



रा व स्वा प्र सं  
**NIPHM**

राष्ट्रीय वनस्पति स्वास्थ्य प्रबंधन संस्थान  
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*Theme Article*



Proficiency testing and PT Providers in India

*Special Event*



NIPHM 12<sup>th</sup> Foundation Day Celebration

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Department of Agriculture, Cooperation & Farmers Welfare  
Ministry of Agriculture and Farmers Welfare, Govt. of India



## From the Director General's Desk

India is the world's largest producer of milk, pulses and jute, and ranks as the second largest producer of rice, wheat, sugarcane, groundnut, vegetables, fruit and cotton. It is also one of the leading producers of spices, fish, poultry, and livestock and plantation crops according to FAO. Pesticide is one of the components that help to achieve sufficient food production, however due to indiscriminate use of pesticide led to serious health effect on human, animal and environment. Availability of quality pesticide and routine monitoring of pesticide residue is an important area in the process of minimizing the ill effects in plant, animal, human and environment. Pesticide Testing Laboratories and Pesticide Residue Testing Laboratories play important role to produce quality data on testing of pesticide and pesticide residue in agricultural commodities. To ensure validity of results of test, laboratory requires competent enough to perform testing/measurements. Also, the trade and industry policies of the Government of India has created quality consciousness in domestic trade and provided greater thrust for export. As a consequence, testing centers and laboratories have to be operated at an internationally acceptable level of competence. To make the laboratories technical competence for specific tests/measurements, laboratory has to assess by a third party assessment body as per the international standard, ISO/IEC 17025:2017 and it is the formal procedure for laboratory accreditation. Participation in the proficiency testing program is a part of laboratory management system and it improves the performance of tests/measurements following investigation and identification of the cause(s) of unsatisfactory PT performance and the introduction of corrective action to prevent re-occurrence. Similarly, Proficiency testing Provider accreditation gives formal recognition of competence for organizations that provide proficiency testing as per the standard ISO/IEC 17043 : 2010.

The theme article in this issue describes in details about the proficiency testing and proficiency testing provider. Laboratories involving in testing of pesticide and pesticide residue shall ensure their performance and the validity of the test result by participating in PT program which can provides quality test data for availability of quality pesticide and pesticide residues analysis.

भारत दूध, दाल एवं जूट का दुनिया का सबसे बड़ा उत्पादक देश है, एवं चावल, गेहूं, गन्ना, मूंगफली, सब्जियां, फल और कपास का दूसरा सबसे बड़ा उत्पादक देश है। यह एफएओ के अनुसार मसालों, मछली, मुर्गी पालन और पशुपालन और वृक्षारोपण फसलों के प्रमुख उत्पादकों में से एक है। पीड़कनाशी उन घटकों में से एक है जो पर्याप्त खाद्य उत्पादन प्राप्त करने में मदद करते हैं, हालांकि पीड़कनाशी के अंधाधुंध उपयोग के कारण पर्यावरण, पशु, एवं मानव, स्वास्थ्य पर गंभीर प्रभाव पड़ा है। गुणवत्ता वाले पीड़कनाशी की उपलब्धता और पीड़कनाशी अवशेषों की नियमित निगरानी पादप, पशु, मानव और पर्यावरण में दुष्प्रभाव को कम करने की प्रक्रिया में एक महत्वपूर्ण क्षेत्र है। पीड़कनाशी परीक्षण प्रयोगशालाएँ और पीड़कनाशी अवशेष परीक्षण प्रयोगशालाएँ कृषि पदार्थों में पीड़कनाशी और पीड़कनाशी अवशेष परीक्षण पर गुणवत्ता डेटा का उत्पादन करने में महत्वपूर्ण भूमिका निभाती हैं। परीक्षण के परिणामों की वैधता सुनिश्चित करने हेतु, प्रयोगशाला को परीक्षण/मापन करने के लिए पर्याप्त रूप से सक्षम होना चाहिए। साथ ही, भारत सरकार की व्यापार एवं उद्योग नीतियों ने घरेलू व्यापार में गुणवत्ता चेतना पैदा की है और निर्यात के लिए अधिक जोर दिया है। परीक्षण केंद्रों और प्रयोगशालाओं को अंतरराष्ट्रीय स्तर पर स्वीकार्य स्तर पर संचालित करने हेतु महत्वपूर्ण रूप से सक्षम किया जाना है। प्रयोगशालाओं को विशिष्ट परीक्षणों/मापों के लिए तकनीकी सक्षम बनाने के लिए, प्रयोगशाला को अंतरराष्ट्रीय मानक, आईएसओ/आईईसी 17025:2017 के अनुसार एक तृतीय-पक्ष के आकलन निकाय द्वारा मूल्यांकन करना है और यह प्रयोगशाला मान्यता के लिए औपचारिक प्रक्रिया है। प्रवीणता परीक्षण कार्यक्रम में भागलेना प्रयोगशाला प्रबंधन प्रणाली का एक हिस्सा है और यह जांच के बाद परीक्षण/माप के प्रदर्शन में सुधार करता है और असंतोषजनक पीटी प्रदर्शन के कारण (एस) की पहचान करता है, और पुनः घटना को रोकने के लिए सुधारात्मक कार्रवाई की शुरुआत करता है इसी तरह, प्रवीणता परीक्षण प्रदाता प्रत्यायन मानक आईएसओ/आईईसी 17043, 2010 के अनुसार प्रवीणता परीक्षण प्रदान करने वाले संगठनों के लिए योग्यता की औपचारिक मान्यता देता है।

इस विषयवस्तु में लेख प्रवीणता परीक्षण एवं प्रवीणता परीक्षण प्रदाता के बारे में विस्तार रूप से वर्णन किया है। पीड़कनाशी और पीड़कनाशी अवशेषों के परीक्षण में शामिल प्रयोगशालाएँ उनके प्रदर्शन को सुनिश्चित करेंगी और पीटी कार्यक्रम में भाग लेकर परीक्षण के परिणाम की वैधता जो गुणवत्ता पीड़कनाशी और पीड़कनाशी अवशेषों के विश्लेषण की उपलब्धता के लिए गुणवत्ता परीक्षण डेटा प्रदान कर सकती है।

Sd/-  
(G. Jayalakshmi, IAS)  
Director General

## Proficiency Testing and PT Providers in India Maisnam Jaya Devi, Nirmali Saikia, PM Division

### Introduction

Proficiency testing determines the performance of individual laboratories for specific tests or measurements on the same or similar items by two or more laboratories in accordance with predetermined condition and is used to monitor laboratories continuing performance. Proficiency testing enables the laboratory to demonstrate competency for a particular measurement discipline which can be used to validate the measurement method or testing method.

### Proficiency testing and its importance

Proficiency testing and inter-laboratory comparisons are similar but slightly different. According to ISO/IEC 17043:2010, inter-laboratory comparison (ILC) is the organization, performance, and evaluation of measurements or tests on the same or similar items by two or more laboratories or inspection bodies in accordance with predetermined conditions. The purpose of the interlaboratory comparison include

- evaluation of the performance of laboratories for specific tests or measurements and monitoring laboratories' continuing performance;
- identification of problems in laboratories and initiation of actions for improvement which, for example, may be related to inadequate test or measurement procedures, effectiveness of staff training and supervision, or calibration of equipment;
- establishment of the effectiveness and comparability of test or measurement methods;
- provision of additional confidence to laboratory customers;
- identification of interlaboratory differences;
- education of participating laboratories based on the outcomes of such comparisons;
- validation of uncertainty claims;

Proficiency testing involves the use of interlaboratory comparisons for the determination of laboratory performance. It is the evaluation of participant performance against pre-established criteria by means of interlaboratory comparisons according to ISO/IEC 17043:2010.

By participating in proficiency testing, the laboratory can externally validated the measurement or testing method. The competent in laboratory performance is not only essential for the laboratories and the customer but also an important requirement for laboratories accreditation bodies and regulators. It is a basic component of laboratory quality management systems also. Participation in Proficiency testing is one of the laboratory policy/criteria to monitor its performance by comparison with results of other laboratories, as per the ISO/IEC-17025:2017 clause no. 7.7.2.

### Role of proficiency testing provider

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of conformity assessment, the ISO Committee on conformity assessment (CASCO) is responsible for the development of International Standards and Guides.

In India, NABL (National Accreditation Board for Testing and Calibration Laboratories) provide accreditation to Proficiency Testing Provider as per ISO/IEC 17043:2010 "Conformity assessment- General requirements for Proficiency testing" and NABL is signatory to ILAC (**International Laboratory Accreditation Co-operation**) APLAC (**Asia Pacific Laboratory Accreditation Co-operation**) MRA (**Mutual Recognition Arrangements**) for this program. This International Standard specifies general requirements for the competence of providers of proficiency testing schemes and for the development and operation of proficiency testing schemes. International standard ISO/IEC 13528:2015 is complementary to ISO/IEC 17043 providing detailed guidance on the use of statistical methods in proficiency testing. Most of the requirements in this International Standard apply to those evolving areas, especially regarding management, planning and design, personnel, assuring quality, confidentiality, and other aspects, as appropriate.

In a proficiency test one or more sample are sent by proficiency testing provider between a numbers of participating laboratories. Each participating laboratory measures the samples according to a given set of instructions and reports its results to the Proficiency Testing Provider. Proficiency Testing Providers that meet the requirements of ISO/IEC 17043:2010 are considered to be competent. The results reported by each laboratory to the Proficiency testing provider for a measurand are compared to the reference value for that measurand. The reference value is determined either by using the average of the values reported by the participants or by using a reference laboratory.

The important key activities of PT Provider are selection of appropriate test items, planning of proficiency testing schemes, particular types of sampling, determination of stability and homogeneity as well as assigned values and associated uncertainties of the measurands of the proficiency test item, preparation, handling and distribution of proficiency test items, statistical analysis of the data, evaluation of the performance of proficiency testing participants and interpretations, preparation of proficiency testing reports.

