

National Conference on Managing Agrobiodiversity in North-Eastern India (NCMAN)

From Biodiversity to Bio-wealth

October 23-25, 2024

Tentative Technical Program

Day 1: October 23, 2024 (Wednesday)

08:45-09:45 **Registration**

INAUGURAL SESSION*

(Venue: Dr. M.S. Swaminathan Conference Hall, ICAR NEH, Umiam)

Chair **Dr. R. S. Paroda**, President, ISPGR and Chairman, TAAS, New Delhi

Chief Guest **Shri C. H. Vijayashankar**, Hon'ble Governor, Meghalaya

Guests of Honour **Dr. T. Mohapatra**, Chairman, PPV&FRA, New Delhi

Dr. Sanjay Kumar, Chairman, ASRB, New Delhi

Dr. K. M. Bujarbaruah, Vice President NAAS & Former VC, AAU, Assam

Convenor **Dr. Veerendra Kumar Verma**, Organizing Secretary, NCMAN-2024, Shillong, Meghalaya

10:00-10:08 **Arrival of Dignitaries and Lighting of Lamp**

10:08-10:15 **Welcome and Setting the Context**

Dr. V.K. Mishra, Director, ICAR-RCNEH, Umiam, Meghalaya

10:15-10:23 **Addresses by Guests of Honour**

Dr. K.M. Bujarbaruah, Vice President NAAS & Former VC, AAU, Assam

10:23:10:31 **Dr. Sanjay Kumar**, Chairman, ASRB, New Delhi

10:31:10:39 **Dr. T. Mohapatra**, Chairman, PPV&FRA, New Delhi

10:39-10:50 **Chairperson's Address**

Dr. R.S. Paroda, President ISPGR and Chairman, TAAS, New Delhi

10:50-11:00 **Conferment of ISPGR Awards by Chief Guest**

Shri C.H. Vijayashankar, Hon'ble Governor, Meghalaya

- Honorary Fellow (2023)
- Dr S.K. Vasal Award for Efficient Use of PGR (2023)
- Dr B.R. Barwale Award for Application/Excellence in PGR (2023)
- Dr R.S. Paroda Young Scientist Award (2023)
- Dr R.K. Arora Best Paper Award (2023)
- Dr K.L. Mehra Memorial Award for Best PGR Student (2023)
- Fellows (2023)

11:00-11:20 **Inaugural Address by Chief Guest**

Sh. C.H. Vijayashankar, Hon'ble Governor, Meghalaya



11:20-11:25	Vote of Thanks	Dr. Anuradha Agrawal , General Secretary, ISPGR, New Delhi
11:25-12:00	Group Photo and Tea/Coffee	

*All guests and delegates are requested sit in the Auditorium by 09:45 AM before arrival of the Chief Guest

PLENARY SESSION (Venue: Dr. M.S. Swaminathan Conference Hall, ICAR NEH, Umiam)		
Co-Chairs	Anupam Mishra , Vice Chancellor, CAU, Imphal Prabha Shankar Shukla , Vice Chancellor, NEHU, Shillong, Meghalaya	
Convenor	Vinay Kumar Mishra , Director, ICAR-Research Complex for NEH region, Umiam, Meghalaya	
Rapporteurs	Krishnappa R. , ICAR-NEH, Umiam, Meghalaya H.D. Talang , ICAR-NEH, Umiam, Meghalaya	
12:00-12:30	Plenary Lectures <i>Government Initiatives towards Management of Biodiversity in North-Eastern India</i>	Dr. Brahma Deo Ram Tiwari , IAS, Commissioner and Secretary to Governor, Meghalaya
12:30-13:00	<i>Value Chain Development for Agrobiodiversity Products in North-East India</i>	Dr. Sanjay Kumar , Chairman, ASRB, New Delhi
13:00-14:00	Lunch Break	

TECHNICAL SESSION I Biodiversity for Food and Agriculture (Sub-themes: Status, Ethnobotany, Traditional Knowledge, Collection, Evaluation, Characterization) (Concurrent Poster Session)			
Session 1A: Plant Genetic Resources (Venue: Dr. M.S. Swaminathan Conference Hall, ICAR NEH, Umiam)		Session 1B: Animal and Fish Genetic Resources (Venue: DNB Hall, ICAR NEH, Umiam)	
Co-Chairs	P. L. Gautam , Chancellor, CAU, Pusa, Samastipur R.K. Tyagi , Vice President, ISPGR, New Delhi	J. K. Jena , DDG (Fisheries Science), ICAR, New Delhi Raghavendra Bhatta , DDG (Animal Science), ICAR, New Delhi	
Convenor	Harish G.D. , ICAR-NBPGR, Umiam, Meghalaya	G. Kadirvel , Director, ICAR-ATARI, Guwahati, Assam	
Rapporteurs	Subarna Hajong , ICAR-NBPGR, Umiam, Meghalaya L. Touthang , ICAR-RCNEH, Umiam, Meghalaya	A.A.P. Milton , ICAR-RCNEH, Umiam, Meghalaya S. Gojendra Singh , ICAR-RCNEH, Umiam, Meghalaya	
14:30-14:25	Keynote Lectures <i>Strategies for management of agrobiodiversity for sustainable seed industry in North-eastern India</i>	Prabha Shankar Shukla Vice Chancellor, NEHU, Shillong, Meghalaya	Keynote Lectures <i>Biodiversity to bio-wealth: animal and fisheries in North-Eastern India</i> K.M. Bujarbaruah Vice President, NAAS & Former DDG (Animal Science), ICAR, New Delhi



