



Plant Health News Letter

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From the Director General's Desk

The integrity of Agro Ecosystems is vital for sustainable agriculture. However, intensive use of the ecosystems to enhance productivity on the one hand and the indiscriminate and unscientific use of chemical pesticides on the other have been eroding ecosystems and causing wide spread environmental pollution. The environmental pollution due to Pesticides is accentuated since more than 90% of the used insecticides and herbicides reach destinations other than the targeted species, resulting in air & water pollution and contamination of food. The transboundary movement of volatilized P.O.Ps (Persistent Organic Pollutants) results in deposition of P.O.Ps in regions far away from the source of origin. The P.O.Ps bioaccumulate, biomagnify and bioconcentrate several times, adversely affecting human health. Some of the P.O.Ps are known to be endocrine disruptors posing serious risk to human health. In order to limit the risks to human health, environment and consequently to agriculture, scientific pesticide management becomes essential. International conventions on the usage, storage and transport of pesticides provide necessary guidelines for regulation of Pesticides. India is a signatory to the conventions and accordingly the Pesticide manufacture, usage, storage etc are regulated.

Appropriate Pesticide Management practices are essential to ensure the quality and bioefficacy of the Pesticides and minimize the deleterious effects of the Pesticides. Pesticide Management plays a significant role in minimizing the deleterious effects of Pesticides and ensures quality control and enhances the bioefficacy of Pesticides through appropriate engineering technologies. Appropriate Use of Pesticides and Appropriate Pesticide Application Techniques are essential for promotion of safe and judicious use of Pesticides.

In order to ensure food safety, it becomes imperative to monitor the Pesticide Residues in edible commodities. There is also a need to strengthen the infrastructure for residue analysis and build the capacity of the Scientists and Analysts to undertake residue

analysis. It is also essential that the Pesticide Residue levels are within the prescribed MRLs to ensure the competitiveness of Indian agriculture in the international market.

NIPHM realizing the significance of Pesticide Management has proposed to cover these issues in its newsletters. Capacity Building issues will be addressed in one issue and Appropriate Use of Pesticides and Appropriate Pesticide Application Techniques will be covered in the next issue. NIPHM, through its Pesticide Management



Dr. K. Satyagopal, I.A.S.

Division, plays a significant role in capacity building targeting the Pesticides Analysts at the Central and State Governments, Scientists and Analysts from the Private Sector in order to ensure Quality Control of the Pesticides through an intensive 84 days training programme in Pesticide Formulation Analysis. This training is mandatory to be qualified as a Pesticide Analyst. NIPHM also endeavours to build the capacity of Scientists and Analysts in Pesticide Residue Analysis which is essential for effective monitoring of Pesticide Residues. The current issue throws light on various aspects involved in Pesticide Management and Capacity Building Programmes offered by the Pesticide Management Division of NIPHM.

I hope the Agricultural extension functionaries of the State Government, Scientists of ICAR/SAU and officers of Private Sector will take advantage of the Capacity Building Programmes offered by Pesticide Management Division of NIPHM.

(K. Satyagopal)
Director General

Attachment of I.A.S. Officer Trainees

The National Institute of Plant Health Management (NIPHM) has been identified as one of the Centre for Attachment of I.A.S. Officer Trainees by the Lal Bahadur Sastry National Academy of Administration. During the year 2012, 32 I.A.S. Officer Trainees in two batches attended the Attachment Programme at NIPHM on 25th January and 2nd February.



Director General with IAS Officer Trainees & faculty

The Officer Trainees were briefed on mandate of NIPHM, the pioneering activities carried out in the past and current thrust on emerging areas of Ecological Engineering, Agro-Ecosystem Analysis (AES) based Plant Health Management, Biosecurity in relation to

International Trade, Pesticide Management, Vertebrate Pest Management and Plant Health Engineering.

The Director General, Dr. K. Satyagopal, I.A.S explained the significance of the various activities of NIPHM in promoting sustainable agriculture and stressed that the knowledge in the above areas is essential for the administrators for efficient functioning in the fields as well as for policy making.

The Trainees were taken around the various Laboratory facilities at the Institute.