The scope of the PT Provider has to be defined as precisely as possible so that all parties concerned know accurately and unambiguously the range of tests/measurements covered by that particular PT provider's accreditation such as area of testing (chemical/biological, Medical, Mechanical, Measurement or calibration, sampling) and PT scheme, PT items, Parameters, range of measurement, Periodicity etc. The qualification of the personnel working within the PT provider should be as per the requirement of the standard. Job responsibilities should be clearly defined in the procedure document of PT Provider. Records related to authorization, qualification, experience should be maintained and updated time to time and be retrievable. The PT provider shall ensure that there is availability of enough accommodation. In addition, appropriate environmental conditions like temperature, humidity, vibrations, biological sterility are maintained to ensure integrity and stability of PT item. These conditions will need to be maintained and monitored during various phases of operations of PT scheme which could include sample preparation, sample reception, handling, manufacturing (where applicable), storage, packaging, dispatch and retrieval of materials. Planning of scheme, preparation of PT items, Conducting homogeneity and stability studies, statistical design and finally assigning the values are very important. PT Provider cannot subcontract the planning of scheme and during this stage care should be taken for selecting of test item, method, design such that the processes which directly affect the quality of PT scheme are identified. During planning PT Provider shall also ensure that they have appropriate technical expertise to help them during planning, statistical calculations, technical issues, evaluating the performance and providing technical commentary as feedback etc. PT items are prepared as per plan and their handling and storage are appropriate.

Proficiency testing schemes vary according to the needs of the sector in which they are used, the nature of the proficiency test items, the methods in use and the number of participants. The following are the types of PT scheme

- a) **quantitative scheme** — where the objective is to quantify one or more measurands of the proficiency test item;
- b) **qualitative scheme** — where the objective is to identify or describe one or more characteristics of the proficiency test item;
- c) **sequential scheme** — where one or more proficiency test items are distributed sequentially for testing or measurement and returned to the proficiency testing provider at intervals;
- d) **simultaneous scheme** — where proficiency test items are distributed for concurrent testing or measurement within a defined time period;
- e) **single occasion exercise** — where proficiency test items are provided on a single occasion;
- f) **continuous scheme** — where proficiency test items are provided at regular intervals;
- g) **sampling** — where samples are taken for subsequent analysis; and
- h) **data transformation and interpretation** — where sets of data or other information are furnished and the information is processed to provide an interpretation (or other outcome).

### **Design of proficiency testing schemes**

One of the most critical parameter in the design of scheme is to ensure homogeneity of sample. PT provider need care to select items which are stable during the period of storage and transport e.g. materials sensitive to temperature and/or humidity, PT items for microbiological testing. In order to ensure that every participant receives comparable proficiency test items and also to ensure that these proficiency test items remain stable throughout proficiency testing, the PT provider have to be conducted homogeneity and stability studies on these items as appropriate. The assessment of homogeneity and stability shall be conducted as per documented procedure which shall be in accordance with appropriate statistical design.

Planning of Proficiency Testing schemes has to be carried out in accordance with the prescribe procedure, documented before commencement of Proficiency Testing Scheme. It has to address the objectives, purpose and basic design of the proficiency testing scheme, including the following information and, where appropriate, reasons for its selection or exclusion.

Unique identity of the Proficiency Testing Scheme, Type of Scheme, Objective, purpose and basic design of the Proficiency Testing Scheme

Name of the Proficiency Testing Provider and Address of the Proficiency Testing Provider, Name, address and affiliation of the coordinator and other personnel involved in the operation of the Proficiency Testing Scheme

The activities to be subcontracted and the names and addresses of subcontractors to be involved in the operation of the Proficiency Testing Scheme

Criteria to be met for participation, Number and type of expected participants in the Proficiency Testing Scheme

Selection of the measurand (s) or characteristic (s) of interest, including information on what the participants are to identify, measure or test for in the specific Proficiency Testing Round

A description of the range of values or characteristics, or both,

The potential major sources of errors involved in the area of Proficiency Testing offered, Requirements for the production, quality control, storage and distribution of proficiency test items.

Reasonable precautions to prevent collusion between participants or falsification of results, and procedures to be employed if collusion or falsification of results is suspected,

A description of the information which is to be supplied to participants and the time schedule for the various phases of the Proficiency Testing Scheme

For continuous proficiency testing schemes, the frequency or dates upon which proficiency test items are to be distributed to participants

The deadlines for the return of the results by participants and, where appropriate, the dates on which testing or measurement is to be carried out by participants

Expected initial and target dates or deadlines of the scheme

Any information on methods or procedures which participants need to use to prepare the test material and perform the tests or measurements.

Procedures for the test or measurement methods to be used for the homogeneity and stability testing of proficiency test items and, where applicable, to determine their biological viability

Preparation of any standardized reporting formats to be used by participants

A detailed description of the statistical analysis to be used

The origin, metrological traceability and measurement uncertainty of assigned values

Criteria for the evaluation of performance of participants

A description of the data, interim reports or information to be returned to participants

A description of the extent to which participants results, and the conclusions that will be based on the outcome of the Proficiency Testing Scheme are to be made public

Actions to be taken in the case of lost or damaged proficiency test items.

During the statistical design following items have to be considered: accuracy, minimum number of participants for statistical inference, number of PT test item to be measured or tested, procedure to assign the test value, procedure to handle outliers, where appropriate, the statistical procedure for the evaluation of censored (removed) values; homogeneity and stability of test item.

Determination of assigned value of the measurand(s) or characteristics(s) of interest along with its associated uncertainty of measurement to be carried out as per the section B.2.1, of Annex B of ISO/IEC 17043:2010 and guidelines given in ISO 13528:2005 as appropriate.

Evaluation of participants Performance is an important step for PT provider and it has to be carried out as per planned document. The criteria for performance of qualitative and semi qualitative results (e.g results reported as per rating/grades such as 1 = Poor, 2= Unsatisfactory, etc) is based on section B.3.2 of Annex B of ISO/IEC 17043:2010. The laboratories reports and communication with participants are very confidential.

## **Homogeneity and Stability**

Studies of homogeneity and stability is the key of PT Provider to ensure that batches of proficiency test items are sufficiently homogeneous and stable for the purposes of the proficiency testing scheme. Preparation of homogeneous and sufficient numbers of proficiency test items have to be evaluated, in order to allow for the need to replace any such proficiency test items lost or damaged during distribution, or intended to be provided for use after the results of the proficiency testing scheme. Proper procedure shall be maintained for implementation of sample collection, preparation, handling, storage and, where required, disposal of all proficiency test items. These studies ensure that every participant receives comparable proficiency test items, and that these proficiency test items remain stable throughout the proficiency testing. Assessment of **Homogeneity and Stability shall be conducted** in accordance with appropriate statistical designs. Statistically random selection of a representative number of proficiency test items from the whole batch of test material method is use in order to assess the homogeneity of the material.

The PT Provider shall be conducted successfully at least one PT program for a product for at least some of the critical parameters in accordance with ISO/IEC-17043:2010 before applying for PT Provider accreditation. Benefits of Proficiency Testing Provider Accreditation are for to ensure competence of Accredited Labs, PT results are used for validation, Publishing Standards, for assigning values, Ensuring Standard is consistent or not Quality Assurance, Increasing confidence of Regulators & Consumers

## Accredited PT Providers in India

In India, a total number 45 laboratories are accredited in accordance with the standard ISO/IEC 17043: 2010 in the field of Chemical Testing, Mechanical Testing, Biological Testing, Mechanical Calibration Thermal Calibration, Medical Testing, Electrical Testing Electro-Technical Calibration and Non-Destructive Testing. However, there are only two Govt. organizations in the field of Pesticide and Pesticide Residue testing which are accredited in accordance with the standard ISO/IEC 17043: 2010.

### The following are the PT Providers in the area of Pesticide and Pesticide Residues in Food, Agriculture product –

1. Proficiency Testing Centre, Pesticide Management Division, National Institute of Plant Health Management (NIPHM), Hyderabad (**Pesticides & Its Formulation, – Pesticide Residues in Food, Agriculture product and Water**)
2. National Referral Laboratory, ICAR-National Research Centre for Grapes, Pune, Maharashtra (**Food & Agricultural Products**)

The following are the standard documents for Proficiency Provider Accreditation

### **Standard Documents for Proficiency Testing provider Accreditation**

ISO/IEC 17043:2010

ISO 13528:2015

### **NABL Documents for Proficiency Testing provider Accreditation**

NABL 180 Application form

NABL 181 Specific Criteria For PT Provider Accreditation

NABL 182 Pre Assessment Guidelines & Forms

NABL 183 Assessment Forms & Checklists

### References:

1. NABL India, <https://nabl-india.org>
2. ISO/IEC 17043, *Conformity assessment — General requirements for proficiency testing*
2. Jeff C. Gust (2004). Developing a Proficiency Testing Plan for your Laboratory. Quametec Proficiency Testing Services 501 W. Van Buren St Columbia City, IN 46725 (260) 244-7450 [gust@quametec-pt.com](mailto:gust@quametec-pt.com).
3. Conformity assessment — General requirements for proficiency testing, <https://www.iso.org/obp/ui/#iso:std:iso-iec:17043:ed-1:v1:en>
4. The Value of Proficiency Testing, National Association for Proficiency Testing A Non-Profit Organization Dedicated to Excellence in Metrology & Test Measurement.
5. Proficiency Testing in Forensic Science, National Commission on Forensic Science, NIST <https://www.justice.gov/archives/ncfs/file/795276/download>.
6. Specific Criteria for PT Provider Accreditation, National Accreditation Board for Testing and Calibration Laboratories, NABL guide-181, 2011.
7. Directory of Accredited Proficiency Testing Providers, National Accreditation Board for Testing and Calibration Laboratories, NABL guide 700, Nov., 2019.