14:25-14:50	<i>Biodiversity and prospect of flower production in North-Eastern India</i>	K.V. Prasad , Director, DFR, Pune, Maharashtra	<i>Animal genetic resources in North-Eastern India</i>	B.P. Mishra Director, ICAR-NBAGR, Karnal
14:50-15:05	Invited Lectures <i>On farm conservation of fruit diversity in North East India</i>	Shailendra Rajan , Former Director, ICAR-CISH, Lucknow	<i>Biodiversity for climate resilient livestock production in North-Eastern India</i>	K.K. Baruah Principal Scientist & Former Head, ICAR-RCNEH, Umiam, Meghalaya
15:05-15:20	<i>Diversity of horticultural crops in North-Eastern India</i>	M. Sankaran , Head, Division of Fruit Crops, ICAR-IIHR, Bengaluru	Invited Lectures <i>Roadmap for conservation and utilization of pig genetic resources in North-Eastern India</i>	V. K. Gupta , Director, ICAR- National Research Center on Pig, Guwahati, Assam
15:20-15:35	<i>Biodiversity of rice in North-eastern India: A source for crop improvement against biotic and abiotic stresses</i>	Gopala Krishnan S. Head, Division of Genetics, ICAR-IARI, New Delhi	<i>Challenges and opportunities in conservation and utilization of yak in sustainable hill farming system</i>	Mihir Sarkar Director, ICAR-National Research Center on Yak, Arunachal Pradesh
15:35-15:50	<i>Biodiversity and utilization of Citrus spp. in North-Eastern India</i>	B.N. Hazarika Dean, CAU, Pasighat, Manipur	<i>Challenges and opportunities in conservation and utilization of mithun in sustainable hill farming system</i>	S. Girish Patil Director, ICAR-National Research Center on Mithun, Nagaland
15:50-16:05	<i>Utilization of genetic resources of maize from North-Eastern Himalaya with special reference to 'Sikkim Primitive' - a unique landrace with extraordinary prolificacy.</i>	Firoz Hossain Principal Scientist, ICAR-IARI, New Delhi		
16:05-16:25	Tea/Coffee Break			
16:25-17:30	Rapid Oral Presentations (5 min. each)			
1	Morphological diversity in orchids L.C. De , S.S. Biswas, Kalaivanan, N.S., Suman Natta, Chandan Gowda H., Nikhila V.A., Bidyarani Senjam, Ashok Kumar and S.P. Das		1	Indigenous cattle biodiversity in North East India: A step towards characterization and documentation Rahul Katiyar , Elone Lucy, Doni Jini, Sourabh Deori, Mahak Singh, Blessa Sailo, Lalhruaipuii, Asit Chakrabarty, Sunil Doley and G. Kadirvel
2	Conservation of maize genetic resources of North Eastern India- Status, prospects and challenges Sherry Rachel Jacob , Aravind J, Padmavati Ganpat Gore, Mallikarjun Biradar, Shashank HG, Anju Mahendru-Singh		2	Alternative protein sources from north east India's snail diversity: addressing food safety concerns Samir Das , Archana Thakur, K. Srinivas, Aleimo Momin, A.A.P. Milton, Prashant Mahanta, Sabita Debbarma, Sandeep Ghatak and K. Puro
3	Yield and yield components of potato germplasm in northern plains Babita Chaudhary , S.K. Luthra, V.K. Gupta, Dalamu, Vinod Kumar and Rajesh Kumar		3	Traditional animal husbandry practices among the Missing tribal population of Dhemaji district, Assam: A case study on livestock and poultry management Manish Pandey , Azhaguraja M, Bornalee Handique, K. Tamilarasan, Da U Ruhi Pde, M.B. Chaudhary, Arunjyoti Baruah, Arpan Bhowmik, Deepjyoti Baruah and Amjad K. Balange



