



# **NATIONAL SYMPOSIUM ON SPICES, MEDICINAL AND AROMATIC CROPS (SYMSAC - IX)**

**15th - 17th March 2018**

*"Spices for doubling farmer's income"*

## *A Report & Recommendations*

### *Organizers*

School of Agricultural Sciences & Rural Development  
Nagaland University, Nagaland

&

Indian Society for Spices, Kozhikode, Kerala

### *Co-Organizers*

Department of Horticulture, Govt. of Nagaland

&

Department of Agriculture, Govt. of Nagaland

### **VENUE :**

**SCHOOL OF AGRICULTURAL SCIENCES AND RURAL DEVELOPMENT**

Nagaland University, Medziphema Campus

Medziphema : Nagaland - 797106



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## **Executive summary**

National Symposium on “Spices and Aromatic Crops” (SYMSAC-IX) was held at School of Agricultural Sciences & Rural Development, Nagaland University, Medziphema Campus, during March 15-17, 2018. The event was organized by School of Agricultural Sciences & Rural Development (SASRD), Nagaland University, Nagaland & Indian Society for Spices (ISS), Kozhikode, Kerala and co-organized by Department of Horticulture, Govt. of Nagaland & Department of Agriculture, Govt. of Nagaland under the theme “Spices for doubling farmer’s income”. Three days event included six technical sessions, plenary lecture, discussion on roadmap, business meet, special interactive session with APEDA and buyers/suppliers, interactive sessions for farmers and exhibition followed by post symposium tour to Kohima district. The inaugural programme was graced by Hon’ble Governor of Nagaland, Shri. P.B. Acharya along with Hon’ble Vice Chancellor of Nagaland University, Prof. Pardeshi Lal, while valedictory programme was graced by Dr. A.K. Yadav, Adviser (NAB), APEDA, Govt. of India.

Altogether, there were 500 participants comprising of dignitaries, scientists, officers, buyers, suppliers, spice growers, faculties & research scholars from all over the country. There were 21 lead talks, 29 oral presenters and 26 poster presenters. There were 40 dignitaries and lead speakers, about 50 paper presenters, 24 buyers from 17 companies across the country and more than 27 suppliers / spice growers from different states of NER. A total of 23 exhibitors put up their stalls for exhibition. About 140 Spice growers, 24 Govt. officials from all 11 districts of Nagaland, and also from Meghalaya, Manipur and Sikkim participated in the event. Besides, there were about 150 participants of faculties and research scholars from Nagaland University. The event was sponsored by Dept of Agriculture, GoN, Dept of Horticulture, GoN, NEC, M DoNER, NHB, Gurugram, DASD, Kozhikode, NU, Department of LRD GoN, NERAMAC, M DoNER, IISR, Kozhikode, CIH, Nagaland, NABARD, Nagaland, Spices Board, Kochi and media partner was Nagaland Post, Dimapur, Nagaland. Overall, the programme was highly successful.

Prof. Akali Sema  
Convener  
SYMSAC-IX

## PROGRAM SCHEDULE

	<b>Activities</b>	<b>Time</b>	<b>Venue</b>
<b>Day I</b> 15/03/18	<b>Registration</b>	09:00-10:00 a.m.	Zero Point
	<b>Inaugural programme</b>	10:00-11:30 a.m.	Auditorium
	Refreshment	11:30-11:45 a.m.	-
	<b>Plenary lecture</b>	11:45-12:30 p.m.	Auditorium
	Opening of exhibition	12:30-01:00 p.m.	Old Basket Ball Court
	Lunch	01:00-02:00 p.m.	Food court
	<b>Technical session I</b> ( <i>Status of spice industry...</i> )	02:00-04:00 p.m.	Auditorium
	ISS meeting	04:00-05:00 p.m.	SASRD Conf. Hall
	<b>Discussion hour on</b> “Road map of spice industry in NER”	05:30-06:30 p.m.	SASRD Conf. Hall
	Cultural programme	06:30-07:30 p.m.	Auditorium
	Special Dinner	08:30 p.m. onward	Police Complex, Chümukedima
	<b>Day II</b> 16/03/18	<b>Farmers’ Interactive Session-I</b> ( <i>Production aspects...</i> )	09:30-11:00 a.m.
Refreshment		11:00-11:30 a.m.	-
<b>Farmers’ Interactive Session-II</b> ( <i>Protection aspects ....</i> )		11:30-01:00 p.m.	Auditorium
<b>Business Meet (B<sub>2</sub>B)</b>		09:30 a.m. onward	B.Voc. Classroom
<b>Technical Session II</b> ( <i>Crop improvement &amp; biotechnology</i> )		09:30-11:00 a.m.	PG Exam Hall
<b>Technical Session III</b> ( <i>Nut, soil, water &amp; plant health mngt</i> )		11:30-01:30 p.m.	PG Exam Hall
Lunch		01:30-02:30 p.m.	Food court
<b>Technical Session IV</b> ( <i>Climate resilience in spice crops production and mitigating climate change</i> )		02:30-03:30 p.m.	PG Exam Hall
Tea break		03:30-04:00 p.m.	-
<b>Technical Session V</b> ( <i>Technology-led organic ...</i> )		04:00-05:30 p.m.	PG Exam Hall
Entertainment time		05:30-06:30 p.m.	Auditorium
Dinner	07:00 p.m.	Food Court	
<b>Day III</b> 17/03/18	<b>Technical Session VI</b> ( <i>PHM, value add &amp; marketing</i> )	09:30-11:30 a.m.	PG Exam Hall
	<b>Valedictory programme</b>	11:30- 01:00 p.m.	Auditorium
	Lunch	01:00 p.m.	Food Court
<b>Photography &amp; Lunch</b>			

## INAUGURAL PROGRAMME

Date : 15 March 2018 Time :10:00 – 11:30 a.m. Venue : SASRD's Auditorium

Chief Guest : **Shri. Padmanabha Balakrishna Acharya**,  
Hon'ble Governor of Nagaland.

Guest of Honour : **Prof. Pardeshi Lal**,  
Vice Chancellor, Nagaland University.

Chairperson : **Prof. Akali Sema**, Convener, SYMSAC-IX

National Anthem

Welcome address : **Prof. T. Lanusosang**, Pro Vice Chancellor,  
SASRD, NU, Medziphema Campus

Invocation : **Rev. Zhabu Terhüja**  
Pastor, Baptist Church 'A' Medziphema Town

Opening of SYMSAC-IX : Lighting the lamp

About the symposium : **Dr. C.S. Maiti** Organizing Secretary, SYMSAC-IX

Keynote address : **Dr. S.P. Ghosh**, Former DDG(Hort.), ICAR

Brief remarks : **Dr. V.A. Parthasarathy**, Former Director, ICAR-IISR  
**Dr. Nirmal Babu**, Director, ICAR-IISR, Kozhikode,  
**Mr. Ikuto Zhimomi**, Director of Agriculture, GoN  
**Dr. E.R. Lotha**, Director of Horticulture, GoN  
**Prof. V.B. Singh**, President, HSNEI, Nagaland

Speech : Guest of Honour

Special number : EU choir, SASRD, NU

Release of Souvenir /Publications/Launching of Mobile App.

Inaugural address : Chief Guest

Awards presentation : **Dr. Prasath**, Secretary, ISS, Kozhikode

Vote of thanks : **Dr. Pauline Alila**, Organizing Secretary, SYMSAC-IX

### Opening of Exhibition stalls

## VALEDICTORY PROGRAMME

Date : 17/03/2018 Time :11:30 a.m. Venue : SASRD's Auditorium

- Chief Guest : **Dr. A.K. Yadav**, Adviser (NAB), APEDA  
Govt. of India, New Delhi
- Chairpersons : **Dr. K. Nirmal Babu**, Director, IISR, Kozhikode  
**Dr. M. Anandaraj**, Former Director, ICAR-IISR
- Welcome address : **Prof. A.K. Makar**, Dean, SASRD, NU
- Brief remarks : **Prof. Alemla Ao**, Pro Vice Chancellor (Incharge)  
SASRD, NU, Medziphema campus
- Feed back by participants : Buyers, Exhibitors, Suppliers, Growers,  
Officials & Scientists
- Awards presentation :
- Report of SYMSAC-IX : **Prof. Akali Sema** (SASRD, NU),  
Convener SYMSAC-IX  
**Dr. D. Prasath** (ICAR-IISR),  
Co-convener SYMSAC-IX
- Special number : **Ms. Nungshitula**, M.Sc.(Ag.) SASRD, NU
- Valedictory address : Chief Guest
- Vote of thanks : **Dr. C.S. Maiti** (SASRD, NU),  
Organizing Secretary SYMSAC-IX  
**Dr. C.N. Biju** (ICAR-IISR),  
Co-Organizing Secretary SYMSAC-IX

**Closing of SYMSAC-IX by Chief Guest**

*Photography & Lunch*

## **PROCEEDING & RECOMMENDATION**

The Indian Society for Spices (ISS) founded during 1991 has been contributing to the cause of spices, aromatic and allied crops for the last two decades. It is a functioning forum for exchange of ideas among policy makers, researchers, growers, traders and developmental agencies and a platform to discuss on various issues. The society has been organizing national seminars, symposia for increasing the interaction with farmers, traders, industries, manufacturers, etc.

School of Agricultural Sciences and Rural Development, Medziphema Campus is one of the premiere technical institute of the state and one of the four campuses under Nagaland University established in the year 1994, catering to the need of manpower in the entire region of North East, offering undergraduate and post graduate degree program. It has 60 plus faculties in 12 different discipline of agriculture and have more than 500 students from across the country. Besides it's main mandate of producing manpower requirement of the region, it contribute immensely to technology generation through research and demonstrations and also provides extension services and also facilitation to various state government and other organizations programs.

Both the organization have chosen the state of Nagaland as the venue for exchanging of ideas and recommendations emerging out from various deliberations including policies, products, processing and marketing strategies and ways and means to make a strong spice industry in the NER.

As spices are of high value with nutraceuticals compounds, its per capita demand may increase manifold in coming days. There is a need to increase spices production in a sustainable manner through technological interventions in order to meet the ever increasing demand and strategy that can foster doubling farmers' income. The Ninth National Symposium on Spices, Medicinal and Aromatic Crops (SYMSAC-IX) during 15-17 March, 2018 at School of Agricultural Sciences and Rural Development, Nagaland University, Medziphema, Nagaland was aimed to formulate various strategies for doubling of farmers' income through spices cultivation by giving emphasis on conservation of genetic resources, crop improvement and quality production of spices, organic cultivation, abiotic and biotic stress management, market linkage, etc. so as to realize the set objectives.