## 1. National Agrochemicals Congress:

The first-ever **National Agrochemicals Congress** was conducted at the **Indian Agricultural Research Institute (IARI), New Delhi** from 13<sup>th</sup> - 16<sup>th</sup> November 2019. It is to be conducted once in three years. The theme of the Congress was “**Country's Status on various fronts of Agrochemicals**”. The **Agrochemicals Congress** was conducted in view of **the role chemical pesticides still continue to play** in pest management as more and more target-specific and environment-friendly products are being introduced. It was conducted by the **Society of Pesticide Science India**, headquartered at Division of Agricultural Chemicals, IARI, ICAR, New Delhi. The aim of the congress is to highlight the role of chemical pesticides in pest management and emphasized on more target specific and environment friendly products. The Congress also focused on new concepts in crops, human health, resource management, nanotechnology, smart formulations and related sciences to help to boost agricultural productivity. ([www.naagco2019.com](http://www.naagco2019.com), [www.iari.res.in](http://www.iari.res.in), [www.drishtias.com](http://www.drishtias.com))

According to the congress, the following are the recommendation to improve efficient use of pesticides

- Labelling of the pesticides indicating their mode of action
- To rethink on restrictive banning of pesticides in view of risk-based considerations
- Government has to bring in a policy regarding data protection of imported pesticides
- Empowerment of farmers through training and extension.
- Policy regarding data protection of imported technical pesticides and
- Policy for the introduction of safe nano-formulations

The highlights of the event are the importance of responsible use of agro Chemicals, precision technologies used to reduce wastage of applied chemicals.

## 2. JOINT FAO/WHO meeting on pesticide residues (JMPR):

Joint FAO/WHO meeting on Pesticide residue was held in Geneva from 17 to 26 September 2019. JMPR is an international expert scientific group administered jointly by the Food and Agriculture Organization of the United Nations (FAO) and WHO. JMPR meets regularly since 1963 to review residues and analytical aspects of the pesticides, estimate the maximum residue levels, review toxicological data and estimate acceptable daily intakes (ADIs) for humans of the pesticides under consideration.

The Meeting evaluated 28 pesticides and in addition, a number of pesticides used on spices were considered. The Meeting estimated maximum residue levels, which it recommended for use as maximum residue limits (MRLs) by the CCPR. It also estimated supervised trials median residue (STMR) and highest residue (HR) levels as a basis for estimation of the dietary exposure to residues of the pesticides reviewed. (Source: [www.who.int/foodsafety/areas\\_work/chemical-risks/jmpr/en/](http://www.who.int/foodsafety/areas_work/chemical-risks/jmpr/en/), [www.who.int/topics/pesticides/en/](http://www.who.int/topics/pesticides/en/))

The 51<sup>st</sup> Session of the Codex Committee on Pesticide Residues (CCPR51) met in Macau, SAR, China from April 8-13, 2019. The Session was attended by 52 Member countries, one Member organization (the European Union), and Observers from 13 international organizations. The United States was represented by U.S. Delegate of the U.S. Environmental Protection Agency (EPA), and Alternate Delegate of the U.S. Department of Agriculture (USDA), Food Safety and Inspection Service, along with additional members of the U.S. Delegation representing the U.S. Codex Office, the U.S. Food and Drug Administration (FDA), the Foreign Agricultural Service, USDA, the Rutgers University Interregional Research Project No. 4 (IR-4), and nongovernmental advisors.

Highlights of the CCPR51 concluded with 326 Maximum Residue Limits (MRLs) for final adoption by the Codex Alimentarius Commission (CAC) at its next session. Three of the seven new compounds reviewed by the Joint Meeting on Pesticide Residues (JMPR) in 2018 were nominated by the United States.

The Committee also reached consensus on the classification work on crop groupings for: primary feed commodities of plant origin and processed food commodities of plant origin. Specifically, the Committee agreed with working principles for transferring commodities from Class D (Processed Feed Commodities of Plant Origin) to Class C (Feed Commodities of Plant Origin) and revisions to the table on examples of representative commodities. CCPR51 also discussed a proposal from India that CCPR undertake new work to develop guidelines on harmonized risk management approaches for endocrine disruptors. The final report of CCPR51 is in the website [www.fao.org/fao-whocodexalimentarius/meetings-reports/en/](http://www.fao.org/fao-whocodexalimentarius/meetings-reports/en/).

CCPR51 also discussed matters of Interest Arising from the UN Food and Agriculture Organization (FAO) and World Health Organization (WHO) such as FAO/WHO/OECD (Organization for Economic Co-operation and Development) workshop on the harmonization of residue definition, Acute probabilistic dietary exposure assessment for pesticide, Use of antimicrobials in plant agriculture.

Maximum Residue Limits (MRLs) for Pesticides in Food and Feed was Proposed and Revision of the Codex Classification of Foods and Animal Feeds. (Source: USDA, Report of the U.S. Delegate 51st Session of the Codex Committee on Pesticide Residues)

### 3. Codex Committee on Fresh Fruits and Vegetables:

The Codex Committee on Fresh Fruits and Vegetables (CCFFV) held its Twenty-first Session in Monterrey, Nuevo León Mexico from 7 – 11 October 2019, at the kind invitation of the Government of Mexico. Mr. Alfonso Guati-Rojo Sánchez, Director General, General Bureau of Standards, Ministry of Economy of Mexico, assisted by Mr. Cesar Orozco Arce, chaired the session, which was attended by 38 Member countries, one Member organization and one observer organization (source: **Report of 21 session of the codex committee on fresh fruit and vegetables**, www.codexalimentarius.org).

The committee discussed the following topics:

1. Adoption of the agenda
2. Matter arising from the CAC (codex alimentarius commission) and other subsidiary bodies: Matters from the 75th session of the executive committee of the codex alimentarius commission (ccexec75), Matters arising from other international organisations on the standardisation of fresh fruits and vegetables
3. Draft standard for kiwifruit
4. Draft standard for garlic
5. Proposed draft standard for ware potatoes
6. Proposed draft standard for fresh dates
7. Proposed draft standard for yam
8. Proposed draft standard for onions and shallots
9. Proposed draft standard for berry fruits
10. Discussion paper on glossary of terms used in the layout for codex standards for fresh fruits and vegetables
11. Other business
12. Date and place of the next session

## Special Events

### 12<sup>th</sup> Foundation Day Celebrations:

NIPHM has completed 11 years by 24<sup>th</sup> October 2019. Having completed 11 years as a promoter of Capacity Building for Environmentally Sustainable Agriculture, NIPHM has observed its 12<sup>th</sup> Foundation Day on 24<sup>th</sup> October 2019.

The Occasion was graced by Dr. W.R. Reddy, IAS, Director General, NIRD&PR as Chief Guest in the august presence of Ms. G. Jayalakshmi, IAS, Director General, NIPHM and Guest of Honour, Dr. V. Raghunathan, Former PPA, DPPQ&S. The Staff



and their family members, Trainees, PGDPHM Students have participated in the celebrations.

The Institute has also organized various games and competitions for the employees and distributed prizes to the winners of different events conducted as a part of 'Fit India Movement', a nation-wide movement in India launched by the Hon'ble Prime Minister of India to encourage people to remain healthy and fit by including physical activities and sports in their day to day life.



### Observance of 'SamvidhanDiwas (Constitution Day)'

NIPHM has observed "SamvidhanDiwas (Constitution Day) on 26-11-2019 to commemorate the adoption of the Constitution of India on 26-11-1949 in the Constituent Assembly of India. The preamble of the Constitution of India has been read out by all the staff in NIPHM office on 26-11-2019 at 11.00 a.m., and banners were also displayed at appropriate places in NIPHM campus.



Ms. G. Jayalakshmi, I.A.S., Director General, NIPHM, in her address, emphasized that Constitution Day helps to ignite the lamp of knowledge in the minds of new generation, which includes students who can understand the importance of Indian constitution, respect it and follow it with utmost sincerity. Celebrating Constitution Day is a way by which we all can pay tribute to the father of the Indian Constitution and understand the depth of the values and principles of the Constitution. The students and the children shall be sensitized on this in order to enable them to imbibe these values at a young age.





### **Celebrations of World Soil Day**

World Soil Day was celebrated on 05-12-2019 at NIPHM. Dr. P. SurendraBabu, Principal Scientist and Head, AICRP on Micronutrients, ARI, Rajendranagar, Hyderabad has delivered lecture on the theme "Stop soil erosion, Save our future". The staff, trainees and students of NIPHM have participated in the event.

### **Observance of 'SwachhtaPakhwada'**

NIPHM has observed 'SwachhtaPakhwada' from 16<sup>th</sup> to 31<sup>st</sup> December, 2019. The following activities were carried out during the above period:

- o SwachhataShapath' was administered by the Director General to all the staff.
- o Displayed banners and uploaded material regarding observance of "SwachhataPakhwada" in NIPHM website and created awareness / publicity by use of social media.'
- o Swachhata' related Painting competition was organized among the school children of Mohamed Nagar village. Essay writing and Elocution competitions were also organized for staff of NIPHM. All the staff members actively participated in the event / competitions.
- o Cleanliness drive was undertaken at local vegetable / fruit market.
- o All Water Tanks at MG Block, LBS Block, Old & New Hostels and Residential Quarters were cleaned. '
- o KisanDiwas (Farmer's Day)' was celebrated, planting of trees was also taken up on the occasion.
- o Organized camp activities at nearby village to promote behavioural changes to keep surroundings clean, with special focus on awareness regarding plastic pollution, open defecation, deforestation, water wastage, dust / smoke free air and other anti-environmental practices.
- o An Exercise was carried out for weeding out of old files / records at NIPHM office.



The closing ceremony of 'SwachhtaPakhwada' was celebrated on 31-12-2019. All the activities which were carried out as the part of the programme were recapped. Ms. G. Jayalakshmi, IAS, Director General, NIPHM has honoured the Housekeeping / Sanitation workers who are engaged in cleaning activity and sanitation works and distributed the prizes to the winners of various competitions conducted during SwachhtaPakhwada.