4	<p>Insights into phenotypic diversity of yard long bean germplasm conserved in National Genebank of India</p> <p>Kuldeep Tripathi, RK Pamarthi, Padmavati G. Gore, Dileep Tripathi, M Latha, P K Singh, JC Rana, and RK Gautam</p>	4	<p>Balang: An indigenous cattle germplasm in eastern Himalaya of Arunachal Pradesh</p> <p>Doni Jini, R.Khatiyar, G. Kardivel, J. Bam, Rajesh A Alone, T. Angami and L. Wangchu</p>
5	<p>Development of non-psychoactive <i>Cannabis sativa</i> L. genotypes in half sib seed progeny segregation generation through diversity analysis</p> <p>Nashra Aftab, Ram Kishor, Himanshu Kumar Kushwaha, Akancha Gupta, Priyanka Prasad, Vagmi Singh, Narendra Kumar, Namita Gupta, Ram Swaroop Verma and Birendra Kumar</p>	5	<p>Assessing growth performance, economic viability, and adaptability of Black Bengal goats in mid-hill environments of Meghalaya</p> <p>G. Bhuvana Priya, A.A.P. Milton and Ram Singh</p>
6	<p>Exploring the nutritional potential and anti-nutritional components of wild edible fruits of the Eastern Himalayas</p> <p>Thejanqulie Angami, L. Wangchu and Doni Jini</p>	6	<p>Phenotypic characterization of goats of West Champaran, Bihar using principal component analysis with orthogonal and non-orthogonal rotations</p> <p>Ravi Kant Kumar, Birendra Kumar, Ramesh Kumar Singh, Soni Kumari and J.P. Gupta</p>
7	<p>Collection and conservation of wild edible fruits and spices from Upper Assam Valley</p> <p>Puran Chandra, Shivakumar MS, Soyimchiten Longkumer, Muhammed Nissar VA, KP Mohapatra</p>	7	<p>Fisheries and aquaculture in Northeast India: Status, issues, and sustainable development opportunities</p> <p>Da u ruhi Pde, Arunjyoti Baruah, Deepjyoti Baruah, Amjad K. Balange, Bornalee Handique, Manish Pandey, MB Chaudhary and Azhaguraja Manoharan</p>
8	<p>Nutritional potential of <i>Perilla frutescens</i> (Linn.) Britt. in the northeastern hill (NEH) region of India</p> <p>S. K. Singh, A. K. Misra, Hannah K. Asangla, T. Esther Longkumer, Venkatesh, Sharanappa C. H. and Girish Patil, S</p>	8	<p>A review of aquatic fish biodiversity in Northeast India: current status, conservation challenges, and future strategies</p> <p>Chandan Debnath</p>
9	<p>Morphological evaluation of Khamti lahi rice landraces of Arunachal Pradesh</p> <p>Utpal Barua, Madhumita Sonowal Bora and Bidyapati Ngangom</p>	9	<p>Ecological study of water quality and fish species in Kyrdemkulai reservoir, Meghalaya</p> <p>S. G. Singh, S.K. Das, N.P. Devi, P. Mahanta, C. Debnath and T. Tayung</p>
10	<p>Genetic richness of cucumber (<i>Cucumis sativus</i> L.) from northeastern India: characterization for biotic, abiotic and nutraceuticals properties</p> <p>Pradeepkumara N, Shyam Sundar Dey, Tusar Kanti Behera, Anilabha Das Munshi, Subhashree Subhasmita, B.G Supreetha, Mahendra Kumar Verma</p>	10	<p>Fruit fly (Diptera: Tephritidae) fauna of northeast India: A profile</p> <p>K. J. David, Kennedy Ningthoujam, N. R., Noor Mahammed, S. Salini and S. N. Sushil</p>
11	<p>Habitat distribution mapping of Hippophae sps in RCP 4.5 climate scenario in the Indian Himalayas</p> <p>Saurabh Kumar, Puran Chandra, D.P. Semwal, Soiyemchiten, K.P. Mohapatra</p>	11	<p>Stink bugs (Hemiptera: Heteroptera: Pentatomidae) diversity of Meghalaya: What we know and what we need to understand</p> <p>S. Salini, Safeena Majeed, Romila Akoijam, K. J. David and S. N. Sushil</p>
12	<p>Indian knowledge on traditional rice cultivars: Collection, Conservation and its successful utilization</p> <p>Bidhan Roy, Surje Dinesh Tulsiram, Swarnajit Debbarman, Gadge Sushant Sundarrao, Monish Roy, Priyanka Sharma, Pallabi Saha, Sagnik Poddar, Nipa Biswas, Utpal Maity, Punam Sinha, Jeeban Kumar Nayak</p>	12	<p>Genetic characterization of Hermetia Illucens (Black Soldier fly) and its potential use as an alternative protein source in poultry farming for the North East hill region.</p> <p>Tilling Tayo, Robin Bhuyan, Samir Das, Sourabh Deori, Srinivas Kandhan, Kekungu-U Puro, Durlav Bora, Sandeep Gangasani, Lakhyajyoti Borah, Papori Talukdar, Adib Haque, Shantanu Tamuly, Masuk Raquib, Melody Lalhriatpuui, Abedin S. Nabil, L. Sushitra, Meenaksi Kalita and Tanay Ghosh</p>
13	<p>Espalier Systems: Evaluating the performance and conservation of tree fruit crops and varieties</p>	13	<p>Diversity of Syrphid Flies in Mid Altitude Hills of Meghalaya</p>

	Pradhan S, Chawda V, Shukla D, Ghosh R. and Rajan S.		Rumki H. Ch. Sangma, Sandip Patra, K. Koutsu, H. Talang, A.R. Singh and B. Bhattacharjee
17:30-17:45	Discussion & Co-Chairs Remarks		

EVENING LECTURE			
(Venue: Dr. M.S. Swaminathan Conference Hall, ICAR NEH, Umiam)			
Co-Chairs	T. Mohapatra , Chairman, PPV&FRA, New Delhi Sanjay Kumar , Chairman, ASRB, New Delhi		
Convenor	Anuradha Agrawal , General Secretary, ISPGR, New Delhi		
Rapporteur	Sherry R. Jacob , ICAR-NBPGR, New Delhi		
18:00-18:10	Introduction of Speaker	Anuradha Agrawal , General Secretary, ISPGR, New Delhi	
18:10-18:45	Evening Lecture	R.S. Paroda , President, ISPGR and Chairman, TAAS, New Delhi	
18.45-18.55	Chair/Co-Chairs's Remarks		
18.55-19.00	Vote of Thanks	Anuradha Agrawal , General Secretary, ISPGR, New Delhi	
19.00-20.00	Cultural program		
20.00 onwards	Dinner		



Day 2: October 24, 2024 (Thursday)

