NCIPM
Newsletter

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From the Director's Desk

Major issues in pesticide usage under IPM

There is a pressing need for improving the use of chemical pesticides in plant protection in the country both in terms of quantity and quality. Our use of pesticides is around 400 grams a.i. /ha compared to that of >16 Kg in DPR Korea, >10 Kg in Japan or >13 Kg in Italy, to mention a few examples. We may take it as a comparison in favor of our country, but we are grossly mistaken. Our use of pesticides is not only very low, but is skewed and irrational too. Proper use of pesticides can substantially improve our food production. This is one crucial area of IPM where systematizing the efforts in the right direction would be urgently required. The package of practices of various SAUs give recommendations of pesticides based on evaluation trial results against particular pest. These should not be 'stand alone' recommendations, but be an elaborate effort, at least for the key pests of the region, in terms of surveillance and monitoring and use of IPM principles. Insecticide Resistance Management (IRM) and Label Claims are the two other complementary issues which need to be addressed for better performance of pesticides. IRM is missing when there is a pre-emptive use of pesticide seed dressing in Bt cotton, whether the sucking pests are there or not, or whether the Bt hybrid used is resistant to the sucking pests or not; the net result could be the resistance development in the sucking pests. Similarly, Label Claims are grossly flouted at various levels, knowingly or unknowingly. The more we recognize these flaws and take corrective measures, the better would be our pesticide use both in terms of uptake and performance.

New Research Advisory Committee (RAC) constituted

ICAR has recently constituted new RAC for the Centre to be chaired by Dr. G.C. Tewari, Vice Chancellor, C.S. Azad University of Agriculture and Technology, Kanpur. The other esteemed members are Dr. G.P. Gupta, UGC Emeritus Scientist, Division of Entomology, IARI, New Delhi, Dr. S. Lingappa, Former Director of Research, UAS, Bangalore, Dr. D.V. Singh, Former Head, Division of Plant Pathology, IARI, Dr. R.C. Gautam, Former Joint Director (Education), IARI and Dr. K.R. Sarkar, Former Principal Scientist (Cytogenetics and Genetics), IARI, New Delhi. Dr. T. P. Rajendran, ADG (PP) and Dr. O.M. Bambawale, Director, NCIPM are also the members. Dr. D.K. Garg, Principal Scientist, NCIPM is the nominated Member Secretary.The first RAC meeting would be held on 23-24 Feb. 2010.

Forthcoming events

NAAS Brainstorming Meeting on *"Making IPM Effective in India"*

National Academy of Agricultural Sciences (NAAS) is scheduling a two-day Brainstorming Meeting on 'Making IPM Effective in India', in the second fortnight of September 2010 at New Delhi. Dr B.L. Jalali, Ex Director Research, CCSHAU, Hisar is the convener, and Dr N.T. Yaduraju, National Coordinator, NAIP, Dr T.P. Rajendran, ADG (PP) and Dr O.M. Bambawale, Director, NCIPM are the other members of the core organizing committee.

The IPM efforts so far undertaken and the outlays somehow do not match with the magnitude of the pest problems, and thus there is an urgent need to revisit our IPM efforts and to draw a clear road map to address the food security issues vis-à-vis pest management. The scientists and other stakeholders of IPM from across the plant protection disciplines of NARS including the Central and State Agriculture Department officials, seed/pesticide industries and NGOs are invited to submit a two-page note of their suggestions/views on: 'what is required for making IPM more effective' at bljalali@gmail.com;ntyaduraju@icar.org.in;adgpp.icar@nic.in; or om.bambawale @ncipm.org.in by March 31, 2010, for developing a base paper to be followed by brainstorming meeting in September 2010. The outcome of the brainstorming is expected to lead to a Policy Paper, and key issues would be identified for consideration of the policy makers.