## World Food Day Celebration

The Institute also celebrated World Food Day 2019 on 16.10.2019 as per the theme proposed by FAO for this year “Our actions are our future, Healthy diets for a #zero hunger world” and the faculty and staff was also actively participated in the World Food Day celebrations.



Dr. B. B. Pattanaik, Special Invitee delivering the lecture on the theme during World Food Day celebrations 2019



Distribution of prize to winners of Quiz Competition held on World Food Day 2019

To create awareness among the employees about the World Food Day theme, Dr. B.B. Pattanaik, Chairman (Retd.), Warehousing Development and Regulatory Authority, Ministry of Food, Consumer Affairs and Public Distribution, Govt. of India was invited as a guest to deliver the theme speech. The quiz competition consisted of 5 rounds with 4 questions in each round. The rounds were logo and abbreviation round, food round, agriculture round, in the news round and visual round. Smt. G. Jayalakshmi, IAS, Director General thrust every employee should take sufficient care to take healthy diets and also to avoid food wastage.

## Workshops - Seminars – Brainstorming Sessions

### National Inception Workshop on Fall Armyworm(TCP/IND/3709(E))

**“Time critical measures to support early warning and monitoring and sustainable management of Fall Armyworm in India” 29<sup>th</sup> to 30<sup>th</sup> November, 2019 at NIPHM**

Addl. Secretary and FA, DAC&FW, Ministry of Agriculture and Farmers Welfare, Government of India, Shri B. Pradhan I.A.S., Director General, NIPHM, Smt. G. Jayalakshmi I.A.S, Mr. Tomio Shichiri, FAO Country Director in India, Dr. Anne Sophie Poisot, Senior Officials and Agricultural Scientists at the National Inception Workshop on Fall Armyworm organized by FAO and NIPHM. National workshop jointly organized by NIPHM and FAO in which delegates from FAO representative, FAO representative from India and officials from State agriculture Dept, SAUs, DPPQ&S and ICAR from 20 states attended this workshop 26th to 29th November, 2019 at NIPHM, Hyderabad. Scientist and officials discussed present status of FAW damage, its management strategies and discussed sustainable management of Fall Armyworm in India by different control measures in presence of Addl. Secretary FA, DAC&FW.



### Brainstorming session of the DAC project 'Study on impact of indiscriminate use of chemical fertilizers and pesticides'

A One day brainstorming meeting of the DAC project 'Study on impact of indiscriminate use of chemical fertilizers and pesticides' was organized on 21<sup>st</sup> October, 2019 by PHM Division at National Institute of Plant Health Management, Rajendranagar, Hyderabad under the Chairmanship of Smt. G. Jayalakshmi, IAS, Director General, NIPHM and Dr. G. Ravi, Director (PHM Division), Dr. E. Sreelatha, AD(PHM), Dr. T. V.K. Singh, Professor (Entomology), Dr. K. Loka Reddy, Senior Consultant, NIPHM, Dr. Dhanwinder Singh, Soil scientist, PAU, Dr. Kaushik Batabyal, Assistant Professor, (Soil science), BCKV, Dr. J.S. Kennedy, Professor (Entomology), TNAU, Dr. K. S. Suri, Sr. scientist (Entomology), PAU and 2 SRFs has attended the meeting.

**Review meeting of the DAC Project**

Review meeting of the DAC project “Study on impact of indiscriminate use of chemical fertilizers and pesticides” was organized on 19th & 20th, December, 2019 by PHM Division at National Institute of Plant Health Management, Rajendranagar, Hyderabad under the Chairmanship of Smt. G. Jayalakshmi, IAS, Director General, NIPHM. Twenty one participants including Principal Investigators & Co-Principal Investigators from SAU's and SHU have attended the Review meeting. The PIs/ Co-PIs of different Universities have presented the results of consolidated report of three rabi seasons from 2016-17 to 2018-19 and progress of kharif 2019-20 season.



**AICRP Biocontrol :**

A work on evaluation of NIPHM white media for production of *Nomuraea rileyi* (*Metarhiziu mrileyi*) NIPHM MRF-1 strain for management of Maize Fall Army worm (*Spodoptera frugiperda*) was initiated during this month. Studies on Mass production of *Metarhizium anisopliae* and *Beauveria bassiana* on NIPHM media, studies on ovipositional fecundity & life cycle Life cycle of *Spodoptera frugiperda*.

Biodiversity studies of predators in maize ecosystem, field observation data and field collected predators were preserved. For the biodiversity studies of predators in maize ecosystem, field observation data and field collected predators were preserved.

**Village Adaptation**

**1. Mohammed Nagar village, Medak district**

NIPHM conducted Pre-season host farmer's orientation program on Chilli cultivation at Mohammed nagar on 15.11.2019 in collaboration with ICAR-IIHR and KVK, Medak.



**2. Chowdarpally (V), Yacharam (M) Rangareddy district**

Dr.S. Jesurajan, SO (PHM) and Dr .Vijayaraghavendra, SRF visited on 04.10.2019. During the visit it has been observed that farmers were growing vegetables crops like tomato, brinjal, cucurbits/guards, chilli, okra, beans *etc.* interacted with 20 farmers and collected data (baseline survey).



Collection of data from farmers

**Institutional IPM instructional farm :**

**Maize field (A block):** Four species of *Trichogramma* was released in to maize field for study of FAW. Visited Maize research center with Dr. K. Damodarachari, ASO (Micro.) and met with Dr. Chandrasekhar, Pr. Scientist and collected protocol for plant protection data measurement.Plant growth parameters and plant protection data taken from Maize field. Collected some predators and parasites from Maize field.

**Maize field (B block):** Applied the green leaf manure along with bio enriched compost to the maize field at B block. Applied EPF and EPN. Plant growth parameters data collected from this field.

**Organic field(C block):** Soil samples collected from the organic field at NIPHM field and samples under process. Microbial analysis completed.

**Paddy field(C block):** sprayed *Agniasthra*, *Pseudomonas* bio formulations. Weeding and gap filling operations was done. AESA data collected from maize filed.

**Vegetable crops (D block):** At NIPHM farm, vegetable seedlings such as Tomato, Brinjal and Chilli grown in our farm (IIHR varieties) and local seedlings were transplanted with IPM and non IPM practices at D block and E block.

**Pandal system (E block):** construction of pandal system completed.

**Greens garden (old DG chamber):** Leafy vegetables harvested from greens garden and sold to staff.



Chilli field at E block



Tomato field D block



Brinjal field D block



Paddy field at C block



Green leaf manuring in Maize field at B block



Harvesting of leafy vegetables



Organic field at C block



**Plant Bio-Security Division**

The division has organized following training programmes during the month of October to December, 2019.

Name of The Programme	Duration	Date	
		From	To
<b>On campus training programmes (National)</b>			
Orientation for Phytosanitary Certificate (PSC) Issuing Authority	5 Days	14.10.2019	18.10.2019
Fruit fly: Surveillance and Management	5 Days	21.10.2019	25.10.2019
Vertebrate Pest Management - Wild boar, Monkey and Birds	3 Days	23.10.2019	25.10.2019
Pest Surveillance	5 Days	04.11.2019	08.11.2019
Regional Plant Health System Analysis	15 Days	13.11.2019	27.11.2019
Rodent Pest Management in Food Grain Warehouses	5 Days	25.11.2019	29.11.2019
Irradiation as phytosanitary treatment ( <b>Govt. &amp; Private sector</b> )	5 Days	02.12.2019	06.12.2019
Pest Risk Analysis	5 Days	09.12.2019	13.12.2019
Forced Hot Air Treatment (FHAT)	5 Days	16.12.2019	20.12.2019
Molecular Techniques for Identification of Plant Pathogens ( <b>Private sector</b> )	5 Days	16.12.2019	20.12.2019
Urban Integrated Pest Management	15 Days	03.12.2019	17.12.2019
<b>International Programme</b>			
Special training programme for Uzbekistan officials on Detection and Diagnosis of Pests, Pest Risk Analysis and Phytosanitary treatments ( <b>International Programme</b> )	14 days	22.10.2019	04.11.2019
<b>Off campus Training programmes</b>			
Off campus training programme on Rodent Pest Management for farmers at Pallickal village, Trivandrum District, Kerala	1 Day	03.10.2019	
Off Campus training programme on Rodent Pest Management for farmers at Kannambra Panchayat, Kerala	1 Day	18.10.2019	
Rodent Pest Management at Baidyadighi, Tripura	1 Day	30.10.2019	
Rodent Pest Management at KK Nagar, Bishalgarh, Tripura	1 Day	31.10.2019	
Off campus Fruit fly training, Shadnagar, Telangana	1 Day	05.11.2019	
Vertebrate Pest Management at Gandeed Village, Mahabubnagar District, Telangana	1 Day	07.11.2019	
Off campus training programme on Rodent Pest Management-Sriranagapatnam	1 Day	21.11.2019	
Off campus training programme on Rodent Pest Management, Ragavapuram	1 Day	22.11.2019	
Fruit Fly Training - Elimnadu village	1 Day	22.11.2019	
Farmers training at Kandawada, Chevella Mandal, Rangareddy, Telangana	1 Day	04.12.2019	
Farmers training at Papireddyguda, Keshampet, Rangareddy, Telangana	1 Day	10.12.2019	

