur		CICR - Coimbatore		CICR - Sirsa		Grand Total	
		No. of activities conducted	No. of farmers participated / benefitted	No. of activities conducted	No. of farmers participated / benefitted	No. of activities conducted	No. of farmers participated / benefitted	No. of activities conducted	No. of farmers participated / benefitted
1	Visit to village by teams	78	1232	22	435	10	203	110	1870
2	Interface meeting/ <i>Gosthies</i> / training	71	3145	30	485	13	243	114	3873
3	Demonstrations conducted	251	589	0	0	0	0	251	589
4	Mobile based advisories (No.)	625	1138	5	40	0	0	630	1178
5	Literature support provided	45	1694	8	300	5	504	58	2498
6	General Awareness created	69	2196	11	365	3	292	83	2853
7	Facilitation for new varieties, seeds, technology (ha)	230	344	76	124	15	8	321	476
<b>Grand Total</b>		<b>1369</b>	<b>10338</b>	<b>152</b>	<b>1749</b>	<b>46</b>	<b>1250</b>	<b>1567</b>	<b>13337</b>

**Table 3: Field Days/Farmers Training/workshop (2017-18)**

S No.	Name of village/ cluster	Scientists participated	Farmers workshop / Training / Field visits	Date	No of farmers
1	Umred Cluster, Nagpur	7	Farmers Training on soil sample	8.3. 2018	200
2	Umred Cluster, Nagpur	5	Farmers training & seed distribution	23.6.18	50
3	Umred Cluster, Nagpur	5	Field visits of scientist in their cluster to provide advice to farmers on specific issues of the concern	7.7.2017 17.8.2017 29.9.2017 18.10.2017	200

S No.	Name of village/ cluster	Scientists participated	Farmers workshop / Training/ Field visits	Date	No of farmers
4	Navegaon Cluster, Umred Nagpur	7	Soil health cards distributed	17.08.17	50
5	Navegaon cluster Umred Taluk, Nagpur Dist	3	Training on the awareness and protection of crops from wild animals by fencing with old sarees	16.06.2017	20
6	Navegaon cluster Umred Taluk Nagpur Dist	3	Training on the awareness among the farmers about indiscriminate use of pesticides.	28.06.2017	22
7	Navegaon cluster Umred Taluk Nagpur Dist	2	Training on the awareness among the farmers about unauthorized use of herbicide tolerant cotton seeds	19.07.2017	23
8	Allapalayam cluster Panchayat, Annur Block, Coimbatore TN	5	Field visits of scientist in their respective cluster to provide advice to farmers on specific issues of the concern	26.4.2017 12.5.2017 29.6.2017 22.7.2017 17.8.2017 1.9.2017 28.10.2017 10.11.2017 5.12.2017	450
9	Kanjappalli cluster Annur Block, Coimbatore TN	5	Field visits of scientist in their respective cluster to provide advice to farmers on specific issues of the concern	-	192
10	Alika, Sirsa District, Haryana	1	Field visits of scientist in their respective cluster to provide advice to farmers on specific issues of the concern	04-08-17	50