IAS Officer trainees attending lecture sessions

Theme Article

Pesticide Management

Dr. Abhay Kumar Ekbote

The usage of Pesticides for plant protection dates back to 15th century the preparations of organics arsenicals, mercurial and lead came in to use, 19th century saw the introduction of pyrethrums, chrysanthemum and rotenone. The introduction of DDT in 1950 is the real kick start for the use of synthetic pesticides for plant protection. Today globally there are more than 1700 known pesticides.

Pesticides are used to control organisms that are considered to be harmful. But at the same time there can be a cost to the environment and human health due to the toxic effects of pesticides, as well as the cost of the development and research of new pesticides. Pesticide use which is inevitable and an integral part of the plant protection, raises a number of environmental concerns as over 98% of insecticides and 95% of herbicides also affect adversely the non-target species besides contaminating the air, water and soil.

Due to inappropriate use of pesticides a number of agricultural produce including different fruits and vegetables are found to contain pesticide residues more than expected levels, similarly the export of agricultural produce and processed food consignments were rejected because of pesticide residues above the Maximum Residue Levels (MRL).

Though the pesticide use is essential at some points the above scenario cannot also be overlooked.

There are about 234 pesticides registered in India for use and export. India produces large quantity of pesticides and stands at 4th place after US, Japan and China. The consumption of pesticide is around 45 thousand m. tones with an average consumption being 0.5Kg/ha. The consumption of pesticide no doubt has come down in quantity in the last few years which can be attributed to the introduction of latest molecules which are required at low dose/ha for the pest control and due to implementation of Integrated Pest Management technique which helped in reduction of consumption of pesticides. Major quantum of pesticides in India is used on paddy and cotton followed by the Vegetables and other horticultural crops.

Pesticide Management aims to introduce sustainable and environmentally sound agricultural practices that reduce health and environmental risks associated with the use of pesticides. There are many international memorandums of understanding and conventions besides joint programmes on the pesticide management to achieve this objective and India is also one of the signatory to them.

Safe and Judicious use of Pesticides is possible by using appropriate pesticides as per the label claim and by following appropriate application techniques with high efficiency calibrated nozzles on high, low and ultralow volume spraying pumps.

The Food and Agriculture Organization of the United Nations (FAO) and the World Health Organization (WHO) have signed in March 2007 a Memorandum of Understanding on cooperation in a **Joint Programme for the Sound Management of Pesticides**. The Agreement marks a new chapter in the collaboration of the two organizations and provides unified, coordinated and consistent advice and support to their Member States and to other stakeholders on sound management of pesticides.

The International Code of Conduct on the Distribution and Use of Pesticides (Code of Conduct) is the framework and the general guiding document for the sound management of pesticides. The Code of Conduct has established standards of conduct for all public and private entities engaged in, or associated with, the distribution and use of pesticides. The Code of Conduct includes the life-cycle

concept of pesticide management and focuses on risk reduction and the protection of human health and the environment. The code has raised awareness about pesticide hazards and reduces the inconsistencies in regulations among countries, as pesticide regulations differ from country to country.

The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade, more commonly known as the Rotterdam Convention, is a multilateral treaty to promote shared responsibilities in relation to importation of hazardous chemicals. The convention promotes open exchange of information and calls on exporters of hazardous chemicals to use proper labeling, include directions on safe handling, and inform purchasers of any known restrictions or bans. Signatory nations can decide whether to allow or ban the importation of chemicals listed in the treaty, and exporting countries are obliged to make sure that producers within their jurisdiction comply.

The Stockholm Convention on Persistent Organic Pollutants, originally started with 12 POP (8 pesticides) aims to eliminate or restrict the production and use of persistent organic pollutants (POPs). Parties to the convention have agreed to a process by which persistent toxic compounds can be reviewed and added to the convention, if they meet certain criteria for persistence and trans boundary threat.