### *Details of training programmes (on campus)*

- 1. Orientation for Phytosanitary Certificate (PSC) Issuing Authority:** A Five days training programme from 14<sup>th</sup> July to 18<sup>th</sup> October, 2019 was organized and 10 participants from various departments have attended the training to get acquainted with the basic procedures employed by International Plant Protection Convention (IPPC) to prevent the movement of exotic pests during agricultural goods trade.
- 2. Fruit fly: Surveillance and Management:** A five days' training programme on Fruit fly was conducted from 21<sup>st</sup>-25<sup>th</sup> October, 2019 at NIPHM. The programme was attended by 8 officers and got well conversant with identification & detection of fruit fly species, lure preparation and other different aspects of fruit fly surveillance and management. Trainees were given various lectures and hands-on experience for identification, taxonomy, exotic fruit flies and their pathway of entry and spread and fruit fly surveillance. Trainees got well conversant with pre harvest management through cultural control, biological control, trapping and sterile insect technique for management practices. Concrete sessions were given in laboratory and Mango orchard to prepare low cost bottle traps (Methyl Eugenol and Cue lure), their establishment in field, collection and identification of fruit flies.
- 3. Vertebrate Pest Management - Wild boar, Monkey and Birds:** A three days programme on vertebrate pest management to practice different measure to manage at various levels was organized at NIPHM from 23<sup>rd</sup> - 25<sup>th</sup>, October 2019.
- 4. Pest Surveillance:** Five days programme on Pest Surveillance from 4<sup>th</sup> -8<sup>th</sup> November, 2019 was organized. To impart skills of pest surveillance, to manage pests, incursion as well as promote international trade the programme was conducted. Thirteen participants learnt different types of survey, methodology, tools required for surveillance of target pest including basic procedure to set up Pest Free Areas (PFA) and Area of Low Pest Surveillance (ALPP). Trainees learnt adequate use of various traps and lures to carry out surveillance activities.
- 5. Regional Plant Health System Analysis:** Fifteen days training programme on Regional Plant Health System Analysis for Govt. officials was conducted from 13<sup>th</sup> - 27<sup>th</sup> November, 2019. To create a pool of experts to analyse Plant Health Systems and safeguard native agricultural biosecurity and build SPS capacity to gain market access. Eight trainees from state government and DPPQ&S learnt International conventions, National regulations, procedure for export and import of agriculture commodities through mock exercises & practical procedure for use of on-line PQIS software for export and import of seeds, plants, grains, fruits, GMOs, germplasm and bio-control agents, Pest Surveillance, Agro ecological system Analysis (AESAs), Rodent management, safe and judicious use of pesticides etc.
- 6. Rodent Pest Management in Food Grain Warehouses:** A five days programme on rodent pest management to practice different measure to manage at various levels was organized at NIPHM from 25<sup>th</sup> - 29<sup>th</sup>, November 2019. The programme was attended by 17 officers and they got skills in diagnosis of rodent pest species, infestation measurement, bait preparation and baiting techniques. To give practical exposure the participants were also taken to storage godowns to get accustomed with practices of preventive and integrated rodent pest management.
- 7. Irradiation as phytosanitary treatment:** A training programme on Irradiation was organized during 2nd-6<sup>th</sup> December, 2019 and attended by 15 Govt. & Private officers. Different lecture and practical session were organized during the period of five days regarding the importance of phytosanitary treatment in trade, including efficiency, procedure, facility etc. of Irradiation as phytosanitary treatment.
- 8. Pest Risk Analysis (PRA):** In order to prevent the entry and spread of damaging pests, it is important to identify potential risks at an early stage and propose technically justified phytosanitary measures to mitigate these risks. The objective of PRA is to decide whether pests should be regulated or not as quarantine pest and propose risk management options. PRA plays a vital role in trade of agriculture goods. The programmes on pest risk analysis was organised during 9<sup>th</sup>- 13<sup>th</sup> December, 2019, attended by 20 govt. officers.
- 9. Forced Hot Air Treatment:** Five days training programme from 16<sup>th</sup> - 20<sup>th</sup> December, 2019 on Forced Hot Air Treatment was organized at NIPHM. Twenty five trainees have participated in the programme and training covered requisites associated with Solid wood packing material (SWPM), its associated pests (fungi, insects and nematodes), phytosanitary treatments, design and construction of FHAT, equipments and their specifications, accreditation and audit protocol and calibration of sensors and treatment procedures. NIPHM is the only resourceful institute



specialized in offering training on FHAT in accordance with ISPM-15 and NSPM-9.

**10. Molecular Techniques for Identification of Plant Pathogens:** Five days training programme was organized on Molecular Techniques for Identification of Plant Pathogens from 16<sup>th</sup> – 20<sup>th</sup> December, 2019. Eight Officials from private sector got hands-on training on molecular diagnostic techniques for identification of fungal, viral and bacterial pathogens including for seed health testing methods.

**11. Urban Integrated Pest Management:** Nineteen officers of different states have attended 15 days training programme on urban integrated pest management from 3<sup>rd</sup> – 17<sup>th</sup> December, 2019. The participants were trained on various aspects of urban integrated pest management practices.

**International programme:** An exclusive tailor made International training on “**Detection and Diagnosis of Pests, Pest Risk Analysis and Phytosanitary Treatments**” was organized for Uzbekistan officials from 22<sup>nd</sup> October -04<sup>th</sup> November, 2019 by Plant Biosecurity Division at National Institute of Plant Health Management, Hyderabad, India funded by Indian Technical and Economic Cooperation (ITEC) programme, Ministry of External Affairs.



The inaugural session was graced by Smt. G. Jayalakshmi, I.A.S Director General, NIPHM, Dr. Alice, Director (Plant Biosecurity), Dr. G. Ravi, Director (Plant Health Management Division). This two week training was planned to impart skills in the areas of Pest Detection and Diagnosis, Pest Risk Analysis and Phytosanitary treatments. Fifteen Uzbekistan officials attended the training and they were trained in four major areas viz., detection and diagnosis of pests, pest risk analysis, Phytosanitary treatments and pest surveillance.

**Off campus training programme:** Total 15 off campus training programmes were conducted during the months from October to December and farmers were trained for rodent pest management, vertebrate pest management and low cost fruit fly traps.

**1. Rodent Pest Management:** Eight off campus training programmes on Rodent Pest Management were organized for farmers at Pallickal village, Trivandrum District, Kerala on 03.10.2019; Kannambra Panchayat, Kerala on 18.10.2019; Baidyadighi, Tripura on 30.10.2019; KK Nagar, Bishalgarh, Tripura on 31.10.2019; Srirengapatnam village Andhra Pradesh on 21.11.2019; Ragavapuram on 22.11.2019; Kamalpur, Dhalai district, Tripura on 19.12.2019 and at KVK, Khowai, Khowai district, Tripura on 20.12.2019. NIPHM officials have imparted the knowledge to the farmers on the ethology of rodents in paddy field, vegetable gardens, storage places and homes; different species of rodents; damages and diseases caused by them; procedure of poison bait preparation, application; importance of bait stations; effective management of rodents by following integrated approaches; management of rodents etc.





*Pallickal village, Kerala*



*Kannambra Panchayat, Kerala*



*Baidyadighi, Tripura*



*KK Nagar, Bishalgarh, Tripura*



*Srirengapatnam village, Andhra Pradesh*



*Ragavapuram village, Andhra Pradesh*



*Training programme at Kamalpur & Khowai, Tripura*



**2. Vertebrate Pest Management:** Programme on Vertebrate & Fruit Fly Management' was organized to the Mango growers and Self Help Group of Gundeed Mandal, Mahabubnagar, Telangana on 07.11.2019. Total 71 progressive farmers and SHG from nearby villages were attended the training programme. The interaction with the farmers indicated that they are facing the problems of vertebrate pests especially wild boar and monkey. The different management practices such as burning of dung smoke, fish net, treated coir rope, scaring of monkey through acoustic devices, repellents etc. for the wild boar. Followed by management practices for the monkey also explained to the farmers with demonstration of Monkey gun to the farmers. NIPHM Faculty has explained the mass production of decomposer (NCOF) and application methods.

NIPHM Faculty has explained fruit fly problems in mango and management techniques through NIPHM low cost bottle trap. Followed lure preparation methods for fruit fly management was explained to the gatherings. Prior to Dr. Hari Kanth, Scientist from Fruit Research Station, Sangareddy who was invited as resource person taken classes on cultivation practices for the mango for the export purpose. Mr. VVS. Saibaba, Deputy Director of Horticulture & Sericulture and Mr. Anil Kumar- District Project Manager (DRDA-SERP) thanked the resource persons for the fruitful interaction with the farmers.



**3. Awareness training programmes (Plant Health Clinic):** As an integral part of Plant Health Clinic programme, six off campus trainings were conducted during October–December, 2019. Farmers training programmes were organized at Shadnagar & Elimnadu village, Telangana on 5<sup>th</sup> & 22<sup>nd</sup> November, 2019; Kandawada, Chevella Mandal, Rangareddy, Telangana on 04.12.2019; at Papireddyguda, Keshampet, Rangareddy on 10.12.2019; at Lemur, Kandukur, Rangareddy, Telangana on 17.12.2019 and Warangal (urban & rural) during 30<sup>th</sup> December, 2019- 1<sup>st</sup> January 2020. Farmers were articulated about IPM practices and demonstrations were carried out for fruit fly lure (Methyl eugenol & Cue lure) trap preparation and its usage in monitoring of fruit flies in vegetable crops as well as in fruit crops and demonstration on use of bio-control agents viz., *Trichoderma* and *Pseudomonas*.



*Interaction with farmers at Elimnadu village, Telangana*



*Interaction with farmers at Kandawada Village, Telangana*



*Interaction with farmers and field visit for detection & diagnosis of pests at Papireddyguda, Telangana*



*Interaction with farmers and field visit for detection & diagnosis of pests at Lemur, Kandukur Mandal, Telangana*



*Programmes at Warangal (Urban & Rural) Telangana*

**New Initiatives:**

- Digital Keys:** The launch of Computer assisted digital keys for identification of stored grain insects was inaugurated by Dr. W R Reddy, IAS, Director General, NIRD & PR during the foundation day celebrations held on 24.10.2019.
- Massive Open Online Course (MOOCs) in Rodent and Household Pest Management:** Twenty one video recordings were completed and the launch of the above said programme was inaugurated by Dr. W R Reddy, IAS, Director General, NIRD& PR during the foundation day celebrations held on 24.10.2019 at National Institute of Plant Health Management (NIPHM), Hyderabad.



