

CAPACITY BUILDING PROGRAMS, PESTICIDE MANAGEMENT DIVISION

1. Pesticide Formulation Analysis:

Duration: 60 days

Eligibility Criteria of Participants: Analysts working at SPTLs / RPTLs/CIL and other Government Labs engaged in Pesticide Formulation Analysis with educational qualification of Graduate in Chemistry / Agriculture / Horticulture.

PMD, NIPHM is one of the designated institutions for offering the mandatory training programme in pesticide formulation analysis as per the Insecticide Act, 1968. This program is a preliminary requirement for the Insecticide Analysts working at state Pesticide Testing Laboratories (PTLs) / Regional PTLs / Central Insecticide Laboratories. The objective of the course is to build the capacity of Analysts working in the pesticide Testing Laboratories run by the Central and State Governments. The training program is devised to be highly practical oriented and to give hands on experience on each techniques of analysis. The participants are trained in using legally valid analytical methods approved by Bureau of Indian Standards (BIS) and the Registration Committee for analysis of pesticide formulations. The basics to application of various analytical techniques both in volumetric as well as modern Chromatographic and Spectroscopic Instruments such as HPLC, GLC, UV-Vis and FT-IR are taught during the program to take up the analysis of samples confidently.





2. Pesticide Residues Analysis:

Duration: 21 days

Eligibility Criteria of Participants: Analysts / Scientists / Technical Staff working in State Govt. or Central Govt. Departments /Laboratories / Govt. Universities with knowledge in laboratory activity.

This 21 days Program is designed for Analysts and Scientists working in State Pesticide Residue Laboratories, Regional Plant Quarantine Station, ICAR institutes and Agricultural Universities to train on sample preparation, estimation and confirmations of presence of pesticide residues in commodities like fruits, vegetables, cereals, pulses, water etc. using GC-MS/MS and LC-MS/MS. The participants are also given thorough knowledge to adopt the technology to analyze different matrices of samples and method validation for pesticide residue analysis as per international protocols.





3. Inspection, Sampling and Prosecution Procedures under Insecticide Act, 1968:

Duration: 5 days

Eligibility Criteria of Participants: Agricultural / Horticultural Officer (or equivalent position) working in State Department (or) designated Insecticide Inspectors (Central / State).

The Insecticide Inspectors appointed under section 20 of the Insecticide Act, 1968 are the main pillars for post registration verification and enforcement of the Insecticide Act, for quality control of Pesticides. PMD offers the training programs to build the capacity of Insecticide Inspectors and the program focuses on introduction to salient features of the Act and the Insecticide Rules, 1971, the duties and responsibilities of Insecticide Inspectors, the procedures of Inspection and sampling of Pesticides from the markets as well as manufacturing industries as stipulated in BIS specification for sampling of pesticides, the manner of testing the pesticides and the interpretation of the Insecticide Analysts test report. Special emphasis is given on the appropriate administrative or legal actions-the prosecution procedures, evidence act and Criminal procedure Code.



4. Laboratory Quality System Management and Internal Audit as per ISO/IEC 17025:2017

Duration: 5 days

Eligibility Criteria of Participants: Science Graduate with knowledge in laboratory activities, working in analytical Laboratories of State Govt. / Central Govt. / ICAR / Govt. Universities.

The program benefits the Analysts to acquire knowledge in organization and management of the Laboratories as per the ISO/IEC 17025:2017 and also to prepare them to obtain the NABL accreditation. The program introduces the participants to various clauses of the standard ISO/IEC: 17025-2017, documents to be maintained for complying with the standard, document control, control of records, various means assure the quality in the laboratory, Internal audit procedures and Management reviews for maintaining the management system in the laboratory.

5. Testing of Physicochemical Properties of Pesticide Formulations.

Duration: 8 days

Eligibility Criteria of Participants: Analysts working at SPTLs / RPTLs / CIL and other Government Labs engaged in Pesticide Formulation Analysis and who have already undergone training on Pesticide Formulation Analysis (PFA) at NIPHM.