The United Nations London Guidelines for the Exchange of Information on Chemicals in International Trade seeks to implement procedures for ensuring that prior informed consent exists between countries buying and selling pesticides. The United Nations Codex Alimentarius Commission seeks to create uniform standards for maximum levels of pesticide residues among participating countries. Pesticides regulations are governed in India under following Acts/Rules::

1. **Insecticide Act, 1968 and the Insecticides Rules, 1971** by Ministry of Agriculture(MoA), Department of Agriculture & Cooperation(DAC)
2. **Environment Protection Act, 1986** by Ministry of Environment & Forest
3. **Food Safety and Standards Act 2006** by Ministry of Health & Family Welfare (MOH&F)
4. **Bureau of Indian Standards Act** by Bureau of Indian Standards

Government of India has enacted "The Insecticides Act, 1968", which came into force in 1971, to regulate import, manufacture, sale, transport, distribution and use of *insecticides* (including herbicides, fungicides, rodenticides, etc.) for the sake of prevention of risk to human beings and animals. Through this Act one of the major important clauses of the International code of conduct of Pesticides "to adopt the "life-cycle" concept to address all major aspects related to the development, regulation, production, management, packaging, labeling, distribution, handling, application, use and control, including post registration activities and disposal of all types of pesticides, including used pesticide containers" is achieved. The Ministry of Agriculture (Government of India), administers this Act. The Govt. of India also designed to promote Integrated Pest Management (IPM) (including integrated vector management for public health). Under the Act, compulsory registration of pesticides is provided. The registration certificate has the number. The Insecticide Rules takes care of the safety in pesticide handling and use. It covers protective clothing, respiratory devices, and symptoms of poisoning, safety precautions, antidotes and first aid, training of workers and disposal of used packages, surplus materials and washing of insecticides.

Central Insecticides Board (CIB) and the Registration Committee (RC) are two "high-powered" bodies under this Act. CIB is the Apex Advisory Body, which advises the Central and the State Governments on technical matters arising out of administration of this Act. It comprises eminent scientists of all disciplines/fields concerned. Whereas, the RC grants registrations to the persons, desiring to import or manufacture insecticides, after scrutinizing their formulae and verifying claims with respect to their bio-efficacy and safety to human beings and animals.

The registration of pesticide under the Insecticide Act 1968 is mandatory for pesticide use in the country, it is ensured that no residue of pesticide is left at the time of harvest of the crop. The MRL are fixed by MOH&F under the Food Safety and Standards Act 2006 on the basis of the residue and the Toxicological Information provided by the Ministry of Agriculture. A "National Project on Monitoring of Pesticide Residues" is being implemented by DAC, MoA, with an objective to ascertain the prevalence of pesticide residues at farm-gate and market yards so that remedial measures could be undertaken through IPM campaign to eliminate the risk of pesticide residues from agricultural commodities with special emphasis on products that are being exported & those having export potential.

India has four poison information centers including the National Information Centre at AIIMS in New Delhi. The Poison Information Centre is a specialized unit providing information on prevention, treatment of poisoning and hazard management.

The Secretary to CIB, and expert scientists from the field of Chemistry, Entomology, Plant Pathology, Weed Science, Medical Toxicology and Packaging Engineering support the functioning of the CIB & RC. Obtaining registrations for manufacturing/importing insecticides is mandatory under the law. After the grant of registration, a prospective manufacturer is required to obtain a license to manufacture a particular pesticide from the State government where the manufacturing unit is located. Manufacturing License is granted after proper inspection and ensuring availability of essential infrastructure for the purpose. Plant Protection Adviser to the Government of India issues licenses for commercial pest control after ensuring technical competence of the operator.

Moreover, the samples of various agricultural commodities, fruits, vegetables, water, milk and egg etc. are tested at different laboratories for Pesticide Residues. State authorities under the guidance of Central Government are involved in Monitoring of Pesticide residues.