Status of *Spodoptera litura* in Soybean – Cotton based Cropping System during *Kharif* 2009

The polyphagous lepidopterous *Spodoptera litura* occurred in epidemic proportions on soybean in Maharashtra during 2008 crop season resulting in severe yield losses to the tune of Rs 1392 crores. An intensive on-line pest monitoring and advisory system for mitigating the outbreak of major pests including *S.litura* was executed during Kharif 2009 in 28 soybean and cotton growing districts by State Department of Maharashtra ably assisted by NCIPM, three other ICAR institutes and three SAUs of Maharashtra. Status of *S.litura* during 2009 crop season in comparison with the epidemic (2008) and pre epidemic (2007) seasons and the male moth catches monitored in soybean-cotton cropping system using pheromone traps were compared for the Nagpur location of Vidharba.

Seasonal means of male moth catches in pheromone traps had shown on par population during 2007 and 2009 seasons, significantly lower than the catches of 2008 epidemic season (Fig.1). Trends of pheromone trap catches indicated progressively increasing population of *S.litura* during the pre epidemic season (2007) with the highest peak coinciding with the reproductive phase of soybean crop.

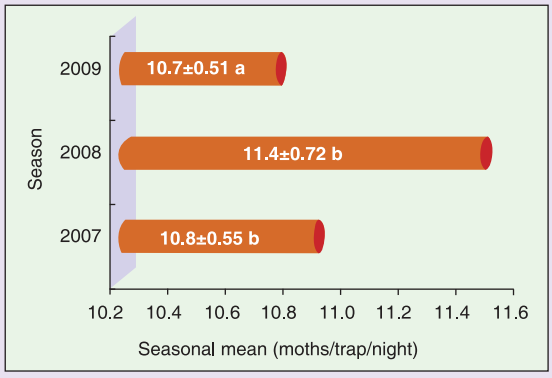


Fig. 1. Mean male *S. litura* moth catches during soybean crop seasons (2007-2009)

Epidemic season of 2008 had highest mid as well as late season peaks coinciding with the crop's vegetative as well as reproductive stages. Current season (2009) catches of *S.litura* indicated reduced peaks to the tune of 2.5 and 1.5 times in respect of vegetative and reproductive phases of soybean compared to the epidemic year (Fig. 2).

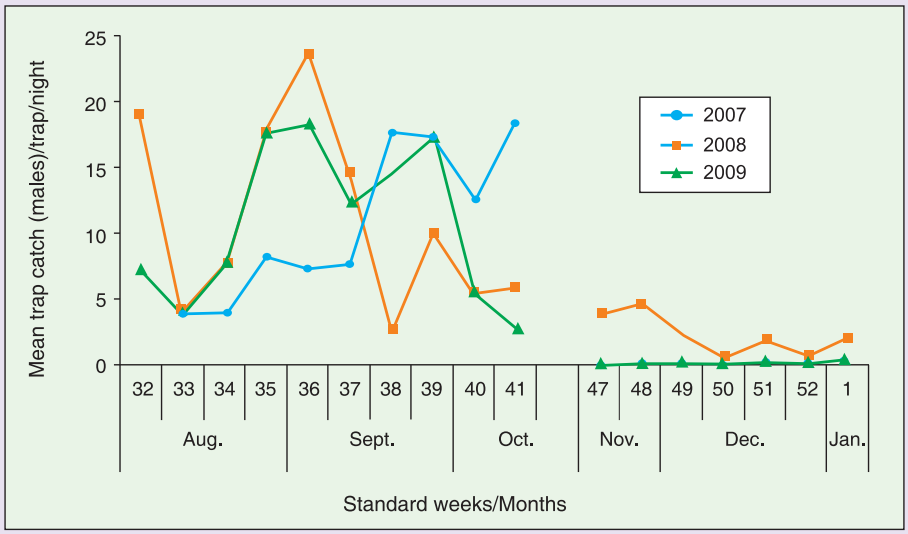


Fig. 2. Seasonal dynamics of *S.litura* male moth catches in pheromone traps of soybean-cotton based cropping systems

The declined population of *S. litura* at the end of soybean season *vis a vis* extremely low levels of trap catches during post soybean periods between October and December months point to the effective management of the pest on the crop during Kharif 2009 through the surveillance based pest advisory.