## Inaugural session

The symposium was inaugurated by **Shri. Padmanaba Balakrishna Achariya**, Honourable Governor of Nagaland. **Prof. Pardeshi Lal**, Vice-Chancellor, Nagaland University was the Guest of Honour. **Prof. Akali Sema**, Department of Horticulture, SASRD, NU, Medziphema campus and Convenor of SYMSAC IX presided over the inaugural function. **Rev. Zabhu Terhuja** offered invocation prayer. **Dr. S.P. Ghosh**, Former DDG (Hort.), ICAR, New Delhi delivered key note address. **Prof. T. Lanusosang**, Pro-Vice Chancellor, NU, SASRD, Medziphema gave welcome address on behalf of the organizers. **Dr. V.A. Parthasarathy**, Former Director, ICAR-IISR, Kozhikode; **Dr. K. Nirmal Babu**, Director & Project Coordinator (Spices), ICAR-IISR, Kozhikode; **Prof. V.B. Singh**, President, HSNEI, Medziphema, Nagaland, **Mr Butang**, Addl. Director, Dept of Agriculture, Govt of Nagaland and **Dr Moa Walling**, Dy. Director, Dept of Horticulture, Govt of Nagaland felicitated the symposium with their brief remarks and exhortations. **Dr C.S.Maiti**, Organising Secretary of SYMSAC IX gave brief account of the symposium, special number was presented by Evangelical Union of SASRD, NU while **Dr Pauline Alila** proposed vote of thanks.

A Souvenir of the Symposium and a book on sustainable horticulture as well as folders on cultivation practices of spices published by the Department of Horticulture, SASRD, NU were released during the program. This was followed by launching of mobile app for turmeric growers developed by IISR. Many awards were also presented viz., Honary Fellow was given to **Dr S.P. Ghosh** and Dr V.A Parthasarathy, Sugandhasree best farmer award was bagged by a Naga farmer (Mr. R.T. Oving) and Arunachal farmer (Mr. Ghanakanta Neog), ISS Fellow awards went to Dr A Ishwara Bhat, Dr Gopal Lal, E.V. Divakara Sastry, Homey Cheriyan, Dr A.V. Agalodiya, Dr O.P. Aishwath and Dr A.K.Jha. Dr. J.S. Pruthi Award was given to C.R. Anjali & R Suseela Bhai (2015) and K Sreeja, M Anandaraj & R Suseela Bhai (2016) and the best PhD & M.Sc thesis awards went to Dr. Salwee Yasmin & Ms. Priyanka S. Chandran respectively. The program started with National Anthem and closed with Nagaland University Anthem.

## Plenary session

Date: 15-03-2018 Time: 11.45 am – 12.30 pm Venue: SASRD Auditorium

The session was chaired by Dr. S.P. Ghosh, Former DDG (Horticulture) and Co-Chaired by Dr. B.N. Hazarika, Dean CAU, Pasighat while the rapportuers were Dr. Susanta Banik, Assistant Professor, SASRD, NU and Dr. Azeze Seyie, Scientist, ICAR RC for NER, Jharnapani

The plenary lectures were delivered by **Dr. V.A. Parthasarathy**, Former Director, ICAR-IISR, Kozhikode on the topic “Northeast –Spice hub of India” and by **Dr. K. Nirmal Babu**, Director, ICAR-IISR, Kozhikode on the topic “Spices for doubling farmer’s income ”

## Recommendations:

- ▶▶ Genetic diversity of crops of North-East should be conserved.
- ▶▶ Quality planting material free from disease and pest should be used for commercial production.
- ▶▶ Organic production of spices should be promoted.
- ▶▶ Biopesticides developed by ICAR-IISR, Kerala may be popularized in NE region.

## **TECHNICAL SESSION I:** ***“Status of Spice Industry in India with special reference to NE region”***

Date: 15-03-2018 Time: 02.00 pm – 04.00 pm Venue: SASRD Auditorium

The session was chaired by Dr. M. Anandaraj, Former Director, ICAR-IISR and Co-chaired by Dr. Femina, Deputy Director, DASD. The rapportuers were Dr. C.N. Biju, Scientist, ICAR-IISR, Kozhikode and Dr. Pankaj Shah, Assistant Professor, SASRD, NU.

### **Lead lectures were delivered by:**

- ✓ **Director**, Dept. of Horticulture & Director, Dept. of Agriculture, Govt. of Nagaland, Kohima on the topic *“Status and challenges of spice production in NE Region”*

- ✓ **Dr. Gopal Lal**, Director, ICAR-NRCSS, Ajmer, Rajasthan on the topic “Scope and opportunities of seed spices cultivation for livelihood improvement”
- ✓ **Mr. Geemon Korah**, CEO, Kancor Ingredients Ltd., Kerala on the topic “Corporate view : Opportunities and challenges in spice industry in NER”
- ✓ **Dr. M.N. Venugopal**, Former Head, ICAR-IISR RS, Appangala, Karnataka on the topic “Opportunities and challenges for black pepper in NER”
- ✓ **Mr. Arup Joty Borgohain**, Senior Manager, Amalgamated Plantations Ltd., Guwahati, Assam on the topic “Growing pepper in tea gardens of North East India – A sustainability initiative by Amalgamated Plantations”

### Recommendations:

- ☞ Efforts should be focused to create awareness and impart training to spice growers so as to establish quality planting production units in consonance with the guidelines outlined by DASD/MIDH programmes.
- ☞ To establish production hubs for spices including ginger, turmeric and large cardamom with training, quality analysis and production components in collaboration with ICAR-IISR, DASD, SAUs and CIH.
- ☞ Programmes should be initiated to facilitate dialogue between spice producers and industry to create and strengthen the value chain.

## **TECHNICAL SESSION II & III**

### ***Crop improvement and biotechnology***

### ***Nutrient, soil, water and plant health management***

Date: 16-03-2018 Time: 09.30 am – 01.30 pm Venue: PG Exam Hall-I

The session was chaired by Dr. Gopal Lal, Director, ICAR-NRC on Seed Spices and Dr. M. Anandaraj, Former Director, ICAR-IISR, Kozhikode and co-chaired by Dr. Anupam Pariari, Head, Department of Spices, BCKV and Prof. V.B. Singh (Retd.) SASRD, NU. The rapporteurs were Dr. R. Praveena, Scientist, ICAR-IISR, Kozhikode and Dr. Malini B. Sharma, SASRD, NU.

#### **Lead lectures were delivered by the following personalities**

- ✓ **Dr. D. Prasath**, Principal Scientist, ICAR-IISR, Kozhikode on the topic “Conventional and genomics approaches in improvement of spices”
- ✓ **Dr. E.V.D. Sastry**, Prof. & Head, Dept. Plant Breeding & Genetics, College of Agriculture, CAU, Imphal on the topic “Breeding better seed spice varieties”

- ✓ **Dr. N. Mini Raj**, Professor, Dept. of Plantation Crops & Spices, College of Horticulture, KAU, Thrissur, Kerala on the topic "Opportunities for tree spices production in NER"
- ✓ **Dr. Femina**, Deputy Director, DASD, Kozhikode, Kerala on the topic "Quality planting material strategies for enhanced spices production"
- ✓ **Dr. Santhosh J. Eapen**, Head, Div. of Crop Protection, ICAR-IISR, Kozhikode, Kerala on the topic Plant health management strategies for spices development in NER
- ✓ **Dr. S.K. Sharma**, Former Director, ICAR-CIAH, Bikaner & Dean College of Horticulture, CAU, Sikkim on the topic "Prospects and potential of spices cultivation in NER"

### Presentations were also done by best thesis award winners

- **Dr. Salwee Yasmin** (Dr. V.S. Korikanthimath for the best Ph.D. thesis on Spices, Medicinal and Aromatic Crops) from Baba Ghulam Shah Badshah University, Kashmir.
- **Ms. Priyanka S. Chandran** (Smt. Vijaya V. Korikanthimath best M.Sc. thesis on Spices, Medicinal and Aromatic Crops) from Kerala Agricultural University, Kerala.

### This was followed by oral presentations

- ✓ Direct and indirect effects of yield attributes on berry yield in black pepper (*Piper nigrum* L.) by **Dr. M.S. Shivakumar** from ICAR-IISR Experimental Farm, Peruvannamuzhi, Kerala
- ✓ Establishment of micropropagation protocol for large cardamom (*Amomum subulatum* Roxb.) cv. Varlangey by **Dr. Pema Sherpa** from School of Life Sciences, Sikkim University, Gangtok
- ✓ Performance of turmeric genotypes in Arunachal Pradesh for yield and quality by **Dr. Mariam Anal** from College of Horticulture & Forestry, CAU, Pasighat, Arunachal Pradesh
- ✓ Biochemical characterization of unique genotypes of nutmeg (*Myristica fragrans* Houtt.) by **Ms. Priyanka S. Chandran** from College of Horticulture, KAU, Kerala
- ✓ Plantlet regeneration and acclimatization of King Chilli (*Capsicum chinense* Jacq.) through in vitro technique by **Dr. Sentirella Jamir** from SASRD, NU, Medziphema
- ✓ Effect of different planting time and size of seed rhizome on growth, yield and quality of ginger (*Zingiber officinale* Rosc.) cv. Nadia by **Dr. C.S. Maiti** from SASRD, NU, Medziphema

- ✓ Integrated management of bacterial wilt of ginger using calcium chloride and *Bacillus licheniformis* by **Dr. R Suseela Bhai** from ICAR-IISR, Kozhikode, Kerala
- ✓ Leaf blight of ginger caused by *Bipolaris rostrata*, an emerging disease in Kerala and Karnataka by **Dr. R Praveena** from ICAR-IISR, Kozhikode, Kerala
- ✓ Morphological and molecular characterization of *Fusarium oxysporum* f.sp. *vanillae* inciting root and stem rot disease in vanilla and its management by **Dr. P Mohammed Faisal** from ICAR-IISRRS, Appangala, Karnataka
- ✓ Growing coriander (*Coriandrum sativum*) in acidic soil (Typic Haplustalf): An option for doubling farmer's income by **Dr. O.P. Aishwath** from ICAR-NRCSS, Ajmer, Rajasthan
- ✓ Growth and seed yield of coriander (*Coriandrum sativum* L.) cv. Ajmer Coriander-1 as influenced by different levels of nitrogen and phosphorus in gangetic alluvial plains by **Dr. Anupam Pariari** from BCKV, Mohanpur, West Bengal
- ✓ Knowledge and adoption level of improved King Chilli (*Capsicum chinense*) cultivation practices among farmers in Peren District, Nagaland by **Tzubentula Jamir** from SASRD, NU, Medziphema

### Recommendations:

- ☞ Marketing of large cardamom needs to be strengthened through formation of FPO's value chain development and organic certification.
- ☞ Expanding the area of spices in non traditional areas, emphasis need to be given to biosecurity and quarantine aspects.
- ☞ Genomics approaches need to be integrated with conventional breeding approaches to hasten varietal development programmes in spices.
- ☞ Tree spices may be given emphasis in homestead cultivation, mixed and intercropping farming system.
- ☞ Soil health management and rhizosphere improvement are the priority areas which need be addressed for increasing production and productivity in spices.