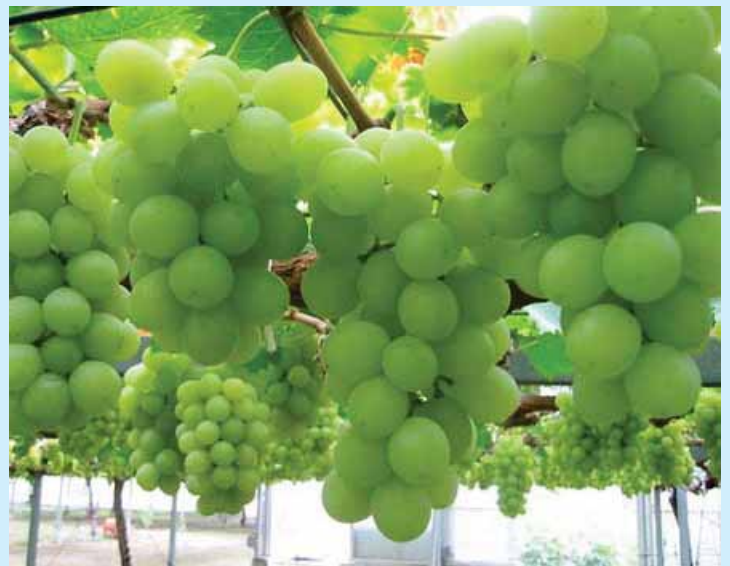
The quality of Pesticides manufactured, sold and used in India is controlled under the legal provisions of Insecticide Act 1968 & Insecticide Rules, 1971. Here the Insecticide Inspectors play key role in inspecting the manufacturing and sale premises, draw and submission of pesticide samples to Insecticide Analyst for analysis, if the pesticide does not conform to the specifications then Insecticide Inspector will launch legal proceedings against the concerned. To ensure scientific sampling and quality testing by the Inspectors and Insecticide Analysts, Insecticide Rules 1971 stipulates Insecticide Analysts requires to be qualified "A graduate in Agriculture or a graduate in Science with Chemistry as special subject; and adequate training in analyzing insecticides in a recognized Laboratory". To fulfill the above objective NIPHM is offering an exclusive training programme in Pesticide Formulation Analysis, which enables the Insecticide Analysts to be qualified as per the requirement of Insecticide Act.

NIPHM also plays a key role in capacity building of Insecticide Inspectors, Insecticide Analysts and other authorities on different aspects of Pesticide Management.

Pesticide Formulation Analysis (PFA): Effective control of pests is possible through use of approved, quality pesticides using appropriate application methods. The technical and formulation

Pesticide Residue Monitoring in Grapes: A Success Story

India exports table grapes to Europe since 1990 onwards; the quantum of export in 2002 was 3,700 metric tons coupled with many non-compliance with respect to Sanitary and Phytosanitary issues. To meet stringent Sanitary and Phytosanitary requirements, APEDA initiated network of stakeholders involving farmers, government officials, Pesticide residue testing laboratories, pack houses, exporters, regulatory agencies such as AGMARK quality certification department, Phytosanitary certification department and APEDA. The activities of all the stakeholders, starting from farmers field registration, pack house accreditation, sample testing by pesticide residue lab. AGMARK certification and Phytosanitary certification were all bought in a single network in the software Grape Net developed by APEDA. The Grape Net essentially advocates good agricultural practices, use of approved and recommended Pesticides, judicious and appropriate Pesticide Application Technology, Pre Harvest Interval (PHI) to be followed and encouraging use of bio control approaches during the fruiting period.



The Grape Net sequentially follows various activities undertaken by all the stakeholders with traceability features for each consignment, ensuring the Pesticide residue levels are below the specified MRL. Regular monitoring for the Pesticide residue compliance, phytosanitary certification and traceability led to export of 36,000 tons of grapes in the year 2009-10. However, the contamination of a growth hormone Chlormequat Chloride (CCC) during 2010-11 season led to a drastic fall in export to a level of 15,000 metric tones. The monitoring for residue of Chlormequat Chloride (CCC) residue was incorporated in the Grape Net in the year 2010-11 onwards. Further creation of awareness among farmers and strengthening the human resource in Pesticide residue testing through advanced training in European Laboratories has resulted in export of 28,000 metric tons in the 2011-12 season.

pesticide need to be analyzed for physical and chemical properties. The participants of this programme are trained on:

- ☑ Introduction of pesticide management covering regulation of pesticide during manufacture, import, export, transport, storage, handling, and safe disposal.
- ☑ Basic information of pesticide like number of pesticides registered in India, banned, and restricted and their classification based on properties and usages are covered.
- ☑ Basics in classical methods of analysis including gravimetric and volumetric method of analysis are taught during this programme.