Mealybug reduced to traces on cotton in the North

Field survey conducted during August 2009 by NCIPM team to observe mealybug and its parasitoids on cotton in Daryapur and Ratikhera (Fatehapura) and Panniwala Mota and Sherghad villages of Haryana and Balluana, Kabar wala Enakhem, Khera, Jeedha, Katar Singh Walia, Jaga, Sardulgarh and Rodi villages of Punjab revealed incidence of the mealybug (*Phenacoccus solenopsis*) in traces. Few fields those had mild to moderate infestations showed heavy parasitization by hymenopterous parasitoid, *Aenasius bambawalei*. *Promuscidea unfasciativentris,* another parasitoid was also observed in most of the places along with *A. bambawalei.*

Immediate steps for containing Papaya mealybug

Papaya mealybug, *Paracoccus marginatus* Williams and Granara de Willink (Hemiptera: Pseudococcidae) has emerged as a serious threat to a

P. solenopsis heavily parasitized by *Aenasius bambawalei*

number of crops such as papaya (*Carica papaya* L; Caricaceae), mulberry (*Morus alba* L.; Moraceae), jatropha (*Jatropha curcus* L; Euphorbiaceae), tapioca (*Manihot esculenta* Crantz**;** Euphorbiaceae), shoe flower (*Hibiscus-rosa-sinensis* L.; Malvaceae) and guava (*Psidium guajava* L.; Myrtaceae) in addition to mulberry (*Morus alba* L., Moraceae), Jatropha (*Jatropha curcus* L., Euphorbiaceae), tapioca (*Manihot esculenta* Crantz; Euphorbiaceae), Shoe flower (*Hibiscus-rosa-sinensis* L., Malvaceae) and guava (*Psidium guajava* L., Myrtaceae)in addition to other annual plants such as cotton (*Gossypium hirsutum L.*; Malvaceae), brinjal (*Solanum melongena* L.; Solanaceae), redgram (*Cajanus cajan L.*; Leguminaceae) and tomato (*Lycopersicon esculentum* L.; Solanaceae) since 2008 in Tamil Nadu, of South India. As on date, this pest has been noticed in Karnataka, certain part of Andhra Pradesh, and hence limiting its spread and its effective management are the immediate priorities. This sap sucking pest attacks all aerial parts of the plants causing yellowing and drying of leaves, bunchy top of terminal shoots and drop of flowers and fruits. Heavy infestations lead to death of plants. Waxy body covering, higher reproduction, wider host range and greater propensity to spread over space and time, make it difficult to manage the pest.

The following immediate steps are needed urgently to contain the pest spread and suppress the buildup, to avoid economic damage and yield loss among crops.

- Creating awareness on identity, severity, host range and mode of spread of *P. marginatus* among farmers must be the first step. Necessary hand-outs on this pest may be prepared in local vernacular languages and distributed in villages. Farmers may be trained for early detection of this mealybug in their crops and non crop hosts of the villages and should report to local government and non-government institutions who could be drafted for weekly field visits and surveys.
- On locating infested plants or plant parts of any one crop/area, removal and destruction of infested portions through burial or burning must be resorted.
- Many weed hosts such as congress grass (*Parthenium hysterophorus*), country mallow (*Abutilon indicum*), hazardani (*Phyllanthus niruri*), chandvel (*Convolvulus arvensis*), garden sprug(*Euphorbia hirta*), wild mustard (*Cleome viscosa*), spider wort (*Commelina benghalensis*) support development and spread of *P.marginatus.* Removal and destruction of such hosts are important and essential part of its management.
- Preventing the movement of *P. marginatus* infested papaya fruits, stems of tapioca and to new locations within the state and between states should be exercised.
- A number of natural enemies such as Ladybird beetles, (*Cryptolaemus montrouzieri*) and lepidopteran larva (*Spalgis epius*) feed on the mealybugs voraciously. If noticed in any of the infested areas, they should be collected and released into other infested areas/ plants with follow up for their efficacy against this mealybug, and as was done in the case of cotton mealybug during last two years in various states.
- Infestations on ornamental plants such as Shoe flower and Nerium in home gardens should be reduced through the spray of neem oil 3% or neem seed kernel extract 5% or fish oil resin soap @25g/lit with compulsory addition of detergent powder @ 2g/lit.
- Only severe infestations *(>25% incidence)* with severity *(>grade 2, where reproducing females and crawlers are found at least on any one branch of plant*) warrant chemical application in the entire field/area. Chemicals such as profenophos 50EC or chlorpyriphos 20EC or buprofezin25FSor dimethoate 30EC @ 2ml/lit of water, or imidacloprid 17.8SL@ 0.6ml or thiomethoxam 25WG 0.6 g/lit of water are recommended. Proper dosage and coverage of plants and fields should be ensured to prevent the subsequent flare up. (Inadequate spray coverage and lower dosages of pesticides lead to further spread of incidence). Second insecticidal spray a week after the first spray may be done, if necessary, following careful monitoring.
- Limited infestation in plantations and crop fields (other than mulberry) should be treated with early foliar or spot application of insecticides with additional coverage of surrounding areas including soil.
- Good agricultural practices such as field sanitation, regular weeding, frequent monitoring through field visits, removal and destruction of plant parts and use of clean farm implements should be the basic strategies for tackling the spread of this mealybug before applying insecticides after outbreaks.