TECHNICAL SESSION II (Venue: Dr. M.S. Swaminathan Conference Hall, ICAR NEH, Umiam)		
Access, Exchange, Benefit Sharing and IPR Systems – Policy Considerations (Sub-themes: Access and Benefit Sharing, IPRs, Protection of Plant Varieties and Farmers' Rights Act, Biological Diversity Act, Patent, Geographical Indications, Genetic Stock Registration (Concurrent Poster Session)		
Chair	T. Mohapatra , Chairperson, PPV&FRA, New Delhi	
Convenors	D.K. Agarwal , Registrar-General, PPV&FRA, New Delhi	
Rapporteurs	Pankaj Baiswar , ICAR-NEH, Umiam, Meghalaya M. Bilashini Devi , ICAR-NEH, Umiam, Meghalaya	
09:30-09:35	Welcome	Convenor
09:35-10:00	Keynote Address <i>Role of PPV&FRA in conservation and use of agrobiodiversity</i>	D.K. Agarwal , Registrar-General, PPV&FRA, New Delhi
10:00-10:15	Invited Lecture <i>Status and Prospect of GI crops in North-Eastern India</i>	V.K. Mishra , Director, ICAR-RCNEH, Umiam, Meghalaya
10:15-10:30	<i>Commercialization of plant varieties under public research systems</i>	Praveen Malik , AgriInnovate, ICAR, New Delhi
10:30-10:45	<i>Diversity of the cattle in north-eastern India: Farmers issues in conservation and their uses</i>	G. Kadirvel , Director, ICAR-ATARI, Guwahati, Assam & H.C. Bhattacharya , Former DE, AAU & Scientific Advisor, ICAR ATARI, Guwahati
10:45-11:00	<i>Flagging the issues of the farmers for adopting agro- biodiversity in local food systems</i>	K. Noren Singh , Professor, CPGS-AS, CAU, Umiam, Meghalaya
11:00-11:30	Tea/Coffee Break	
11:30-11:45	<i>Flagging the issues with farmers related to medicinal & aromatic crops</i>	Mohan Lal , Principal Scientist, CSIR-NEIST, Jorhat, Assam
11:45-12:30	Discussion & Chairs' Remarks	

TECHNICAL SESSION III Innovations and Modern Tools for Ex Situ Conservation and Utilization (Sub-themes: Biotechnology tools for trait discovery, ex situ conservation, geo-informatics, digital sequence information, information and communication technology)		
--	--	--



(Concurrent Poster Session)					
Session III A: Plant Genetic Resources (Venue: Dr. M.S. Swaminathan Conference Hall, ICAR NEH, Umiam)			Session III B: Animal and Fish Genetic Resources (Venue: DNB Hall, ICAR NEH, Umiam)		
Co-Chairs	Kuldeep Singh , Head, Genebank, ICRISAT, Hyderabad Sunil Archak , Professor (PGR) & OIC, GEPU, ICAR-NBPGR, New Delhi		Co-Chairs	B.P. Mishra , Director, NBAGR, Karnal, Haryana P.K. Pandey , Director, DCWF, Bhimtal, UK	
Convenor	L.C. De , Principal Scientist-Horticulture, ICAR-NRCO, Pakyong, Sikkim		Convenor	S.K. Das , ICAR-RCNEH, Umiam, Meghalaya	
Rapporteurs	Monika Singh , ICAR-NBPGR, New Delhi Praveen G , ICAR-NEH, Umiam		Rapporteurs	Meena Das , ICAR-NEH, Umiam Tasso Tayung , ICAR-RCNEH, Umiam	
12:35-12:40	Welcome	Convenor	12:35-12:40	Welcome	Convenor
12:45-13:10	Keynote Lectures <i>Biofortified crops for nutritional security</i>	H.S Gupta Chairman Agriculture Commission, Assam	12:45-12:55	Keynote lecture <i>Genetic resources for cold water fisheries</i>	P.K. Pandey Director, DCWF, Bhimtal, UK
13:10-13:30	<i>Habitat distribution modelling for critically endangered tree species of North-Eastern India</i>	S.K. Barik Professor, NEHU and Former Director, CSIR-NBRI, Lucknow, UP	12:55-13:10	Invited Lectures <i>Biotechnological interventions in animal health research toward conservation of the livestock</i>	Sandeep Ghatak Head, ICAR-RCNEH, Umiam, Meghalaya
13:30-13:40	Invited Lectures <i>Lesser known horticultural crops for north-eastern India for health and nutrition</i>	C.P. Suresh Professor and Head, Horticulture, NEHU, Tura Campus, Tura.	13:10-13:25	<i>Molecular signature sequences for identification of pig genetic resources of North-Eastern India</i>	Pranab Jyoti Das Principal Scientist, ICAR-NRCP, Assam
			13:25-13:40	<i>Genomics and AqGRISI – Aquatic Genetic Resources System in India</i>	Vindhya Mohindra Head, Genomics and Computational Resources Division, ICAR-NBFGR, Lucknow, UP
13:40-14:30	Lunch Break				
14:30-14:45	<i>Conservation and utilization of orchid germplasm</i>	S.P. Das Director, ICAR-NRCO, Gangtok, Sikkim	14:30-14:45	<i>Genetic diversity of sheep and goat in North-Eastern India</i>	Galib Zaman Professor & Head Division of Animal Genetic & Breeding, CVSc, Khanapara, Guwahati, Assam
14:45-15:00	<i>Status and Conservation of PGR in National Gene Bank</i>	Anju M. Singh	14:45-15:00	<i>Impact of climate change on ecology and diversity of wetland</i>	Birendra Kumar Bhattacharya , Principal Scientist, ICAR-CIFRI



