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RESEARCH HIGHLIGHTS

Promising Technologies

- Four hybrids developed by ICAR-IIMR have been identified for release by the Varietal Identification Committee during the 62nd annual maize workshop held from April5-7, 2019 at Jorhat, Assam.

Research Activities

- Under the AICRP coordinated project, 27 trials of Breeding, 25 of Agronomy, 13 of Pathology and 9 for Entomology were constituted for *kharif* 2019.
- The inbred line germplasm of the institute is being systematically documented and maintained in the form of a Decision Support System of Maize Inbred Germplasm. Apart from updating the inventory with 113 new set of inbred lines, the database has also been updated for Growing Degree Days (GDD) for anthesis which is being used as a guide for maturity.
- Data pertaining to characterization and evaluation of 295 accessions received from NBPGR, New Delhi under the CRP-Agrobiodiversity have been documented. Promising lines have been identified.
- A five-year research conducted in order to develop conservation agriculture (CA) based maize systems showed that nitrogen management through micro emulsion coating of urea with neem and sulphur in CA based in maize-wheat-mungbean (MWMb) and maize-mustard-mungbean (MMuMb) improved nutrient use efficiency and reduces the environmental footprints.
- On the basis of two year evaluation under multi-locations a set of 41 newly developed maize inbred lines were identified as resistant against Turcicum Leaf Blight (TLB).
- Three hybrids (VH18605, VH18838 and VH171220) were found resistant against char-

S. No.	Hybrid Name	Type of corn	Yield (t/ha)	Growing eason	Maturity Group	Growing ecologies
1	IMHQPM1530	QPM	8.5	Kharif	Early	Northern Hill Zone
2	DMRHB 1305	Baby corn	1.3#	Kharif	Early	Northern Hill Zone
3	IMHP 1540	Popcorn	3.0*	Kharif	Early	NE plain zone, Peninsular zone & CW zone
4	IMHP 1535	Popcorn	2.7*	Kharif	Early	CW zone