☐ Pesticide analysis using UV cum visible spectrophotometer, Fourier Transformed Infra Red Spectrophotometer, Gals Liquid Chromatograph and High Performance Liquid Chromatograph.

☐ NABL accreditation as per ISO 17025:2005.

☐ This training programme is mandatory for the Insecticide Analysts working in the Pesticide Testing Laboratories of Central and State Governments.

Pesticide Residue Analysis (PRA): As a post pesticide registration condition, various agricultural produce requires to be tested for pesticide residues. Similarly for food safety this is one of the most important parameters to be handled by the laboratories. Before registration of pesticides lot of data has to be generated for suitability of particular molecule on specific crop and tested for pesticide residue (PR) to fix pre harvest interval. The analysts working and willing to work in the PR Testing Laboratories are trained for

☐ Basics in pesticide residue analysis

☐ Different methods of reissue extraction and quantification

☐ Estimation of level of detection and level of quantification.

☐ Method of validation

☐ Operations of highly sophisticated and sensitive equipments like GCMSMS and LCMSMS

☐ Establishment, strengthening of residue laboratory in accordance with NABL accreditation(ISO 17025: 2005).

Taking in to account the need for organizing short duration (21 days) programmes NIPHM has formulated four new courses to cater to the requirement of Agricultural Extension Officers, Scientists / Faculty of ICAR / SAUs and functionaries of the Pesticide Industry. The programmes are:

1.Principles of Pesticide Management: The course aims to provide exposure to the participants about the principles governing Pesticide Management. The curriculum covers:

☐ Introduction to pesticides, different formulations and recent developments.

☐ Regulation of pesticides including registration, legislation.

☐ Quality control,

☐ Life cycle management of pesticides, pesticide risk assessment,

☐ International conventions on Pesticides etc.

2.Basics in Pesticide Analysis: Participants will learn basics of pesticide analysis and the governing principles. The curriculum

covers:

☐ Introduction to analysis

☐ Chemical classification of pesticides,

☐ Concepts of titrimetric analysis, preparation and standardization of standard solutions,

☐ Basic Principles, reactions, calculations, procedures, precautions involved in analysis of various pesticides and their formulations.

☐ Physico-chemical properties of pesticide formulations and determination of the parameters as per BIS specifications.

☐ Analysis of selected pesticides involving, Acid-Base titrations, Argentometric titrations, Iodometric titrations.

3. Conventional methods in Pesticide Analysis: The course provides insights to conventional methods of Pesticide Analysis. The curriculum covers:

☐ Chemistry of different groups of pesticides, like organo-chlorine, organo- phosphates, carbamates, Pyrethroids, Neonicotinoid and miscellaneous compounds besides Neem based pesticides.

☐ Principles of Redox, Complexometric, Non-aqueous and selected miscellaneous titrations, the Analysis of selected pesticides based on the said titrations.

☐ Maintenance of sample register and documentation in laboratory, coding and analysis,

☐ Determination of the physico-chemical parameters as per BIS specifications.

4.Instrumentation in Pesticide Analysis and Laboratory Standards: The course aims to enrich the knowledge of Analysts by exposing them to methodologies adopted for formulation analysis of new molecules. The course curriculum covers:

☐ Theory of Spectroscopy, Instrumentation & maintenance of Ultra Violet- Visible, FT-Infra Red Spectrophotometers and application in pesticide analysis.

☐ Chromatography- theory of different chromatographic techniques, TLC, HP-TLC, CC, GLC & HPLC, Concept of HETP, resolution, plate count. Preparation of GC columns and conditioning, maintenance etc.,

☐ Analysis of selected pesticides using UV-Vis & IR spectroscopy,

☐ GLC & HPLC, calibration of the analytical instruments, precautions and trouble shooting of the above instruments.

☐ Training on Laboratory Quality Management and Internal Audit as per ISO 17025:2005 and Good Laboratory Practices.