## **TECHNICAL SESSION IV:** *Climate resilience in spice crops production*

Date: 16-03-2018 Time: 02.30 pm - 05.30 pm Venue: PG Exam Hall-I

The session was chaired by Dr. M. Anandaraj, Former Director, ICAR- IISR, Kozhikode and co-chaired by Dr. Abbas V. Agalodiya, Ex. Research Scientist (Spices & Wheat). The rapporteurs were Dr. Pankaj Shah, Assistant Professor, SASRD, NU and Dr. Azeze Seyie, Scientist, ICAR RC for NER, Jharnapani

### **Lead lectures were presented by**

- ✓ **Dr. K. Kandiannan**, Principal Scientist, ICAR-IISR, Kozhikode, Kerala on the topic "*Climate resilience in spice crops production*"
- ✓ **Dr. Muthusamy Murugan**, Professor, Cardamom Research Station, KAU, Pampadumpara, Kerala on the topic "*Impact of climate change in cardamom cultivation*"

### **Oral presentations**

- ✓ Epidemiological parameters to delineate weather-disease interaction and host plant resistance in small cardamom by **Dr. C.N. Biju** from ICAR-IISR, Kozhikode, Kerala
- ✓ Trends in area, production and productivity of spice crops in North Eastern region by **Dr. Amod Sharma** from SASRD, NU, Medziphema

### **Recommendations:**

- ☞ Standardization of water conservation policies for NER.
- ☞ Forest conservation to mitigate the impact of climate change
- ☞ Studies on impact of agro-climatic changes on spices production should be taken up as priority in NER.

## **TECHNICAL SESSION V:** *Technology- Led organic production of spices and safe foods*

Date: 16-03-2018 Time: 04.00 pm - 05.30 pm Venue: PG Exam Hall-I

The session was chaired by Dr. A.K. Yadav, Adviser (NAB) APEDA, New Delhi, and co-chaired by Dr. Mini Raj, Professor, KAU and Dr. Abbas V. Agalodiya, Ex. Research Scientist (Spices & Wheat). The rapporteurs were Dr. A.K. Jha, Head,

Horticulture Division, ICAR RC for NER, Barapani and Dr. V. Srinivasan, Principal Scientist, ICAR-IISR, Kozhikode

### **Lead lectures were delivered by**

- ✓ Dr. A.K. Yadav, Advisor (NAB) APEDA, New Delh on the topic Organic farming in India: Ensuring integrity.
- ✓ Dr. M. Anandaraj, Former Director, ICAR-IISR, Kozhikode, Kerala on the topic Plant health management strategies for organic spices development in NER

### **Oral presentation**

- ✓ Volatile oil contents as affected by PGPRs and other organic inputs in commercial ginger varieties of Sikkim by **Dr. Deeki Lama Tamang** from Sikkim University, Tadong, Sikkim

### **Recommendations:**

- ☞ Promotions of Participatory Guarantee System (PGS - India ) especially for organic certification by Farmers Group for domestic market
- ☞ Novel Delivery of beneficial microbes for improving the soil health to be promoted.

## **TECHNICAL SESSION VI:**

### ***Post harvest management, value addition and marketing of spices***

Date: 17-03-2018 Time: 09.30 am - 11.30 am Venue: PG Exam Hall-I

The session was chaired by Dr. M. Madhava Naidu, Head, Dept. of Spice & Flavour Science, CSIR-CFTRI, Mysore and co-chaired by Shri. Subhas Bhattacharjee, Executive Director, NERAMAC, Guwahati. The rapporteurs were Dr. K.S. Krishnamurthy, Principal Scientist, ICAR-IISR, Kozhikode and Dr. Sanjay Das, Assistant Professor, SASRD, NU

### **Lead lectures were delivered by**

- ✓ **Shri. S. Bhattacharjee**, Executive Director, NERAMAC, Guwahati, Assam on the topic Opportunities and challenges of spices industry in NER
- ✓ **Dr. M. Madhava Naidu**, Head, Dept. of Spice & Flavour Science, CSIR-CFTRI, Mysore, Karnataka on the topic Spices processing: An innovative scientific approach to a profitable future
- ✓ **Dr. T. John Zachariah**, Principal Scientist, ICAR-IISR, Kozhikode, Kerala on the topic Value addition in spices

## Oral presentations

- ✓ Maturity studies of ginger: Variations in ginger oil composition and 6-gingerol content by **Ms. M. Vedashree** from CSIR-CFTRI, Mysore, Karnataka
- ✓ Effect of slicing and curing on the quality of turmeric by **Dr. E. Jayashree** from ICAR-IISR, Kozhikode, Kerala
- ✓ Novel innovations in extraction and value addition to coriander foliage by **Mr. Siddharth Priyadarshi** from CSIR-CFTRI, Mysore, Karnataka
- ✓ Innovations for healthy hydration: A spicy approach by **Dr. R. Chetana** from CSIR-CFTRI, Mysore, Karnataka

## Recommendations:

- ☞ FPO's and FPC's made in NE states should harness the advantage of organic and GI brand authorization through APEDA for marketing the produces for maximizing profitability.
- ☞ More startup's need to be promoted for adopting post harvest management and value addition potentials in spices.
- ☞ Cash crops from NE states (including spices) should be recommended for maximum support price.
- ☞ Warehousing facilities need to be strengthened/created to store dried spice produces in NE region to ensure price advantage & profitability.

## DISCUSSION ON THE ROAD MAP FOR SPICE INDUSTRY IN NER

Date: 15-03-2018 Time: 05.00 pm - 06.30 pm Venue: SASRD Auditorium

The session was chaired by Dr. S.P. Ghosh, Former DDG (Horticulture) and Co-chaired by Dr. V.A. Parthasarathy, Former Director, ICAR-IISR and facilitated by Prof. Akali Sema, SASRD, NU and Dr. D. Prasath, ICAR-IISR

Some important dignitaries present in the session were

- Dr. V.A. Parthasarathy, Former Director, ICAR-IISR
- Dr. M. Anandaraj, Former Director, ICAR-IISR
- Dr. M.N. Venugopal, Former Head, Regional Station, ICAR-IISR
- Dr. S.J. Eapen, Head (Crop Production), ICAR-IISR
- Dr. C.K. Thankamani, Head (Crop Production, ICAR-IISR
- Dr. T.J. Zachariah, Principal Scientist, ICAR-IISR
- Dr. Femina, Deputy Director, DASD

- Dr. Moa Walling, Dy. Director of Horticulture GoN
- Mr. Butang, Addl. Director, Agriculture, GoN
- Prof. B.N. Hazarika, Dean, College of Agriculture, Pasighat
- Prof. S.K. Sharma, Dean, College of Horticulture, Sikkim
- Prof. V.B. Singh, President, HSNEI
- Dr. A.K. Jha, ICAR Complex for NER, Barapani
- Mr. Geenom Korah, Chief Executive Officer, Kancor Ingredients Limited, Kerala
- Mr. S Bhattacharjee, Executive Director, NERAMAC, Guwahati
- Mr. H.C. Biswas, Asst. General Manager, NABARD, Dimapur
- Mr. Nipulal C A, Managing Director, N2N Ingredients Pvt. Ltd., Cochin, Kerala (buyer)
- Mr. Laiskhembor Majaw, HDO, Meghalaya
- Representative, Amalgamated Plantations Ltd. (supplier-cum-buyer)
- Representative, Supplier, Nagaland
- Farmers representative

The members after thorough deliberation on various issue pertaining to spice industry in NER made the following suggestions.

### Recommendations:

- ☞ Successful Farmer Producer Company (FPO) models need to be promoted in NER for fool proof value chain management in Spices.
- ☞ To promote intrinsic quality of Spices in NER, cluster approach targeting location specific spices cultivation has to be promoted.
- ☞ Importance should be given to organic certification system in Spices. The common certification agency for NER may be thought off.
- ☞ The quality planting material production system need to strengthened. This has to be linked to necessary nursery system accreditation.
- ☞ Genetic diversity and heirloom varieties of spices available in NER need to be promoted.
- ☞ Different agencies working on research and development of spices in NER need to be linked and common knowledge bank may be created
- ☞ Infrastructure development in terms of procurement, storage and transport of spices need to be developed in NER.
- ☞ Spice park may be established in different states of NER.
- ☞ Industry linkage should be given top priority in Spices promotion in NER.

## FARMERS INTERACTIVE SESSIONS

Date: 16-03-2018 Time: 09.30 am – 01.00 pm Venue: SASRD Auditorium

### SESSION - I 'PRODUCTION ASPECTS OF SPICE CROPS'

The session was chaired by Prof. A. K. Makar, Dean, SASRD, NU and co-chaired by Dr. M.N. Venugopal, Former Head, ICAR-IISR Regional Station, Appangala, Karnataka. Dr. E. Jayashree, Principal Scientist, ICAR-IISR, Kozhikode and Dr. L. Tongpang Longkumer, Assoc. Prof., SASRD, NU were the rapporteurs and facilitators respectively.

In this session, a brief presentation on the cultivation of major spices and post harvest processing of major spices was made by following resource persons.

- ✓ **Dr. V. Srinivasan** : *Production of black pepper*
- ✓ **Dr. C.K. Thankamani** : *Cultivation of ginger*
- ✓ **Dr. A.K. Jha** : *Cultivation of turmeric*
- ✓ **Dr. Sreekrishna Bhat** *Production of large cardamom*
- ✓ **Dr. E. Jayashree** : *Post harvest processing of black pepper, ginger and turmeric*
- ✓ **Deputy Director**, Dept. of Horticulture, Govt. of Sikkim : *Various measures taken by the Department and need for improved scientific intervention.*

Several farmers interacted with the resource persons and most of the farmers expressed their inability to process the products. They also expressed the problems of marketing and low price for their produce.

