ICAR-NRCB Newsletter

Banana Bites

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Contents

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From the Director: I am very happy to share the present newsletter for the quarter Jan – March 2025 to our esteemed readers. This edition highlights the achievements of ICAR-NRCB across research, outreach, and capacity-building efforts.

This quarter, the hardening of banana cv. Kaveri Kalki using pectin-encapsulated zinc oxide nanoparticles (ZnO NPs) showed promising growth responses, with potential applications in plant health and disease resistance.

In insect biodiversity, the aphid parasitoid Lipolexis peregrinus was recorded for the first time in India, along with Sticholotis cribellata, a new predator of banana scales strengthening our biological control arsenal. Field and lab trials identified newer insecticides like Thiamethoxam and Fipronil as highly effective against banana scarring beetles, with rapid mortality and strong probit data support.

Promising beneficial bacteria from native curd and entomopathogenic nematodes were found effective against postharvest pathogens and pseudostem borer larvae, respectively. Azadirachtin proved successful against root lesion nematodes. Further, endosymbiont profiling of aphids and mealybugs has deepened our understanding of virus vector biology. The TAS-ELISA kit for Cucumber Mosaic Virus, developed by ICAR-NRCB, was successfully validated across 65 diverse plant samples.

During this period, ICAR-NRCB conducted 102 capacity development programmes benefitting 6358 participants and participated in Nine major exhibitions. Our outreach efforts across social media continued to expand, ensuring greater visibility and awareness of our initiatives.

These achievements reflect the dedication and collaborative spirit of our scientific, technical, and administrative teams. I thank all staff for their valuable contributions and the editorial committee for their efforts in compiling this newsletter.

(R. Selvarajan)
Director

1. MAJOR RESEARCH HIGHLIGHTS

Hardening of banana cv. Kaveri Kalki

Zinc oxide nanoparticles (ZnO NPs) were synthesized using the wet chemical method and subsequently encapsulated with pectin, a natural polysaccharide known for its antimicrobial properties. Banana plantlets of cv. Kaveri Kalki were treated with varying concentrations of the encapsulated nanoparticles (25 ppm, 50 ppm, 75 ppm, 100 ppm, and 150 ppm) through incorporation into the rooting media.

All treatments showed significant differences compared to the control. Higher concentrations, particularly 150 ppm, exhibited phytotoxic effects, as evidenced by a reduction in all growth parameters. ZnO nanoparticles at 20 ppm performed better than the control in terms of root and leaf parameters, and were on par with the control in terms of plant height. These plantlets, after hardening, will be subjected to pot screening for resistance to Fusarium wilt.

This pectin-based encapsulation strategy offers controlled nanoparticle release and enhanced stability, which are crucial for further investigations on in vitro priming and the subsequent improvement of plant immune responses.

Banana insect mapping in India:

The aphid parasitoid, Lipolexis peregrinus Tomanović & Kocić (Hymenoptera: Braconidae: Aphidiinae), previously known from Europe and parts of Asia (China and Japan), was reported for the first time from India (Tamil Nadu) **(Fig. 1).** It was found parasitizing the banana black aphid, Pentalonia nigronervosa Coquerel (Hemiptera: Aphididae), a known vector of the devastating Banana Bunchy Top Virus (BBTV). This also represents a new host–parasitoid association. COX1 sequencing was carried out to enable rapid identification, and the sequence has been submitted to GenBank (accession number: PV195289).

Sticholotis cribellata Sicard (Coleoptera: Coccinellidae) **(Fig. 2)** was recorded as a predator of Aspidiotus destructor Signoret (Hemiptera: Diaspididae), a major scale insect pest affecting banana and coconut crops.