Area wide white grub management campaign in western U.P.

A collaborative campaign was initiated during *Kharif* 2009 with Modi Sugar Mills in their command villages for area wide management of white grub on sugarcane crop. Identification of the beetles by Insect Identification Service (IIS), Division of Entomology, IARI, New Delhi indicated *Holotrichioa consanguinea* as the most predominant species. White grub management campaign in 40 villages resulted in a

Huge collection of white grub betles during campaign in Modinagar

significant reduction in sugarcane damage due to the pest. The campaign comprised of the application of aggregating pheromone, methoxybenzene and spray of chlorpyriphos and imidacloprid on neem trees near and around sugarcane and other field crops. During the campaign, more than 16 lakhs white grub beetles were collected and destroyed. The campaign helped in reduction of grub population substantially.

Scale Insect infestation in Takarwada village of Dhar district of Madhya Pradesh

During 2008, ber and aonla trees were reported to be severely infested with an insect similar to mealybug by Shri Manohar Chandele of Takarvada village of Dhar Distt., about 70 Km from Indore, M.P. Field surveys (Sept., 2009) were conducted by Dr. R.K. Tanwar, Principal Scientist, NCIPM along with Sr. Horticulture Development Officer, Dr. N.S. Tomar, at this village and neem, ber and aonla trees near residential premises were found severely infested by a scale insect. The pest was identified as *Pulvinaria polygonata* Cockerell (Coccidae) by IIS of IARI. All the branches of trees were completely covered with scale insects along with ovisacs. No predators were seen with the scale insect.

Aonla plantations surveyed near soybean fields that were severely infested with mealybug in the last season had no scale infestation because regular application of insecticides on soybean to contain *Spodoptera, Helicoverpa* and other insect pests and diseases, did not allow build up of scale insects on soybean plants or aonla trees during current season.

Scale insects with ovisacs on ber

Farmers were advised to spray chemical pesticides such as diazinon, dimethoate, formathion, malathion, and nicotine for effective management of nymphal stages of scale insects. Adults remained firmly attached to the plant even after mortality which gives a false impression of the pest status. Acephate was found effective on all stages causing a mean mortality of 98.8%.

Awareness-cum-Surveillance Programme for management of major pests of Soybean, Cotton, Pigeonpea and Chickpea in Maharashtra (2009-10)

The programme was coordinated by NCIPM in collaboration with 7 other participants, viz., State Agriculture Department, Government of Maharashtra, Dr.Panjabrao Deshmukh Krishi Vidyapeeth, Akola, Marathwada Agricultural University, Parbhani; Mahatma Phule Krishi Vidyapeeth, Rahuri; Central Institute for Cotton Research, Nagpur; Directorate of Soybean Research, Indore and Central Research Institute for Dryland Agriculture, Hyderabad.

In the first part of the programme i.e., awareness creation through trainings, Master Trainers from State Agriculture Department (around 350) were trained at SAUs. The field staff of the St. Agri. Dept. (around 400 / district) was further trained by the Master Trainers. The field staff in turn percolated the knowledge among the farmers through the Elite Farmers (5 representative farmers / village). Thus, awareness about the IPM practices in all the four selected crops was made among the farmers. In addition to this, the Master Trainers were given exposure in crop production and protection practices of soybean and cotton at Directorate of Soybean Research, Indore and Central Institute for Cotton Research, Nagpur, respectively.