The testing of physicochemical properties is equally important to that of active ingredient in the Pesticide Formulations. Therefore, there is a need to train on various issues related to analysis of physico-chemical properties for the analysts working in Pesticide Testing Laboratories. Keeping in view of the above, training program on Testing of Physico-chemical Properties of Pesticide Formulations like pH, Emulsion Stability, Suspensibility etc. is being offered to impart knowledge on the analysis of physico chemical properties of pesticides as per the Bureau of Indian Standard (BIS) methods.

6. Sampling of Fruits, Vegetables and other items for Pesticide Residue Analysis

Duration: 2 days

Eligibility Criteria of Participants: Science Graduate working as Analysts / Scientists / Technical Staff in testing labs of State Govt. /Central Govt. / ICAR / Govt. Universities

Sampling is an important parameter of Pesticide Residue Analysis and there is a need to train the Analysts on the procedures in sampling of agricultural commodities from the farms / markets for pesticide residue analysis as per international standards, particularly in the context of commodities for export. The division is conducting training on this key aspect to introduce the participants to different methodologies adopted and minimum amount of sample to be drawn for various commodities for arriving homogeneous and representative samples for Pesticide Residue Analysis.

7. Sampling of Fruits, Vegetables and other items and Calibration of laboratory equipment for Pesticide Residue Analysis

Duration: 5 days

Eligibility Criteria of Participants: Science Graduate working as Analysts / Scientists / Technical Staff in testing labs of State Govt. / Central Govt. / ICAR / Govt. Universities

Sampling is an important parameter of Pesticide Residue Analysis and there is a need to train the Analysts on the procedures in sampling of agricultural commodities from the farms / markets for pesticide residue analysis as per international standards, particularly in the context of commodities for export. . To assure on accuracy and quality of measurements in the results being measured there is an ongoing need to maintain the calibration of equipment throughout its lifetime for reliable, accurate and repeatable measurements.

First two days of the program focuses on Pesticide Residue Regulations, Methods of Sampling for determination of Pesticide Residues for compliance with MRLs, Import standard of EU etc. Next 3 days of the program focuses on calibration of Glassware, Micropipettes, Analytical and Weighing Balances, Calibration of instruments GC-ECD, HPLC-PDA, GC-MS/MS and LC-MS/MS. One program was conducted with 9 participants from Tamil Nadu during the year.

8. Calibration of laboratory glassware and equipment for Pesticide Quality Testing Laboratories

Duration: 8 days

Eligibility Criteria of Participants: Analysts working at SPTLs / RPTLs/CIL and other Government Labs engaged in Pesticide Formulation Analysis and undergone training on Pesticide Formulation Analysis (PFA) of NIPHM.

Calibration of the equipment and glassware is an important aspect to ensure the validity of results in the analytical laboratories and a major requirement for maintaining the traceability in the results. It is an important parameter of ISO/IEC 17025:2017 and a requirement for accreditation. The program offered by PMD for the analysts of Pesticide Testing Laboratories and Pesticide Residue Analysis laboratories imparts the skills in Calibration of glassware and various equipment such as GLC, HPLC, GC-MSMS and LC-MSMS and Analytical balances that has influence in the analysis of samples. Hands on training are given for the calibration of these equipment during the program.

9. Method Validation and Measurement of Uncertainty.

Duration: 5 days

Eligibility Criteria of Participants: Analysts working at SPTLs / RPTLs/CIL and other Government Labs engaged in Pesticide Formulation Analysis and Pesticide Residue Analysis

A five day program was conducted for the analysts of Pesticide Testing Laboratories and Pesticide Residue Analysis laboratories to impart the skills in development and validation of analytical methods for different parameters (equivalent with BIS methods) in quality control analysis of Pesticides and to impart practical knowledge on method validation based on internationally/nationally accepted methodology which is an important parameter of ISO/IEC 17025:2017.