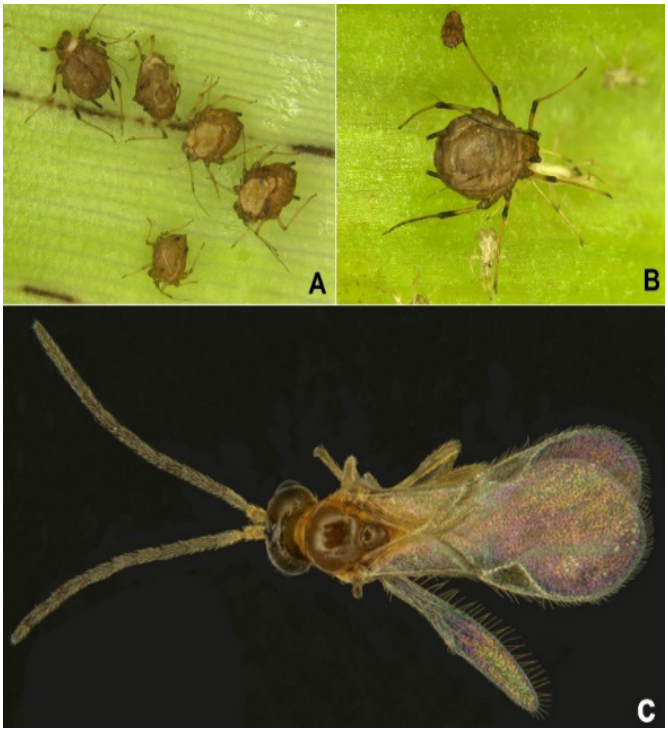


Fig. 1. *Lipolexis peregrinus,* a new parasitoid of Banana aphid

Fig. 2. *Sticholotis cribellata,* a predator of banana scales

Banana scarring beetles (*Basilepta subcostata*) were collected from the Banana Research Centre under RPCAU at Goraul, Vaishali district, and laboratory bioassays were conducted at RPCAU, Pusa, Samastipur. Fourteen treatments, including insecticides and botanicals, were tested using the leaf dipping method, and mortality data were recorded from 2 hours up to 4 days after treatment. Thiamethoxam 25% WG, Fipronil 5% SC, Emamectin Benzoate 5% SG, Spinosad 45% SC, Chlorpyrifos 20% EC, Imidacloprid 17.8% SL, and

Fipronil 0.3% G achieved 100% mortality within 12 hours of application **(Fig. 3).**

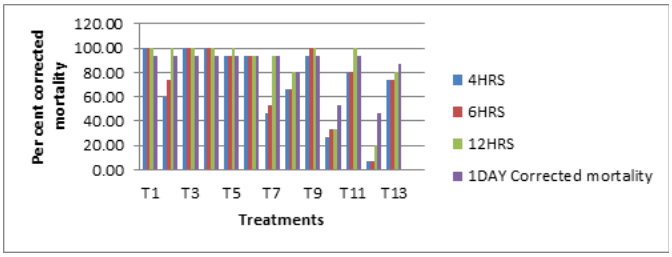


Fig. 3. Effect of new insecticides on fruit scarring beetle

Probit analysis of newer insecticides against *Basilepta subcostata*

Thiamethoxam 25% WG, Fipronil 5% SC, Imidacloprid 17.80% SL, and Fipronil 0.3% G at different concentrations were evaluated using the leaf dipping method against the banana scarring beetle in laboratory bioassays. These insecticides proved to be the most effective, with LC_{50} and LC_{90} values calculated, and R^2 values determined four hours after treatment **(Table 1).**

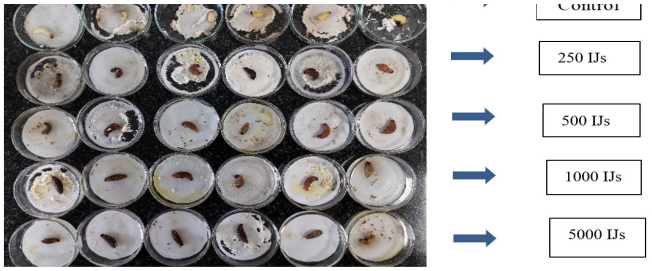
Table: 1. Probit analysis of concentration-mortality response at 4 hours post inoculation of insecticides against *Basilepta* subcostata

Insecticides	LC_{50}	LC_{90}	R^2 value
Thiamethoxam 25% WG	0.103	2.764	0.773
Fipronil 5% SC	0.545	19.727	0.966
Imidacloprid 17.80% SL	0.609	3.920	0.818
Fipronil 0.3 % G	0.757	4.035	0.961

Beneficial bacteria isolated from native curd samples showed significant control of postharvest diseases and were identified as *Bacillus subtilis* (C-2-2 and N-5-1), *B. velezensis* (C-4-1), *B. siamensis* (N-6-1), and *Bacillus subtilis* subsp. *inaquosorum* (N-2).