**Inauguration of Digital Keys**



**Inauguration of MOOCs**

**Plant Health Management Division**

**I. Officer s training programme**

S.No	Name of Training Program	From	To	Duration (days)	Total Trainees
1.	Quality control of Microbial Bio pesticides	14.10.2019	23.10.2019	10	14
2.	Agro ecosystem analysis & Ecological Engineering for pest management	04.11.2019	08.11.2019	5	18
3.	On-Farm Production of Biocontrol Agents and Microbial Biopesticides	13.11.2019	22.11.2019	10	35
4.	FTF-ITT-International Training programme on Integrated Pest Management for Major crop pests and diseases in developing countries	26.11.2019	29.11.2019	4	26
5.	Integrated Soil Nutrient & Rhizosphere Management	09.12.2019	16.12.2019	8	16
6.	Induction Training Program on Plant Health Management” (Bihar)	09.12.2019	20.12.2019	12	36
7.	Certificate Course on Plant Health Management in Organic Farming	11.11.2019	20.03.2020	90	24

**II. Farmers training**

S.No	Name of Training Program	From	To	Duration (days)	Total Trainees
1.	On farm production of Biocontrol agents	23.10.2019	25.10.2019	3	20
2.	On-farm production of Biocontrol agents	13.11.2019	15.11.2019	3	19
3.	Certificate course on Plant Health Management in Organic Farming (part-I)	11.11.2019	02.12.2019	21	24
4.	On-farm production of Biocontrol agents (TN)	03.12.2019	05.11.2019	3	20
5.	On-farm production of Biocontrol agents (TN)	04.12.2019	06.12.2019	3	33
6.	On-farm production of Biocontrol agents	10.12.2019	12.12.2019	3	21
7.	On-farm production of Biocontrol agents (TN)	17.12.2019	19.12.2019	3	40

**I. Officers training programme**

**Quality control of Microbial Biopesticides**

The training programme on Quality control of Microbial Biopesticides was organized at NIPHM from 16 .10.2019 to 23.10.2019 (10 days). In this programme total 17 officers/scientists from different states & organizations have participated in this program.

The participants underwent various aspects of Insecticide Act, 1968 -Registered biopesticides under Insecticide Act, 1968. Explained about Preparation and Maintenance of pure cultures of fungus and bacteria and parameters to be tested for Quality control of bio pesticides such as NPV, T. viridae, Pseudomonas spp and practical session on Bioassay of NPV, Physico Chemical Parameters (pH, Moisture content). Analysis of biopesticides for chemical contaminants, quality control parameters for Entomopathogenic fungi, Practical session on CFU count for Entomopathogenic fungi, T. viridae, Pseudomonas spp, antagonistic ability of T. viridae, Grams staining technique, Insect Rearing Techniques- Bioassay, ELISA technique, Practical session on POB count for NPV The participants also underwent classes the establishment of Microbial biopesticide Laboratory, requirements to get Accreditation as per ISO-17025. Under this programme trainees visited QC Lab, State Agricultural Management and Extension Training Institute (SAMETI). Quality Control Parameters for Trichoderma spp.



**On-Farm Production of Bio-control Agents and Microbial Bio-Pesticides**

The training program on “On-Farm Production of Bio-control Agents and Microbial Bio-Pesticides” conducted from 13th to 22nd November 2019 at NIPHM. A total of 35 participants have attended this program. The training classes on Biological Control: Principles and concepts, Conservation of Entomophagous insects, Living Soil Concept, Introduction to biological control of Plant Pathogens, Parasitoids as biocontrol agents, Role of Entomopathogens in plant health management, Use of entomopathogenic nematodes (EPN), a promising bio-control agent for the management of insect pests, Role of Ecological engineering in pest Management were the theory classes taken and the practicals on Host Corcyra mass production, Trichogramma mass production, Mass multiplication of predators (Coccinellids, green lacewing and anthocorid bugs, On- farm mass production of biopesticides (Trichoderma & Pseudomonas), , Use of EPF's in plant health management and their mass production techniques, Quality analysis of EPF, Mass production and field application of EPN for pest management, On-farm mass production techniques of NPV, Quality analysis of NPV, Chelonusblackburnii mass production, Mass multiplication of Bracon larval parasitoids have been taught by the faculty of NIPHM.

**Feed The Future India Triangular Training (FTF ITT) Programme:**

**International Training Programme on “Integrated Management Strategies for major crop pests & Diseases in Developing Countries” 26<sup>th</sup> to 29<sup>th</sup> November, 2019 at NIPHM, Hyderabad**

FTF programme jointly conducted by NIPHM-National Institute of Plant Health Management, MANAGE- National Institute of Agricultural Extension Management and ICAR-IIMR-Indian Institute of Maize research from 19th November – 3rd December, 2019. FTF-ITT programme was conducted from 26<sup>th</sup> to 29<sup>th</sup> November at NIPHM, Hyderabad in which 26 officials from 11 countries were attended belonging to government sectors, Private Companies, NGOs and Cooperatives.



### Induction Training on Plant Health Management to newly recruited Asst. Director of Agriculture Bihar'

As approved by the competent authority the training programme on 'Induction Training Program on Plant Health Management to newly recruited Asst. Director of Agriculture. Bihar was organized at NIPHM from 09.12.2019 to 20.12.2019 (12 days). In this programme total 34 Assist Director of Agriculture (Plant Protection) and 2 Deputy Director (Plant Protection) from different districts of Bihar have attended.

The participants underwent various aspects of Plant Health Management, soil health management practices (living soil concept, application of biofertilizers), disease and insect management practices (application of biopesticides, predators and parasitoids, EPF and EPF,NPV and botanicals), Agro Eco System Analysis, Ecological Engineering for habitat improvement for beneficial insects, quality control of biopesticides (*Trichoderma*, *Pseudomonas*, EPF,NPV), organic farming etc.





**Integrated Soil Nutrient & Rhizosphere Management (ISNRM)**

As scheduled in NIPHM training calendar 2019-20, a training programme on 'Integrated Soil Nutrient & Rhizosphere Management (ISNRM)' was organized at NIPHM from 09.12.2019 to 16.12.2019. In this programme total 16 officers from different states & organizations are attended as mentioned below. They also underwent practical classes like On-farm production of biofertilizers, On-farm production of biopesticides, Vermitechnology and Vermiwash, On-farm production of Entomo Pathogenic Nematodes (EPN), AESA field visit and chart preparation.



## II. Farmers training Programme

### 1. Tobacco Growers - Tobacco Board

Training programme : 1

Venue : Jangareddigudem & Gopalapuram (Tobacco board Platforms)

Date : 21<sup>st</sup> & 22<sup>nd</sup> October 2019

Participants : 173 farmers

Training programme : 2

Venue : Ongole (Tobacco board Platforms)

Date : 30<sup>th</sup> & 31<sup>st</sup> October 2019

Participants : 119 farmers

The following activities were taken up during training programme

Major insect pest in tobacco, damage symptom of insect pest, cultural control of insect pests, biological control methods

Diseases and their management in tobacco

Demonstration of on-farm production of Bio fertilizer and application methods

Demonstration of on-farm production of Bio Pesticides (*Trichoderma* and *Pseudomonas*) and application methods



### 2 Farmers training (DAC Project)

Venue : Karamadai, Coimbatore, Tamil Nadu

Date : 15<sup>th</sup> October 2019

Participants : 25 farmers

The programme was headed by Dr. N. Sathiah (Professor and Head) Department of Agricultural Entomology, TNAU, Dr. J.S. Kenedy (Professor, TNAU) and Dr. A. Suganthi (Assistant Professor), Department of Agricultural Entomology, TNAU along with the Dr. G. Ravi, Director (PHM) and Dr. E. Sreelatha AD (PHM). Around 25 participants were attended the training programme from different regions of Coimbatore district, Tamil Nadu. Farmers are put very keen interest to know the on farm production techniques of Bio fertilizers & Bio pesticides. We gave demonstration on On- farm production of Parasitoids & Predators, On- farm production of Biofertilizers & Biopesticides and role of Ecological Engineering concept in plant protection. Interested farmers were given mother cultures by NIPHM staff.





### **Training on Production of Biofertilizers to rural youths(WALAMTARI)**

A special farmers training programme (sponsored by WALAMTARI, Rajendranagar, Hyderabad-500030) on 'Training on Production of Biofertilizers to rural youths from 4<sup>th</sup> to 6<sup>th</sup> December, 2019. In this programme total 33 rural youth from different districts of AP & Telangana are attended as mentioned below. The participants underwent various aspects of plant health management aspects like use of biofertilizers in crop production, Ecological Engineering for below-ground pest management, integrated nutrient management for sustainable farming, role of biopesticides in soil health management, AESA methodology for plant health management, Pesticide application techniques, safety measures, role of EPF in rhizosphere improvement. They also underwent practical classes like On-farm production of biofertilizers, On-farm production of biopesticides, Vermitechnology and Vermiwash, On-farm production of Entomopathogenic Nematodes (EPN), AESA field visit and chart preparation.

### **III. PGDPHM V batch, SAMETI, Kerala**

As per the academic calendar, the I Semester contact classes for the V Batch PGDPHM (2019-21) was successfully organized for 15 days at SAMETI, Trivandrum between 30<sup>th</sup> Sept, 2019 and 17<sup>th</sup> Oct, 2019 with the presence of Dr. G. Ravi, Director PHM, NIPHM, Sri. Skandakumar, Director SAMETI and the Course co-coordinator Dr. P. Sakthivel. Total 28 officers attended the classes. In the 15 days contact classes conducted, theory and Practical classes in respect of two courses viz., KRPHM 01: Principles of Plant Health Management (2+1) and KRPHM 02: Agro ecosystem Analysis and Experiential learning (1+2) were covered. The theory and practical classes were handled by nine faculties from NIPHM, Hyderabad and 07 invited guest speakers from Kerala have covered the basic principles and practical skills in the area of plant health and ecosystem management such as biological control and beneficial insects augmentation, on-farm production techniques of bio inputs of agricultural significance like VAM, *Trichoderma* and *Pseudomonas* and their field application, mass multiplication of natural enemies, pest and disease diagnostic methods, techniques of farmer field school facilitation skills, experiential learning cycle, concepts of ecosystem, agroecological system analysis and baseline survey was covered in detail. In the end phase of contact classes, students were also given opportunities to finalize their project work and assignment for the course work through interactive meetings with Director, PHM and senior faculties (major guides).