		Head, Division of Germplasm Conservation, ICAR-NBPGR, New Delhi		<i>and riverine fishes in North-eastern India</i>	Regional Centre, Guwahati, Assam
15:00-15:15	<i>Strategies for Marker-Assisted Breeding of Rice Genotypes for Soil-Deficient in Nitrogen and Phosphorus</i>	Mayank Rai Dean, PG College of Agriculture, RPCAU, Samastipur, Bihar	15:00-15:15	<i>Genomics and conservation of indigenous animal breeds</i>	R.K. Pundir Head, Animal Genetic Resources Division, ICAR-NBAGR, Karnal, Haryana
15:15-15:25	<i>Recent advances in tea crop improvement for traits using biotechnological tools</i>	Sangita Borchetia Scientist-F, Tocklai Tea Research Institute, Jorhat, Assam	15:15-15:25	<i>Conservation and use of Biodiversity in poultry of North-eastern India</i>	Sunil Doley Head & Principal Scientist ICAR-RC NEH, Mizoram Centre, Kolasib, Mizoram
15:25-15:40	Use of unmanned aerial vehicle (UAV) in evaluation and conservation of the genetic resources	Jonali Goswami Scientist-F, NESAC, Meghalaya	15:25-15:40	<i>Semen technology for conservation of indigenous livestock</i>	Saurabh Deori Senior Scientist, ICAR NEH, Umiam, Meghalaya
15:40-16:00	Tea/Coffee Break				
16:00-17:10	Rapid Oral Presentations (5 min. each) Contd.				
1	Developing seedless Bhimkol: A strategy to combat hidden hunger through advanced breeding techniques. Kalpana S., Backiyarani S., Karthic R, Uma S. and Selvarajan R.		1	Protein profiling of cervico-vaginal mucus during follicular phase of estrous cycle in Lakhimi cow Chandni Roy, Lakshya J. Dutta, Raju Deka, Dhruva J. Borpujari, Lukumoni Buragohain, Arfan Ali, Nekib Ahmed, Momi. Sarma and Durlav P. Bora	
2	Genome wide association study (GWAS) to identify novel genomic region for Fusarium head blight (FHB) resistance in Indian durum wheat (<i>Triticum durum</i> L.) germplasm Vikas V.K., Budhlakoti N., Saharan M.S., Pradhan A.K., Divya S., Mishra D.C., Singh A.K., Sivasamy M., Jayaprakash P., Yashavathakumar K.J., Sudhir N., Suma B., John Peter, Suganya C., Vaishali G., Singh G.P. and Sundeep Kumar		2	In-vitro semen characteristics and fertility of Lumsniang boar during liquid preservation following artificial insemination Himsikha Chakravarty, Rahul Katiyar, GautamKhargharia, S. N. Abedin. Samir Das, Sandeep Ghatak and Sourabh Deori	
3	Diverse entomopathogenic fungi in Manipur soil: Isolation, characterization, and biodiversity assessment Aruna Beemrote, M.R. Srinivasan, Palle Pravallika, Arati Ningombam, Kshetrimayum Somendro Singh		3	Evaluation of egg quality traits of indigenous geese of Assam : an unexplored biodiversity Hanidul Hoque, Arundhati Phookan, Galib Uz Zaman, Bula Das, Arpana Das and Jakir Hussain	
4	Collection and ex situ conservation of the diversity in <i>Garcinia</i> from Upper Assam Muhammed Nissar V. A, Shivakumar M. S, Puran Chandra, Soyimchiten and Saji K. V.		4	Decoding selective sweeps associated with tropical adaptability in Guinea fowl through whole-genome sequencing Azhaguraja. M, Simmi Tomar, Jyotika Bhati, Ravi Kumar Gandham, Ashok K. Tiwari, Sirajuddin M and Saravanan K.A.	
5	Comparative metagenome analysis of rhizospheric soil associated with different banana (<i>Musa</i> spp.) genome groups Robert Thangjam		5	Induced breeding of <i>Wallago attu</i> (Bloch & Schneider, 1801) and seed production in Manipur	

