National Institute of Plant Health Management
Department of Agriculture & Cooperation
Ministry of Agriculture, Government of India

Plant Health News Letter

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From the Director General's Desk

Biosecurity has emerged as one of the most urgent areas facing humanity requiring coordinated and integrated effort by different stakeholders encompassing scientific, environmental, technological and policy interventions. The looming threat of climate change may exacerbate the biosecurity risks by altering the ecology and ethology of known pests and may also result in introduction of new pests. In India the problem is compounded due to the porous nature of the borders, which we share with our neighbours and due to inadequate regulatory mechanisms to regulate the movement of live materials from one agro climatic ecosystem to another within the country. The report of the Core Group on Plant and Animal Biosecurity for National Agricultural Biosecurity system has made an indepth analysis and identified the systems, mechanisms, measures and infrastructure that are required to put in place a unified biosecurity system within the country.

NIPHM has been identified as one of the institutions for building capacity in agricultural biosecurity. Capacity building and modernization has been one of the focus areas identified for strengthening and it is suggested that Human Resource Development Centre should be established. Capacity building in developing longterm action plans, biosecurity assistance management and biosecurity education and communication were also identified as areas requiring strengthening.

NIPHM realizing the urgent need for capacity building in biosecurity has revisited the curriculum of various programmes offered. Based on detailed analysis, NIPHM has devised new training programmes to sensitise and enhance the capacity of Agricultural Officers at different levels through specialized programmes in Biosecurity Management, Pest Surveillance, Phytosanitary Treatment Programme and Plant Quarantine Programmes. The Post Graduate Diploma offered by NIPHM has been revamped and besides offering the choice of specialization in Biosecurity and Incursion management, the mandatory courses have been designed to impart knowledge in Biosecuriy, Sanitary & Phytosanitary issues, Invasive Alien Species and Pest Surveillance.

As part of the efforts in building capacity of the Directorate of PPQ&S, NIPHM has launched an Induction training programme of 13 weeks duration for all the new recruits to sensitize them on various issues of Biosecurity. The current issue focuses on Biosecuirty and I hope the issue will sensitize different stakeholders on the need for a unified and concerted action to strengthening Biosecurity of our country.

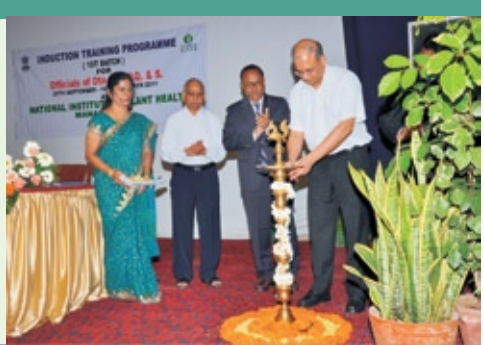
(K. Satyagopal)
Director General

New Initiatives

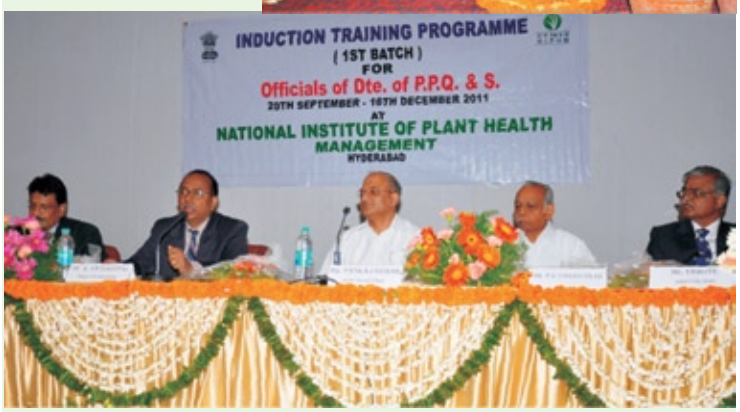
Induction Training Programme for DPPQS officials