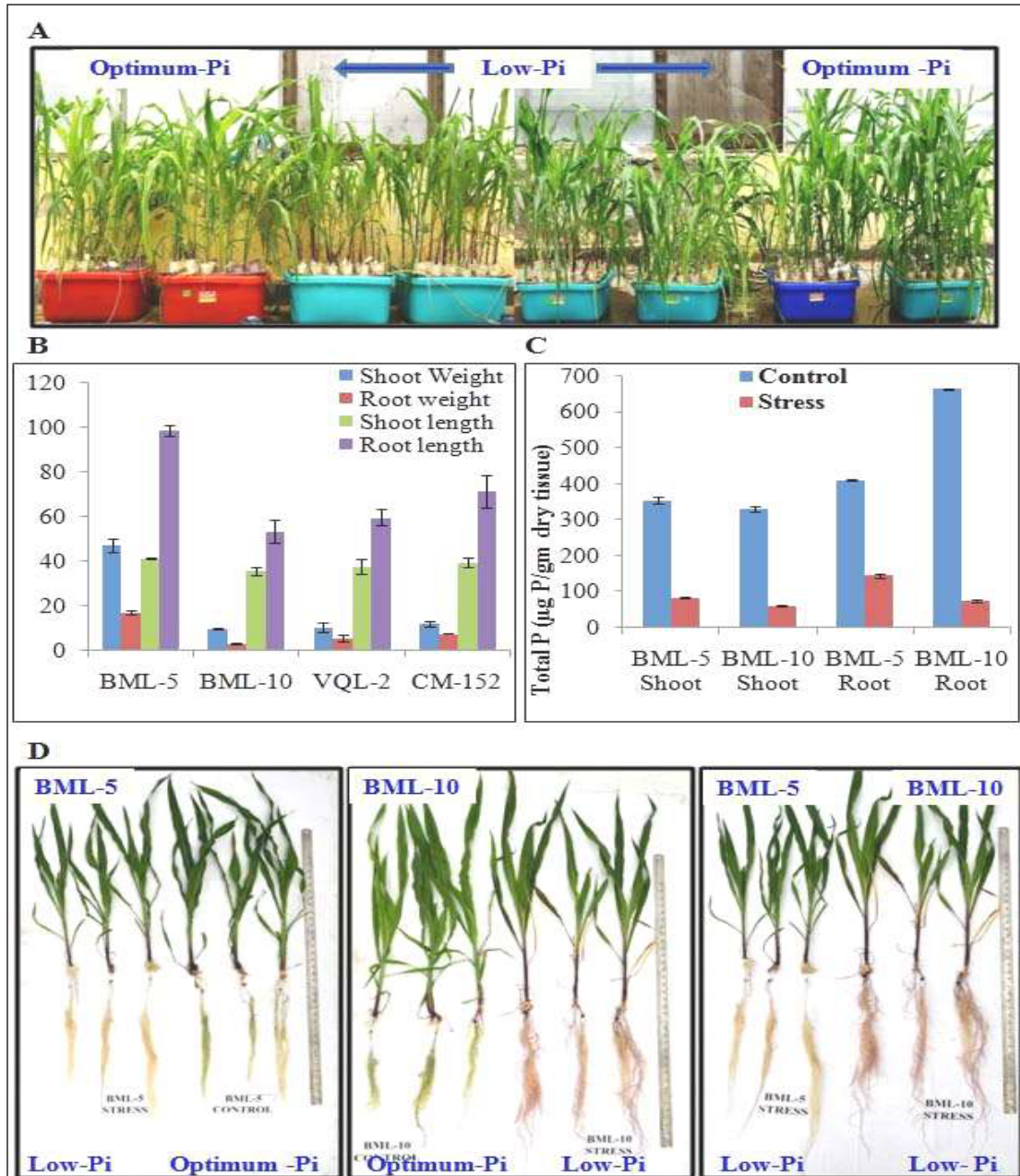
dehusked baby corn; * popcorn

coal rot (ChR) and one line [(E13118/CML474) PMH1]-4-1-1-1-3] was moderately resistant against maydis leaf blight (MLB).

- Among different biocontrol agents tested over three years (2016, 2017 and 2018) *Azadiracta indica* (neem extracts) @ 10%, *Alliumsativum* (garlic cloves) @ 10%, *Polyalthialongifolia* (False Ashoka) @10% and *Partheniumhyster-*

ophorus (congress grass) @ 10% were found effective against MLB.

- In order to expedite the tryptophan estimation in QPM, endosperm defatting was optimized in kernel endosperm and was found that 80% of oil can be extracted with 24 hours from *opaque-2* and QPM. The com-



Screening for PUE under hydroponic culture in tropical maize. (A) Plant growth under hydroponics in optimum and low-phosphate conditions. (B) Shoot and root dry weight (in gm) and length (in cm) under low-phosphate stress condition. (C) Phosphate accumulation in shoot and root of high and low PUE lines. (D) BML-5 (highly tolerant) and BML-10 (highly susceptible) lines under low and opti-

plete defatting could be executed within 48 hours which otherwise require 72-96 hours.

- Forty maize inbreds were screened for phosphate stress using hydroponic culture. BML5 was identified as phosphate use efficient lines, whereas BML10, VQL2 and CM152 were found to be phosphate stress.

IMPORTANT EVENTS

Republic Day Celebration

The 70th republic day was celebrated with joy, enthusiasm and patriotic fervour by all the staff of the institute. On this occasion the National Flag was hoisted by the Director at Winter Nursery Center, Hyderabad. He emphasized that we should never forget the work done by the members of Constitutional Committee to make this country a sovereign republic. We all need to work jointly to make this republic stronger and discharge our constitutional responsibilities effectively.



A glimpse of flag hoisting ceremony

Institute Foundation day

The institute celebrated its “4th Foundation Day” on February 9, 2019. Padma Shri Dr. B.S. Dhillon, Vice-Chancellor, Punjab Agricultural University (PAU) was the Chief Guest and Padma Shri Sh. Kanwal Singh Chauhan, Member Governing Body of ICAR was the Guest of Honour on this occasion. Dr. Rajbir Singh, Director, Agricultural Technology Application Research Institute, Zone-I, Ludhiana graced the occasion as Special Guest. The Chief Guest delivered the Foundation Day Lecture and appreciated the efforts of ICAR-IIMR towards maize improvement. He shared his vast experiences of working in maize starting from PAU to CIMMYT Mexico and Hohenheim Germany. He highlighted the importance of maize in the changing climatic scenario and stressed upon the scientists to develop high yielding climate resilient hybrids of maize. Shri Kanwal Singh Chauhan shared his journey with maize, particularly specialty corn, which not only provide him respectable earning but also social recognition.

Dr. Rajbir Singh stressed that the rice-wheat cropping system is un-sustainable for the states of Punjab and Haryana. Maize can be the most profitable alternate crop for diversification of rice-wheat cropping system. Dr. Sujay Rakshit, Director, ICAR-IIMR presented the institute report and highlighted the significant achievements of the institute. On this occasion, the Chief Guest released 2nd edition of Hindi magazine of the institute “*Krishi Chetna*”. He also felicitated the best performing staff members of the institute.



Chief Guest Dr. B.S. Dhillon addressing the gathering on Foundation Day



Release of *Krishi Chetna*

International Women’s Day

International Women’s Day was celebrated in the institute on March 8, 2019. Dr. Arvind Padhee (IAS) was the Chief Guest on this occasion. Dr. Sujay Rakshit, Director IIMR welcomed Dr. Padhee and briefed about the institute activities. He highlighted the important role of women and their contribution in the changing socio-economic fabrics of society. Dr. Padhee asserted that women must be respected for their contributions in all areas, particularly at home and at work place. He highlighted achievements of some Indian women, who have achieved laurels in their respective fields.