			Ch. Basudha, W. Anand Meetei, N. Peetanbari Devi, N. Soranganba, S. Khogen Singh, Arati Ningombam, Kh. Rishikanta Singh and Ramgopal Laha
6	Near infrared reflectance spectroscopy coupled artificial intelligence-based approaches for predicting protein content in potential crops of NEH region of India: A rapid mining tool for screening large germplasm Simardeep Kaur, Naseeb Singh, Amit Kumar, Philanim W S, Veerendra Kumar Verma and Rakesh Bhardwaj	6	Ex-situ conservation of endangered fish chocolate mahseer <i>Neolissochilus hexagonolepis</i> (McClelland, 1839) through short-term sperm preservation method Tasso Tayung, Sanjay Kumar Das, Sourabh Deori, Rahul Katiyar, Sadokpam Gojendro Singh, Chandan Debnath, Prasanta Mahanta and Pynhun J. Ryntathieng
7	Genetic resources and variability of buckwheat for physio-morphological and phosphorus solubilisation in acid soils of Meghalaya Krishnappa R, Amit K, Prabha M, Jayanta L, Gangarani A, Bhattacharya B and V. K. Mishra	7	Ecopath with ecosim-based mass-balance modelling in a small sub-tropical reservoir: strategies for sustainable fisheries management Sanjenbam Bidyasagar, Sadokpam Gojendro Singh, Sushma Keisham, Yumnam Bedajit Gusheinzed Waikhom and Ch. Basudha Devi
8	SRAP and TRAP molecular markers based fingerprinting decodes high genetic diversity in rice germplasm of Northeast India Konsam Sarika, Irengbam Meghachandra Singh, Ngangkham Umakanta Singh, Elangbam Lamalakshmi Devi, Harendra Verma, Ayam Gangarani Devi, Amit Kumar, Salam Gunamani Singh, Suvajit Karak, Thokchom Repahini Devi, Chongtham Chinglen Meetei, Ramgopal Laha	8	Stock structure analysis and reproductive biology of <i>Rita rita</i> (Hamilton, 1822) along the middle stretch of Brahmaputra River system using truss network analysis Asifa Najin, Imtiaz Ahmed, Rinku Gogoi, Jiten Sarma and Rinchen Bhutia
9	Genetic diversity and trait-marker associations in rice bean (<i>Vigna umbellata</i>) for yield and yield related traits Philanim W.S., Amit Kumar and Letngam Touthang	9	Vision-based artificial intelligence solutions for effective monitoring of smart pig farms Salam Jayachitra Devi, Jaya, Seema Rani Pegu, Priyajoy Kar, Satish Kumar, N.H. Mohan and V.K. Gupta
10	Characterization of banana cultivars from North Eastern India for higher and individual functional bioactives of nutraceutical and immunomodulatory uses M. Mayil Vaganan, V. K. Mailraja and I. Ravi	10	Conservation and use of artificial insemination technology in pig; A SEM based model to predict farmers' intension Pampi Paul, N. Uttam Singh, Sourabh Deori, A. Yumnam, A. Roy, Kamni P. Biam, M. B. Tengli and B.P Singh-
11	Unravelling the selection criteria for Capsicum chinense with high capsaicin content Twahira Begum, Joyashree Baruah and Mohan Lal	11	The critical need for developing a vaccine against a global threat: African Swine Fever Virus Juwar Doley, Swaraj Rajkhowa, Seema Rani Pegu, Rajib Deb, Souvik Paul, Vishal Rai, N. H. Mohan, Pranab Jyoti Das, Samir Das and V.K. Gupta
12	Georeferencing biochemical diversity for prioritising conservation sites in fruit trees: A case study in Jackfruit (<i>Artocarpus heterophyllus</i> Lam.) Shashi Bhushan Choudhary	12	Comparative expression profiling of miRNAs in African Swine Fever Virus (ASFV) infected and non-infected porcine tissue samples Likhitha Nunavath, Sri Shalini M., Satish Kumar, Seema Rani Pegu, Meera K., Nabajyoti Deka, G.S. Sengar, Rajib Deb, Pushpendra Kumar, V. K. Gupta and Pranab Jyoti Das



13	<p>Microsatellite marker assisted molecular diversity and population structure analysis of <i>Kaempferia galanga</i> Linn. germplasm collected from different parts of India</p> <p>Ankita Goqoi, Twahira Begum and Mohan Lal</p>	13	<p>Characterization of the complete mitogenome of Manipuri Black pig and tracing its domestication status</p> <p>Sri Shalini M., Likhitha Nunavath, Satish Kumar, Meera K., Nabajyoti Deka, Seema R. Pegu, Pushpendra Kumar, V. K. Gupta and Pranab Jyoti Das</p>
17:10-17:30	Discussion & Co-Chairs Remarks		
19:30-20:30	Dinner		



Day 3: October 25, 2024 (Friday)

TECHNICAL SESSION IV (Venue: Dr. M.S. Swaminathan Conference Hall, ICAR NEH, Umiam)		
Integrating Biodiversity for Sustainable Farming (Sub-themes: Role of communities, farmers, Krishi Vigyan Kendras, Non-Governmental Organizations, Farmer Producer Organizations) (Concurrent Poster Session)		
Co-Chairs	J.C. Rana , Country Director, Alliance for Bioersivity International & CIAT, Asia-India Office, New Delhi Lakshmi Kant , Director, ICAR-Vivekananda Parvatiya Krishi Anusandhan Sansthan, Almora	
Convenor	S.P. Das , Director, ICAR-NRC-Orchid, Sikkim	
Rapporteurs	Rakesh Kumar Chahota , CSK Himachal Pradesh Agricultural University, Palampur, HP Padma Gore , ICAR-NBPGR, New Delhi	
09:00-09:05	Welcome	Convenor
9:05-9:25	Keynote Lecture <i>Mainstreaming Agrobiodiversity for enhancing climate resilience, nutrition, livelihoods and ecosystems services</i>	J.C. Rana , Country Director, Alliance for Bioersivity International & CIAT, Asia-India Office, New Delhi
09:25-09:40	Invited lectures <i>Role of KVK in conservation and utilization of genetic diversity in North-eastern India</i>	Arunava Pattanayak , Former Director, ICAR-IIAB, Ranchi & ICAR-VPKS, Almora, UK
09:40-09:50	<i>Community-based value addition and entrepreneurship</i>	Ajit Singh , ABANI Farms, Borkhotsari, Ri Bhoi, Meghalaya
09:50-10:00	<i>Role of Northeast Network (NEN) in conservation of Biodiversity</i>	Laimanda A. Ryngksai , State Coordinator, Northeast Network (NEN)-Meghalaya Springside Nongthymmai, Shillong
10:00-10:55	Rapid Oral Presentations (5 min. each)	
1	Community based seed banks: A strategy for biodiversity conservation and sustainable agriculture in rural villages Hannah K. Asanqla , T. Esther Longkumer, Venkatesh, Sharanappa C. H., Khrüzho Sakhamo and S. K. Singh	
2	<i>In-situ conservation of indigenous fruits of Bundelkhand region by collaborative efforts of local communities, Agricultural institutes, KVKs, NGOs, FPOs, and farmers</i> Vishvajeet Singh , Paramanad Prajapati, Aadarsh Pandey, Sachin Kumar Singh, Siddharth Kumar and A. K. Srivastava	
3	Varietal evaluation of maize and buckwheat under organic management of maize-buckwheat cropping system Shaon Kumar Das , Sudip Kumar Dutta, V. K. Mishra and Amit Kumar	
4	Farmer participatory evaluation for conservation and promotion of Comilla Cotton (<i>Gossypium arboreum</i> L.) in the Garo hills of Meghalaya H. G. Kencharaddi , G.I. Ramkrushna, S.T. Pavan Kumar, Sikkora R Marak, Jyoti Vastrad and Y.G. Prasad	
5	Integrated pest management in cotton for conservation of natural enemies	