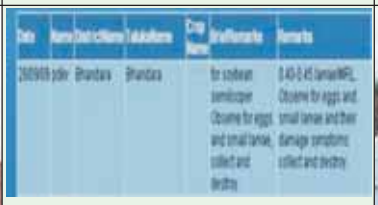
Crop area and period covered under surveillance programme

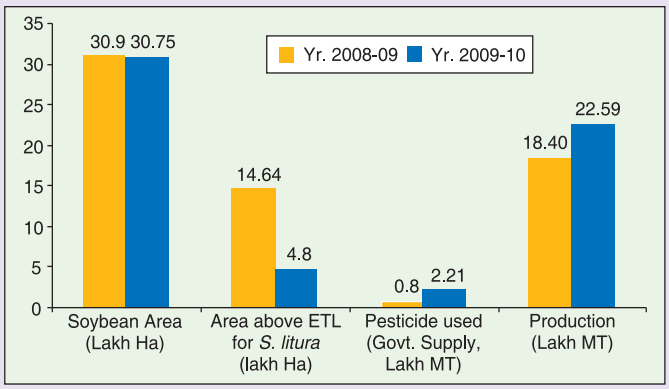
Crop	Base Area (2008-09) (lakh ha) information	No. of Districts and Talukas	No. of Pest Monitoring Units	No. of villages surveyed by scouts	Period of surveillance
Soybean	30.90	28 and 271	82	6240	1 August – End October
Cotton	31.05				1 August – Mid November
Pigeonpea	9.82	29 and 306	78	6104	1 November – End December
Chickpea	10.90				Mid November – Mid February

In the second part of the programme, Pest Monitoring and Advisory System, 82 Pest Monitoring Units consisting of 82 Pest Monitors (B.Sc. Agriculture qualification), 780 Scouts (Diploma in Agriculture qualification) and 82 Data Entry Operators (Matric + MSIT qualification) were recruited and trained in respective SAUs for the IPM strategies and surveillance procedures. The Pest Monitors and Data Entry Operators were trained by NCIPM in the on-line data entry system. The programme was further extended to pigeonpea and chickpea, at the instance of Principal Secretary (Agriculture & Horticulture), Government of Maharashtra. For pest monitoring in pigeonpea and chickpea the pest monitoring units were rearranged from the first week of November, 2009. Seventy nine Pest Monitoring Units were created with 79 each of Pest Monitors and Data Entry Operators and 763 Scouts. They were again trained by SAUs as well as NCIPM.

Time Schedule for Surveillance

Survey	Online Data feeding	Data analysis & Advisories by SAUs	Dissemination of advisories by SDAO
Monday & Tuesday	Wednesday	Thursday	Thursday
Thursday &Friday	Saturday	Monday	Monday





Impact of Awareness-cum-Surveillance programme on soybean in Maharashtra (2008 Vs 2009)

In this programme, a constant and timely watch over the pest scenario aided in identifying the hotspots. Accordingly, the staff of State Agriculture Department as geared up to manage the crisis situation through awareness creation among the farmers. The Government pesticide supply was also diverted to places where the pest infestation was more. There was a decrease in the area of soybean above ETL for *Spodoptera litura* from14.64 lakh ha in 2008-09 to 4.8 lakh ha in 2009-10. The production of 22.59 lakh MT of soybean was recorded from 30.75 lakh ha of area despite the prolonged dry spell which prevailed during August, 2009 in Maharashtra compared to the production of 18.40 lakh MT from 30.90 lakh ha area during 2008-09. A gross monetary benefit of Rs. 1047.50 crores (4.19 lakh MT of more production @ Rs. 25000/MT) was recorded in Maharashtra during 2009 compared to 2008.