A glimpse of the International Women's Day celebrations.

Maize Germplasm Field Day cum Training Programme on Maize Breeding

ICAR-IIMR organized a Maize Germplasm Field Day cum Training Programme on Maize Breeding at Winter Nursery Centre of ICAR-IIMR, Hyderabad on March 1-2, 2019. A total of 48 participants from AICRP on maize centres; CIMMYT-India, Hyderabad; ICAR-NBPGR, Hyderabad and ICAR-IIMR participated in the Field Day. Dr. R. Jagadeeshwar Rao, Director of Research, PJTSAU, Hyderabad; Dr. Sujay Rakshit, Director, ICAR-IIMR, Ludhiana and

Dr. G. Anuradha, Head, Maize Research Centre, Hyderabad, graced the occasion with their presence. Dr. J.C. Sekhar, In-Charge, WNC, IIMR provided details of the germplasm in the field. A total of 3187 maize lines (contributed by ICAR-IIMR, AICRP and CIMMYT) were displayed for selections. The participants made selections and submitted their requisition to Director ICAR-IIMR. Dr Sujay Rakshit, Director, ICAR-IIMR, highlighted the significance of the Field Day and the utilization of the maize genetic resources for climate resilience and sustainable yields. He also briefed the efforts being made by ICAR-IIMR in heterotic grouping of the germplasm for its effective utilization. Dr. R. Jagadeeshwar, Director Research, PJTSAU appreciated the efforts of ICAR-IIMR for organizing the Field Day for the benefit of the national centres. During the period post lunch sessions were dedicated for training on maize breeding in which lectures were delivered by the scientists of ICAR-IIMR for the benefit of participants. The lectures include topics viz., *Maize biology and breeding techniques* by Dr. Ramesh Kumar, *Field layout and data recording of maize trials* by Dr. S.B. Singh, *Fall*



Participants of the Maize Germplasm Field Day

armyworm in maize by Dr J.C.Sekhar, *DUS testing in maize and heterotic grouping principles and methodologies* by Dr. Chikkappa GK and *Germplasm registration* by Dr. N Sunil. The participants were also imparted hand on training on AICMIP data recording and familiarization of AICMIP Automation System. Dr. A. Dandapani, Principal scientist, ICAR-NAARM and Dr N. Sunil, Principal scientist ICAR-IIMR provided hands on training of the automation programme.

Annual Maize Workshop

The 62nd Annual Group Meeting of the All India Coordinated Research Project on Maize (AICRP-Maize) was held at Assam Agricultural University, Jorhat from April 05-07, 2019. The meeting was spread over 12 sessions for three days. The workshop was inaugurated by Dr. K. M. Bujarbaruah, Hon'ble Vice Chancellor, Assam Agricultural University, Jorhat (Assam). Dr. R. K. Singh, Assistant Director General (CC & FFC), Indian Council of Agricultural Research was Guest of Honour. Contributions made by various stakeholders in the development and promotion of maize were recognized by the dignitaries by awarding Best AICRP Centre Award to Punjab Agricultural University, Ludhiana and Best Private Sector Partner to Monsanto India Ltd. During the programme a progressive farmer, Sh. Debonath Mushahary from Gossaigaon and an entrepreneur, Sh. Dibankar Rai were also felicitated. Dr K. M. Burjarbarua, Hon'ble Vice Chancellor, Assam Agricultural University urged the maize fraternity to identify the bottlenecks in maize cultivation starting from sowing to procurement and value addition. He informed the house that tremendous scope exists for maize cultivation, particularly baby corn and sweet corn in NE region. During the workshop 11 high yielding maize hybrids were identified for consideration of CVRC for further release for commercial cultivation.



The Chief Guest addressing the gathering



Punjab Agricultural University receiving the Best Centre Award

No Tobacco Day

'No Tobacco Day' was observed at ICAR-IIMR, Ludhiana and its Regional Stations on May 31, 2018. All the staff took a pledge not to consume tobacco in any of its form. The Director, IIMR made the staff aware of the harmful effects of the tobacco as it is established and globally accepted that tobacco is highly detrimental to human health. Abolition of tobacco consumption is not only beneficial for health but also to keep the surroundings clean.





No Tobacco Day celebration at ICAR-IIMR

International Yoga Day

The International Yoga Day was celebrated at the Institute and its regional stations on June 21, 2019. All the staff of Ludhiana performed various yoga exercises including pranayama under the guidance of Mr. Bansal a renowned yoga expert. The yoga class continued from 6.30 to 8.00 am. Mr. Bansal also sensitized the staff about the health benefits associated with various yoga activities. This was followed by light refreshment.