#### **IV. Certificate Course on Plant Health Management in Organic Farming**

The CCOF part I course started on 11.11.2019 and inaugurated by Director General, NIPHM on 14.11.2019. A total of 25 trainees from different states attended. The participants underwent various aspects of organic farming practices for plant health of management.

During the part I of the course, both theory and practical aspects of plant health management in organic farming are covered including topic related organic produce certification, marketing and entrepreneurial skill.

Worked out and finalized project works to be carried out during Part 2(*on-field experience and application*): In this part, field activities shall be undertaken by the participants in the form of on-farm practice based project work. The design of project work shall be facilitated by the identified faculty at regional centres of ICAR- IIFSR under . All India Network Programme on Organic Farming (NPOF) or AICRP on Integrated Farming Systems. **(09.12.2019 to 03.03.2020 (54 days))** at the respective location/ region of the candidate)

**Part 3 (on-campus):** This 10 days programme shall be organized at NIPHM, Hyderabad. In this part, problems faced during field activity shall be discussed with experts and shared with others. The participants shall understand the subject based on their field experience and also prepare and submit a project report for evaluation. (10.03.2020 to 20.03.2020 (11 days) at NIPHM, Hyderabad).







**V. Skill Development Training on Vermicompost Producer (AGR-01203) AT NIPHM**

NIPHM conducted a Skill development training-- programmes on the job role1) Vermicompost (AGR-01203) in collaboration with Agricultural Skill council of India (ASCI) at NIPHM from 18.11.2019 to 17.12.2019 under RKVY scheme (DAC & FW). Total 18 rural youth/famers from Gujarat, Telanagana, AP, Maharashtra were attended the training course at NIPHM. The course was inaugurated by **Smt. G. Jayalakshmi, IAS**, Director General NIPHM. This training programme were conducted for 30 days with 200 hours as per the approved Qualification pack. The schedule consisting theory (30%) and practical (70%). The trainees were extensively imparted on various vermicompost production techniques, *etc.* They were made into different group and practically prepared the vermibed, vermiwash, Jeevamrutham, panchagavya, bijamrutham, *etc.* by taking all the safety measures. Apart from that exposure visits to different institutes (PJ TSAU, NIRD&PR and model units). The evaluation test was conducted for all the participants by assessment team deployed by ASCI Independent assessor on 17.12.2019. The results are awaited from ASCI.



**Pesticide Management Division**

The following training programmes were organized by Pesticide Management Division during October to December 2019.

Sl. No.	Name of the Programme	Duration in Days	From To	Number of Participants
1.	Testing Physicochemical properties of Pesticide formulations	5	04.11.19 to 08.11.19	5
2.	Pesticide Residue Analysis	21	24.10.19 to 13.11.19	7
2.	Laboratory Quality System Management and Internal Audit as per ISO/IEC 17025:2017	5	18.11.19 to 22.11.19	41
3.	Method validation in Pesticide Formulation Analysis (PFA) and Measurement of Uncertainty	5	02.12.19 to 06.12.19	3
4.	Inspection, Sampling and Prosecution Procedures under Insecticide Act, 1968 (ISPP)	5	16.12.19 to 20.12.19	42
5.	Orientation program on enforcement of Insecticide Act 1968 and Fertilizer Control Order 1985	5	09.12.19 to 13.12.19	28

Pesticide Management Division conducted four training program and one orientation program on enforcement of Insecticide Act 1968 and Fertilizer Control Order, 1985 during October to December 2019. In the training program **“Testing Physicochemical properties of Pesticide formulations”**, a total of 5 trainees were trained for testing of physical parameters of Pesticide formulations such as Emulsion stability test, Suspensibility test, Acidity/Alkalinity test, Flash Point test etc as per BIS method.



Training program on **“Pesticide Residues Analysis”** for 21 days was also conducted. A total of 7 officers were trained on preparation of Certified Reference Material (CRM), principles of pesticide residue analysis, principles of chromatography and its application in pesticide residue analysis. Participants were from State Agriculture Dept. and ICAR Institute.



In the training program **“Laboratory Quality System Management and Internal Audit as per ISO/IEC 17025:2017”** a total of 41 trainees were trained on general requirements for the competence of testing and calibration laboratories as per the new standard guidelines ISO/IEC 17025:2017. Participants for this program were from different Dept. of Ministry of Agriculture including private laboratories from Kaveri Seed Pvt. Ltd., NACL Industries Ltd., and personnel from NFDB, Dept. of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying, and Govt. of India. Participants were trained on general requirements for the competence of testing and calibration laboratories as per the International Standard ISO/IEC 17.25:2017. Also, trained them on Internal Audit in the laboratory and explained about the role and responsibilities of Quality and Technical manager including accreditation procedure of testing laboratory.



In the training program on **“Method Validation in Pesticide Formulation Analysis and Measurement of Uncertainty”** laboratory analysts were given hands on training on Method Validation which is an important parameter for quality assurance. Method validation of analysis method using HPLC, GLC and calculation of measurement Uncertainty were trained to the participants.



Five days training program on **“Inspection, Sampling and Prosecution Procedures under Insecticide Act, 1968 (ISPP)”** was conducted and 42 participants were participated the program. Participants were trained on Insecticide Act, 1968 and Rule 1971 including sampling of pesticide

**Plant Health Engineering Division**

Plant Health Engineering Division has provided the following training programs during the quarter.

Sl. No.	Name of the Programme	Duration in Days	From To	Number of Participants
<b>Officer’s programme</b>				
1.	Efficient Use of Water Resources	03	14.10.19 to 16.10.19	11
2.	RS and GIS Applications in Plant Health Management	05	03.12.19 to 07.12.19	13
3.	GIS Approach in Soil, Water and Plant Health Management	21	03.12.19 to 23.12.19	16
4.	Pesticide Application Techniques and Safety Measures-Off campus-Wadsa, Gadchiroli, Maharashtra	01	26.11.2019	46
5.	DESI Programme’ on “Pesticide Application Techniques and Safety Measures” at KVK, Gadchiroli, MH	01	27.11.2019	54
<b>Farmer’s programme</b>				
1	Pesticide Application Techniques and Safety Measures	01	25.10.2019	30
2	Pesticide Application Techniques and Safety Measures at Gadchiroli MH	01	25.11.2019	33
3	Micro Irrigation’ at Gadchiroli District, Maharashtra	01	28.11.2019	48

**Training on 'Efficient Use of Water Resources' (14.10.2019 to 16.10.2019)**

Water is the important natural resources which maintain plant health. Efficient utilization of water is a challenging job in agriculture sector as major contribution of utilizing fresh water resources is Agriculture. So, water should be used in precise way and also rain water should be stored by using different rain water harvesting techniques. Advanced irrigation technology such as micro irrigation viz. drip and sprinkler irrigation also increases overall irrigation efficiency. Hence a training programme on Efficient Use of Water Resources was organized by the division and 11 participants from 06 different states have undergone the training. This training emphasized on Efficient water management in command areas, water and soil conservation structures, farm ponds, Rain water Harvesting structures, Micro Irrigation and fertigation.

A visit was organized to Kothapally Watershed at Shankarpally village for showcasing different types of soil and water conservation structures. Trainees visited ICRISAT also to understand how each drop of rain water is efficiently utilized for irrigation and for drinking.



Visit to Kothapally Watershed

**Training on 'RS and GIS Applications in Plant Health Management' (03.12.2019 to 07.12.2019)**

To identify the potential land for any particular crop, GIS is the best techniques as it brings all the data on a single platform for the analysis. It is very useful to monitor crop growth, crop health, crop production and to estimate the crop acreage and yield. Currently for monitoring and identification of diseases and pest in crop by using GIS is easy. Hence a training programme on RS and GIS Applications in Plant Health Management was organized by the division and 13 participants from 08 different states has undergone the training.

This training helped them to get hand on experience in handling GPS device and exporting the data spatially, exposure towards open source and commercially available software, image interpretation and image classification. A visit was organized to NRSC outreach facility, Jeedimetla, Hyderabad where the participants got exposure to different satellite products launched by ISRO, centers and their applications, and also had a session on Agriculture applications and on Bhuvan Geoportal. Hands on session on Bhuvan geoportal was also arranged.



Practical sessions on GPS and GIS

**Training on 'GIS Approach in Soil, Water and Plant Health Management' (03.12.2019 to 23.12.2019)**

A 21 day training programme on 'GIS Approach in Soil, Water and Plant Health Management' was organized by the division for the first time in which 16 participants from 9 different states have participated. Module I of the programme (5 days) was combined with training programme "RS and GIS Applications in Plant Health Management". Module II was exclusively hands on sessions on Image Processing and GIS software. During these practical sessions, the participants were assigned with project works on different areas of their interest using RS & GIS and on the final day the evaluation was taken up.



Demonstration of GPS



Presentations by participants

**Off-campus Training on 'Pesticide Application Techniques and Safety Measures'(26.11.2019) at Wadsa, Gadchiroli, Maharashtra**

One day officer's training programme on "Pesticide Application Techniques and Safety Measures" was organized at Wadsa, Gadchiroli, Maharashtra State for extension functionaries with the help of Sub-divisional agricultural officer. Total 46 officers (Male-40, Female-6) attended the training programme from different districts of Maharashtra. The officers were oriented on NIPHM and its activities. Training was focused on principles of Pesticide Application Techniques, different spraying techniques, selection of sprayer, selection of nozzles and safety precautions. During the visit, the officers participated in the Constitution day celebrations at KVK, Gadchiroli.