In his closing remarks, the chairman mentioned that the research organisation should bring out the organic cultivation package for spices (especially ginger) and measures required to improve the density of black pepper.

## **SESSION - II**

### **'PROTECTION ASPECTS OF SPICE CROPS'**

The session was chaired by Prof. S.K Sharma, Dean, CAU, Sikkim and co-chaired by Prof. M. Alemenla Ao, SASRD, NU. Dr. E. Jayashree, Principal Scientist, ICAR-IISR, Kozhikode and Dr. L. Tongpang Longkumer, Assoc. Prof., SASRD, NU were the rapporteurs and facilitators respectively.

#### **Recommendations:**

- ☞ Large scale supply of disease-free planting material of ginger and turmeric (through pro-tray technology/ single bud technology) need to be taken up.
- ☞ To prevent deterioration in quality of capsules due to fungal attack during long term storage of large cardamom, improved bhatti's or driers need to be popularized among growers through schemes of Spice Board.
- ☞ Disease-free quality planting materials need to be produced and distributed through certified nurseries in large cardamom.
- ☞ Training programmes on crop production, crop protection and post harvest aspects of large cardamom, ginger and turmeric need to be conducted to create awareness among the farmers.
- ☞ In order to manage soil-borne diseases, adequate field drainage and crop rotation with cereals and non solanaceous crops need to be adopted by farmers cultivating ginger and turmeric.
- ☞ Organic packages of spices (ginger, turmeric and large cardamom) for North Eastern States need to be developed and popularized among farmers.

### **BUSINESS MEET (B2B)**

Date: 16-03-2018 Time: 09.30 am – 04.00 pm Venue: B.Voc. Classroom

This meet was sponsored by NERAMAC and Agriculture Department, GoN and facilitated by **Mr. Nipulal**, MD, N2N, Kochi.

A full day session of business meet was organized by SASRD, NU & ISS, Kozikode from 9:30 a.m. on 16-03-2018 in B.Voc. classroom. Mr. Nipulal, MD, N2N ingredients, Kochi, and **Prof. Akali Sema**, SASRD, NU. facilitated the event with the support of **Mr. Medemchiba**, Deputy Director, from Department of Horticulture, GoN, **Mr. Luyang** and **Mr. Manjit Goswami** from NERAMAC

Guwahati, **Dr. Amod Sharma, Dr. Patra, Mr. Pelevituo Kuotsu** from SASRD, NU with a team of hard working volunteers and full moral support from **Dr. K. Nirmal Babu**, Director, IISR and **Mr. Bhattacharjee**, ED, NERAMAC.

There were 24 buyers from 17 companies from across the country and they could meet 27 seller/suppliers from different NE States.

The programme started with presentation by all buyers about their organisation and their business. After that the table was laid out for all the buyers, then sellers were given 10 minutes each to interact with various buyers.

Later, at 3.00 pm, as a follow up, there was an interactive session between all the buyers (as panellist) and suppliers and growers in the auditorium. The session was chaired by the Director, IISR and Co-Chaired by Executive Director, NERAMAC. The programme was facilitated by Dr. Akali Sema and the proceeding was recorded by Dr. Moakala Chankija.

Dr. Akali Sema, Convener, SYMSAC-IX, welcome the Chairman, Co-Chairman, Panellist (buyers), suppliers and the growers (farmers share) highlighted the purpose of the meeting and stated that "How to take spice industry forward is what has brought everyone here" and also to discuss about various quality criteria requirement of buyers and various concerned of all spice stakeholders.

Chairman remarked that

- Farmers of NER produce some of best spices but still untapped, so the main target is to let the best materials of NER reach the country through which everyone will get benefit especially the farmers.

Co- Chairman remarked that his organisation (NERAMAC)

- Deals with marketing and is here to understand what products Nagaland have and to help in marketing provided the produce is good both in terms of quality and quantity.
- He also stated that they are here to popularise NER produce and market them to outside India.

The Panellists (Buyers) gave various inputs after their interactions with various suppliers in previous session.

- ✓ Farmers don't have sufficient produce required by the buyers
- ✓ Farmers generally give fresh produce while they requires processed products.
- ✓ Transportation and delivery mechanism is the main constraint.
- ✓ Farmers of NER have good quality of spice but the concern is whether it can be delivered in right quality & quantity within the time frame.

- ✓ If farmers, wants the best price, then they have to process it and sell when the market price is high (off season).
- ✓ Most of the growers doesn't seem to know how to dry ginger/turmeric, so Govt. functionaries need to see to it (biggest challenge)
- ✓ Lack of awareness of market availability in NE by outside buyers, so this awareness needs to be created to the outside world i.e., less number of buyers are aware of the market availability in NE
- ✓ Farmers should know what quality produce they are selling because based on quality, prices differs (Eg: curcumin % in turmeric)
- ✓ Cost of transportation is very high that makes the price of produce high and thereby reducing the returns/profitability.
- ✓ Transportation through sea works out more cheaper since there is no traffic compared to road or railway. This may be explored.
- ✓ Certification for a product is mandatory in order that the product is marketed at a higher prices (when quantity is high).
- ✓ Farmers of NE should know the commercial value of their product in order to get the premium price as compared to the similar product in the market.
- ✓ There has to be a collective body through which farmers produce could reach the buyers because buyers cannot go collecting small amounts from each farmer.
- ✓ If farmers could introduce few more spice crops other than ginger, turmeric, large cardamom and king chilli to avoid desperate selling when some crop fails in particular year.
- ✓ Without certification, buyers cannot take the produce out of the country, so quality control has to be put in place first.

### SUPPLIERS INPUT:

- ✓ Government functionaries should work more efficiently on different mission meant for farmer's welfare, so as to ensure that the target group (farmers) are reached and benefited by those Missions and Schemes.
- ✓ Some suppliers put up a challenge to all the spice growers that since their aim is one, they should work together united and raise voice to the government to bring up farmer's issues.
- ✓ Some raised issues of collection centre, which is now transformed to parks and other utility facilities.
- ✓ Growers requires a collection point where farmers could store their produce and make volume for buyers, as including farmers of NE does not produce marketable volume.

- ✓ Identify a specific location where this point could be created.
- ✓ To give trainings to farmers to process and preserve their products.
- ✓ To start a trial project to initiate the supply chain process because change cannot be brought overnight. To develop in phase manner where farmers/group could directly contact and create an MoU between buyers and farmers/group too since one farmer alone cannot reach the buyers requirement.

### Challenge for NERAMAC:

- ✓ Less man power of NERAMAC (as pointed out by a supplier as a weakness) hence not active and effective in helping farmers of the region.
- ✓ All FPOs from different states of NER should sit together and see what are the challenges and sort out what are the ways to mitigate these challenges and automatically there will be solutions.
- ✓ Create a supply chain of producers-sellers-processors for NER.
- ✓ Make some guidelines and models for aggregating of produce in different state of NER.
- ✓ All FPOs may be taken to Cochin to study the aggregating model and meet more exporters to understand the quality and quantity requirements of buyers/exporters.

### FARMERS INPUTS

- ✓ Farmers does not grow in huge quantity because they think that marketing is just sending their products outside state but they forget that market is also available just at their door step (local market)
- ✓ Farmers should also form an association in order to get a good connection with buyers.
- ✓ The farmers were apprehensive about payment by buyers the right amount at the right time. Naga people should utilized their large cultivable land for agriculture and minimise the unemployment problem in the state.
- ✓ Cost of transportation is too high which is a major concern.
- ✓ Some farmers have been cultivating turmeric for many years and its so successful but due to lack of proper marketing channel they wants the Govt. to help them to get organic certification so that they can get better price.
- ✓ The existing KVKs should be very pro active, so that through their centres, the farmers are made aware of the various things related to growing, processing, value addition and marketing of produce.
- ✓ Unless an association of producers is created, spearheaded by some strong and vocal person, nobody will be able to reach the buyers as well as suppliers.

- ✓ Farmers should collect and store their produce and make the volume to the required level (storage unit) then he can get more return than selling it immediately (fresh) in the local market which is in practice now.

### NERAMAC INPUTS:

- ✓ Unless the produce from farmers are aggregated and sold to buyers, farmers can never get their required premium.
- ✓ Formats and procedures of various schemes are too complicated and tedious, so needs to change and make it easier for farmers and entrepreneurs of the region to avail it.
- ✓ Govt has set NERAMAC to work tirelessly for marketing linkage between farmers and buyers/suppliers.
- ✓ There should be some volunteer both from farmers and buyers side to create a cooperative unit to stock the produce to increase the volume.
- ✓ Mizoram government fixed a MSP (Minimal Supply Price) of Ginger/ turmeric and identified certain places (Mizoram - Vairangte; AP - Roin) where produce are taken forward. So such steps has to be developed in other parts of NE also.

After thorough discussions and deliberations, following Recommendations were formulated

- ☞ Create strong aggregators with all FPOs that can consolidate farmers produce, homogeneous and offer to buyers.
- ☞ Industry Association (AISEF) will organise seminar in Cochin and all FPOs, farmers, entrepreneurs and leaders to participate so as to have meeting with exporters, visit Spice factories to understand more about the quality aspects that exporters need (NERAMAC to support them).
- ☞ Farmers to do primary value addition like drying so that the produce can be stored for longer and sold when price are better to avoid distress sale.
- ☞ Explore ways of cost effective transport route.
- ☞ Create / tie set up with laboratory for testing the produce for quality parameters.
- ☞ Create market yard/ mandi where farmers can bring their produce aggregate and ... it to buyers (Kerala model).
- ☞ To create lots of awareness regarding marketing requirement, quality criteria, Post Harvest Management and value addition through involvement of some agencies.
- ☞ To create such platform of B2B in future in other parts of the North East region with the help of NERAMAC, IISR, CFTRI and state functionaries.

- ☞ Without organic certification, product cannot be marketed, so we should train the farmers and make them aware about it.
- ☞ To collect contact details of all farmer leaders from all districts and create a group. Submit a representation to the Govt. to make Agri Expo site as farmers collection point.
- ☞ Make use of available schemes and create business model not a Govt. model.
- ☞ Set up uniform standards of spice crops for marketing.
- ☞ Create an organisation/whatsapp group of all spice stakeholders of state-wise in NER for information, demonstration and idea sharing.