NIPHM is the Nodal center for imparting training to the officials of the Department of Plant Protection, Quarantine and Storage (DPPQS). In order to provide insights into the various specialized activities of the Directorate of Plant Protection, Quarantine and Storage(DPPQS), Department of Agriculture and Cooperation (DAC) has decided to entrust the responsibility of capacity building to NIPHM. The programmes will equip the Officers trainees with requisite knowledge to ensure better delivery and also provide exposure to the other activities of the DPPQS to ensure better coordination among different divisions. Three types of trainings were identified are a) Induction Course of 13 weeks for new recruits, b)Induction Course of 5 weeks for transferees, and c) Refresher Course of one week in Plant Health Management, Plant Quarantine, Pesticide Management, & Locust Management. A committee under the Chairmanship of Dr. P. S. Chandurkar, Former Plant Protection Adviser, developed the course curriculum for these programmes in consultation with NIPHM.

The first Induction Training Programme of 13 week's duration was inaugurated by Mr. Pankaj Kumar, Joint Secretary-Plant Protection on September 20, 2011. Dr. K. Satyagopal, Director General NIPHM delivered a 'Key Note Address', Dr. Chandurkar delivered a special Lecture .



Mr Pankaj Kumar, IAS JS-PP lightning the lamp on the eve of inaugural ceremony for the First batch of Induction Training programme



Dr. K Satyagopal, IAS DG NIPHM delivering a Key Note Address

On this occasion Mr. Pankaj Kumar Joint Secretary released the First issue of NIPHM News Letter, " Plant Health"

Mr. Pankaj Kumar, IAS & JS-PP releasing the First issue of NIPHM News Letter, "Plant Health"

During the 13 week long training programme, 25 newly recruited officials of DPPQS underwent training. The major aspects of Plant Health Management, Plant Quarantine, Pesticide and Locust Management were covered by imparting technical know-how, hands-on-practicals and field visits. Various eminent scientists namely Dr. R. Rabindra, Former Director NBAII, Dr. T.P. Rajendran, Asst. Director General (PP), Dr. V. K. Yadava, PPA, Dr. Bandhopadhyaya, Dr. Marc Gilkey from USDA, Dr. Martin Parr from CABI UK delivered the Special Guest Lectures on the various aspects on Plant Health Management, Biosecurity, Biological Control, Pesticide Management and Locust Management.

The trainees were trained on various audit, vigilance, conduct rules & administrative issues including RTI, Income Tax, Official Language etc. The programme was successfully completed on 16th December 2011. The Valedictory function was held under the Chairmanship of Dr. K. Satyagopal, IAS DG NIPHM. Dr. V.K. Yadava, PPA presided over the function and the certificates were distributed to the officials for successfully completing the training course.

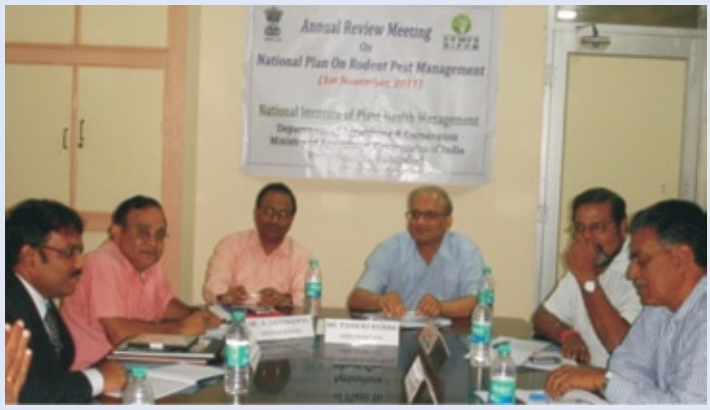
Certificate distribution to the trainees during the valedictory function

Induction Course trainees with Dr. V.K. Yadava P.P.A, GOI and NIPHM officers

Special Meetings

Meeting on National Plan on Rodent Pest Management

Annual Review Meeting on National Plan on Rodent Pest Management was held at NIPHM on 1st November under the Chairmanship of Joint Secretary (Plant Protection). Project Coordinator, AINP on Rodent Control (ICAR) and Plant Protection Adviser, Govt. of India attended the meeting. The Director General, NIPHM stressed the need of utilizing the capacity building facilities existing at the institute to the optimum level by the extension functionaries. The Joint Director (Vertebrate Pest Management), NIPHM presented various activities undertaken by NIPHM under the National Plan. State representatives of Andhra Pradesh, Tamil Nadu, Karnataka, Bihar, Gujarat and Nagaland informed about proposed activities under the National Plan.