Capacity Building Programmes



Trainees attending the lecture

Refresher Training Course on Plant Quarantine

This course is developed for the official of DPPQS who are working in the quarantine stations. Refresher course aims to retune and refine their knowledge with an update in the areas of concern. One programme from January 4th to 11th, 2012 was conducted and was attended by 22 officers of DPPQS. Two participants from Agriculture Department of Nagaland also underwent this course.

Refresher Training Course on Phosphine Fumigation

The recent national standards on Phosphine fumigation generated a need to have Refresher Programmes on Phosphine fumigation. This 3 days course programme was developed to provide stakeholders an opportunity to update with recent developments. One programme was organized from 6th to 8th March 2012 Seven participants from different industries were participants in this training.



Director General NIPHM with faculty and trainees

Capacity Building Programmes

Training on Integrated Weed Management in Vegetables and Tropical Fruit crops

National Trainers Training Programme on 'Integrated Weed Management in Vegetables and Fruit Crops' was organized from 18th to 25th January, 2012 at NIPHM. 12 Officer trainees from Andhra Pradesh, Himachal Pradesh, Rajasthan, Odisha and Meghalaya states participated in the program. Emphasis was given on hands-on-practical on IWM in different crops including weeds of quarantine significance to India. Advance weed management practices and issues on herbicide resistance and climatic changes challenges in weed management were elaborated.

Training on Phytosanitary Treatment

NIPHM is one of the notified Institutes to impart training on Methyl Bromide and Phosphine Fumigation. The dire need of quality training and hands-on exposure in practical aspects of the fumigation industry was addressed by this programme. Two batches were trained in this Training on Fumigation from 23rd January to 6th February and from 12th to 26th March 2012. 21 participants from private industry and five PGDPHM students attended.



Trainees laying sand snakes in fumigation process

Certificate course on Master trainers' on UIPM

Two 15-days Certificate course on Master trainers' training on Urban Integrated Pest Management for Professionals of Structural Pest Management Industry were organized from 19th to 24th December 2011 and 2nd to 10th January, 2012. Ten participants were trained on biology and management of structural/ industrial pests including rodent pest management.



Trainees attending the lecture delivered by Director General NIPHM

Production Protocols of Bioagents and Biopesticides

A training programme on production protocols of bioagents and biopesticides was organized from March 19th to 29th, 2012. A total number of 17 participants from Andhra Pradesh, Jammu, Punjab, Chattishghad, Orissa and Nagaland attended the training programme. The protocols for mass multiplication of fungal, bacterial, viaral bioagents and rearing host cultures was the key component of both theory and practical classes.



Director General NIPHM with faculty and trainees

Training on Timber log Pest Management

This programme deals with the pests of timber logs and solid wood packaging material. It aims to develop the thorough understanding of the issues involved in the usage of solid wood packing material in international trade and the potential threat of pests accompanying various types of logs / sawn timber. Timber trade and relevant phytosanitary issues involved are covered additionally. This programme is offered as a subset of "Phytosanitary Treatments" Programme and was organized from 6th to 24th March 2012. Six participants underwent this training.



Survey for timber-log pests by the Trainees

International training Course on IPM for participants of IBSA

A training programme was organized on Integrated Pest Management for participants from India and South Africa under IBSA trilateral cooperation from March 12th to 30th March 2012. Participants from Ministry of Agriculture, Forestry & Fisheries South Africa and Directorate of Plant Protection, Quarantine and Storage India participated in the programme. The principles, concepts and technologies of IPM, Ecological Engineering and AESA for different crops were taught through lectures and field visits. Lectures on Pest Surveillance, Plant Quarantine, Pest Risk Analysis, Plant Biosecurity and Incursion Management were also delivered on spacial request of South African participants..



Director General NIPHM with faculty and trainees

Training on Pesticides Application Technology

A training on "Pesticides Application Technology" was conducted from 1st to 8th February. Officers from Andhra Pradesh, Tamil Nadu were trained in principles of pesticide application techniques,



Demo of tractor mounted sprayer

types of spraying equipment, classification and classification & selection of the nozzles, calibration of the sprayers, pesticide formulation & their properties, remote sensing and GIS applications in Agriculture.