In vitro evaluation of chemical nematicides, viz., Fipronil 5% SC and Azadirachtin 1%, at different concentrations against the root lesion nematode (*Pratylenchus coffeae*) found Azadirachtin to be effective at 0.1% and 0.05% concentrations, causing more than 95% nematode mortality after 24 hours of exposure.

Bioassay of the entomopathogenic nematode *Heterorhabditis indica* on larvae of the banana pseudostem borer (*Odoiporus longicollis*) resulted in 100% larval mortality at 100 or more infective juveniles after 48 hours of exposure.



Characterization of Endosymbionts in insect vectors of banana viruses

Endosymbiont analysis of mealybugs and aphids revealed several common and unique bacterial associations. Both insect groups shared the presence of *Buchnera*, Pea aphid U-type symbiont (PAUS), *Rickettsia*, *Spiroplasma*, *Wolbachia*, and *Escherichia coli*. Endosymbionts unique to mealybugs included *Tremblaya*, γ-proteobacteria, and β-proteobacteria, while no endosymbionts were found to be exclusive to aphids in this study.

ICAR-NRCB Cucumber mosaic virus TAS-ELISA kit validation

The TAS-ELISA kit for Cucumber mosaic virus (CMV), developed at ICAR-NRCB, Trichy, was successfully validated using 65 field samples collected from diverse plant groups, including vegetables, medicinal plants, spices, ornamentals, flower crops, and weeds. The validation confirmed the broad applicability and reliability of the kit for CMV detection across multiple host species, demonstrating its potential as a valuable diagnostic tool for effective disease monitoring and management in various cropping systems.

TRANSFER OF TECHNOLOGY (ToT)

S. No.	Date	Technology	Adress of the Client
1	04 - 05.02.2025	Ripe banana powder & products	M/s. Jeevitham Enterprises, 71, Main Street, Vellottamparappu, Erode - 638154
2	04 - 05.02.2025	Dehydrated ripe banana fig	M/s. Queens Agro Technology and Innovation Center, No. 36, Old colony, 5th Ward, Sentharapatti (Po), Gangavalli (TK), Salem - 636110, Tamil Nadu
3	10 - 11.03.2025	Ripe banana powder & products	M/s. Aaptam Foods LLP, No. 177, Sonda Cross, AT & PO: Hulgol, TQ: Sirsi - 581402, Karnataka
4	11 – 14.03.2025	Banana flour based compact powder, wine & vinegar	Mr. Boppana Satyanarayana, M/s. Osaralabasa Online Stores, 8-112 Lakshman Bhavan, Raghudevapuram, East Godavari, Andhra Pradesh

M/s. Jeevitham Enterprises

M/s. Queens Agro Technology

M/s. Aaptam Foods LLP

M/s. Osaralabasa Online Stores

EXTENSION AND OUTREACH

Capacity development programme

Particulars	No. of programme	No. of Beneficiaries
Training		
One Day Training for farmers	02	82
Three Days Training programme for farmers	05	129
Total	**07**	**211**
One day Exposure visit		
One Day Farmers Exposure Visit	29	292
One Day Students Exposure Visit	66	6066
Total	**102**	**6358**

Extension Outreach programmes held at NRCB from Jan-March 2025

One Day Training for farmers

S. No	Date	Participants	No. of Visitors	Male	Female
1.	28.01.2025	Assistant Director of Horticulture, Kodavasal, Thiruvarur, TN	56	50	6
2.	11.03.2025	Dept of Forest, Govt. of Tamil Nadu Pachamalai Hills, Thuraiyur, Trichy district, TN	26	26	--

Three Days Training programme for farmers

S. No	Date	Participants	No. of Visitors	Male	Female
1.	09.01.2025	O/o. Nanmunda Co-Op Rural Bank, Kozhikode, Kerala	26	26	--
2.	04.02.2025	District Forest Office, Koli hills, Namakkal Dt. TN	28	25	3
3.	13.02.2025	District Forest Office, Koli hills, Namakkal Dt. TN	25	25	--
4.	19.02.2025	District Forest Office, Koli hills, Namakkal Dt. TN	25	25	--
5.	13.03.2025	District Forest Office, Koli hills, Namakkal Dt. TN	25	1	24