Officials attending the meeting along with JS-PP & DG NIPHM

Participants attending the Workshop on SPS Issues

National Workshop on Sanitary & Phyto-Sanitary Issues

NIPHM organized a workshop on Sanitary and Phyto-Sanitary (SPS) issues in collaboration with CABI. 26 delegates specialized in Plant Health, Animal Health & Food Safety from various national and international institutes participated in the programme held on 26-12-2011 under the Chairmanship of Director General NIPHM. The deliberation identified various thrust areas requiring immediate attention and need for Human Resource Development in SPS.

Academic Council meeting of NIPHM held on 12th December 2011

Mr. AR Sukumar IAS & Secretary Revenue AP Govt. visited NIPHM on 9th December, 2011

Theme Article

Biosecurity: Capacity Building in Pest Surveillance, Pest Diagnostic and Pest Risk Analysis

Dr. N. Sathyanarayana

Keeping the pest at bay, being vigilant to preserve biosecurity are the keys to sustainable agriculture production

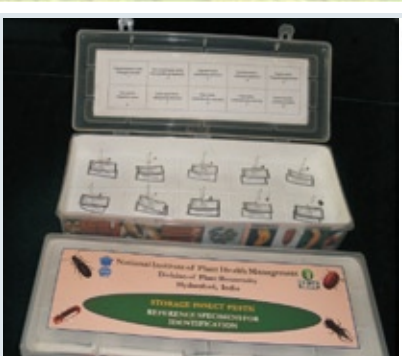
Ever since the dawn of civilization, Man started to move the plants and plant materials along with him to newer places for domestication, away from its place of origin. In this process pests associated with the material were unknowingly moved to new places where the pest was not known to occur or could not have travelled that far on its own or by any natural means. In the changed habitat and agro-climatic situation some of the introduced pests have become more virulent and caused severe damage to native flora. Classical examples of trans- boundary movement of plant pests is the introduction of Powdery mildew (*Oidium tuckeri*) into Europe with American grape-vines. Its pathogenicity on European grape vine was unknown at that time and the disease spread like wild fire on European grape vines. To control powdery mildew, resistant varieties were imported from America. However, these grape vines carried *Phylloxera vastatrix*, a root inhabiting aphid of grape vines. To combat this pest, more American vines resistant to Phylloxera were introduced, but these additional introductions brought with them the downy mildew (*Plasmopara viticola*), and black rot (*Guignardia bidwellii*) which caused severe damage to grapes and threatened the wine industry. A review of what occurred at that time (i.e in early 19th century) reveals the lack of adequate and available information concerning plant pests and diseases. Realizing the importance of plant pest's association with commodity, the significance of plant protection in international trade of agricultural commodities has gained importance in recent years. To facilitate trade of plant and plant materials across the globe various phytosanitary measures have been evolved under the aegis of WTO. Each country has its own experience of devastative effects of introduced pests and is strengthening the biosecurity measures to prevent any further incursion of plant pests through travel, trade and tourism. In India, the bitter experience of plant pest incursions in the past such as Fluted Scale (*Icerya purchasi*), San jose scale (*Quadraspidiotus perniciosus*), Potato tuber moth (*Phthorimeae operculella*), Coffee rust (*Hemelia vastatrix*), Late blight of Potato (*Phytophthora infestans*), Flag smut of wheat (*Urocystis triticii*), Downy mildew of grape (*Plasmopara viticola*), Powdery mildew of rubber (*Oidium hevaea*), Bunchy top of Banana virus, Potato cyst nematodes (*Globodera rostochiensis* & *G. pallida*), Water hyacinth (*Eichhornia crassipes*), *Lantana camara, Parthenium hysterophorus*, Mexican poppy (*Argemone mexicana*), Mile-a-minute (*Mikania micrantha*), *Phalaris minor*, etc. have gained entry and still causing significant economic impact on agricultural production system.