IIMR staff performing yoga at Ludhiana



Yoga day celebration at RMR&SPC Begusarai

National Workshop on Fall Armyworm Management in Organic Maize Production

To make officers and farmers of Sikkim state aware, a National Workshop on “Fall Armyworm Management in Organic Maize Production” was jointly organized by ICAR-Indian Institute of Maize Research, Ludhiana, Punjab and ICAR-National Organic Farm-

ing Research Institute, Tadong on June 21, 2019 at ICAR-NOFRI, Tadong. The programme was chaired by Mr. Khorlo Bhutia, Secretary, Dept. of FS&ADD, Govt. of Sikkim. In his address, Dr. Bhutia emphasized on the issue of organic pests’ management particularly in maize. He expressed his concerns over the FAW infestation in the maize crop reported from the South Sikkim and also on Quarantine storage management. The workshop was attended by 140 stakeholders.



The Chief Guest addressing the National Workshop on FAW management



Field visit during National Workshop on FAW management

Visit of Dignitaries

- Padma Shri Dr. B. S. Dhillon, Vice Chancellor, Punjab Agricultural University, Ludhiana and Padma Shri Sh. Kanwal Singh Chauhan, Member Governing Body of ICAR visited the institute on February 9, during the Institute Foundation Day.
- Dr Anand Kumar Singh, Deputy Director General (Horticulture and Crop Science), ICAR and Dr. N. Sathyanarayana, Joint Director, Directorate of Plant Protection Quarantine and Storage visited Winter Nursery Centre, ICAR- IIMR, Hyderabad on March 12, 2019. The DDG (CS) was apprised of the activities being carried out by the WNC. He appreciated the activities taken up by the scientists particularly germplasm maintenance and distribution to various AICRP partners and management of Fall armyworm. Dr. R. Jagadeeshwar, Director-Research, PJTSAU was also present during the visit.



Dr. A. K. Singh, DDG (Horti & CS) visiting WNC Hyderabad



Dr. N. Sathyanarayana inspecting the farms at WNC



Dignitaries visiting IIMR Ludhiana

- Dr. H. S. Gupta, Ex Director IARI, New Delhi and Ex Director General, Borlough Institute for South Asia; Dr. K.C. Bansal, Ex Director NBPGR, New Delhi; Dr. R. K. Jain, Former Dean, IARI; Dr. N.S. Bains, Director Research, PAU; Dr. G.K. Sangha Dean Post Graduate Studies, PAU and Dr. S.S. Kukal, Dean, Agriculture PAU visited the institute on June 3, 2019.

Core Expert Consultation meeting Access and Benefit Sharing (ABS) implementation in India

Dr. N. Sunil, Principal Scientist, IIMR participated in the Core Expert Consultation Meeting on Access Benefit Sharing (ABS) implementation in India held at National Biodiversity Authority, Chennai on May 6, 2019. The experts gave suggestions for modifying the draft chapters of the ABS handbook. They also discussed the status of records and practices followed in relation to access and use of bio resources at the institute level, generic information on the extent of revenue to the institute from technology transfers or production and sale of bioresource based technologies, services or products (e.g. sale of seed - plant, fish or animal sperm, microbial cultures, licensing



Participants of the Core Expert Consultation on Access and Benefit Sharing (ABS)

fee etc. (previous year revenues or estimates). They also discussed the guidelines at the organisation level for Access and Benefit Sharing.

IMPORTANT MEETINGS

Institute Management Committee

The 11th meeting of Institute Management Committee was held on March 18, 2019 at IIMR, Ludhiana under the chairmanship of Dr. Sujay Rakshit, Director IIMR. The agenda for the meeting included approval of institute building plan (Laboratory-cum-Office) at Ladhawal and purchase of equipment approved in SFC. The Chairman presented the achievements of the institute and highlighted the civil work activities being undertaken at Ladhawal. A visit to Ladhawal was also arranged to apprise the committee of actual works being undertaken.



Discussion during 11th IMC at IIMR

Institute Research Council (IRC) Meeting

Institute Research Council (IRC) meeting of the ICAR-IIIMR was held at Ludhiana on June 17-18, 2019 under the Chairmanship of Dr. Sujay Rakshit, Director-IIMR to review the progress of on-going research projects and to consider new project propos-

als. Dr. Gurjit Kaur, Sr. Maize Breeder from the Department of Plant Breeding and Genetics, PAU, Ludhiana was the external expert. The annual achievements of 21 in-house and 12 externally funded projects were presented and five new project proposal were discussed for consideration in the IRC 2019. The Chairman highlighted the targets achieved during the last year and congratulated the scientists for their achievements. However, he stressed upon the scientists to make quality publication from research outcome of their respective projects and documentation of all activities. In her remarks Dr. Gurjit Kaur shared her experiences of the strategies being followed in heterotic grouping executed at PAU and highlighted the importance of breeding methodologies based on heterotic groups to be adopted.