One Day Farmers Exposure Visit

S. No	Date	Name and address	No. of Visitors	Male	Female
1.	29.01.2025	Horticulture Department, Cuddalore, TN	30	28	2
2.	06.02.2025	FPOs (14nos), Kerala	97	97	--
3.	17.02.2025	ADH, Kalakkad Block, Tirunelveli Dt, TN	50	50	--
4.	18.02.2025	ICAR-KVK, CENDECT, Kamatchipuram, Theni	25	7	18
5.	21.02.2025	Dept. of Agriculture, Govt. of Kerala	46	33	13
6.	28.02.2025	ICAR-NRCB-National Science Day	200	150	50
7.	05.03.2025	Tamil Nadu State Rural Mission, Mahalir Thittam, Tuticorin	21	02	19
8.	07.03.2025	ADH, Pattukottai, Thanjavur Dt.	36	26	10
9.	24.03.2025	ADH, Mannachanallur block, Trichy Dt.	25	5	20
10.	24.03.2025	ADH, Kattankulathur block, Chengalpattu Dt.	52	50	2

One Day Students Exposure Visit

S.No	Date	Name and address	No. of Visitors	Male	Female
1.	04.01.2025	AC& RI, TNAU, Nagapattinam	67	20	47
2.	08.01.2025	Don Bosco Collage of Agriculture, Arakkonam	144	73	71
3.	21.01.2025	ADAC & RI, Trichy	94	30	64
4.	22.01.2025	HC & RI, Paiyur	71	27	44
5.	23.01.2025	HC&RI, TNAU, Coimbatore	73	15	58
6.	24.01.2025	Sri Saradha College for Women, Perambalur	78	--	78
7.	26.01.2025	AC&RI, Tiruvannamalai	94	64	30

8.	31.01.2025	Kumaraguru Institute of Agriculture, Erode	179	68	105
9.	03.02.2025	Govt. HS School, R.T. Malai, Karur Dt.	110	55	55
10.	13.02.2025	IIPM, Bengaluru, Karnataka	30	17	13
11.	13.02.2025	Dr. YSR Horticulture University, AP	58	18	40
12.	13.02.2025	Nehru Memorial College, Puthanampatti	97	48	49
13.	18.02.2025	HC & RI (W), TNAU, Trichy	137	90	47
14.	28.02.2025	ICAR-NRCB-National Science Day	4800	2475	2325
15.	12.03.2025	Dhanalakshmi Srinivasan University,Perambalur	12	12	--
16.	17.03.2025	Dhanalakshmi Srinivasan University,Perambalur	11	--	11
17.	17.03.2025	Nalanda College of Agriculture, Trichy	11	11	--

Transfer of technologies through print and electronic media

ICAR–NRCB shared important banana technologies with farmers and the public through various media. Information was published in newspapers, magazines, and also broadcast through All India Radio and TV. Social media platforms were used to reach a wider audience. Some stories were also released as e-publications. These efforts helped spread useful technologies to more farmers in an easy and accessible way.

S.No	Particulars	Nos.
1	No of news/ stories	**11**
2	No of news published in print media	**7**
3	No of news published in electronic media (**AIR** &TV)	**17**
4	No of news published in social media	**4**
5	No. news stories as E publication	**2**
	Total	**56**

Transfer of technology through frontline exhibition activities

S. No.	Date	Event	Organizer & Venue	No. of Beneficiaries	Name of the participants
1	03.01.2025	Agriculture & food processing growth summit & expo 2025	ASSOCHAM, NIFTEM-T & TNAPEX at Thanjavur	1,000	P. Suresh Kumar Pramod Shelake P. Ravichamy K. Kamaraju Amelia Keran S. Harishwar M. Birundha S. Ajith Kumar
2	03.01.2025-05.01 2025	National seminar on harnessing plantation sector for sustainable development goals	ICAR-CPCRI at Kasaragod, Kerala	500	K.N. Shiva C. Sivanath
3	07.01.2025-09.01 2025	National symposium on spices and aromatic crops – strategies for smart production, product diversification and utilization	ICAR-IISR at Kozhikode, Kerala	500	K.N. Shiva C. Sivanath
4	03.02.2025	Tribal Sub Plan: Training programme on improved varieties and technologies of cassava for enhancing productivity and farm income	ICAR-CTCRI & ICAR-NRCB at Pachamalai Hills, Tamil Nadu	150	C. Karpagam P. Ravichamy S. Harishwar S. Ajith Kumar
5	07.02.2025-09.02.2025	Farm Fest -2025: 35th annual flower, vegetables and fruits show	Department of Agriculture, Govt. of Puducherry	5,00,000	C. Karpagam P. Ravichamy K. Kamaraju R. Pitchaimuthu M. Badrinath P. Samuel S. Harishwar S. Ajith Kumar