## **SPECIAL MEETING OF BUYERS / SUPPLIERS WITH APEDA ADVISER**

Date : 17. 03.2018 Time : 11:00 AM Venue : Conference Hall Horticulture

**Dr A.K.Yadav**, Advisor, APEDA chaired the session and **Prof. Akali Sema**, SASRD NU facilitated the program. The panelist for discussion were buyers, representatives of suppliers and growers along with director IISR.

The chairman highlighted about the various schemes available for the farmers of NER and requested all the stakeholders to avail this schemes for the overall benefit of the spice industry in NER. He mentioned that he was pleased to see that many buyers from across the country has come to this forum for discussion and also visit NER to explore the opportunities of future business and hence encouraged them to handhold the growers/suppliers of NER so as to make NER spice industry of a vibrant one and assured of all support from APEDA for the welfare of the farming community in the region.

After thorough deliberations, following recommendations were suggested

- ☞ Proposal on market linkage to be submitted to APEDA by an entrepreneur along with NERAMAC.
- ☞ Branding of NE produce even if sold by any other company as their finished product.
- ☞ Contract farming to be promoted in NER.
- ☞ More of such programmes to be organized for which APEDA can sponsor the event.

## EXHIBITION

The exhibition stalls were inaugurated by Hon'ble Governor of Nagaland Shri P.B. Acharya on 15.03.2018. Various spice produce and its value added products were exhibited by different Company / Organization during SYMSAC-IX. Altogether, 30 stalls were put up by exhibitors. The participating organizations / companies were Bade Area Agri. & Allied FCS (Ltd), Bade village; Kaponmi Multipurpose Society, Phek; Spice Producer Society, Wokha; Organic Spice Grower, Peren; Cold Mountain, Dimapur; AICRP on Spices, Nagaland Centre, SASRD, NU; Experiential Learning, SASRD, NU; Zonee Food Product, Dimapur; Ilando Services Pvt. Ltd.; Entrepreneur (Ginger, Black pepper), Meghalaya; Apex Growers Association, Sikkim; HI7 Agri Biosolutions, Bengaluru and the exhibits were ginger, turmeric, Naga Chilli, Black Paper, Large Cardamom, and various value added products.

The total number of visitors to the exhibition stalls were more than 500 with all the dignitaries and participants visiting the stalls and appreciated the quality of produce that were exhibited. The buyers could also see the produce / products of NER and were really inspired with the quality of the produce. The award for the best stall was bagged by **Mr. L. Holuto Ayemi** under farmer category and **North East Initiative Development Agency (NEIDA)** under organization category. The exhibition was sponsored by ICAR-IISR, Kozhikode under NEH programme to promote spices among the tribal farmers of North Eastern states.

## VALEDICTORY SESSION

Date: 17-03-2018 Time: 11.30 am – 01.00 pm Venue: SASRD Auditorium

The Chief Guest of this session was **Dr. A.K. Yadav**, Advisor (NAB), APEDA, New Delhi and **Dr. K. Nirmal Babu**, Director & Project Coordinator (Spices), ICAR-IISR, Kozhikode, Kerala and **Dr. M. Anandaraj**, Former Director, ICAR-IISR, Kozhikode, Kerala were the Chairpersons.

**Prof. A.K. Makar**, Dean, SASRD, Nagaland University welcomed the gathering while Brief remarks were given by **Prof. Alemla Ao**, Pro-Vice Chancellor (In-charge) SASRD, NU, Medziphema Campus.

Feed back was given by the participants – Buyers (Mr. Nipulal), Exhibitors, (Mr. Techamo), Suppliers (Mr. Topong), Growers (Mrs. C. Nyekha), Student (Ms. Jungshienla) Officials and Scientists.

During this session, three awards instituted by Indian Society for Spices were presented,

1. Dr. H. S. Mehta Memorial Award for best research paper (Oral):
  - Direct and indirect effects of yield attributes on berry yield in black pepper (*Piper nigrum* L.) by **M S Shivakumar, K V Saji & B Sasikumar** (ICAR-IISR, Kozhikode Kerala)
  - Growing coriander (*Coriandrum sativum*) in acidic soil (Typic Haplustalf): An option for doubling farmer's income by **O P Aishwath, R Singh & B K Jha** (ICAR-NRCSS, Ajmer, Rajasthan)
2. Dr. H. S. Mehta Memorial Award for best Research Paper (Poster)
  - Isolation, characterization and evaluation of fungal endophytes against major diseases of small cardamom by **Mohammed Faisal Peeran, C N Biju & R Praveena** (ICAR-IISR, Kozhikode, Kerala)
3. Dr. Alapatti Prasada Rao Award for the best Research paper (Poster)
  - Site specific fertility management for productivity enhancement of black pepper and nutmeg by **V Srinivasan, R Dinesh, R Praveena, S Hamza, Lijo Thomas, M S Mariya Dainy, Shoji Joy Edison & P Rathakrishnan** (ICAR-IISR, Kozhikode, Kerala)

The awards for Best posters in each sessions were

- I. Performance of turmeric varieties Roma and Mrgha Turmeric-1 at Zunheboto district by **Edenly Chishi & Rakesh Kumar Chaurasia**.

- II. *Pythium deliense*- a pathogen associated with the rhizosphere of yellowing and wilt affected black pepper vines by **R Suseela Bhai, K P Subila & Santhosh J Eapen**
- III. Value chain of Megha turmeric-1 for doubling farmers' income by **A K Jha, N A Deshmukh, V K Verma, H Rymbai, S R Assumi, M B Devi & H D Talang.**

**The Best Exhibitors Award was given to:**

Farmers category: Mr. L. Holuto Ayemi, Tichipami Village, ATMA Zunheboto.

Organization Category : North East Initiative Development Agency (NEIDA), Kohima.

Report of SYMSAC IX was presented by **Prof. Akali Sema**, Convener and **Dr. D. Prasath**, Co-convener, SYMSAC IX, special number was presented by **Ms. Nungshitula** and the Valedictory address was given by Chief Guest, **Dr. A.K. Yadav**, Advisor, APEDA, Govt. of India. The formal vote of thanks was proposed by **Dr. C.S. Maiti**, Organizing Secretary and **Dr. C.N. Biju**, Co-organizing Secretary, SYMSAC IX. The SYMSAC IX came to a close with the Chief Guest pulling the curtain down.

## ACTION PLAN FOR SPICE INDUSTRY

Action plan	Institution/Organization identified
Successful farmer Producer Company need to be promoted in NER for fool proof value chain management in spices	SASRD, Nagaland (Dr. Akali Sema)
Promote intrinsic quality of spices in NER through cluster approach targeting location specific spices	SASRD, Nagaland; AICRP on Spices Centers; ICAR-IISR; Department of Horticulture, Nagaland; Spices Board
Importance should be given to organic certification system need to strengthened and linked to necessary accreditation	NERAMAC; APEDA; SASRD; DoNER
Genetic diversity and heirloom varieties of spices available in NER need to be promoted	ICAR-IISR; DASD; Department of Horticulture, Nagaland; AICRP on Spices Centers; Spices Board; ICAR Research Complex for NEH Region, Nagaland
Different agencies working on research and development of spices in NER need to be linked and common knowledge bank may be created	ICAR Research Complex for NEH Region, Nagaland; ICAR-IISR; Indian Society for Spices; DoNER
Infrastructure development in terms of procurement, storage and transport of spices need to be developed in NER and spice parks may be established in different states of NER	Department of Horticulture of Concerned NE States; NERAMAC; DoNER
Industry linkage should be given top priority in spices promotion in NER	Representative participants of Industry and entrepreneurs during SYNMSAC IX
Assure food safety by reducing pesticide inputs, variety-based spice marketing and demarcating spice hubs for varieties with specific quality traits, farming systems and value addition	ICAR-IISR; Spices Board; AICRP on Spices Centers; ICAR Research Complex for NEH Region, Nagaland
Create/tie set up with laboratory for testing the produce for quality parameters	ICAR-IISR; Spices Board
Create awareness regarding marketing requirement, quality criteria, post harvest management and value addition through involvement of other governmental and non-governmental agencies	ICAR Research Complex for NEH Region, Nagaland; ICAR-IISR; DoNER
Create platforms of B2B in future in other parts of NER with the support and assistance of NERAMAC, IISR, CFTRI and state functionaries	NERAMAC; ICAR-IISR; CSIR-CFTRI; SASRD; Department of Horticulture, Nagaland
Create organization/whatsapp groups of all state-wise spice stakeholders in NER for real-time dissemination of information, demonstration and idea sharing	NERAMAC; ICAR-IISR; CSIR-CFTRI; SASRD; Department of Horticulture, Nagaland; ICAR Research Complex for NEH Region, Nagaland
Production and distribution of disease-free quality planting material through accredited nurseries	Department of Horticulture of respective NE States; SASRD; DASD

## PARTICIPANTS

S.No	Name	Designation	Address	Contact details
<b>I</b>	<b>CHAIRMAN/CO-CHAIRMAN/LEAD SPEAKERS (40)</b>			
1.	Dr. S.P. Gosh	Former DDG (Horticulture)	ICAR, New Delhi	spghosh100@gmail.com
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16.	Mr Geemon Korah***	CEO	Kancor Ingredients Ltd. Kerala	9847220559
17.	Dr M N Venugopal	Former Head	ICAR-IISR Regional Station, Karnataka	7760389182
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20.	Dr D Prasath	Pr Scientist	ICAR-IISR, Kozhikode, Kerala	9495639838 prasath@spices.res.in
21.	Mr Pratul Kr. Bora	Amalgamated Plantations	Amalgamated Plantations	9495639838
22.	Dr E. V. Divakara Sastry	Prof & Head	Dept. Of Genetics and Plant Breeding, College of Agriculture, CAU, Imphal	9414819002 evdsastry@yahoo.com
23.	Dr Mini Raj	Professor	Dept of Platation Crops & Spices, College of Horticulture, KAU , Vellanikkara, Kerala	9388673785 n.miniraj@kau.in