Rodent Pest Management

NIPHM extended expert consultancy services to Government of Andhra Pradesh, Gujarat and Sikkim as per the request of respective State Commissioner of Agriculture. Management options for different cropping patterns & agroclimatic situations were provided to minimize the rodent pest problems.



Rodent damage being recorded in sugarcane crop in Bardoli, Gujarat

Refresher Training on Rodent Pest Management (RPM)

NIPHM Hyderabad has organized fourth Refresher Training on Rodent Pest Management to the officers of Department of Agriculture, Bihar from 7th to 13th January, 2012 with venue at ICAR complex for North East States, Patna. Thirty six (36) officers from different districts of the State were imparted the training. Exposures were given on general morphology and basic aspects of rodent pests and their management. The participants worked out Action Plan for organizing community based rodent control campaigns in their respective jurisdictions.



Rodent damage being recorded in rice crop in Madhepura, Bihar

NABL Consultancy

The National Institute of Plant Health Management (NIPHM) has entered in to an agreement with Dharwad Agricultural University and Food Testing Laboratory, *Krishi Vigyan Kendra*, Amravati to offer consultation services to secure National Accreditation Board for Testing and Calibration Laboratories (NABL) accreditation for the Pesticide Residue Laboratory, Dharwad Agricultural University, Dharwad and Food Testing Laboratory, *Krishi Vigyan Kendra*, Amravati.

Pesticide Formulation Analysis Course

A 84 days Pesticide Formulation Analysis Course was organized from 31st January 2012. A total of 18 Officers from State Agriculture Departments and Private Companies of Andhra Pradesh, Tamil Nadu, Madhya Pradesh, Rajasthan and the students of PGDPHM actively participated in this programme. The first and second rank holder participants in the training programme were also felicitated by the Director General NIPHM.



1st and 2nd rank holder participants being felicitated by the DG NIPHM

Special Visits to NIPHM and Events

Visit of Shri P.K. Basu, I.A.S. & Secretary Department of Agriculture & Cooperation, MoA to NIPHM

Shri. P. K. Basu, IAS & Secretary, Department of Agriculture & Cooperation, Ministry of Agriculture visited NIPHM on February 14th, 2012. He reviewed the activities of NIPHM with Dr. K Satyagopal, DG NIPHM & Senior Officers. Visited new faculty cum training block (under construction), laboratories & demonstration fields to have a first hand information on the activities of NIPHM. During his visit, the innovative reference kits of Quarantine Weed Seeds and Stored Grain Insect Pests developed by the Plant Quarantine and Policy Division were also released by the Secretary.



Secretary Shri P.K. Basu, I.A.S. releasing the Quarantine Weed Seeds and Stored Grain Insect Pests Kits



Review of activities of NIPHM by Shri P.K. Basu, I.A.S. & Secretary DAC DACIPHM & officials



Snapshots of Secretary's visit to NIPHM along with J.S. Shri Atanu Purkayastha and Dr. K.Satyagopal, I.A.S. & Director General, NIPHM

**Orientation workshop for Under Secretary Level Officers**

One batch of senior officers of the level of Under Secretaries & above from Department of Agriculture and Co-operation attended Orientation Programme on Plant Health Management, Biosecurity, Pesticide Management and various activities initiated by the NIPHM along with the future thrust areas for plant health management.



Senior Officers of DAC attending the orientation programme

सचिव, कृषि एवं सहकारिता विभाग का संस्थान में स्वागत श्री पी के बासु भा प्र से एवं सचिव कृषि एवं सहकारिता विभाग ने दिनांक 14 फरवरी, 2012 को संस्थान का भ्रमण किया तथा संस्थान के महानिदेशक डा के सत्यगोपाल एवं वरिष्ठ अधिकारियों के साथ संस्थान की विभिन्न गतिविधियों की समीक्षा की। इस दौरान उन्होंने संस्थान में निर्माणाधीन प्रशासनिक एवं प्रशिक्षण भवन, प्रयोगशालाओं तथा प्रदर्शन क्षेत्र का अवलोकन किया। इस अवसर पर श्री बासु ने संस्थान के पौध संरक्षण एवं नीति प्रभाग द्वारा विकसित 'नवाचार संदर्भ किट' का शुभारंभ भी किया।

