Feed The Future India Triangular Training (FTF-ITT) Program

On

"Management of Technology and Extension for Soil Testing based Advisory Services to Farmers"

Date: 30th January – 13th February, 2018 (15 days)

Venue: ICAR-IISS, Bhopal, India

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ICAR-Indian Institute of Soil Science (ICAR-IISS)

Bhopal-462038, Madhya Pradesh State, India

http://www.iiss.nic.in

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Date & Duration	:	30th January – 13th February, 2018, (15 days)
Venue	:	ICAR-Indian Institute of Soil Science (ICAR-IISS) Bhopal, India
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ICAR-Indian Institute of Soil Science (ICAR-IISS) is a premier institute under the Indian Council of Agricultural Research, New Delhi. It is the only institution in the country dedicated exclusively to research on soils. The institute was established in the year 1988 at Bhopal with the mandate "*To provide scientific basis for enhancing and sustaining productivity of soil resources with minimal environmental degradation". The* prime objectives of the institute consist of "basic and strategic research on soils especially physical, chemical and biological processes related to management of nutrients, water and energy; development of advanced technologies for sustainable input management; and development of database repository of information on soils in relation to quality and productivity". The institute, over the last 29 years, has generated several state-of-the art technologies of soil management. Some of the prominent technologies include Integrated Plant Nutrient Supply (IPNS) System for Soybean-Wheat Cropping System; Mechanical Harvest Borne Wheat Residue Management; Micro and Secondary Nutrients Recommendation for Indian Soils; Technologies of Enriched Compost Production; Rapid Composting Techniques; Technologies For the Use of Biofertilizers; Synthesis of Nano-Rock Phosphate; Oleoresin Coated Urea Fortified with Nano-particles; Conservation Tillage for Soybean-Wheat Cropping System; Organic Farming Practices for Various Crops and Cropping Systems; Bioremediation of Heavy Metal Contaminated Sites; GIS based Soil Fertility Maps of Different States; Online Fertilization Recommendation System; Model for Predicting Soil C and N; and Software for Evaluating Municipal Solid Waste (MSW) Compost.

Recently, the institute has played a prominent role in the Central Government Soil Health Card Scheme to provide soil health card to more than 140 million farmers in the country. The institute has four All India Coordinated Research projects (AICRP) having 84 centers located in different parts of the country. The two AICRPs directly dealing in the assessment of soil health and soil test based balanced fertilizer recommendations are AICRP on Soil Test Crop Response Correlations and AICRP on Micro- and Secondary Nutrients and Pollutant Elements in Soils and Plants. Through these AICRPs the institute has access to remote areas in the country. The institute has also developed a mini lab (*Mridaparikshak*) of soil health assessment. *Mridaparikshak* is a digital, mobile, quantitative, rapid, affordable and easy to operate mini laboratory, for the estimation of soil health parameters, fertilizer recommendations, and generation of soil health cards. It gives quantitative results of the soil health parameters that can be disseminated on real time basis to the farmers' mobile through Short Message Service (SMS). The institute closely works with farmers and has presently adopted 55 villages, frequently visited by institute Scientists. The present international training programme is planned to impart an insight to soil testing, soil health, the available technologies of soil test based fertilizer and manure applications and their dissemination to farmers.

Objectives

- To introduce the concept of soil testing, soil health, and soil test based balanced fertilizer management.
- To apprise the participants about the basic requirement of establishing a soil water tissue testing laboratory.
- To impart skills on new and innovative soil health management strategies for sustainable agriculture leading to conservation of natural resources in different cropping systems.
- To impart training on soil analysis methods, obtaining results and their interpretation.
- To introduce the concept of farmers' participatory diagnosis of constraints and opportunities (PDCO) survey for soil fertility management in relation to crop production.
- To introduce the use of internet and mobiles in the dissemination of soil test based fertilizer recommendations, also the soil fertility maps and fertilizer nutrient recommendations based on these maps.
- Visit to national, international institutes, and farmers' fields to get exposure on issues and strategies related to soil testing and soil heath management and extension.
- Identify country specific problems and their management options in the development and dissemination of soil test based nutrient management.

The Key Contents of the Course

- Soil, crop, and climate specific soil test based nutrient recommendation technologies.
- Concept of Integrated Plant Nutrient Supply (IPNS) system and the IPNS technologies generated by the institute and their dissemination.
- Participatory Diagnosis of Constraints and Opportunities (PDCO) Survey.
- Rapid compost generation technologies for the improvement of soil health.
- Demonstration and hands on training on Mridaparikshak mini lab and its role in quick dissemination of soil test results to farmers.
- Exposure to result and method demonstration in farmers' fields, an institute experience.
- Geo-referenced soil fertility maps, their generation and use in balanced fertilizer applications.
- Interpretation of soil water analysis report.
- Exposure to on-line soil test based fertilizer recommendation system.
- Government soil health card scheme: An Indian experience in the dissemination and impact of soil health cards.
- About 50% time shall be devoted in lecture-cum-interaction sessions, 40% time on hands on practices in laboratories and field demonstrations, 10% time for institutional visits and interaction.