6	27.02.2025-01.03.2025	National Horticultural Fair-2025 (received best stall award)	ICAR-IIHR at Bengaluru, Karana taka	50,000	K.N. Shiva C. Sivanath
7	28.02.2025	National Science Day 3rd edition of "Open Day"	ICAR-NRCB	5,000	All staff of ICAR-NRCB
8	05.03.2025	Awareness & promotional programme MSME	Dept. of MSME by DIC, Trichy	5000	C. Karpagam K.N. Shiva C. Sivanath S. Ajith Kumar
9	07.03.2025-09.03.2025	Pasumai Vikadan agri expo-2025	Pasumai Vikadan at Kalaiarangam, Trichy, Tamil Nadu	25000	C. Karpagam K.N. Shiva K.J. Jeyabaskaran A. Mohanasundaram P. Giribabu R. Saranya P. Ravichamy K. Kamaraju R. Pitchaimuthu N. Marimuthu M. Badrinath S. Harishwar S. Ajith Kumar
			Total	**5,87,150**	

National Science day

Pasumai Vikadan Agri Expo-2025

Vazhayum Valamum – Farmers' Field School

Vazhayum Valamum – Farmers' Field School, a collaborative initiative by ICAR-NRCB and All India Radio, Tiruchirappalli, was successfully organized to enhance outreach among banana farmers. Dr. C. Karpagam, Principal Scientist and Nodal Officer, Media & Publicity Committee, coordinated the programme. A total of 16 modules were presented during the programme.

S. No	Topic	Name	Date of broadcast
1	ICAR-NRCB: An overview of its role and activities	Dr. R. Selvarajan	23.01.2025
2	Govt schemes and support for banana farmers	Dr. C. Karpagam	27.01.2025
3	New banana varieties and their characteristics	Dr. S. Backiyarani	02.01.2025
4	Importance of tissue cultured banana in banana cultivation	Dr. M.S. Saraswathi	02.01.2025
5	Integrated wilt disease control methods in banana	Dr. R. Thangavelu	02.01.2025
6	Integrated pest management technologies in banana	Dr. A. Mohanasundaram	02.01.2025
7	Advance technologies in banana cultivation	Dr. V. Kumar	09.01.2025
8	Drought management technologies in banana cultivation	Dr. I. Ravi	09.01.2025
9	Integrated farm management technologies in banana cultivation	Dr. G. Prabhu	09.01.2025
10	Methods for controlling leaf spot disease in banana	Dr. M. Loganathan	09.01.2025
11	Management of viral diseases in banana cultivation	Dr. K. Nagendran	09.01.2025
12	Nematodes management in Banana cultivation	Dr. P. Giribabu	09.01.2025
13	Post-harvest technologies for banana exports	Dr. K. N. Shiva	27.01.2025
14	Production of banana-based value-added products to improve the livelihood of farmers	Dr. P. Sureshkumar	27.01.2025
16	Use of Pisang Lilin banana	Dr. M. Maiylvaganan	27.01.2025

OTHER INFORMATIONS

ICAR-NRCB Celebrates National Science Day 2024

ICAR–National Research Centre for Banana (ICAR-NRCB), Tiruchirappalli, celebrated National Science Day 2024 with the theme *"Empowering Indian Youth for Global Leadership in Science and Innovation for Viksit Bharat."* An 'Open Day' was organized, attracting over 5,150 students and 500 farmers and public visitors. Dr. V.A. Parthasarathy, Former Director, ICAR-IISR, and Dr. V.G. Malathi, Retired Principal Scientist, ICAR-IARI, addressed the gathering.