**Note: \* Also Resource Person - R | \*\*\* Also buyer - B**

24.	Dr (Mrs) Femina	Director	Directorate of Arecanut & Spices Development, Kozhikode, Kerala	0495-2765501 spicedte@nic.in
25.	Dr Santhosh J Eapen	Principal Scientist & Head	Div. of Crop Protection , ICAR-IISR, Kozhikode, Kerala	9447072747
26.	Dr S. K. Sharma	Former Director and Dean	ICAR-CIAH, Bikaner & College of Horticulture CAU, Sikkim	9414012453 sksciah2014@gmail.com
27.	Dr K Kandiannan	Principal Scientist, ICAR-IISR	Kozhikode, Kerala	9446023078 mmnaidu@cftri.res.in
28.	Dr M Murugan	Professor	Cardamom Research Station KAU, Kerala	8277566528
29.	Dr P S Sreekanthan Thampi	Dy. Director	Spices Board, Palarivattam Kochi, Kerala	drpssthampi2000@gmail.com
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31.	Dr V Srinivasan	Pr Scientist	ICAR-IISR, Kerala	9446163644 vsrinivasan@spices.res.in
32.	Dr C K Thankamani	Sr Scientist	ICAR-IISR, Kerala	9495083552
33.	Dr. Anjani Kumar Jha	Pr Scientist and Head	Horticulture, ICAR Complex for NER, Barapani	9402507059
34.	Dr SreeKrishna Bhat	Pr Scientist	ICAR Spices Board Kerala	9434376293 sk9bhat@yahoo.co.in
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36.	Dr C N Biju,	Sr Scientist	ICAR-IISR, Kerala	bijucn123@rediffmail.com
37.	Dr Praveena R **	Scientist	ICAR-IISR, Kerala	9447568555 praveena@spices.res.in
38.	Dr K S Krishnamurthy,	Pr Scientist	IISR, Calicut	9447867121 kskrishnamoorthy@spices.res.in
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40.	Dr Sharon Aravind, *	Scientist	IISR, Calicut	9447029429
41.	Dr. T. John Zachariah	Principle Scientist	ICAR-IISR, Calicut	9446071410 zacjohntj@gmail.com
<b>II. PAPER PRESENTERS (46)</b>				
ORAL (29)				
42.	Dr. Anjani Kumar Jha	Pr Scientist and Head	Horticulture, ICAR Complex for NER, Barapani	9402507059
43.	Dr Shiva Kumar M.S.	Scientist	IISR, Kerala	9449963088 dr@drysru.edu.in
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46.	Dr Chetana R	Sr Tech Officer	CSIR-CFTRI, Mysore, Karnataka	rchetana@yahoo.com
47.	Dr Muhammed Faisal Peeran,	Scientist	IISR, Calicut	8903218148

**Note: \*\* Paper Presenter - PP**

48.	Ms Shivanadhini T	JRF	CSIR-CFTRI, Mysore, Karnataka	9844232439
49.	Mr Siddarth Priyadarshi	SRF	CSIR-CFTRI, Mysore, Karnataka	9844232439
50.	Ms Vedashree Sharma	SRF	CSIR-CFTRI, Mysore, Karnataka	9844232439 vedashreemsharma@gmail.com
51.	Ms Kabita Gurung	Ph D Scholar	Dept of Hort, Sikkim University, Sikkim	gurungnee08@gmail.com
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53.	Mr Uthayakumar K	Researcher	Kerala	8138085953 gemindia2009@gmail.com
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55.	Dr Sentirenla Jamir*	Assistant Professor	B.VOC, Dept. of Horticulture, SASRD, Nagaland University, Medziphema	8787417994 sentiren86@gmail.com
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58.	Dr Anupam Pariari	Prof & Head	Dept of PSMA, BCKV, West Bengal	dranupariari@gmail.com
59.	Dr Om Prakash Aishwath Rajasthan	Pr Scientist	ICAR-NRCSS, Ajmer	9588213100
60.	Dr Ps Mariam Anal	Asst Professor	CHF, CAU, Pasighat, Arunachal Pradesh	mariamlui@yahoo.co.in 9612152885
61.	Dr R Suseela Bhai	Principal Scientist	ICAR-IISR, Kerala	9495611915 rsbhai@rediffmail.com
62.	Dr B R Sharma	Professor	Plant Pathology, Regional Research Station, Hill Zone, UBKV, Kalimpong, Darjeeling	9434429067
63.	Dr C Sarda	Scientist	Hort Research Station, Lam, Dr YSRHU, Guntur, Andhra Pradesh	saradarao.chavali@gmail.com
64.	Ms Priyanka S Chandran	Ph D Scholar	CoH, KAU, Thrissur	priyankajayan91@gmail.com
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**Note: \* University faculty - PP**

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73.	Ms Sangay Gyampo Bhutia	Ph D Scholar	Sikkim University, Sikkim	8159069427
74.	Ms Sukanya Gogoi	Student	AAU, Jorhat Assam	9957698236
75.	Dr Graceli I Yepthomi*	Assistant Professor	B.VOC, Dept. of Horticulture, SASRD, Nagaland University, Medziphema	7005233183 yepthomi13@gmail.com
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78.	Dr Azeze Seyie	Scientist	Horticulture, ICAR Research complex, Jharnapani. Nagaland	7085962272 azezeseyie@nagalanduniversity.ac.in
79.	Dr Sarad Gurung	Associate Professor	Horticulture, Regional Research Station, Hill Zone, UBKV, Kalimpong, Darjeeling	9434429066
80.	Dr Biplab Tudu	Asst Professor	Regional Research Station, Hill Zone, UBKV, Kalimpong, Darjeeling	9932382475
81.	Dr Jitendra H Kadam	Asso. Professor	PG Institute of PHM, Killa Roha, Raigad ,Maharastra	9822449789 jhkadammpkv@gmail.com
82.	Ms R Sivaranjani	Scientist	ICAR-IISR, Kerala	ranjanigop@gmail.co
83.	Dr. Murlidhar	Scientist	NRC Seed Spice, ICAR Ajmer, Rajasthan	
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86.	Dr. S.S. Meena	Scientist	ICAR, NRCSI	9414290047
87.	Mr. Pezangulie Chakrunuo	Ph. D Scholar	Pathology, SASRD, NU	9436074912/8257911030
88.	Dr. Abas V Agalodya	Principal Scientist	Seed Spices Research Station, Jagudan, Gujrat (ISS Fellow awardee)	ava.195@yahoo.com
<b>III.</b>	<b>BUYERS (24)</b>			
89.	Mr. Saurabh Chaudhury	Marketing Manager	Sustainable Agri. Development Pvt. Ltd. New Delhi	9821561860
90.	Mr. Jabaliek Khaund	Project Manager	Sigma Spice Industries Pvt. Ltd. Jorhat	7002050992 sigma.jrt@yahoo.com
91.	Mr Geemon Korah***	CEO	Kancor Ingredients Ltd. Kerala	9847220559
91.	Mr. Nipulal CA	Managing Director	N2N Ingredients Pvt. Ltd Cochin, Kerala	9744009960 nipulal@n2ningredients.com
92.	Mr. Prajyoti Pais	Deputy Manager	Aditi International Mumbai	09819785911/9702209565 prajyoti@aditiessentialoil.com

**Note: \* University faculty - PP**

93.	Mr. Mitesh M Dave	Purchase Head	M/S Nani Agro Food (P) Ltd. Erode	8489880009
94.	Mr. Kevin Parekh	Co-founder	Sattvaponics Solutions Ltd Mumbai	7738096106
95.	Mr. Prasobh B	Manager Purchase	Eastern Condiments Kochi	8589992832
96.	Mr. Mathew George	Manager Commodity	Harris Freeman Asia Ltd. Kochi	9633563515 mathew.george@harrisfree- manasia.com
97.	Mr. Koushik Das	Manager Purchase	Harris Freeman Asia Ltd. Kolkata	9830912290
98.	Mr. Arup Jyoti Borgohain*	Sr. Manager	Tata Amalgamated Tea Pvt. Ltd. Guwahati	9435063200
99.	Mr. Pratul Kumar Bora	Head	Agri. Business ,Tata Amalgamated Tea Pvt. Ltd. Guwahati	9635452666
100.	Mr. Omen Philip	General Manager	NED Spices Kochi, Kerala	9847037801
101.	Ranjit Singhvi	CEO	AgriTech Services, Dimapur	9402830072
102.	Kunal Mazumder		AgriTech Services, Dimapur	9436003478
103.	Manjit Goswami	Asst. Manager	Marketing, NERAMAC, Guwahati	9957237133 neramacong@gmail.com
104.	Luyang	Asst. Manager	Marketing, NERAMAC, Nagaland	8974744876 neramac.nagaland@gmail.com
105.	Manoj Kumar		NH17Agribiosolutions	9742325266
106.	S. Bhattacharya*	Executive Director	NERAMAC, Guwahati	9952341427 9706098131
107.	Akokla P. Lucy*	Entrepreneur	BFABDC Ltd., Dimapur	9774041260
108.	Saurabh Yadav	Market Yard Sangli	Pune, Maharashtra	8407936512
109.	Saubhaji Jadhav	Market Yard Sangli	Pune, Maharashtra	9923959595
110.	Ashish Korde	Co-founder	Sattvaponics Solutions Ltd Mumbai	9930044435 contactus@sattvaponics. com
111.	Mr. Debraj Roy	Sr. Officer	Geo-chem laboratories Pvt Ltd. Kolkata, India	09163330072 debraj.r@geochem.net.in
<b>IV. SUPPLIERS (27)</b>				
112.	Mr. Bicky	Sunrise Enterprises	Sunrise Enterprises, Dimapur	8259841803
113.	L. Huloto Ayemi	ATMA, Zunheboto	ATMA, Zunheboto	9436423475
114.	Kakuto Assumi	ATMA, Zunheboto	ATMA, Zunheboto	9862577181
115.	Chozukhwu	FPO, Dimapur	FPO, Dimapur	9436204503
116.	Topong	ECS, NEIDA	NEIDA, Tuensang	9862622234
117.	Ellies Yanthan	ECS, NEIDA	NEIDA, Tuensang	9615971650
118.	Amarjit Khuman	FFPCL	Imphal	7005057881
119.	Techamo Ovung**		Wokha	9862823150
120.	Lipokjungla Ozukum	iLando, Dimapur	iLando, Dimapur	8731825095
121.	N. Sipong Chang	Tuensang	Tuensang	9005787414
122.	Benjong Chuba	Tuensang	Tuensang	8787864427
123.	Chikhasale Thingo	Entrepreneurs Associates (EANFER)	Entrepreneurs Associates (EANFER), Kohima	7005438835