Field days

Bell Pepper

'Kisan Diwas' was organized on 'IPM in bell Pepper' in village Daha Jagir – Bajidan Jattan, District Karnal, Haryana on 14th December, 2009. Scientists from NCIPM and officials from Krishi Dhan Vegetable Seeds Pvt. Ltd. and Sri Ram Fertilizers Ltd. interacted with the farmers and apprised the important components of IPM programme.

Dr. H.R. Sardana, NCIPM briefed about the success of IPM technology in the last two years and emphasized on areawide IPM for more tangible impact. More than 50 acres area has been taken up during 2009-10 for IPM validation covering almost entire village. Other scientists from NCIPM also addressed the farmers and educated them about the importance of diseases and nematode management in bell pepper with minimum use of chemical pesticides. The focal point was the raising of healthy nursery and need based application of safer pesticides. A lead IPM farmer, Mr. Gurbachan Singh narrated the success of IPM in his bell pepper fields.

Groundnut

A "Khet Diwas" was organized at Vallabhnagar, Udaipur by NCIPM and

Maharana Partap University of Agriculture and Technology, Udaipur on 17th Sept., 2009. About 100 farmers including farm women participated in the Khet Diwas. Farmers were educated about principles of eco-friendly IPM technologies, use and conservation of bio-control agents, use of aggregate pheromone (Anisole-methoxybenzene) for the management of white grub, use of *Trichoderma* as seed and soil treatment and use of neem cake as soil treatment. Two leaflets were distributed to the farmers on 'White grub life cycle and its management' and 'Natural enemies of groundnut crop'.

Lead IPM farmer Sh. Bheru Lal, narrated the success of IPM in his fields and strongly emphasized on deep summer ploughing, use of *Trichoderma* and imidacloprid for seed treatment and mixing of neem cake in the field. Sarpanch of the village acknowledged 80% increase in yield after adoption of IPM and appreciated the work.

Mustard

Oilseed team of NCIPM Organized a Kisan Gosthi on IPM in mustard at village Mohmmadpur – Navgaon in Alwar district of Rajasthan on 14 December 2009 in collaboration with the Agricultural Research Station (RAU), Navgaon, Alwar.

Cauliflower and Tomato

Field day was celebrated on 18 November 2009 in Palari village of Sonipat district of Haryana. There are around 100 farmers families and cauliflower and tomato are the major vegetables cultivated almost round the year. Farmers were educated on pests of kharif season and usage of *S. litura* NPV, neem based formulation and low risk insecticides like novaluron, spinosad and Emamectin benzoate. Farmers were told about importance of raised beds in avoiding stagnation of water that helps to reduce the incidence of damping off. Emphasis was also given on the usage of *Trichoderma* as soil/ seed application and seedling dip and use of neem cake in the nursery.

Award/Recognition

- Dr. P. Jeyakumar, Senior Scientist (Agrl. Entomology) was awarded by ICAR with "Swami Sahajanand Saraswati Extension Scientist / Worker Award for the Biennium 2007-2008". The award was presented by Dr.Farooq Abdullah, Union Minister for New and Renewable Energy on 16th July, 2009 (ICAR Foundation Day). The award carries a cash prize of Rs. 25000/- and a citation.
- Dr. O. M. Bambawale, Director, was awarded as a "Honorary Fellow" of Applied Zoologists Research Association (AZRA), in National Conference on Biodiversity Conservation and Management of Bioresources held at Andhra University, Vishakapatnam, on 28-29 October, 2009.
- Dr. P. Jeyakumar, Senior Scientist (Agrl. Entomology), was conferred with "Young Scientist Award" by AZRA, in National Conference on Biodiversity Conservation and Management of Bioresources held at Andhra University, Vishakapatnam, on 28-29 October, 2009.

- The Inter-Institutional Project of Indian Agricultural Statistics Research Institute of ICAR, New Delhi was awarded 'The Manthan Award South Asia 2009' in e-Learning category for outstanding work in the area of digital inclusion for development. NCIPM being one of the proud collaborators of the project is committed to further improve the on-going programme on expert system for wheat crop management.
- Australian Government has selected Dr. (Mrs.) Sumitra Arora, Senior Scientist for the 2010 Endeavour Research Fellowship for pesticide residue analysis work using RBPGR techniques at Department of Education, Employment and Workplace Repletion, Australian Government, Australia. This award is the Australian Government's internationally competitive, merit based scholarship program providing high achieving individuals with a unique opportunity to undertake professional study.