Empowering Tribal Farmers: ICAR-NRCB Hosts Workshop and Training Programme

ICAR–National Research Centre for Banana (ICAR-NRCB), Tiruchirappalli, hosted a one-day workshop on *"Bioprimed Elite High-Yielding Quality TC Plants for Higher Productivity"* and launched a three-day training programme on *"Improved Hi-Tech Banana Technology for Holistic Development of Tribal Farmers in Namakkal District"* on February 4, 2025. Jointly organized with ICAR-CTCRI, the District Forest Department (Namakkal), and ICAR-KVKs of Tiruchirappalli, Karur, and Ariyalur. The event featured key dignitaries including Thiru S. Kalanidhi, IFS, DFO Namakkal; Dr. T. Makeshkumar, ICAR-CTCRI; and Dr. Vikramaditya Pandey, ICAR, New Delhi. In his presidential address, Dr. R. Selvarajan, Director, ICAR-NRCB, stressed the importance of conserving indigenous GI-tagged banana varieties like Numaran and Manoranjitham.

Participation in Workshop/ Training/ Seminar/ Conference/ Meetings

Name of the Staff	Name of the event	Venue	Date
R. Selvarajan	National seminar on "Harnessing plantation sector for sustainable development goals"	ICAR-CPCRI, Kasaragod	03.01.2025-05.01.2025
	RAC meeting	CMFRI, Mandapam	09.01.2025
	Review meeting chaired by the Hon'ble Governor of Tamil Nadu	Musiri Institute of Technology, Moshiri	11.01.2025
	National conference on "Plant health management"	ICAR-CCRI, Nagpur.	19.01.2025-21.01.2025
	National symposium on traditional textiles and natural fibres	CAU, (Imphal), Tura, Meghalaya	27-28.01.2025
	12th group discussion of AICRP (Fruits)	Bihar Agricultural University, Bihar	11.02.2025-14.02.2025
	Guest of honour, training programme on cassava under the Tribal Sub Plan organized by ICAR-CTCRI	Pachamalai Hills, Namakkal district.	03.02.2025
	Special guest, workshop on improved production technologies	SBI- Agali	07.02.2025
	OHPGPR-2025; chairperson for the theme on IoT and bioinformatic approaches in pest management	TNAU, Coimbatore	20.02.2025
	Annual review & action plan 2025–26 by ICAR-ATARI Zone XI, Bengaluru	KAU, Thrissur	
	Chief guest, training on improved banana cultivation and IPDM for SC-SP farmers	Koraput District, Odisha	24.02.2025
	Chief guest, international conference on service–learning and global sustainability (SLGS-2025)	Bishop Heber College, Trichy	27.02.2025
	SAC meeting	CREED KVK, Ariyalur	05.03.2025
	Guest of honour, Pasumai Vikatan Agri Expo–2025	Kalaiarangam, Trichy, Tamil Nadu	07.03.2025
	Chief guest and inaugural speaker, ICO-SCF-2025	Annamalai University, Chidambaram	21.03.2025
	Chief guest, 2nd graduation day	RVS Agriculture College, Thanjavur	21.03.2025
	SAC meeting	CENDECT KVK, Theni	25.03.2025
	Resource person and guest lecturer at Green Gears–2K25	Dhanalakshmi Srinivasan University, Trichy	27.03.2025
M.S. Saraswathi	Course director for a one-day training programme on 'Macro propagation'	ICAR-NRCB, Trichy	03.01.2025
	Participated in the State Variety Release Committee (SVRC) meeting	Secretariat, Chennai	20.01.2025

C. Karpagam	Coordinator for the Namakkal farmers' three-day training programme (4.nos.)	ICAR-NRCB, Trichy	04.02.2025 13.02.2025 19.02.2025 13.03.2025
	Coordinator for the Kerala farmers' three-day training programme	ICAR-NRCB, Trichy	09.01.2025
	MSME awareness and promotional programme	Dept. of MSME, DIC, Trichy at	05.03.2025
	Coordinator for the Tribal Sub Plan training	Pachamalai Hills, Tiruchirappalli	03.02.2025
	Coordinator of the one-day awareness workshop	ICAR-NRCB, Trichy	04.02.2025
	Radio talk on NRCB schemes and farmer support on All India Radio, Trichy	ICAR-NRCB, Trichy	23.01.2025
P. Giribabu	National symposium on nematode management in agriculture	Syngenta R & D Centre, Corlim, Goa	04.02.2025
	International conference on One Health perspectives in global plant protection research (OHPGPR 2025)	TNAU, Coimbatore	19.02.2025-21.02.2025
A. Mohanasundaram	12th AICRP (F) group discussion meeting	Bihar Agricultural University, Bihar	11.02.2025–14.02.2025
	International conference on One Health perspectives in global plant protection research (OHPGPR 2025)	TNAU, Coimbatore	19.02.2025-21.02.2025
	Second international conference on biological control (2ICBC – 2025)	ICAR-NBAIR, Bengaluru	25.02.2025-28.02.2025
K. Nagendran	Coordinated the one-day awareness workshop on "Bioprimed elite high-yielding quality TC plants"	ICAR-NRCB, Trichy	04.02.2025

Education (Students, Guest lectures/ speakers) etc.