	Ajanta Birah , Licon K. Acharya, Anoop Kumar, M.K. Khokhar and Subhash Chander
6	Integrated farming system for sustainability and livelihood security- a success story of Mr. L. Kanlum Khumlo Levish Chongloj , A. Ameeta Devi, Y. Prabhavati Devi
7	Using biodiversity to protect its gifts: A case of chak-hao and its protection from storage pests using indigenous plants in Manipur Arati Ningombam , Aruna Bemrote, Ch. Basudha, Ch. Sonia, Y. Prabhavati Devia, N. Ajitkumar Singhb, Ch. Premabati, L. Langlentombi Chanu, A.R. Singh and Kh. Rishikanta Singh
8	Ecological structure and functional dynamics of home gardens in the foothills of Nagaland Pempa L Bhutia , N. Raju Singh, Azeze Seyie, Mahak Singh, H. Kalita and V.K. Mishra
9	Unleashing agricultural transformation through Rabi maize farming in Assam S.L. Jat , Manish Kakraliya, Ramniwas, Poonam Yadav, V.K. Arya, Romen Sharma, Bhupender Kumar and H.S. Jat
10	Effect of pollen storage on kiwifruit (<i>Actinidia deliciosa</i>) quality and production under organic management systems Sudip Kumar Dutta and Shaon Kumar Das
11	Conserving fruit crop diversity: VNR Research Centre's efforts in promoting use of genetic resources Ghosh R. , Chawda V., Shukla D., Pradhan S. and Rajan S.
10:55-11:05	Discussion & Co-Chairs Remarks
11:05-11:30	Tea/Coffee Break

TECHNICAL SESSION V	
(Venue: Dr. M.S. Swaminathan Conference Hall, ICAR NEH, Umiam)	
Entrepreneurship and Value Addition of Genetic Resources – Role of Youth and Women	
(Concurrent Poster Session)	
Co-Chairs	G Kadirvel , Director, ICAR- ATARI, Guwahati, Assam B.K. Sohaliya , Chairman, Farmers (Empowerment) Commission, Government of Meghalaya
Convenor	S. Basanta Singh , Principal Scientist, ICAR-NEH, Umiam, Meghalaya
Rapporteurs	Vikas V.K. , ICAR-IARI, Regional Station, Wellington, Tamil Nadu Aniruddha Roy , ICAR-NEH, Umiam, Meghalaya
11:30-11:35	Welcome Convenor
11:35-11:55	Keynote Lecture <i>Entrepreneurial ecosystem creation with wild edible fruits using fermentation technology</i> B.K. Sohaliya , Chairman, Farmers (Empowerment) Commission, Government of Meghalaya, Shillong, Meghalaya
11:55-12:10	Invited Lectures Bhogtoram Mawroh , Coordinator, North East Society for Agroecology Support (NESFAS), Shillong, Meghalaya



	<i>Role of rural youth in conservation and use of North-Eastern region biodiversity</i>	
12:10-12:25	<i>Building value chain for native crops of Assam</i>	Rajib Sarma , Foundation for Development Integration, Guwahati
12:25-12:40	<i>Community based agri-entrepreneurship in North-Eastern India</i>	S.S. Roy , Principal Scientist, ICAR-CCRI, Nagpur, Maharashtra
12:40-13:40	Rapid Oral Presentations (5 min. each)	
1	Unravelling the nutraceutical potential of five medicinal <i>Dendrobium</i> orchid flowers based on their colour variation – a systemic approach for utilization of natural resources in North Eastern Himalayan Suman Natta , Nasiruddin Shaikh, Ekature Sachin, Suprava Basnett, Tshering Chomu Bhutia, Chandan Gowda H, Nikhila V.A., S. S. Biswa ¹ , L. C. De, Kaushik Banerjee, Kalaivanan N.S. and S. P. Das	
2	Opportunities and prospects for agro based entrepreneurship development in north east India Kh. Rishikanta Singh , Umakanta N., T. Basanta Singh, Arati Ningombam, Konsam Sarika, H. Naresh Singh, Kenjit Tongbram, Ch. Basudha and Ramgopal Laha	
3	Antioxidant component and antioxidant activity of selected underutilised fruit crops grown in north eastern India Tanmay Kr. Koley , Anup Das, Ujjwal Kumar, Kirti Saurav, Rohan K. Raman, Mahesh K. Dhakar, and Ravi Ranjan	
4	Utilization of ripe Karonda (<i>Carissas carandas</i> L.) fruits for development of nutritional drink Ajay Yadav, Priya Awasthi , Balaji Vikram, Subhash Chandra Singh, Rohit Kumar and Shubham Gangwar	
5	Entrepreneurship development through value addition of underutilised Pomelo Y. Prabhavati Devi , Arati Ningombam and A. Ameeta Devi	
6	A study on agricultural marketing strategies and challenges faced by farmers of Longleng district of Nagaland Pallabi Phukan , H.C. Kalita, H. Kalita	
7	Entrepreneurial opportunities and challenges for women in agriculture: A study in Jorhat district of Assam Maitrayee Dutta and Pallabi Bora	
8	Livelihood opportunities in ethnic food system of Himachal Pradesh Anup Katoch , Ranjna Verma, Dinesh Kumar Yadav, R. K. Chahota and J. C. Rana	
9	Success stories on scientific beekeeping for entrepreneurship development in Meghalaya Sandip Patra , R. H. Ch. Sangma, K. Kuotsu, P. Baiswar, B. K. Singh and S. Hazarika	
10	Preparation, Quality Evaluation and in vitro studies of Cabbage and Cauliflower Waste Silage Bornalee Handique , S.K. Saha, L.C. Choudhary and Ajmal Roshan P.	
11	Incubation Ecosystem in North-East: Strategy to Establish Agripreneurship and Start-Ups through Indigenous Fruits and Vegetables A. Roy , T. B. Marak, H. N. Singh, N. U. Singh, A Yumnam, P. Paul and B.P. Singh	
13:40-14:00	Discussion & Co-Chairs Remarks	