Orientation



Constitution day celebration

**Off-campus 'DESI Programme' on “Pesticide Application Techniques and Safety Measures” at KVK, Gadchiroli, Maharashtra (27.11.2019)**

A one day training programme was organized for DESI programme participants at KVK, Gadchiroli which is a collaborative training programme of KVK and MANAGE. Total 54 dealers attended the training program, in which 50 were male and 4 were female participants. The case studies of adverse impact of spraying were explained to participants to make them aware of excessive usage. Basic principles of spraying such as suitable time of spraying, direction of spray with respect to wind direction, suitable temperature for spraying, recommended dosages, the volume of spray liquid required for certain area depends upon the spray type and coverage, total target area and size of the spray droplet were taken up. Special focus was given on different sprayers, its use and different nozzles. Safety precautions to be taken up while handling pesticides were also emphasized. The personal protective gears and its availability were briefed to the participants.

As the KVK was organizing another programme in collaboration with ICAR Central Institute for Cotton Research (CICR), Nagpur, a farmer training programme on 'Integrated Management of pink boll worm on cotton” for 106 farmers organized by CICR under the “Integrated Tribal Development Project” was attended by NIPHM officials. Er. M UdayaBhanu, was invited as Guest of Honour to this programme.



Sessions with DESI programme trainees



'Integrated Management of pink boll worm on cotton” conducted by CICR, Nagpur

**Farmers Training**

**Off-campus Farmers Training on 'Pesticide Application Techniques and Safety Measures' (25.10.2019)**

A training programme was conducted at MullamariThanda, Maripeda, Mahabubabad for 30 farmers in which special focus is given for tribal farmers. During the session, the farmers weretrained on basic principles of spraying, selection of sprayer and nozzle, safety precautions and care and maintenance of sprayer.



Demonstration of safety precautions while spraying



Another session also was organized at Thanamcherla village, Maripeda, Mahabubabad for 21 farmers.



Demonstration of safety precautions and nozzles

**Off-Campus Farmers Training on 'Pesticide Application Techniques and Safety Measures' (25.11.2019) at Gadchiroli District, Maharashtra**

A one day training programme on 'Pesticide Application Techniques and Safety Measures' was organised for 33 farmers from Gadchiroli District, Maharashtra. In this training, the farmers were first briefed about NPHM and its activities. They were enlightened with the Yavatmal incidence of pesticide spraying in their state. They were advised on different aspects such as the basic principles of spraying, different spraying techniques, selection of sprayer, different nozzles, selection of nozzle, safety precautions, care and maintenance of sprayer.



Farmers training programme at Gadchiroli District, Maharashtra

**Off Campus Farmers Training on 'Micro Irrigation' at Gadchiroli District, Maharashtra (28.11.2019)**

A one day training on “Micro-irrigation” was organized at Wadsa, Gadchiroli District, Maharashtra State for 48 farmers (Male-47, Female-1). In this training, farmers were retrained on different aspects of irrigation, optimum time for Irrigation, methods and types of Irrigation for different crops, Drip Irrigation and Sprinkler Irrigation systems, Rain guns and subsidy schemes on Micro irrigation etc.



Training on Micro-Irrigation for farmers

## Farmers/Students visit at PHE-Workshop

58 students along with faculty from Sricilla College of Agriculture, PJTSAU, Telangana visited PHE workshop on 25<sup>th</sup> October 2019 as a part of study tour and got exposed to various activities of the division and equipment developed by PHE.

50 Farmer trainees from PHM divisions visited PHE workshop and got acquainted with different implements developed by the division and also the plant protection equipment.

Along with teachers 58 students from Genesis School, Kukatpally, students from Tamilnadu, Perambalur, 30 students from College of Agriculture, UBKV, Dinajpur, West Bengal, 69 students from Tamilnadu, Kudumiyanmalai and Ramkrishna Bajaj College of Agriculture Pipri, Wardha Maharashtra visited PHE workshop in month of November 2019 as a part of study tour.

32 farmers from West Bengal and Interstate training of 20 farmers from Tamilnadu, visited PHE workshop in the month of November 2019 and got acquainted with different implements developed by the division and also the plant protection equipment.



College of Agriculture, UBKV, Dinajpur, West Bengal students visit



West Bengal farmers visit

Students undergoing one month skill training under Vermicompost visited and got acquainted with different spraying techniques and also the farmer friendly equipment developed by PHE division.

Batch of twenty farmers each visited on 5<sup>th</sup>, 11<sup>th</sup> and 19<sup>th</sup> December 2019 under Interstate training for farmers from Tamil Nadu got acquainted with different spraying techniques and also the farmer friendly equipment developed by PHE division



Trainees from PHM and PBD division visited workshop as part of their training programme. Also participants undergoing 21 days training on Geographical Information Systems approach in Soil, Water and Plant Health Management visited workshop and got acquainted with different spraying techniques and also the farmer friendly equipment developed by PHE division.



**AWARDS & RECOGNITIONS**

Dr. G. Ravi director PHM recvied Outstanding contribution to science award -2019 for commendable contribution to IPM and Rice entomology from Dr. B. Vasantharaj David foundation.



**राजभाषा हिंदी से संबंधित क्रियाकलापों का विवरण :-**

वर्ष 2019-20 हेतु राजभाषा कार्यान्वयन समिति की तृतीय बैठक संपन्न :-

राजभाषा कार्यान्वयन समिति (राकास) की तृतीय बैठक वर्ष 2019-20 हेतु दिनांक 29-10-2019 को श्रीमती जी.जयलक्ष्मी, भा.प्र.से.,महानिदेशक, एनआईपीएचएम के निर्देशानुसार डॉ विधु काम्पुरत, प्रभारी रजिस्ट्रार एवं संयुक्त निदेशक, एनआईपीएचएम ने राजभाषा कार्यान्वयन समिति (राकास) बैठक की अध्यक्षता की। बैठक में जुलाई-सितंबर, 2019 की तिमाही हिंदी प्रगति रिपोर्ट प्रस्तुत किया गया। उन्होंने उक्त रिपोर्ट की समीक्षा करते हुए संस्थान में आगे भी राजभाषा अधिनियम की धारा 3(3) का अनुपालन शत-प्रतिशत किये जाने के निदेश दिये। और इसके साथ ही प्रत्येक अनुभाग प्रति तिमाह को समाप्त अनुवर्ती महीने के 5 तारीक के अंदर टिप्पणी संबंधित आंकड़े विहित प्रपत्र में भेजने हेतु निदेश दिये एवं सभी प्रभागों द्वारा हिंदी टिप्पण लेखन को बढ़ावा दिया जाए । ताकि, हिंदी टिप्पणी की प्रतिशतता बढ़ सके ।

संस्थान में हिंदी को बढ़ावा देने हेतु प्रति बुधवार को 3.00 बजे से 4.00 बजे तक एवं 4.00 बजे से 5.00 बजे तक दो बैचों में हिंदी कक्षाएं संचालित किये जा रहे हैं। प्रथम बैच उन कर्मचारियों के लिए है, जो हिंदी भाषा की मूल ज्ञान की जानकारी नहीं रखते हों एवं दूसरा बैच एमटीएस कर्मचारियों के लिए है, जिन्हें हिंदी भाषा की मूलभूत जानकारी है।

राजभाषा हिंदी के प्रभावी क्रियान्वयन एवं प्रचार-प्रसार हेतु कर्मचारियों के लिए प्रति तिमाही में एक हिंदी वृत्तचित्र फिल्म का प्रदर्शन किया जा रहा है। इसी क्रम में दिनांक 07-11-2019 (गुरुवार) को मिनी ऑडिटोरियम में "तारक मेहता का उल्टा चश्मा" हिंदी वृत्तचित्र का सफलतापूर्वक प्रदर्शन किया गया।

इस तिमाही के दौरान एनआईपीएचएम वार्षिक प्रतिवेदन वर्ष 2018-19 एवं वार्षिक लेखा वर्ष 2018-19 का हिंदी में अनुवाद किया गया।



हिंदी कक्षा में भाग लेते हुए अधिकारी एवं कर्मचारी



अधिकारी एवंकर्मचारियों के लिएहिंदी वृत्तचित्र प्रदर्शन

एनआईपीएचएम में प्रशिक्षण कार्यक्रमों में भाग लेने के लिए देश विदेश से कृषि अधिकारी, वैज्ञानिक, विद्यार्थी एवं किसान वर्षभर दौरा करते हैं। यहाँ आने के बाद संस्थान परिसर एवं शिक्षण प्रशिक्षण उनको इस तरह से प्रभावित करता है कि कार्यक्रम सम्पन्न होने के उपरान्त उनके लिए संस्थान परिसर छोड़ना और अपने साथियों से बिछड़ना मुश्किल हो जाता है। इसी तरह के भाव एक शिक्षणार्थी ने अपने शब्दों में कार्यक्रम के समापन सत्र में इस प्रकार व्यक्त किये हैं,

### बिछड़ा है जो एक बार

बिछड़ा है जो एक बार तो मिलते नहीं देखा,

इस जख्म को भरते नहीं देखा।

इक बार चाट गई जिसे धूप की चाहत,

फिर शाख पे उस फूल को खिलते नहीं देखा।

धड़ाम से जो गिरा है तो जड़े तक निकाल आई,

जिस पेड़ को आँधी में भी हिलते नहीं देखा ।

काँटों में घिरे फूल को चूम आएगी लेकिन,

तितली के पेरों को कभी छिलते नहीं देखा ।

किस तरह मेरी रूह को हरी कर गया आखिर,

वो जहर जिसे जिस्म में उतरते नहीं देखा ।

पढे बहुत, स्कूल कालेज भी गए लेकिन,

जान विज्ञान एवं अनुशासन एनआईपीएचएम जैसा नहीं देखा।

बिछड़ा है जो एक बार तो मिलते नहीं देखा,

इस जख्म को भरते नहीं देखा।

- रचना एवं प्रस्तुति

**श्री संदीप कुमार, रतिया (हरियाणा)**

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