Staff Name	Events
R. Selvarajan	• Keynote talk in the national seminar at ICAR-CPCRI, Kasaragod • Lead lecture at the national conference on plant health management, at ICAR-CCRI, Nagpur • Lead talk at the national symposium at CAU (Imphal), Tura, Meghalaya • Keynote presentation in the national conference on digital technologies, New Delhi • Lead talk in the international conference on One Health perspectives in global plant protection research, TNAU
M.S. Saraswathi	• Guest lecture in the refresher course at Bharathidasan University, Tiruchirappalli • Guided student from Sri Krishna Arts and Science College
M. Loganathan	• Guided M.Sc. Microbiology student from Sree Narayana Guru College, Coimbatore
C. Karpagam	• Special lecture at Nehru Memorial College, Trichy • Guided two ABM students from TNAU • Guest lecture under the "Thursday Talk" at AC & RI, Trichy • Radio talk for All India Radio, Trichy

A. Mohanasundaram	• Lecture at Rabiammal Ahamed Maideen College, Thiruvarur • Radio talk on integrated pest management for AIR
K. Nagendran	• Guided two M.Sc. students from Sree Narayana Guru College • Radio talk on management of viral diseases
R. Saranya	• Guided PG students from Sree Narayana Guru College • Lecture at Jamal Mohamed College, Trichy

PUBLICATIONS

Research papers

Hadimani, A., Raman, T., Esack, E., Loganathan, M., Jaganathan, D., Kantharaju, V. & Selvarajan, R. (2025). Deciphering the microbiome dynamics in an effective banana Fusarium wilt biocontrol interaction system. *3 Biotech*, 15(3), 59.

Jagadeesan, K., Nagendran, K., Sirari, A.*, Mohindru, B. & Dhakal, M. (2025). Variable infection mechanisms of mungbean yellow mosaic India virus in diverse Vigna species: New insights from differential gene expression. *Physiology and Molecular Biology of Plants*, 31, 153–162.

Mora, J.J., Blomme, G., Safari, N., Elayabalan, S., Selvarajan, R. & Selvaraj, M.G. (2025). Digital framework for georeferenced multiplatform surveillance of banana wilt using human-in-the-loop AI and YOLO foundation models. *Scientific Reports*, 15(1), 3491.

Nagendran, K., Kumari, S., Kumar, R.V., Sakthivel, K., Dubey, V., Reddy, R., Singh, A.K. & Kumar, R. (2025). Prevalence of chilli leaf curl virus and tomato leaf curl New Delhi virus with chilli leaf curl disease in India. *Physiology and Molecular Biology of Plants*. https://doi.org/10.1007/s12298-025-01570

Poorani, J. (2025). *Sticholotis cribellata* Sicard (Coleoptera: Coccinellidae), a predator of coconut scale, *Aspidiotus destructor* Signoret (Hemiptera: Diaspididae) in South India. *Specimen*, 43, 1–2.

Poorani, J., Naumann, S., Anuradha, C., Thanigairaj, R. & Prashina Mol, P. (2025). Report of *Eupterote orientalis* as a sporadic pest of banana in South India, with notes on its biology and natural enemies. *Phytoparasitica*, 53, 40.

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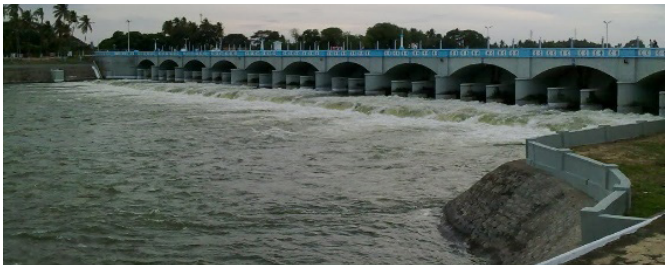
Accolades