Some important issues being discussed during the IRC deliberations

INSTITUTE OUTREACH PROGRAMMES

Lectures/TV/ Radio Talks Delivered

Dr. S.L. Jat, Scientist (Crop Production and Extension Specialist), ICAR-IIMR delivered three TV talks as below:

Mera Gaon Mera Gaurav

The Mera Gaon Mera Gaurav (MGMG) programme

Topic/	Purpose/	Venue/	Date/
मक्का की देखभाल	किसान की बात कार्यक्रम	की एफएम गोल्ड	22मई 2019
रबी की देखभाल	मक्का किसान की बात कार्यक्रम	की एफएम गोल्ड	25 जनवरी 2019 ,
रबी की देखभाल	मक्का हेल्लो लाइव कार्यक्रम	किसान डीडी किसान	15 जनवरी 2019 ,

was implemented by ICAR-IIMR in Punjab, Haryana, Bihar and Telangana states. Eight expert team of the institute visited various villages adopted under this program during first half of 2019. Considering the severity and the damage caused by Fall Armyworm, awareness programs were conducted in villages including Kishannagar and Chowlapalli of Ranga Reddy District, Telangana on January 24, February 20, and March 14, 2019, respectively. Farm input including fertilizer and seed was distributed to the farmers of weaker sections in villages Meara and Garhi Mansowal in district Hoshiarpur, Punjab.

Scheduled Tribe Component

The Scheduled Tribe Component (STC) of formerly Tribal Sub Plan was meticulously implemented by ICAR-IIMR at various locations across the country for the benefit of the tribal communities. Under this delivered to the tribal farmers on crop production, crop protection, specialty corn cultivation, seed production and storage pest management of maize. During the period programs were implemented in Bihar, Himchal Pradesh and Jammu & Kashmir.

Scheduled Caste Sub Plan

The institute implemented SCSP plan in order to benefit the maize growing scheduled class farmers as envisaged by the Government. Five trainings programs were conducted by the institute and its AICRP centres. Besides this, agricultural input were also distributed among SC farmers More than 600 farmers were benefitted in this program during the period of January to June, 2019.



Farmers training programs at Kalyani, West Bengal and MRC, Hyderabad

Title	Centre	Villages & States	Date	No. of Beneficiaries
Farmers training on “Improved techniques of maize production”	Kalyani centre, West Bengal	Bhagawana, Kalyani (West Bengal)	March 5, 2019	40
Farmers training programme and input distribution for SC farmers under NICRA project	Kalyani centre, West Bengal	Bhagawana, Kalyani (West Bengal)	March 12, 2019	100
Farmers training on “Maize production technologies and management of Fall Armyworm.”	Maize Research Centre, Hyderabad, Telangana	Palli, Sankarapuram, Pedashapur Veljerla, Balanagar & Veeranagar (Telangana)	March 29-30, 2019	62
Distribution of farm tools to the SC farmers	Udaipur, Rajasthan	Math and Chhapri (Rajasthan)	June 5 & 11, 2019	50
Farmers training on “Management of Fall Armyworm in maize <i>Kharif</i> crop” and distribution of agricultural implements	Chhindwara, Madhya Pradesh	Pat Deori (Madhya Pradesh)	June 11, 2019	100
Farmers training on “Maize production technology awareness” and inputs distribution programme	Winter Nursery Centre, ICAR-IIMR, Rajendranagar, Hyderabad	Kakunoor, Thonmidirekula, Manikyamguda Regadi Mamidipalli Pedashapur and Chinna-golkonda (Telangana)	June 20, 2019	50
Fertilizer and seed distribution	IIMR, Ludhiana, Punjab	Villages Meara and Garhi Mansowal, Distt. S.B.S. Nagar (Punjab)	June 30, 2019	200



Distribution of farm tools to SC farmers at Udaipur and Kalyani



Maize production technology awareness and inputs distribution at Hyderabad and Punjab

NEH Program

A pilot collaborative project on “Promoting Improved Technology of Maize Production in NEH Region” was implemented under NEH component of the ICAR-IIMR in collaboration with ICAR RC for NEH region, Umiam, Meghalaya with focus on the technology demonstration and trainings suited to the NEH region. In this programme inputs were distributed to conduct FLDs on 500 hectares in various NEH states. In this project 14 trainings/workshops were also conducted in collaboration with ICAR RC for NEH region thus benefitted a total of 1034 stakeholders.



Stakeholder training on maize for crop diversification

A one-day training on “Scientific maize cultivation for crop diversification in Haryana” was organized on June 14, 2019 at CCSHAU, RRS, Uchani, Karnal. The training was organized to impart the best maize production technology required in order to diversify rice cultivation to maize in Haryana. Speaking on the occasion Dr.Suresh Gahlawat, Additional Director, Agriculture Extension, Govt. of Haryana emphasized that the Haryana government has planned crop diversification in seven districts with a target of 50000 ha area. He also briefed that government is providing free seed along with an incentive Rs 2000/acre to the farmers. Dr Sujay Rakshit, Director IIMR briefed the technology available for maize diversification. Dr Sain Dass, Former Director (Maize) and Chairman Working Group on Crop Diversification in Haryana gave an account of the best management practices in maize for higher yield. The programme also had presentation and discussion on the package of practices for maize production, insect-pest management, specialty corn (baby corn, sweet corn) cultivation, disease management and the fodder maize for live-stock sustainability by the scientists of IIMR and CCSHAU, Karnal. The programme was attended by 16 scientists, 39 state agriculture officials and 48 progressive farmers.