हिन्दी गतिविधियाँ

हिन्दी चेतना पखवाड़ा

केन्द्र में विगत वर्षो की भांति वर्ष 2009 में 'हिन्दी चेतना पखवाड़ा' का आयोजन दिनांक 22 सितम्बर 2009 से अक्टूबर 3, 2009 के दौरान किया गया। इस कार्यक्रम में विभिन्न प्रतियोगिताएं, जैसे कविता पाठ, निबंध लेखन, सुलेख, श्रुतलेखन, सामान्य ज्ञान एवं शब्द ज्ञान तथा वाद-विवाद आयोजित की गयी। इन प्रतियोगिताओं में केन्द्र के अधिकारियों एवं कर्मचारियों ने बढ़-चढ़ कर हिस्सा लिया। प्रतियोगिता में उत्कृष्ट प्रदर्शन करने वाले प्रतियोगियों को पारितोषिक वितरित किए गये। इन प्रतियोगिताओं के मूल्यांकन हेतु निर्णायकगण केन्द्र के बाहर से आमंत्रित किए गए ताकि निर्णय में निष्पक्षता रहे।

इस कार्यक्रम का समापन दिनांक 3, अक्टूबर 2009 को किया गया जिसकी अध्यक्षता भारतीय कृषि अनुसंधान परिषद के निदेशक राजभाषा, डा. एच. सी. जोशी द्वारा की गई। डा. जोशी द्वारा केन्द्र में हिन्दी के प्रोत्साहन हेतु किए गए कार्यों की सराहना की गई तथा भविष्य में हिन्दी को तीव्रगति से प्रोत्साहन हेतु परामर्श तथा मार्गदर्शन भी प्रदान किया गया। हिन्दी पखवाड़ा के आयोजन में केन्द्र के निदेशक एवं राजभाषा कार्यान्वयन समिति के अध्यक्ष डा. ओ. एम. बम्बावाले के मार्गदर्शन एवं उनकी अभिरूचि ने विशेष योगदान दिया।

राजभाषा नीति एवं कार्यान्वयन पर कार्यशाला

केन्द्र में राजभाषा हिन्दी को प्रोत्साहन देने एवं कर्मचारियों में राजभाषा नीति के प्रति जागरूकता पैदा करने के उददेश्य से राजभाषा नीति एवं कार्यान्वयन विषय पर हिन्दी में कार्यशाला दिनांक दिसम्बर 29, 2009 को प्रशिक्षण कक्ष में आयोजित की गई। इस कार्यशाला के प्रमुख प्रवक्ता एवं अनुदेशक के रूप में डॉ. प्रेम सिंह, निदेशक, राजभाषा, विज्ञान एवं प्रोद्यौगिकी विभाग, नई दिल्ली को आमंत्रित किया गया।

डॉ. प्रेम सिंह द्वारा भारत सरकार की राजभाषा नीति के विविध पहलुओं, जैसे संवैधानिक, ऐतिहासिक एवं प्रशासनिक पर विस्तार से प्रकाश डाला गया। डॉ. सिंह द्वारा कार्यशाला में सम्मिलित कर्मचारियों को राजभाषा नीतियों का पालन करने में आने वाली व्यवहारिक कठिनाईयों का निराकरण करने का उचित मार्गदर्शन भी किया गया। इस कार्यशाला में केन्द्र के सभी अधिकारियों एवं कर्मचारियों ने भाग लिया तथा साथ ही कार्यशाला के वक्ता से महत्वपूर्ण शंकाओं का समाधान भी किया।

इस बैठक की अध्यक्षता राजभाषा कार्यान्वयन समिति के अध्यक्ष डा. ओ. एम. बम्बावाले द्वारा की गयी तथा संचालन डा. आर. वी. सिंह, प्रभारी, हिन्दी प्रकोष्ठ द्वारा किया गया।

PATENT FILED

A.K. Kanojia, Sumitra Arora and Mahajeet Singh "A biopesticide formulation for controlling insect pests and fungal pathogens and process for preparation thereof" Indian Patent House against No. 1507/DEL/2009 dated 23-07-09 with 9 claims.

