

National Symposium

Nematodes : A Threat to Food Security and Farmer's Livelihood

11-13 December, 2019

Organized by



Nematological Society of India, New Delhi



Manipur University, Imphal, Manipur



Indian Council of Agricultural Research, New Delhi

at

**Manipur University, Indo Myanmar Road,
Canchipur, Imphal, Manipur 795003**

National Symposium

Nematodes : A threat to food security and farmer's livelihood

Plant parasitic nematodes pose major threat to crop plants and cause an estimated loss of more than US \$157 billion annually to world agriculture. The most economically damaging plant parasitic nematodes are the sedentary endoparasites, which include the genera *Meloidogyne* (root-knot nematodes), *Heterodera* and *Globodera* (cyst nematodes). Both the root knot nematode (RKN) and cyst nematodes (CN) have complex interactions with their host and define the physiological and morphological changes in the plant feeding cell. The infected plant becomes prone to enhanced susceptibility to other bacterial and fungal diseases. Migratory plant parasitic nematodes (PPN), another highly damaging group of nematodes, remain mobile throughout their development and feed sequentially from many plant cells, often without prior cell modification. These include genera such as *Radopholus* spp. and *Pratylenchus* spp. which are endoparasites and *Longidorus* and *Belonolaimus* which are ectoparasites. These parasites pose a serious threat to the global food security and farmer livelihood as about 12.3% of the world food production is affected by them.

Certain PPN species previously considered benign or non-damaging, are becoming potential pests as a result of change in cropping patterns and climate shift. Various methods have been used for management of PPNs including development of resistant cultivars, chemical nematicides, cultural practices etc. Nematicides as a means of chemical control has been effective in controlling plant parasitic nematode, but impose serious health and environmental issues such as contamination of ground water, environmental toxicity, mammalian toxicity etc. and as a result most have been banned for use. Identifying green chemicals for PPN management is an area which needs attention. PPNs like RKNs have a wide host range and infect thousands of plant species which make crop rotation almost ineffective for the control of these devastating pathogens. Resistance breeding continues to be a strategy of nematode control however success depends on the host gene pool and availability of resistant genes. DNA recombinant technology can help us engineer resistance against important nematode pests in crop plants. RNA interference has emerged as useful tool to elucidate gene function by phenotypic effect of transcript knock down but has best shown to affect nematode development in plants expressing dsRNA of specific nematode genes. Nanotechnology-based RNA sprays that turn off certain genes in plants, thereby reducing or eliminating a number of potential plant diseases have been developed. The approach is environmentally sustainable alternative to chemicals and pesticides as it uses nontoxic, biodegradable clay nano particles to deliver RNA as a spray – and nothing is genetically modified in the plants. This technology could be evolved for nematode management too. Nematode genomes and transcriptomes have given us new understanding of the host-plant interactions at the molecular level and provided cues for advance management options. Digital and molecular taxonomy will help us assist nematode identification in future. We need adequate trained human resource so as to keep pace with changing international research scenario. The symposium is devoted to showcasing the role of nematodes and their management in food as well as nutritional security and shall provide an open platform for scientific dialogue and exchange of ideas paving way for future research in the subject.

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Awards

NSI Invite application from the eligible candidates for:

1. Prof. D.J. Raski Academic merit award
2. Prof. H.M. Shah Memorial award
3. Fellow, Nematological Society of India

The applications should reach Dr. Anil Sirohi, General Secretary, Nematological Society of India latest by : **30th October, 2019**

For details please visit the NSI website-www.nematology.in

Call for paper: Abstracts of papers are invited not exceeding 250 words for lead talk. For oral/poster presentation abstract have word limit of 150 words. Abstract typed in 12 point font size of MS word may be sent on the NSI email, nematologicalsociety@yahoo.com latest by **30-10-2019**. Not more than two papers as senior author will be accepted.

The size of the poster for the display should be 75x100cm briefly showing the Title, Methodology, Results, and Conclusion with three table and good quality photographs. It should be clearly readable from the distance of at least 1m. The oral/poster presentations will be evaluated by panel of judges for best oral as well as poster presentation award.

Registration Fee

	Till 15 th November 2019	After 15 th November 2019
NSI Members	Rs.7500/-	Rs. 8000/-
Non NSI Member	Rs 8500/-	Rs. 9000/-
Students	Rs.4000/-	Rs. 4000/-
JRF/SRF/RA	Rs 5000/-	Rs. 5500/-

A **pre registration fee** of Rs. 1000 per abstract (adjustable in the registration fee) is to be paid at the time of submission of the abstract. The abstract acceptance will be given only after receiving the pre-registration fee. Payments are to be made through NEFT or DD payable to :

**Organizing Secretary National Symposium, A/C No. 90292010097126,
IFSC: SYNB0009029, Syndicate Bank, Pusa Campus New Delhi-110012.**

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Venue

Manipur is located in the northeastern part of the country, bordered by the Indian states of Nagaland to the north, Assam to the west, and Mizoram to the southwest and by Myanmar (Burma) to the south and east. The name Manipur means “land of gems.” Its economy mainly depends on agriculture and forestry, and trade and cottage industries also are important. The state capital is Imphal, located in the centre of the state.



The hill ranges, connected by spurs and ridges, run generally north-south. These ranges include the Naga Hills to the north, the East Manipur Hills along the eastern Myanmar border. Scenic and serene, the lakes in Manipur certainly increase the charm of the state with their existence. Loktak Lake, the largest freshwater lake in Northeast India is located in Bishnupur district, at a distance of 53 km from Imphal, is known for its circular floating swamps (called phumdis in the local language). The lake is home to 233 species of aquatic plants, more than 100 species of birds, and 425 species of animals, including the Indian python and sambhar. What makes the Loktak Lake even more special is the Keibul Lamjao National Park located at the south western part of the lake. It is the world’s only floating national park and is home to the endangered Manipuri brow-antlered deer, Sangai.



Accommodation

The registration fee does not include accommodation charges. The participants are encouraged to make their own arrangements for stay. However, participants requiring accommodation may forward the request in advance to **Dr. N. Mohilal Meitei**, Local Organising Secretary.

National Symposium
on
Nematodes : A threat to Food Security and Farmer's Livelihood
Imphal, Manipur

11th-13th December, 2019

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I am interested in participating in the National Symposium. I would like to present my research as oral presentation/ poster on

1.-----

2.-----

Registration Category

Member Non Member Student RA/JRF

Duration of stay : days Date : From..... to.....

Arrival and Departure details

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