Some glimpses of the stakeholders training

Awareness program on Fall Armyworm

Fall Army Worm (FAW) is a highly devastating invasive pest, which was reported in India during May 2018 and recorded rapid spread and considerable damage to the crop. Early detection and timely management proved to be quite effective in controlling the damage by the pest. Towards this direction the institute has organized intensive awareness programs across maize growing states of the country in association with various partners. During the period a total of 28 programs were organized benefitting 1562 participants including state officers, faculty, students and farmers.

Details of the training programs conducted to control FAW.

S. No.	Institute/ Centre name	Location	Date	Title of training/workshop	No. of participants
1	PAU and ICAR-IIMR	PAU, Ludhiana	March 14, 2019	Sensitization workshop on “Impeding insect threats in Punjab”.	150
2	ICAR NEH Gangtok, ICAR-IIMR	NOFRI, Tadong, Gangtok, Sikkim and ICAR-IIMR	May 2019	1-2, National workshop on “FAW management in organic maize production”.	140
3	WNC, ICAR-IIMR, Hyderabad	Hyderabad	May 2019	15, Management of Fall armyworm in Maize	48
4	IIMR and MRC Hyderabad	WNC, ICAR-IIMR, Hyderabad in the Krishnana-gar Village	May 17, 2018	16- Strategic management of Fall armyworm in maize	29
5	CCS HAU Regional Research Station Karnal and ICAR-IIMR	CCS HAU AICRP on Maize	June 2019	10, Scientific maize cultivation for crop diversification in Haryana	95
6	HAREC, Bajaura and ICAR - IIMR	H A R E C , Bajaura	June 2019	11, Improved maize production technology	25
7	AICRP Maize Kolhapur, ICAR-IIMR and ICAR-IIMillets	Shahoo Agriculture school campus Kolhapur	June 2019	12, Scientific cultivation of maize and management of Fall armyworm	110
8	ICAR-IIMR and ICAR Research Complex for NEH Imphal	ICAR Research Complex for NEH Imphal	June 2019	13, National workshop on “Scientific management of Fall armyworm in maize production”.	370
9	Dept of Agrl , Mizoram, ICAR-IIMR, NBAIR and ICAR NEH Mizoram	SAMETI Conference Hall Mizoram	June 2019	14, State level training programme on “Scientific management of Fall armyworm (<i>Spodoptera frugiperda</i>) on maize crop”.	120
10	ICAR Research Complex for NEH Region, Mizoram Centre, Kolasib, Mizoram & ICAR-IIMR, Ludhiana	Muallungthu community hall, Aizawl, Mizoram	June 2019	14, Awareness campaign on ‘Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize”.	25
11	ICAR Research Complex for NEH Region, Mizoram Centre, Kolasib, Mizoram & ICAR-IIMR, Ludhiana	Thenzawl community hall, Serchhip, Mizoram	June 2019	14, Awareness campaign on ‘Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize”.	18
12	ICAR Research Complex for NEH Region, Mizoram Centre, Kolasib, Mizoram & ICAR-IIMR, Ludhiana	District Agriculture Office (DAO), Lunglei, Mizoram	June 2019	15, Awareness campaign on ‘Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize”.	34