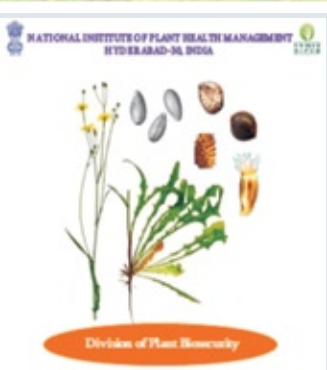
Biosecurity is an integrated approach encompassing policy and regulatory frameworks to analyze and manage risks to human, animal and plant life and health, and associated risks to the environment.

The recent past incursions such as Apple Codling moth (I) from Pakistan (1989), Coffee berry borer (*Hypothenemus hampeii*) from Sri Lanka (1990), Serpentine leaf miner (*Liriomyza trifolii*) (1990), Spiraling white fly (*Aleudicus dispersus*) from Sri Lanka (1993), Silver leaf white fly (*Bemisia tabaci* B-biotype) from Israel (1999), Sunflower downy mildew (*Plasmopara halstedii*) from USA (1987), Papaya mealy bug (*Paracoccus marginatus*) from Mexico (2008), Coconut Eriophid mite (*Aceria guerreronis*) from Sri Lanka (1995) are still spreading beyond the grips of management options to prevent their further spread.

Realizing the importance of trans-boundary movement and their deleterious effects caused by these introduced pests, the need to establish a system to take preventive action was felt as the uppermost need of the hour and DAC under the Ministry of Agriculture, Government of India has initiated measures to strengthen Biosecurity by establishing NABS (National Agricultural Biosecurity System) in India. Under the NABS, NIPHM is identified as a centre for excellence for capacity building and to provide policy support to DAC in the areas of biosecurity and SPS (Sanitary and Phytosanitary) issues. The plant biosecurity division of NIPHM aims to create and enhance the human resource in areas of pest surveillance, pest diagnostics and pest risk analysis. Further it also identifies the looming pest threats to agriculture, horticulture and forestry and identifies zones of potential entry, establishment and spread of pests. Create awareness among the various stakeholders including the public on plant biosecurity. There is an urgent need for convergence of varied Departments and Ministries to implement national biosecurity system by developing coherent strategies, in which capacity building, regulatory measures and social mobilization are vital. There is a need to create network of information sharing and collaborative work between various institutions and scientific knowledge centers to act as think tank for futuristic agricultural development and to safeguard biosecurity of the nation. NIPHM strives for capacity building in the fields of plant protection, pest surveillance, pest diagnostics, pest risk analysis, pest incursion management, policy support in the areas of international agricultural trade and phytosanitary measures to combat pest incursion.

Pest Surveillance: Pest surveillance serves as the basis for developing pest database, pest status and population dynamics of a pest at various stages of crop growth, season and time of the year. This data is vital in formulating the pest control strategies to prevent the production losses. Further, this data serves as a scientific tool in identifying PFA (Pest Free Areas) and ALPP (Areas of Low Pest Prevalence) to take appropriate regulatory or phytosanitary measures to promote safe agricultural export, thereby minimizing the pesticide inputs, avoid pesticide residues in the produce. The ICT based pest reporting technologies enables availability of accurate pest data, which can also be used to





Diagnostic Reference Kits & Posters are available on payment basis

forewarn the farmers to take appropriate, timely action and serves as scientific support for decision makers to design crop patterns. Pest surveillance is the most important component in identification of new pest report, exotic pest incursion, changed status of a pest i.e. a minor pest attaining major pest status due to various factors and forewarning the neighbouring states through network sharing. In the event of pest incursion, the management strategies need to be initiated and implemented by pest surveillance officials. There is lots of scope for improvement in the areas of pest surveillance mechanism and NIPHM will aid in developing human resource to put in place the huge task of safeguarding the biosecurity of the nation. To begin with a number of training programmes on pest surveillance are being organized. The trainings shall be oriented for officials directly involved in pest surveillance from State, Central and Private sectors.

