

INDIAN JOURNAL OF NEMATOTOLOGY

RNI No. Deleng/2000/1949
ISSN 0303-6960
Online-ISSN 0974-4444

Volume 55

No. 1

June, 2025



The Official Publication of
The Nematological Society of India

INDIAN JOURNAL OF NEMATOLOGY

(The Official Publication of the Nematological Society of India)

PATRON

AGRILANDBIOTECHLTD. & M/S NICOORGOMANURES

HONORARY FELLOWS

DR. D.J. PATEL, DR. P.P. REDDY, DR. P.N. PHUKAN, DR. SADASIV RAY
& DR. P.K. KOSHY

EDITORIAL BOARD

Editor-in-Chief

DR. MUJEEBUR RAHMAN KHAN, Department of Plant Protection, Faculty of Agricultural Sciences, Aligarh Muslim University, Aligarh

Editor

DR. TUSHAR K. DUTTA, Division of Nematology, ICAR-IARI, New Delhi

Members

PROF. RICHARD A. SIKORA, Germany

PROF. HARI SHANKAR GAUR, India

PROF. SHASHI BHOOSHAN SHARMA, Australia

DR. H.M. ROHINI K. EKANAYAKE, Sri Lanka

DR. HEMCHANDRA R. PATEL, India

PROF. TARIQ MUKHTAR, Pakistan

DR. SERGEI SUBBOTIN, USA

DR. MAHFOUZ M.M.ABD-ELGAWAD, Egypt

DR. ZAHRA TANHA MAFI, Iran

DR. E.I. JONATHAN, India

THE NEMATOLOGICAL SOCIETY OF INDIA

EXECUTIVE COUNCIL (2025-2027)

President (2024–26)

DR. PANKAJ, ICAR-IARI, New Delhi (pankaj@iari.res.in)

Vice-President (2025–27)

DR. M.R. KHAN, ICAR-IARI, New Delhi (mrkhan.icar@gmail.com)

General Secretary

DR. RASHID PERVEZ, ICAR-IARI, New Delhi (rashidpervez2003@gmail.com)

Joint-Secretary & Treasurer

DR. CHANDRAMANI D. WAGHMARE, ICAR-IARI, New Delhi (chandramaniw9@gmail.com)

Editor-in-Chief

DR. MUJEEBUR RAHMAN KHAN, Department of Plant Protection, Faculty of Agricultural Sciences, Aligarh Muslim University, Aligarh (mrkhan.amu@gmail.com)

Editor

DR. TUSHAR K. DUTTA, ICAR-IARI, New Delhi (nemaiaari@gmail.com)

Councillors

Delhi Zone:

DR. B.H. GAWADE, ICAR-NBPGR, New Delhi

North Zone:

DR. RAJAN SALALIA, SKUAST, Jammu

South Zone:

DR. VETRIVELKALAI P., TNAU, Coimbatore

Central Zone:

DR. P. HOLAJJER, ICAR-NBPGR, Hyderabad

East Zone:

DR. DEBANAND DAS, AAU, Jorhat

West Zone:

DR. SHAKTI SINGH BHATI, CAN, AU, Jodhpur

The Indian Journal of Nematology is published half-yearly by the Nematological Society of India (NSI). **The journal is sent free to members in good standing.** The Society does not accept responsibility for loss during postal transit. Communications regarding the membership of the Nematological Society of India should be addressed to the General Secretary, Nematological Society of India, Division of Nematology, ICAR-IARI, New Delhi-110012, India.

The use of trade name or a proprietary product does not constitute a guarantee of the product by the author (s) or the NSI, and does not imply its approval to the exclusion of other products that may be suitable.

Note: Members to kindly contact General Secretary & Jt. Secretary for membership enquiry and for publication of research paper contact Editor-in-Chief & Editor through e-mail (editor.ijn2025@gmail.com).

Contact address: Secretary, Nematological Society of India, Division of Nematology, ICAR-IARI, New Delhi-110012, <https://nemaindia.org.in/>

Legend for Front cover photo panel: The photo panel depicts the spread of root-knot nematodes in the transplanted rice. Laborers in a field, transplanting unknowingly the infected rice nursery (*Meloidogyne graminicola*). Insets: Closer views of rice nursery showing terminal root galls. (Photo credit: Mujeebur R. Khan, Irfan Ahmad & M. Shahid A. Ansari, Department of Plant Protection, Faculty of Agricultural Sciences, Aligarh Muslim University).

IN THIS ISSUE

Volume 55, Number 1

Title	Authors	Pages
Editorial		iii
REVIEW ARTICLE		
1. Global Climate Change and its Influence on Nematode Communities and Agricultural Systems	Shavish Vaid	1
RESEARCH ARTICLES		
2. Assessment of Enzyme Activity in Root-Knot Nematode Resistant and Susceptible Solanaceous Plants	Rajesh Kumar S.P., S. Mallesh, Prasanna Holajjer, M. Rajasekhar, B. Rajasekhar, Jagdeesh Bathula and Akshay S. Sakare	15
3. Comparative Effectiveness of Newly Developed Bioformulations of <i>Trichoderma</i> isolates against <i>Meloidogyne graminicola</i> in Rice	Mohd Shahid Anwar Ansari, Mujeebur Rahman Khan, Faheem Ahamad and Ziaul Haque	25
4. Potential of Mycorrhizae as A Sustainable Approach for Managing <i>Meloidogyne incognita</i> infecting Cucumber	Ankita Rana, Sharmishtha Thakur, Manoj Bhaurao Salunkhe and Dixsha Jamwal	34
5. Nutrient Depletion in Mungbean Seeds Due to Root-knot Nematode, <i>Meloidogyne incognita</i> and Cercospora Leaf Spot Infection	Priyadarshini Srivastava, Hari S. Gaur and Saleem Siddiqui	43
6. Oil Cakes Stimulate Native Population of <i>Catenaria anguillulae</i> that Suppresses Root-Knot Disease of Cowpea	Phanindra P.V., Mounika A., Vandana Sahu, Ashwani Kumar Patel and S.S. Vaish	53
7. Effect of Silicon Dioxide Nanoparticles / Bismuth Oxide Nanoparticles Alone and in Combination with <i>Rhizobium leguminosarum</i> on the Growth, Photosynthetic Pigments and Wilt Disease Complex of Pea	Zaki A. Siddiqui, Aqib, Sumaiya Aziz and Kajal Yadav	64

Title	Authors	Pages
SHORT COMMUNICATIONS		
8. First Report on the Occurrence of Root-knot Nematode, <i>Meloidogyne incognita</i> Parasitizing <i>Luffa cylindrica</i> in north Iran	Zahra Majd Taheri and Farhad Saeidi Naeini	79
9. <i>Schefflera arboricola</i> - A New Host for <i>Meloidogyne incognita</i> and <i>Rotylenchulus reniformis</i>	M. Themuhi and Debanand Das	82
10. <i>Meloidogyne-Fusarium</i> Disease Complex, A Serious Concern in Tomato Crop in Sagar District, Madhya Pradesh, India	Shubhi Agrawal, Archana Singh and Neetu Singh	85
11. Effect of Some Biocontrol Bacteria on the Disease Complex Caused by <i>Fusarium oxysporum</i> f. sp. <i>lycopersici</i> and <i>Meloidogyne incognita</i> in Tomato	Sameena, K. Sankari Meena, V. Bharathi, B. Vidya Sagar and K. Sesha Kiran	89
MISCELLANEOUS		
Announcement		95
Nematological News		95
Book Review		96
Obituary		97