



INDIAN PHYTOPATHOLOGICAL SOCIETY



“Women Scientists in Plant Health Management for Sustainable Development Goals”

A National Conference of the Women, by the Women, for the Women Scientists

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ABSTRACT BOOK

Venue:

ASSAM AGRICULTURAL UNIVERSITY, JORHAT, ASSAM

“THE HEALTH OF SOIL, PLANT, ANIMAL AND HUMAN IS ONE AND INDIVISIBLE”





IPS-NWSC/TS-4/Invited Lecture -3

Impact of plant parasitic nematodes in crop plants and their sustainable management

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Plant-parasitic nematodes are one of the significant obstacles to the crop production. They are widely distributed and associated with almost all the major agriculture and horticulture crops and pose a sustainable threat to global food security. These nematodes reduce yields (up to 60%) and quality of the produce through direct and indirect damage. Root-knot nematodes (*Meloidogyne* spp.) cyst nematodes (*Heterodera* and *Globodera* spp.), reniform nematode (*Rotylenchulus* spp.) and lesion nematodes (*Pratylenchus* spp.) are ranked as the most economically important species due to their strong association with the host plants and the level of damage caused due to their infection. Studies on eco-friendly nematode management strategies are increasing in recent days as a result of restrictions on the use of chemical nematicides. Among the non chemical nematode management strategies, the most effective strategies involve the identification and implementation of host plant resistance and the application of biological control. Understanding the extent and kind of genetic variability in the nematode population is a crucial factor for the efficacy and persistence of HPR. Biological control is a rapidly evolving sector, which is one of the promising ways to control nematodes, and recently, several products were prepared using fungi, bacteria, or actinomycetes and have been marketed worldwide to combat the nematodes. This summary highlights the importance of plant-parasitic nematodes in agriculture and horticulture crops and the eco-friendly sustainable methods involved in their management.

IPS-NWSC/TS-4/Invited Lecture -4

Elevating plant defence: The marvel of induced systemic acquired resistance

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Effective management of viral diseases in crops demands a comprehensive strategy due to the adaptable nature of viruses, allowing rapid evolution and overcoming resistance mechanisms. Plant viruses inflict substantial global economic damage, prompting plants to employ various defensive tactics. Systemic acquired resistance (SAR), an intrinsic protective mechanism in plants, provides enduring and broad-spectrum protection against pathogens.