Pest Diagnosis: The accurate diagnosis of a pest is the most critical part for taking appropriate control measures, to tackle phytosanitary issues, to promote safe agricultural trade, to develop endemic pest database and an integral part of pest surveillance programme. The National Pest diagnostic and pest repository center having specialization in the fields of mycology, bacteriology, virology, nematology, entomology, acarology and weed science aim to create state of art facility in pest diagnosis. The trainings on detection and diagnostics of various groups of pests shall enable to build specialized team of experts to lend hand in identification of pests at various levels to preserve biosecurity and to apply appropriate control measures. The pest diagnosis center shall maintain pest repository of both domestic and exotic pests and will develop tools for detection and identification of pests. Capacity building in the areas of pest diagnostics will be carried out for identification of exotic and endemic pests to plant quarantine officials, state and central plant protection officials, private and public sector technicians.

Pest Risk Analysis (PRA): PRA is required to be carried out to establish the likelihood of successful invasion by plant pests to enter, establish, spread and cause consequent impact on agricultural/ horticultural production system or cause damage to forestry, thereby threatening the biosecurity of a nation. PRA is being used to justify phytosanitary measures on traded plant products. The risk analysis is carried out based on the principles of sound science and international standards. There are three major components in PRA, viz., Initiation, risk assessment and risk management, which finally leads to final documentation as recommendations. PRA is used as a tool to identify quarantine (exotic) pests from non-quarantine pests to apply appropriate phytosanitary measures to promote safe agricultural trade. PRA extends support to decision makers and stakeholders to regulate import of agricultural produce to safeguard biosecurity of the nation by means of imposing regulation and/or phytosanitary

PRA is the process of evaluating biological or other scientific and economic evidence to determine whether a "pest" should be regulated and the strength of any phytosanitary measures to be taken against it.

Coconut beetle *Brontispa longissima*: a looming threat to coconut plants in India. It has spread from Thailand to many Asian countries and causing severe damages in Philippines and Laos. It has already reached in Myanmar and Maldives, but India and Sri Lanka are free from this pest.

treatment options. PRA enables to identify the looming pest threats and empowers to employ various strategies mitigate the potential threats. Further, PRA enables to open up trade negotiations with trading partners (bi-lateral, multi-lateral agreements etc.) to promote export of agricultural produce and helps access in global market. PRA is carried out by using available endemic pest database, various compendia, manuals, reports, etc. As per the WTO pre-requisite, phytosanitary measures can be imposed only when it is based on scientific evidences of PRA, to meet out this requirement, all the commodities needs to be notified only after carrying out Import Pest Risk Analysis and are regulated under Plant Quarantine (Regulation of Import into India) Order, 2003. In this context NIPHM will act as policy support center for DAC in carrying out PRA of import and export commodities to regulate import or promote export of agricultural commodities. The Biosecurity division will initiate capacity building in the field of PRA by imparting trainings to officials of plant quarantine, stakeholders of private and public sectors as part of safeguarding biosecurity. Further, the PRA trainings shall also be imparted to Plant Quarantine officials of neighbouring countries as a part of regional cooperation to safeguard the region from ingress of pests of concern to the region.

***Acerophagus papyae* a successful biocontrol agent (parasitoid) of papaya mealybug**

Papaya mealy bug: Recent pest incursion caused severe loss in papaya, cotton, guava, tomato and many other crops: There is a need to strengthen organized pest surveillance & measures for emergency pest incursion management.

Capacity Building Programmes

Trainees along with Director General NIPHM & faculty

Training on AESA based PHM in Rice

A season long training programme on AESA based PHM in rice crop was organized from August 10 to 08 November, 2011. Seven senior level agricultural, scientific and technical officers from State Agriculture & Horticulture Departments, SAUs in Andhra Pradesh, Assam, and Tamil Nadu states were trained under this programme. The trainees were provided classroom lectures, hands on practical and field experience of AESA in addition to organizing Farmers Field School programme in village Kameta. As a result of organizing continuous FFS and farmers advisory services, an increased paddy production of 150 kg/acre was achieved by the farmers simultaneously with a saving of Rs. 3000 per acre on pesticide usage.

Training on FFS Methodology

Recognizing the need of technology development and transfer, a Trainers Training programme on "Farmers Field School (FFS) methodology" for the national level agriculture extension officers was organized from 20 to 27 September, 2011. A total of 11 agriculture, scientific and technical officers from State Agriculture Departments and SAUs including Sikkim, Haryana, Assam, Chattishgarh, Punjab, Karnataka and Pondicherry were trained on organizing FFS program on various crops. The trainees were trained on principles, methodology and crop specific actual conduct of FFSs.