राजभाषा क्रियान्वयन समिति की बैठक

दिनांक 30 मार्च 2012 को संस्थान की राजभाषा क्रियान्वयन समिति की बैठक का आयोजन महानिदेशक डा के सत्यगोपाल भा. प्र. से. की अध्यक्षता में किया गया। बैठक में महानिदेशक ने राजभाषा हिन्दी के क्रियान्वयन हेतु आवश्यक निर्देश दिये।



Dr. Taylor delivering lecture to the trainees

Dr Phill Tayler from CABI visited NIPHM on 9th January 2012. Dr. Tayler delivered a lecture on Plant Health Clinics and Diagnosis to the trainees.



Dr. K. Satyagopal, I.A.S. & Director General, NIPHM chairing a meeting with Officials of USAID to formalize collaboration between NIPHM & USAID

Inauguration of Concurrent PGDPHM Programmes

NIPHM initiated a Concurrent Post Graduate Diploma in Plant Health Management (PGDPHM) in collaboration with TNAU Coimbatore, MKV Parbani and YSRHU Andhra Pradesh. The programme is spread over four Semesters and is offered for the students from the 5th Semester of B.Sc. Agriculture/Horticulture. The course is also open to P.G. and Ph. D. students. The course is designed to impart skills and competencies to the students through experiential learning in Agro-Ecosystem Analysis based PHM, Ecological Engineering for Pest Management with an option to specialize in Plant Biosecurity and Incursion Management/ Pesticide Management/Vertebrate Pest Management/ Biocontrol Agent Production Management/ Plant Health Engineering. The theory and practical classes are conducted at the respective Universities and at the end of the each year; students have to attend specialized sessions of at least 15 days at NIPHM. On successful completion, students will be awarded PG Diploma in PHM, additionally students will also get Diploma in the area of specialization.



Launching of the programme by Director General NIPHM and Dr. K.P. Gore, Vice Chancellor, MAV and Dr. P.M. Boopathi, Vice Chancellor, TNAU



Students attending theory and practical classes

Republic Day Ceremony



63rd Republic Day was celebrated by NIPHM Officers and Staff with great enthusiasm. Dr. K. Satyagopal, I.A.S. & Director General, NIPHM hoisted the National Flag.

Farewell

Dr. Mohan Rao, Joint Director Rodent Pest Management (RPM) superannuated on 31st January 2012.



Welcome



Dr. P.V.S. Reddy, Indian Postal Service (1993 batch) Joined the National Institute of Plant Health Management (NIPHM) as Registrar on 23rd February 2012. Earlier, he worked as Director Postal Services (Business Development, Marketing & Technology) at Circle Office, Bhubaneswar.



Dr. A.M.K. Mohan Rao has joined NIPHM as Expert in the Division of Rodent Pest Management on 4th February 2012.

Forthcoming Training Events

- Refresher Course on PHM: 2-8 May, 2012
- Production Protocol for 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
- Integrated Vertebrate Pest Management: 16 May - 5 June, 2012
- Farmers Field School: 18-25 June, 2012
- Pesticide Application Technology: 18-26 June, 2012
- Apex Level Training Rodent Pest Management: 13-15 June, 2012
- Sensitization Workshop RPM: 8-9 May, 2012
- Biosecurity & Incursion Management: 21 May - 11 June, 2012
- Harmonization of Phytosanitary Procedures for SAAARC countries: 4-24 June, 2012
- Pest Incursion Management: 28 May - 1 June, 2012
- Molecular Diagnostic Techniques: 4-8 June, 2012
- Pest Surveillance: 6-10 June, 2012
- Pesticide Formulation Analysis: 19 June - 10 October, 2012
- Pesticide Residue Analysis: 23 May - 21 June, 2012
- Principles of Pesticide Management: 19 June - 7 July, 2012
- Pest Risk Analysis: 21 - 23 May, 2012

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