**Note: \* University faculty - PP**

124.	Ipungba Cerai	Peren	Peren	9402862473
125.	Maranlubo Rentta	Tening	Tening	9402285643
126.	Zhazo Zuyie	Green Caravan	Green Caravan	9862563878
127.	Visier Vimera	Entrepreneur	Horticulture, Kohima	8118924724 greeninnovation16@gmail.com
128.	Kethoselie Zhale	Entrepreneur	Dimapur	8731877662
129.	Tito Zhimomi	Entrepreneur	Dimapur	8837285735
130.	Abea Mero	Entrepreneur	Naga Spices Herbal	8974642622
131.	Akokra Lucy	Entrepreneur	BFABDC Ltd., Dimapur	9774041260
132.	M. Shonka Konyak	Entrepreneur	Tangnyu, Mon	9862154671
133.	Yokjon Konyak	Entrepreneur	Tangnyu, Mon	8414918216
134.	Jefferson Shadap*		Ri-Bhoi, Meghalaya	7005644704
135.	Dynsakhlatmi Ikhari		West Jaintia Hills, Meghalaya	9612937295
136.	Abokali Zhimomi	Entrepreneur	Dimapur	8974660473 abokali_sumi@gmail.com
137.	S. Bhattacharya	Executive Director	NERAMAC, Guwahati	9952341427/9706098131 edfmd.neramac@gmail.com
138.	Mr. Pratul Kumar Bora	Head	Agri. Business, Tata Amalgamated Tea Pvt. Ltd. Guwahati	9635452666
<b>V.</b>	<b>EXHIBITORS (23)</b>			
	<b>Nagaland</b>			
139.	Chozukhwu Nyekha	Bade Area Agri. & Allied FCS (Ltd)	Bade Village	9436204503
140.	Thenüsayi	Bade Area Agri. & Allied FCS (Ltd)	Bade Village	9436204503
141.	Kakuto Assumi		Litami, Zunheboto	9862577181
142.	Vemhelo Nuh	Kaponmi Multipurpose Society	Phek	8415073323
143.	Techamo Ovung	Spice producer society	Wokha	9862823150
144.	Athungo Tsanglao	Spice producer society	Wokha	8974571914
145.	Ipungbe Cerai	Organic Spice Grower	Peren	9402862473
146.	Lanuakum Imchen	Entrepreneur	Cold Mountain, Dimapur	8257993204
147.	Roasenla	Entrepreneur	Cold Mountain, Dimapur	9774992918
148.	Aviboli Zhimomi**	AICRP on Spices Nagaland Centre	Medziphema	7005637575
149.	Students	Experiential Learning	SASRD, Medziphema	7005740625
150.	Dr. Patra	DTDDF (Dept. of Atomic Energy Technology Dissemination and Display Facility)	SASRD, NU	9436606311
151.	Er. Puten Kapfo	Pristine Food	Dimapur	8119892442 8575585509
152.	Supongtula Aier	Entrepreneur	Zonee Food Product, Dimapur	7005805690
153.	Jonsumo*	Farmer	Wokha	8974151768

**Note: \* Supplier - S | \*\* Exhibitor - E**

154.	Imtisunep Longchar	Ilando services private limited	Dimapur	8731887980
155.	Lipok	Ilando services private limited	Dimapur	8731887980
<b>Meghalaya (2)</b>				
156.	R.K. Sangma	Entrepreneur (Ginger, Black pepper)	Meghalaya	9402133599
157.	N.B. Marak	Entrepreneur (Ginger, Black pepper)	Meghalaya	9402562692
<b>Sikkim (2)</b>				
158.	Dilip bhandari	Apex Growers Association	Sikkim	9733840048 7407351977
159.	Laxmi PD Bista	Apex Growers Association	Sikkim	9733397481
<b>Bangalore (2)</b>				
160	Manoj	H17 AGRI BIOSOLUTIONS	Bengaluru	
161.	Srinivasulu		Bengaluru	9742325266
<b>VI.</b>	<b>GROWERS/ FARMERS (138)</b>			
<b>A.</b>	<b>Meghalaya (4)</b>			
162.	Pynsakhiaat- Dakhar	W. Jaintia Hill District	Meghalaya	9612937295
163.	Rihokmeki Rabon	W. Jaintia Hill District	Meghalaya	8794102313
164.	Jacob D Sangma	Ri-Bhoi	Meghalaya	9774898845
165.	Jefferson Shadap	Ri-Bhoi	Meghalaya	7005644704
<b>B.</b>	<b>Manipur (6)</b>			
166.	Ahangshantam Marjit Khuman		Manipur	89744993390/ 7005057881
167.	Singh H. Tombi M.		Manipur	7630987353
168.	Irengbam Saratehandra		Manipur	9862183512
169.	Ningthoijam Rajesh Singh		Manipur	8413892931
170.	Sanaram Sanaton Singh		Manipur	8787421995
171.	Nongmaithem Joy Singh		Manipur	8974960673
<b>C.</b>	<b>Sikkim</b>			
172.	L.P. Bista		Sikkim	
173.	D.R. Lepcha		Sikkim	
174.	P.T. Bhutia		Sikkim	
<b>D.</b>	<b>Nagaland I. Horticulture Department (27)</b>			
175.	Vikato		Zunheboto	8794530360
176.	Hetoi Yeptho		Zunheboto	8131926306
177.	Husukha Chishi		Zunheboto	8132831404
178.	Imnaukshi Phom		Longleng	8729810087
179.	Chingau Phom		Longleng	8974535371
180.	Shangyang Phom		Longleng	9862767002

**Note: \* Grower/farmer - F | \*\* University faculty & Scholar - UFS**

181.	Nlungtsu Tsopoe		Wokha	9957431659
182.	Yikhyao Lotha		Wokha	9774774261
183.	Shoyhunlo Khing		Kohima	8837333622
184.	Krukiebi		Kohima	9402779066
185.	Hulie Mor		Kohima	9612319210
186.	Keyinsalungbe		Peren	8413959397
187.	Keyisaubeu		Peren	9871044892
188.	Thsithrise Sangtam		Kiphire	9612365575
189.	Chothrongli		Kiphire	8974574801
190.	Kisere		Kiphire	9876289388
191.	Yollov		Mon	8732092614
192.	Tingving		Mon	8729802037
193.	S. Jaonyei		Mon	9612873652
194.	Pukhoyi Rhakho		Phek	9402826999
195.	Tsonülhü Shijo		Phek	8787384798
196.	Vetsolhu Keyho		Phek	9612235283
197.	M. Ngkau		Tuensang	8730840271
198.	Imlong		Tuensang	8732817047
199.	Yanchu		Tuensang	7085585852
200.	Yarba Longkhum		Mokokchung	8413079736
201.	Mayangnaro		Mokokchung	
	<b>ii. Neida (16)</b>			
202.	Zaposeyi		Phek	9436810674
203.	Lhouseve		Phek	9077209111
204.	Dunie		Phek	9862643883
205.	Zaseta		Phek	9383151072
206.	Kedutsolu		Phek	
207.	Khumkiumong			9612474936
208.	Tsuyimla			7628852658
209.	Lato			9862467356
210.	Lakheam			8731050960
211.	M. Thrunso			9612294778
212.	Yentin		Tuensang	8729929718
213.	Kamba		Tuensang	9862438205
214.	Nokying		Tuensang	7085064789
215.	Ako		Tuensang	8974680319
216.	Topong Nyakba		Tuensang	9862622234
	<b>iii. Rural Development (41)</b>			
217.	Tongmeth		Pongkong, Mon	8974988323
218.	Chigom		Hongphoi, Mon	9862351190
219.	Neva		Chemoho, Mon	9612777542

*Note: \* Agri Dept. farmer - A*

220.	Chungyao		Vangti, Mon	9612433390
221.	Khodao Ranthand		Lyanthung Wokha	9612995874
222.	Zuben Kikon		Koio Wokha	9774250767
223.	Chuba Chang		Waoshu, Tuensang	9862290026
224.	Hangbin S. Chang		Waoshu ,Tuensang	7005575442
225.	Longyangchuba		Ngangpong ,Tuensang	8974123871
226.	S. Imlong		Bhumpak ,Tuensang	9862627431
227.	Athrunnu		Kiphire	9612564761
228.	Litsai		Kiphire	9862630158
229.	Sethrichum		Kiphire	7005907336
230.	A. Asangba		Kiphire	8729978327
231.	Shetsolen		Kiphire	9612569387
232.	Dr. Imti		Mokokchung	9436603923
233.	Matsung Jamir		Ungma, Mokokchung	8731918415
234.	Imchamongba		Longkum , Mokokchung	8974987837
235.	Chungshimeren		Longkum, Mokokchung	8731821419
236.	Nokenmatong		Changtongya, Mokokchung	9612046970
237.	Limaenla		Lydia, Dimapur	9612350732
238.	Shilukala		Lydia, Dimapur	9862855550
239.	Viruleno		Rhietho, Dimapur	8415889845
240.	Visetono		Thino,Dimapur	961268813
241.	Sentinaro Imchen		Huthu, Dimapur	9862197262
242.	Kewete/ mero		Lekromi, Phek	9862286657
243.	Vevochi		Upper Khomi, Phek	8414888044
244.	Jonlet		Kanjan, Phek	9862571790
245.	Senutso Dozo		Thuvopisu, Phek	9402716436
246.	Bokavi Chophy		Zunheboto	9862252558
247.	Kisheto Kiho		Zunheboto	8414816762
248.	Khekivi		Zunheboto	8837427256
249.	Atoshe Shohe		Zunheboto	8729992612
250.	Yehozhe Kibami		Zunheboto	9862678713
251.	Zevikhono		ONG SHG, Kohima	7630877514
252.	Viphrele		Zianuokro SHG, Kohima	9383308682
253.	Vikhieno Zecho		Thenukezhie Krotho, Kohima	8118976721
254.	Suohienuo		Tele-o SHG, Kohima	8119891287
255.	Diethosanuo		Tele-o SHG, Kohima	9612637855
256.	Ngamba		Namhaching, Longleng	7005287764
257.	Tenngoi		Namhaching, Longleng	9862410422
	iv. AGRICULTURE DEPT (20)			
258.	Vedechu Hoshi		Phek	9612923192
259.	Hukuto keyho		Phek	8837259960
260.	Kevesa-i		Dimapur	8787542872
261.	Sano Sachu		Dimapur	9077356947
262.	Motsuthung		Wokha	8730019623