Trainees having practice on AESA along with farmers

Trainees along with the Director General NIPHM & faculty

Refresher Training Course in PHM

A Refresher Training Course in PHM for the DPPQS officials was organized from December 12 to 19, 2011. Sixteen officers from Andhra Pradesh, Haryana, Punjab, Rajasthan, Gujarat, Uttar Pradesh and Himachal Pradesh states participated in this programme. Participants were trained on principles and advance techniques in AESA based PHM, Ecological Engineering, plant nutrition along with the safe and judicious use of pesticides, and the appropriate pesticide application technologies through class room lectures and hands-on-practices.

Training programmes on Pest Surveillance

Two programmes on Pest Surveillance were organized, one each in October and December 2011. A total of 21 technical officers of State Agriculture Departments and SAUs from Andhra Pradesh, Gujarat, Uttar Pradesh, Karnataka, Punjab and Tamil Nadu actively participated in this programme. The concept of pest surveillance and surveillance methodologies in cereals, vegetables and horticultural crops was enumerated. An insight was also developed among trainees by exposing them to the importance of pest surveillance on the emerging & looming pest threat concerns to biosecurity .

Trainees along with the Director General NIPHM

Trainees participants along with Director General -NIPHM

Certificate Course on Urban Integrated Pest Management

Second Certificate Course on Urban Integrated Pest Management was organized from 2 to 16 November for 10 professionals of the structural pest management industry. Participants were given exposures on biology and management of mosquitoes, termites, flies, cockroaches, rodents, stored insect-pests besides giving exposures on pesticide toxicity, safe and judicious use of pesticides, pesticide application techniques and food safety.

Workshop on Curriculum Development for Training of SPM Technicians

One day Workshop on Curriculum Development for the training of Structural Pest Management Technicians was organized on 14 September. 17 delegates from the Indian Pest Control Association and Pest Management Association participated to develop the curriculum. The forum unanimously decided that NIPHM will conduct 15-days training for Master Trainers in Urban Integrated Pest Management, & delegates will be acting as Resource Persons.

Trainees gating the hands-on-practices

Trainees getting the hands-on-practices

Refresher Training on Rodent Pest Management (RPM)

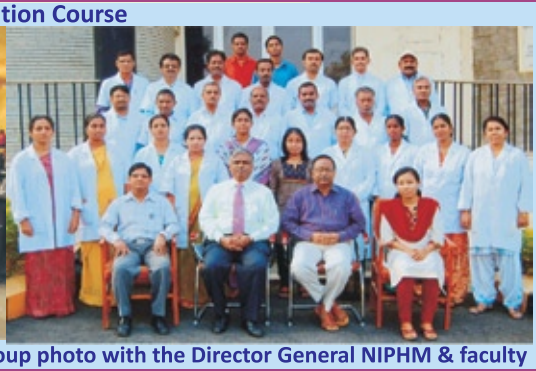
Three joint Refresher training programs on RPM were organized for middle level extension functionaries of Kerala Agricultural University, Kerala from 13 - 19 Sept., 2011, Assam Agricultural University, Jorhat, Assam from 17-23 Oct., 2011 and University of Agriculture, UAS from 28 Nov., to 4 Dec., 2011 at their respective campus. One training was held at NIPHM from 2 to 8 December. 25 trainers in each programme were given exposures on distribution of major rodent pest species, breeding profiles of rodent pests in relation to their management, crop rodent seasonal calendar and ethological parameters in relation to their management.

Analysis & Quality control of Microbial Biopesticides

A trainers training programme was organized from 14 to 21 December, 2011 to train the participants on biopesticides' quality control aspects. 21 participants from Andhra Pradesh, Jammu & Kashmir, Maharastra, Punjab, Himachal Pradesh and Nagaland actively participated in the training and experienced hands-on practicals on quality control methodologies for fungal, bacterial, and viral biocontrol agents/biopesticides in pest management. A visit to State Biocontrol Testing Laboratory was also organized to have an understanding on standards & protocols in analysis of quality control aspects.