14:00-14:30	Lunch Break
-------------	--------------------

TECHNICAL SESSION VI	
(Venue: Dr. M.S. Swaminathan Conference Hall, ICAR NEH, Umiam)	
Capacity Building and Public Awareness	
(Concurrent Poster Session)	
Co-Chairs	R.C. Agrawal , DDG (Agric. Education), ICAR, New Delhi O.P. Chaurasia , Director, DRDO-DIHAR, Leh, Ladakh
Convenor	Manjusha Verma , Joint Secretary, ISPGR, New Delhi
Rapporteurs	Kuldeep Tripathi , ICAR-NBPGR, New Delhi Simardeep Kaur , ICAR-NEH, Umiam, Meghalaya
14:30-14:40	Welcome Convenor
14:40-15:00	Keynote Lecture <i>Role of educational curricula and public awareness in Conservation and sustainable use of biodiversity</i> R.C. Agrawal, DDG (Agric. Education), ICAR, New Delhi
15:00-15:15	Invited Lectures <i>Empowering indigenous communities through Agroecology Learning Circles (ALCs) for resilient, integrated and innovative natural resource management</i> Phrang Roy, Director, NESFAS, Shillong, Meghalaya
15:15-15:30	<i>Capacity building among youth & women in biodiversity and agro-tourism</i> H.H. Mormen, President, Society for Urban and Rural Empowerment (SURE), Jaintia Hills, Meghalaya
15:30-15:45	<i>Impact of frontline demonstration in uses of improved cultivars of genetic resources in North-eastern India</i> Makidul Islam, Principal Scientist, ICAR-KVK-Ri-Bhoi, Meghalaya
15:45-16:00	Rapid Oral Presentations (5 min. each) -
1	Yield improvement and Impact analysis of black gram through frontline demonstrations in Ukhrul district Manipur Shashidhar K. S Samuel Jeberson Premaradhya, N Bhuvaneshwari, S. and Mishra, A. K.
2	An Introduction and adaptation of improved processing potato variety Kufri Frysona to Ri Bhoi district of Meghalaya Yvonne Angel Lyngdoh, Janani P., Ngursangzuala Sailo, Clarissa Challam, Meghna Sarma and Utpal Barua
3	Deep learning-enabled mobile application for on-site nitrogen prediction in strawberry cultivation Naseeb Singh, Simardeep Kaur and Kethavath Ajaykumar
16:00-16:10	Discussion & Co-Chair's Remarks



16:10-16:30	Tea Break
-------------	------------------

CONCLUDING SESSION (Venue: Dr. M.S. Swaminathan Conference Hall, ICAR NEH, Umiam)		
Co-Chairs	R.S. Paroda , President, ISPGR, New Delhi P.L. Gautam , Chancellor, CAU, Pusa, Samastipur	
Convenor	R.K. Tyagi , Vice-President, ISPGR, New Delhi	
Rapporteurs	Heiplanmi Rymbai , ICAR-NEH, Umiam, Meghalaya Philanim W. Shimray , ICAR-RCNEH, Umiam, Meghalaya	
16:30-16:45	Summary of Major Recommendations	R.K. Tyagi , Vice-President, ISPGR, New Delhi
16:45-17:15	Felicitations and Conference Award Distribution	
17:15-17:35	Remarks by Co-Chairs	
17:35-17:45	Vote of Thanks	Veerendra Kumar Verma , Organising Secretary, NCMAN, Umiam, Meghalaya

14th General Body Meeting (GBM) of ISPGR* (Venue: Committee Room, ICAR NEH, Umiam)		
Chair	R.S. Paroda , President, ISPGR, New Delhi	
17:50-17:55	Agenda 1: Welcome Remarks	Anuradha Agrawal , General Secretary
17:55-18:05	Agenda 2: Introductory Remarks	R.S. Paroda , President
18:05-18:20	Agenda 3: Confirmation of Minutes of 12th GBM, Action Taken Report (ATR) and Progress Report of ISPGR	Anuradha Agrawal , General Secretary
18:20-18:30	Agenda 4: Progress of IJPGR	R.K. Tyagi , Editor-in-Chief, IJPGR
18:30-18:40	Agenda 5: Financial Report of ISPGR	Kuldeep Tripathi , Treasurer
18:40-18:45	Agenda 6: Any other item (with permission of Chair)	Anuradha Agrawal , General Secretary
18:45-18:55	Agenda 7: Remarks	J.C. Rana and R.K. Tyagi , Vice Presidents
18:55-19:05	Agenda 8: Presidential Address	R.S. Paroda , President
19:05-19:10	Agenda 9: Vote of Thanks	Manjusha Verma , Joint Secretary

*All ISPGR Members are kindly invited to attend the GBM of ISPGR