Trainings organized/imparted

Training workshops organized by Basmati Export Development Foundation (BEDF)

BEDF of APEDA has a mandate of promoting Basmati rice. A series of training workshops were organized by the BEDF for farmers engaged in Basmati rice production. The main objective of these training workshops was to create awareness among Basmati growers about the improved package of practices for different cultivars of Basmati rice and the quality norms required for exports. NCIPM experts *viz*., D.K. Garg, R.K. Tanwar and S. P. Singh participated in four such training workshops organized at Kurukshetra, Yamuna Nagar, Dadri and Kashipur between August–September, 2009 and delivered talks on various aspects of IPM including bio-control, habitat management and role of nutrients and interacted with the farmers. Farmers showed keen interest in understanding IPM and were willing for its implementation in respective areas.

Training on Mass Production Technology of Biological Control Agents

A Training on Mass Production Technology of Biological Control Agents, sponsored by Directorate of Agriculture, Bihar was organized by NCIPM for five days from July 27-31, 2009 for State biocontrol workers working in the State Biological Control Laboratories. Five participants attended the training programme. The training included the lectures and hands on practicals on mass production of *Trichogramma* and its host, *Corcyra*, isolation of antagonistic fungi/ bacteria from soil, mass production of entomopathogenic and antagonistic fungi and bacteria on sorghum, grinding and mixing with talcum powder for commercial production of bio agents and quality control parameters of the final product.

Trainings in e-surveillance of Pigeonpea and Chickpea crops in Maharashtra

On the basis of a good performance of the e-pest Surveillance system implemented under the project "Awareness-cum-Surveillance Programme for management of major pests in Soybean-Cotton based cropping system in Maharashtra", Govt. of Maharashtra decided to extend the e-pest surveillance to chickpea and pigeonpea crops as well. An e-pest surveillance system was developed for chickpea and pigeonpea based on entire architecture of the previous system that consisted of a centralized database, an offline application for data entry and uploading and another online application for pest reporting and advisory. One day training programmes were conducted to acquaint the SDOs, pest monitors and scouts engaged in the project at Akola, Parbhani and Rahuri from 30th October-Ist Nov. 2009. Around 200 personnel were trained for the new system. Training was also imparted to four software supporters at Akola on 9-10th November 2009.

QRT submits its report

Quinquennial Review Team, constituted by the ICAR, consisting of Dr. B.L. Jalali as Chairman and Dr. S. Lingappa, Dr. D.J. Patel and Dr. N.P. Agnihotri as members, submitted its report and recommendations to ICAR during August 2009. Most of the recommendations have been approved by the Governing body of ICAR. One of the important recommendations is the linkage with AICRP system to attain the goals of IPM implementation.

Visits

Deputy Minister from Cuba Visits NCIPM

Mr. Jose Puente Napoles, Deputy Minister, Agriculture, and Mrs. Maria Martinez, Director of International Relations visited the Centre on December 3, 2009. Dr. O.M. Bambawale, Director presented the activities of the Centre highlighting the areas of common interests and possible collaborations. Mr. Napoles narrated the current agriculture scenario of Cuba plant protection activities. He specially discussed the biocontrol and pest management in protected systems. Scientists of the Centre also interacted with the delegation and exchanged their views.

Farmers visit NCIPM

A group of 50 farmers from Rajasthan and Haryana visited NCIPM on August 31, 2009. They were apprised about the IPM activities of the Centre by the Drs. D.K. Garg, R.K. Tanwar, H.R. Sardana and Surender Kumar Singh. Farmers' queries, mostly related to crops like rapeseed mustard, vegetables and biological control, were suitably replied. The visit was arranged by ATIC, IARI under the ATMA Programme.

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Dr. O.M. Bambawale, Director

National Centre for Integrated Pest Management

LBS Building, IARI Campus, New Delhi 110 012

Ph: 011-25843935, 25843936, 25740951, 25843985; Fax: 011-25841472

E-mail: ipmnet@ncipm.org.in; Website: www.ncipm.org.in

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