Trainees along with the Director General NIPHM & faculty

Pesticide Formulation Course



Trainees doing hands-on-practicals & Group photo with the Director General NIPHM & faculty

Pesticide Management division organized 109th batch of Pesticide Formulation Course from 20 September to 8 December 2011. 22 participants from different organizations viz. Central Insecticide Laboratories (CIL), Faridabad, RPTL, Kanpur and State Agricultural Departments of Andhra Pradesh, Karnataka, Maharastra, Mizorum, Tamil Nadu, and Uttrakhand were trained in pesticide formulation aspects.

Special Visits to NIPHM

Joint Secretary Plant Protections, visit to NIPHM

Mr. Pankaj Kumar, IAS & Joint Secretary- Plant Protection visited NIPHM on September 20th, 2011. He visited laboratories & fields and campus to have a first hand information on the activities of NIPHM.

Snapshots of JS-PP visit to NIPHM field & laboratories along with DG NIPHM & officials

Dr. Martin Parr interacting with trainees & NIPHM Officials

ADG-PP, ICAR visit to NIPHM

Dr. T.P. Rajendran, Assistant Director General (Plant Protection)-ICAR visited NIPHM on 4th October and interacted with the NIPHM faculty and the trainees especially the Induction Course participants. Dr. Rajendran also delivered a lecture on 'Recent Advancement in Plant Protection, Recent Pest Outbreaks and Pesticide Residue Problems and their Management'.

Dr. Rajendran, ADG-PP delivering lecture to the trainees

Dr. Gilkey & Mortimer interacting with DG NIPHM & Officers

Dr Marc C. Gilkey from USDA & Mr. Ian Mortimer from Australian High Commission visited NIPHM on 13th October, 2011. They had a discussion with Director General & Senior Officers for potential collaboration. They visited NIPHM laboratories and interacted with training participants and NIPHM faculty. Dr. Gilkey also delivered a lecture on Pest Surveillance and Pest Risk Analysis.

Dr. Martin Parr from CABI, UK along with Dr. Kavya visited NIPHM on 25th November. They had active discussion with PDGPHM students & NIPHM faculty and visited the NIPHM facilities. Dr. Parr also delivered a lecture on 'Knowledge Management'.

Training on Integrated Weed Management in *Kharif* crops

National Trainers Training Programme on 'Integrated Weed Management in Kharif Crops' was organized from 19th to 23rd September, 2011 at NIPHM. Trainees from Andhra Pradesh, Chhattisgarh, Himachal Pradesh, Uttar Pradesh and Uttarkhand states participated in the programme. Emphasis was given on hands-on-practical on IWM in different crops like: Paddy, Sorghum, Maize, Vegetables, Oilseeds, Pulses, Cotton and Sugarcane including weeds of quarantine significance to India, safe use of herbicides, herbicide resistance and climate change.

Another Training Programme on 'IWM in Commercial Crops' was organized from 16th to 23rd November, in which six trainees from Andhra Pradesh, Chhattisgarh, Rajasthan and Maharashtra states participated. The trainees were exposed to IWM in different crops like: Sugarcane, Cotton, Jute, Potato, Turmeric, Tobacco, Chilli and Vegetables crops etc.

Trainees doing hands-on-practices on weed management

FTOT on Rodent Pest Management

Six Trainer Farmer's Trainings (FTOTs) on rodent pest management were organized at Madurai, South Tamil Nadu from 5-9 September, Imphal, Manipur from 10-14, October; Eluru, West Godavari dist., from 27th September to 1st October; Machilipatnam, Krishna District, A.P. from 16-20 November; Bhavanisagar, Erode Dist. Tamil Nadu from 21-25, November, and Guntur from 29th September to 3rd October; Kiltan Island of Lakshadweep from 12th to 15th December; 35 farmers were trained in each programme on rodent problems and their management in agriculture and storage situations and given exposures on ecology and ethology of rodents including their breeding potentiality in relation with their management.