S. No.	Institute/ name	Centre	Location	Date	Title of training/workshop	No. of participants
13	ICAR Complex Region, Centre, Mizoram & ICAR-IIMR, Ludhiana	Research for NEH Mizoram Kolasib,	Krishi Vigyan Kendra (KVK), Lawngtlai, Mizoram	June 15, 2019	Awareness campaign on 'Fall armyworm (Spodoptera frugiperda) management in maize'.	23
14	ICAR Complex Region, Centre, Mizoram & ICAR-IIMR, Ludhiana	Research for NEH Mizoram Kolasib,	District Agriculture Office (DAO), Saiha, Mizoram	June 17, 2019	Awareness campaign on 'Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize'.	14
15	ICAR Complex Region, Centre, Mizoram & ICAR-IIMR, Ludhiana	Research for NEH Mizoram Kolasib,	Niawhtlang III, Saiha, Mizoram	June 18, 2019	Awareness campaign on 'Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize'.	21
16	ICAR Complex Region, Centre, Mizoram & ICAR-IIMR, Ludhiana	Research for NEH Mizoram Kolasib,	Siatha village, Saiha, Mizoram	June 18-19, 2019	Awareness campaign on 'Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize'.	27
17	ICAR Complex Region, Centre, Mizoram & ICAR-IIMR, Ludhiana	Research for NEH Mizoram Kolasib,	Chhauarlung III village, Saiha, Mizoram	June 20, 2019	Awareness campaign on 'Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize'.	21
18	ICAR Complex Region, Centre, Mizoram & ICAR-IIMR, Ludhiana	Research for NEH Mizoram Kolasib,	Krishi Vigyan Kendra (KVK), Hnahthial, Lunglei, Mizoram	June 20, 2019	Awareness campaign on 'Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize'.	14
19	ICAR Complex Region, Centre, Mizoram & ICAR-IIMR, Ludhiana	Research for NEH Mizoram Kolasib,	District Agriculture Office (DAO), Serchhip, Mizoram	June 20, 2019	Awareness campaign on 'Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize'.	43
20	Winter Nursery Centre, ICAR-IIMR, Hyderabad		Hyderabad	June 20, 2019	Interactive session on "FAW management".	50
21	ICAR Complex Region, Centre, Mizoram & ICAR-IIMR, Ludhiana	Research for NEH Mizoram Kolasib,	Block Development Office (BDO), East Lungder, Serchhip, Miozram	June 21, 2019	Awareness campaign on 'Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize'.	66

S. No.	Institute/ Centre	Location	Date	Title of training/workshop	No. of participants
22	ICAR Research Complex for NEH Region, Mizoram Centre, Kolasib, Mizoram & ICAR-IIMR, Ludhiana	Krishi Vigyan Kendra (KVK), Khazawl, Lunglei, Mizoram	June 21, 2019	Awareness campaign on 'Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize''.	13
23	ICAR Research Complex for NEH Region, Mizoram Centre, Kolasib, Mizoram & ICAR-IIMR, Ludhiana	I & PR conference hall, Chanem, Champhai, Mizoram	June 22, 2019	Awareness campaign on 'Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize''.	13
24	ICAR Research Complex for NEH Region, Mizoram Centre, Kolasib, Mizoram & ICAR-IIMR, Ludhiana	Block Development Office (BDO), Thindawl, Kolasib	June 27, 2019	Awareness campaign on 'Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize''.	30
25	ICAR Research Complex for NEH Region, Mizoram Centre, Kolasib, Mizoram & ICAR-IIMR, Ludhiana	Phaipheng village, Kolasib, Mizoram	June 27, 2019	Awareness campaign on 'Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize''.	23
26	ICAR Research Complex for NEH Region, Mizoram Centre, Kolasib, Mizoram & ICAR-IIMR, Ludhiana	Krishi Vigyan Kendra (KVK), Selesihl, Aizawl, Mizoram	June 28, 2019	Awareness campaign on 'Fall armyworm (<i>Spodopterafrugiperda</i>) management in maize''.	40

HUMAN RESOURCE DEVELOPMENT

Participation in training programs

S. No.	Name of scientist	Training programme attended	Venue	Date
1	Dr. Abhjit Kumar Das	Modern statistical techniques in Genetics	ICAR-IASRI, New Delhi	February 1 -21, 2019
2	Dr. N. Sunil	Department of Science & Technology (DST) sponsored 2-week training program on 'Science Administration and Research Management'.	Administrative Staff College of India (ASCI), Hyderabad.	February 11-22, 2019
3.	Mr. Mukesh Choudhary	Genomics assisted crop breeding techniques	PAU, Ludhiana	January 22 - February 11, 2019
4.	Dr. Pradeep Kumar	Experimental data analysis through "R"	ICAR- NAARM, Hyderabad.	February 21- 26, 2019

Institute Seminars

To keep updates of scientific inventions, institute seminars are regularly organized at the institute at fortnightly interval. During the period four seminars were organized as detailed below.

S. No.	Name of the speaker	Date
1.	Ms. Shanti Bamboriya, Scientist (Agronomy)	April 23, 2019
2.	Dr. Sumit Kumar Aggarwal, Scientist (Plant Pathology)	April 23, 2019
3.	Mr. Mohit (Senior Research Fellow)	May 24, 2019
4.	Dr. Mehak Sethi (Young Professional – II)	June 15, 2019