Name	Particulars
Best stall Award	At National Horticultural Fair-2025
J. Poorani	Keynote address at the International Conference on One Health Perspectives in Global Plant Protection Research (OHPGPR-2025), at TNAU
M. Loganathan	Chairman for theme 3 at 14th NABS National Conference at AC&RI, TNAU
C. Karpagam	Nodal officer for the Institute Publicity and Social Media Committee
	Chief guest at the 6th Students Club Inauguration Programme, IOA, Kumulur, Trichy
P. Giribabu	Co-chairperson, technical session at the International Conference at TNAU, Coimbatore
A. Mohanasundaram	Best oral presentation award at the Second International Conference on Biological Control (2ICBC-2025) at ICAR-NBAIR, Bengaluru
	Best oral presentation award at the International Conference at TNAU, Coimbatore
	Keynote lecture at Kalasalingam School of Agriculture and Horticulture, Krishnankovil
	Convener, technical session at the International Conference at TNAU, Coimbatore
G. Prabhu	Keynote lecture at Kalasalingam School of Agriculture and Horticulture, Krishnankovil
	Registered trainer: IFA V6 Plants | Part 1: General Regulations (Global G.A.P.) – Focused on general regulations for registration and certification
	Registered trainer: IFA V6 Plants | Part 2: Principles and Criteria (GlobalG.A.P.) – Covered principles and practices in GAP & certification
	Co-chairperson, technical session at the International Conference held at TNAU, Coimbatore
Pramod Shelake	Best oral presentation award under the theme Food, Value Addition, at the International Conference organized by AEC & RI, TNAU, Kumulur
	Best oral presentation award under the theme Automation, AI, IoT and Robotics at the International Conference organized by AEC & RI, TNAU, Kumulur

Trichy Facts

Kallanai Dam

The Kallanai Dam, also known as the Grand Anicut, is one of the oldest water-regulation structures in the world still in use. Located on the Cauvery River near Tiruchirappalli in the Indian state of Tamil Nadu, it was originally built around the 2nd century CE. Constructed using unhewn stone and mortar, the dam spans about 329 meters (1,080 ft) in length and is 20 meters wide. Its primary purpose was to divert the river's water for irrigation, aiding in the cultivation of the fertile delta regions of Thanjavur and surrounding areas, which are considered the rice bowl of Tamil Nadu. Later expanded and renovated by British engineers during colonial rule, the Kallanai continues to serve as a major irrigation structure, channeling water into the Cauvery Delta System. It is not only a testament to ancient engineering marvels but also a symbol of sustainable water management. Today, Kallanai remains a vital agricultural lifeline and a popular tourist destination, admired for its historical significance, scenic beauty, and architectural strength.



Extension & Farmers Services Corner

தேசிய வாழை ஆராய்ச்சி மையத்தின்
காவேரி நுண்ணுயிர் கலவை
Kaveri Microbial Consortium (KMC)

இந்த KMC
கிலோ ரூ. 150 க்கு
விற்கப்படுகிறது.

தேசிய வாழை ஆராய்ச்சி மையத்தின்
பனானா சக்தி
ஐந்து நுண்ணுரோட்ட சத்துக்களின் கலவை
Banana Shakti (Solid and Liquid)

இந்த Banana Shakti
1 கிலோ ரூ. 250 க்கு
விற்கப்படுகிறது.

இந்த Banana Shakti
1 லிட்டர் ரூ. 150 க்கு
விற்கப்படுகிறது.

தேசிய வாழை ஆராய்ச்சி மையத்தின்
வாழை கூன் வண்டு கொல்லி
(NRCB-Banana Weevil Killer)
(பியூவேரியா பாசியானா / Beauveria bassiana)

இந்த வாழை கூன் வண்டு கொல்லி
1 லிட்டர் ரூ. 500 க்கு விற்கப்படுகிறது.

தொடர்புக்கு
இ. வே. ஆ. கு – தேசிய வாழை ஆராய்ச்சி மையம்
தோகைமலை ரோடு, தாயனூர் அஞ்சல், திருச்சிராப்பள்ளி, தமிழ் நாடு, இந்தியா.
தொலைபேசி : 0431-2618125 மின்னஞ்சல்: director.nrcb@icar.gov.in இணையதளம் : https://nrcb.icar.gov.in

Kalpatharu: Banana for Health and Wealth

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For Location