Trainees doing hands-on-practices under different FTOTs

Welcome

Dr Om Prakash Sharma

Dr. Om Prakash Sharma Joined the National Institute of Plant Health Management as Joint Director (Agronomy and Agro meteorology) on 11. 11. 2011. Earlier, Dr Sharma served as Subject Matter Specialist (Agronomy) at KVK Sardarshahar (Rajasthan).

Forthcoming Training Events

- Refresher Course on Pesticide Formulation Analysis: 04- 24 January 2012
- Timber Log Pests : 16-20 January, 2012
- Stored Grain Pests:16-20 January, 2012
- Certificate Course Urban Integrated Pest Management PCOs: 21-28 Jan., 2012
- Sensitization Workshop on Rodent Pest Management, 30-31 Jan., 2012
- IWM in Vegetables & Tropical Fruit Crops: 18-25 January, 2012
- Stored grain pests and Phytosanitary Treatments : 16 Jan - 6 Feb., 2012
- Timber Pests & Phytosanitary Treatment: 16 January - 6 February, 2012
- Phytosanitary Treatments: 23 January- 6 February, 2012
- Refresher training on Rodent Pest Management, 2-8 Feb, 2012
- Refresher training on Rodent Pest Management(RPM), 10-16 Feb,2012
- Refresher training on RPM at Patna, 8-13, Jan 2012
- Refresher training on RPM at SKUAT, Jammu, 15-21 Feb,2012
- Basic Pesticide Formulation Analysis, 2-12 Feb,2012
- Refresher training on RPM, NAU, Navsari, Gujarat, February, 2012
- Refresher training on RPM at ANGRAU, Maruteru (AP), February, 2012
- Training of Farmer Trainers on RPM at Madhepura, Bihar, Feb., 2012
- Pest Surveillance: 6-13 February, 1-12
- Pesticides Application Technology: 01-08 February, 2012
- Trainer Farmers' Training on RPM in Karnataka, February, 2012
- SLTP Vegetable Crops: 1-30 March, 2012
- AESA & Ecological Engineering: 1- 21 March, 2012
- IWM for Rabi Crops: 5- 9 March, 2012
- Integrated Soil Nutrient & Weed Management: 1-7 March, 2012
- Pest Surveillance: 2-9 March, 1-12
- Stored Grain Pests:6-10 March, 2012
- Refresher Course on Phosphine Fumigation: 6-8 March, 2012
- Phytosanitary Treatments: 12-25 March, 2012
- Conventional Methods in Pesticide Analysis, 13 March- 2 April, 2012
- Timber and SWPM Pests & Phytosanitary Treatment: 27-31 March, 2012
- Stored Grain Pests and Phytosanitary Treatments : 6-26 March, 2012
- Trainer Farmers' Training on RPM in Nagaland, March, 2012
- Trainer Farmers' Training on RPM in Gujarat, March, 2012
- AESA based PHM for Senior Officers: 12-13 March, 2012
- Training on Phytosanitary treatments: 12-26 March, 2012
- Safe and Judicious Use of Pesticides: 20-24 March, 2012
- Production Protocol for Bioagents & Biopesticides: 19-29 March, 2012
- Instrumental Methods of Pesticide Analysi, 3-23 April,2012
- Safe and Judicious Use of Pesticides: 24-28 April, 2012
- Seed Health Testing: 16-20 April, 2012
- Molecular Diagnostic Techniques: 23-30 April, 2012
- Quarantine Weeds Detection & Identification: 12-14 April, 2012
- Urban Integrated Pest Management : 25-27 April, 2012
- Forced Hot Air Treatment: 9 -13 April, 2012
- Production of Bioagents & Analysis of Microbial Biopesticides: 10-30 April, 2012
- Production Protocol for Bioagents: 10-20 April, 2012
- Analysis of Microbial Biopesticides: 21-30, April 2012
- AESA based PHM for Senior Officers: 16-17 April, 2012
- Quarantine Pest Detection & Identification: 9-30 April, 2012
- Fruit Flies-Monitoring & Identification: 9-11 April, 2012
- Production of Bioagents & Analysis of Microbial Biopesticides: 10-30 May, 2012
- Production Protocol for Bioagents: 10-20 May, 2012
- Analysis of Microbial Biopesticides: 21-30 May, 2012
- AESA based PHM for Senior Officers: 2-3 May, 2012

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