Participation in Conferences/Workshops/Symposium/Meetings

Sl. No.	Name of scientist	Foreign visits/Conference/Seminar/ Workshop/meeting attended	Venue	Date
1.	Drs. Sujay Rakshit, K.S. Hooda, A.K. Singh, Dharam Paul and M.C. Dagla,	106th Indian Science Congress and made oral presentation on "SDS-PAGE analysis of zein expressions in normal opaque-2 and QPM genotypes" in Section of Agriculture and Forestry	Lovely Professional University, Jalandhar	January 1-7, 2019
2.	Mr. Deep Mohan Mahala	28 th National Conference on Farmers' Friendly Soil and Water Conservation Technologies for Mitigating Climate Change Impact	Udhagamandalam, Tamil Nadu	January 31 - February 2, 2019
3.	Mr. Deep Mohan Mahala	Ecological Intensification for Climate Resilient maize based cropping systems", ICAR-IIMR, Ludhiana	ICAR-IIMR, Ludhiana, Punjab	February 8, 2019
4.	Dr. Ishwar Singh	Meeting on Commission for Agricultural Cost and Prices (CACP) to discuss Price Policy for <i>Kharif</i> maize 2019-20	Krishi Bhawan, New Delhi	February 13, 2019
5.	Dr. Dharam Paul	National level Food and Nutritional Security Conclave of Indian Society of Agricultural Biochemist and made oral presentation on "Carotenoid degradation in maize stored under different storage regimens"	MPKV Rahuri	February 25-27, 2019
6.	Dr. P.L. Soujanya	6 th Biopesticide International Conference.	Amity University, Raipur, Chhattisgarh	March 6 - 8, 2019
7.	Dr. Ishwar Singh	National Conference on Agri-Nutrition	Ashoka Hotel, New Delhi	March 15, 2019
8.	Drs. J.C. Sekhar & S. B. Suby	Regional Workshop on Fall Armyworm Management in Asia	ICRISAT, Hyderabad	May 1 - 3, 2019

Sl. No.	Name of scientist	Foreign visits/Conference/Seminar/Workshop/meeting attended	Venue	Date
9.	Dr. N. Sunil	Core Expert Consultation meeting on Access and Benefit Sharing (ABS) implementation in India	National Biodiversity Authority, Chennai, Tamil Nadu	May 6, 2019
10.	Dr. Krishan Kumar	International Conference on Photobiology Phytochemistry & Plant Biotechnology (ICPPP-2019)	MohanLal Sukhadia University, Udaipur	May 8 - 9, 2019
11.	Drs. S. B. Singh and Bhupender Kumar	Monitoring of seed production fields of DHM-117 and DRHM-1301	Coochbehar and Jalpaiguri districts, West Bengal	May 13-14, 2019
12.	Dr. J. C. Sekhar	28 th Annual Bio-control Workshop	AAU, Anand, Gujarat	June 6 - 7, 2019
13.	Dr. Ishwar Singh	Preparatory meeting to discuss various issues related to BISA	Krishi Bhawan, New Delhi	June 10, 2019
14.	Mr. Deep Mohan Mahala	National workshop on Fall Army Worm Management in Organic Maize Production	ICAR-NOFRI, Tadong, Gangtok, Sikkim.	June 21, 2019

Honors and Awards

- Dr. Sujay Rakshit delivered presidential address on “The Path of Coarse Cereals: Way Ahead Under Changing Climatic and Nutritional Scenario” during 106th Indian Science Congress held at LPU, Jalandhar.
- Dr. Dharam Paul was selected as fellow by the Indian Society of Agricultural Biochemist during the National Food and Nutritional Security Conclave held at MPKV Rahuri from February 25-27, 2019.
- Dr. Bharat Bhushan was awarded third Best Poster Award for presentation in the National Food and Nutritional Security Conclave held at MPKV Rahuri from February 25-27, 2019
- Dr. Pradeep Kumar को दिनांक 27 फ़रवरी, 2019 को नराकस, लुधियाना आयकर विभाग, ऋषिनगर, लुधियाना द्वारा आयोजित हिन्दी निबंध प्रतियोगिता में प्रोत्साहन पुरस्कार दिया गया
- Dr. P. L. Soujanya received “Best Young Scientist Award” for outstanding contribution in research during 6th Biopesticide International conference conducted by Amity University during March 6 - 8, 2019 at Raipur, Chhattisgarh.
- Dr. Ishwar Singh participated as a resource person at ICAR sponsored training program on “Non-destructive High Throughput Phenotyping for Gene Discovery and Development of Climate

Resilient Crops” held at the Division of Plant Physiology, ICAR-IARI, New Delhi during March 14 - 23, 2019.

- Dr. Krishan Kumar received Best Poster Award in the International Conference on Photobiology Phytochemistry & Plant Biotechnology (ICPPP-2019) held at MohanLal Sukhadia University, Udaipur from May 8 - 9, 2019.

Students visit

Students of B.Sc. (Biotechnology) from Mata Gujri College, Fatehgarh Sahib visited ICAR-IIMR Ludhiana for study visit on March 27, 2019. The students were oriented with respect to different experimentation facilities of the institute. Director and staff of ICAR-IIMR interacted with students on this occasion.

Trainees visit to WNC, Hyderabad

Winter Nursery Centre, ICAR-IIMR, Hyderabad has arranged one day Maize Field visit for the participants of Quality Seed Production Training Programme conducted by ICAR-IIRR, Hyderabad on February 28, 2019. Dr. J.C Sekhar and Dr. Yathish, K.R coordinated the visit. A total 20 trainees visited maize field and was apprised about the maize cultivation practices.