263.	Jonsumo		Wokha	8974151768
264.	Medemyanba		Mokokchung	9612300237
265.	Shurhotuonuo		Kohima	908958083
266.	Dierhevi-u		Kohima	9436800256
267.	Kahuto		Zunheboto	8974861701
268.	Atohuka		Zunheboto	9862210331
269.	Jurinhe		Kiphrie	9862811174
270.	Tsitingse		Kiphrie	8730953096
271.	Moshayanu		Tuengsang	9612860698
272.	Ayen		Tuengsang	9612475431
273.	Dinbui		Peren	9862854097
274.	Kiepeu		Peren	9402215243
275.	Puile		Mon	9612449436
276.	Leipa		Mon	7085119201
277.	Badan Phom		Longleng	8974106070
278.	Longthai		Longleng	9612197986
	<b>V. Women Resource Development, (5)</b>			
279.	Jemimah		Peren	9436803279 jemithou@gmail.com
280.	Ibambe		Peren	8413956823
281.	Puni		Peren	961220789
282.	Talam		Peren	8974632218
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287.	Akavi		Zunheboto	8974201314
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289.	Hopise Sangtam		Hort, Kiphire	9862515965
290.	Apongba Sangtam		Hort, Kiphire	9862206338
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<b>Hall Arrangement Committee</b>			
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Mr. Khetoho	Fieldman (AICRP), SASRD, NU	Member	9856264016
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Ms. Nuksungla Walling	Guest faculty (B.Voc.), SASRD	Member	8787644674
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Dr. C.S. Maiti	Assoc. Prof. (Hort.), SASRD, NU	Member	9436015716
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Dr. C.S. Maiti	Assoc. Prof. (Hort.), SASRD, NU	Member	9436015716
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Mr. Luyang	NERAMAC	Co-Convener	8974744876
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Dr. C M Senthilkumar	Sr. Scientist, ICAR-IISR	Member	9496168555
Dr. C N Biju	Scientist, ICAR-IISR	Member	9446085229
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Ms. Aviboli Zhimomi	Ph.D scholar (Hort.), SASRD, NU	Member	7005637575
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Mr. Alam	Fin. Sec., SASRD	Member	9856731530
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Mr. Kediri N. Zeliang	President, SU:SASRD	Co-Convener	7629845858
Mr. Andrew Lalthawmliana	Ph.D scholar (Hort.), SASRD, NU	Member	9436726979
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Mr. Kavi Sumi	Scientist (Pl. Path), SASRD, NU	Member	9774807625
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Mr. Tinuyangba	General Secretary, SUSASRD	Co-Convener	7005615226
<b>Post Symposium Tour</b>			
Dr. Sentirenla Jamir	Asst. Prof. (B.Voc.), SASRD, NU	Convener	8787417994
Mr. Aoimrong	HO (Hort.), GoN	Co-Convener	9856121289
Dr. Imtiwalling	Guest Lecturer (Agrl. Eco.)	Member	7005033794

## VOLUNTEERS FOR SYMSAC IX

### RECEPTION COMMITTEE

Sl.no.	Name	Department	Contact No.
1.	<b>Ms.Jungshienla (I/C)</b>	<b>M.Sc. Horticulture</b>	<b>8974667539</b>
2.	Ms.Saloza Bertila	M.Sc. Horticulture	8732888355
3.	Mr.Theja	M.Sc. Extension	7085108171
4.	Mr.Lanutoba	M.Sc. Entomology	8787853664

### PROGRAMME AND TECHNICAL/ HALL ARRANGEMENT

1	<b>Mr. Sebastian (I/C)</b>	<b>Ph.D Horticulture</b>	<b>9862514360</b>
2	<b>Mr.purkumzuk Ao (I/C)</b>	<b>M.Sc. Horticulture</b>	<b>9436662941</b>
3	Mr.Andrew Lalthlamuana	M.Sc. Economics	8413893879
4	Mr.Anguka K.Achumi	M.Sc. Soil Science	7005601507
5	Mr.Imnatemjen Aier	M.Sc. Agronomy	7005342786
6	Mr.Tsudilong Tzudir	M.Sc. Entomology	8259074202
7	Mr.W.Shangkook Konyak	M.Sc. Entomology	8974328432
8	Ms.Kerimenla	Ph.D Horticulture	8413078939
9	Ms.Vivili J.	M.Sc. Horticulture	8119057002
10	Ms.Nyenthulen Rengma	M.Sc. Horticulture	8974423276
11	Mr.Limasungkum	B.Voc.	9856587852
12	Mr.Chewe	B.Voc.	8974684102
13	Mr.Shingya	B.Voc.	7005482512
14	Mr.Bendang	B.Voc.	8415828568
15	Mr.Kidong	B.Voc.	8974394537
16	Mr.Mewe	B.Voc.	9089697311
17	Mr.Vibito	B.Voc.	8119971347
18	Mr.Imtisanen	B.Voc.	7085470774
19	Ms.Longsula	B.Voc.	7085672468
20	Ms.Azino	B.Voc.	7630914360

### REGISTRATION COMMITTEE/ BUSINESS MEET COMMITTEE

1	<b>Ms.Sezotalu (I/C)</b>	<b>M.Sc. Horticulture</b>	<b>7236028755</b>
2	Ms.Temjenienla	M.Sc. Horticulture	7628083799
3	Ms.Alemmongla	M.Sc. Horticulture	9161802847
4	Mr.Haizeuchibe	M.Sc. Horticulture	8575928938
5	Mr.Akaito	M.Sc. Horticulture	9414954102
6	Mr.Moses G. Momin	M.Sc. Horticulture	9774468035

### PRESENTATION COMMITTEE

1	<b>MS.SENTINARO WALLING (I/C)</b>	<b>Ph.D HORTICULTURE</b>	<b>7642905258</b>
2	Ms.Kihikali Yephthomi	M.Sc. Horticulture	7085575950
3	Ms.Nungshitula Longkumtsur	M.Sc. Horticulture	9536272154
4	Ms.Imlibenla Imsong	M.Sc. Horticulture	8732892776
5	Ms.Phairohlui	M.Sc. Horticulture	9612861192

**EXHIBITION CUM FARMER'S INTERACTION COMMITTEE**

1	<b>Ms. Virosanuo Solo (I/c)</b>	<b>M.sc. Agronomy</b>	<b>8837287667</b>
2	Ms. Chumie	Ph.D Horticulture	8974372351
3	Ms. Pavitra	M.Sc. Horticulture	8787757228
4	Ms. Miter Game	M.Sc. Horticulture	7060911841
5	Ms. Lepong Konyak	M.Sc. Horticulture	8415007433
6	Mr. Donovan Kharbuli	M.Sc. Genetics	8258956472
7	Mr. Mughavi	M.Sc. Agronomy	7085283625
8	Mr. Wochamo L. Tsanglao	B.Sc. 4 <sup>th</sup> Year	7005326145
9	Ms. Welo Sarah	B.Voc.	8132919159
10	Ms. Veratsolu	B.Voc.	8132898092
11	Ms. Aroro	B.Voc.	7628855512

**FOOD AND RERESHMENT COMMITTEE**

1	<b>Mr. Ashwini Ananda (I/C)</b>	<b>Ph.d Horticulture</b>	<b>8638309725 9435515041</b>
2	Mr. Kojenbam Ramit Singh	Ph.D Horticulture	8787799756/ 9918813193
3	Mr. Shangpong Konyak	Ph.D Horticulture	7005593488
4	Ms. Azhanuo	M.Sc. Extension	8729914684
5	Ms. Tiaienla	M.Sc. Economics	7627948511
6	Ms. Atsolie	B.Voc.	9774934789
7	Ms. Livi	B.Voc.	9862718332
8	Ms. Ketholeno	B.Voc.	7085841101

**PUBLICITY COMMITTEE**

1	<b>Mr. Benjontoshi Imchen (I/C)</b>	<b>Ph.d Extension</b>	<b>9774622145</b>
2	Mr.Lungsa Phom	M.Sc. Economics	8415823604
3	Mr.Vanlalzarzoliana	M.Sc. Extension	8794748831
4	Mr. Mhao T. Kikon	M.Sc. RDP	9149047526
5	Mr. Shuduve Chuzho	M.Sc. PLP	9862679349
6	Mr. Imsuakum Pongener	M.Sc. Economics	8979332344
7	Mr. Seroba Sangtam	B.Sc. 4 <sup>th</sup> Year	8787882847

**TRANSPORTATION AND ACCOMMODATION COMMITTEE**

<b>1</b>	<b>Mr. Imliakum</b>	<b>Ph.D Horticulture</b>	<b>8415991497</b>
2	Mr.Jonah Dakho	Ph.D Horticulture	7005470496
3	Mr. Johnson	Ph.D Horticulture	7005916845
4	Mr. Temjenukshi	B.Voc 3 <sup>rd</sup> Year	9615262487
5	Mr. Temsu	B.Voc 3 <sup>rd</sup> Year	8730817275
6	Mr. Lawrence	B.Voc 3 <sup>rd</sup> Year	8256919358
7	Mr. Kelevi	B.Voc 3 <sup>rd</sup> Year	7421912869
8	Mr. Bikash	B.Voc 3 <sup>rd</sup> Year	8014003196
9	Mr. Thejanito	B.Voc 3 <sup>rd</sup> Year	8730942366
10	Mr. Viketosie	B.VOC 3 <sup>RD</sup> YEAR	8413995206

**CONVENOR - NUKSUNGLA WALLING 8787644674 CO-CONVENOR - TINUYANGBA 7005615226**

# Photo Gallery

## INAUGURAL Session



PROF. AKALI SEMA (CONVENOR, SYMSAC-IX)  
AS CHAIRPERSON



PROF. T. LANUSOSANG, PRO VICE CHANCELLOR SASRD, NU  
GIVING A WELCOME ADDRESS



INVOCATION prayer BY REV. ZHABU TERHUJA PASTOR



OPENING OF SYMSAC-IX (LAMP LIGHTING)



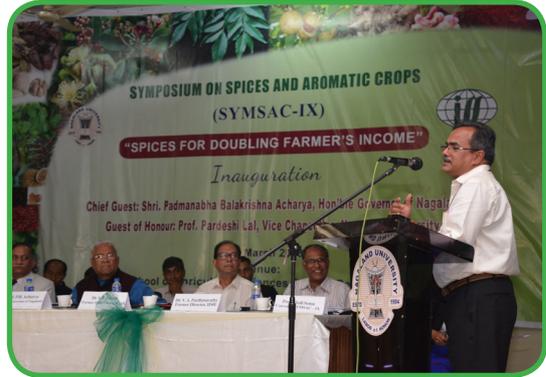
ORGANISING SECRETARY SYMSAC-IX, DR. C.S. MAITI HIGHLIGHTING  
ABOUT THE SYMPOSIUM



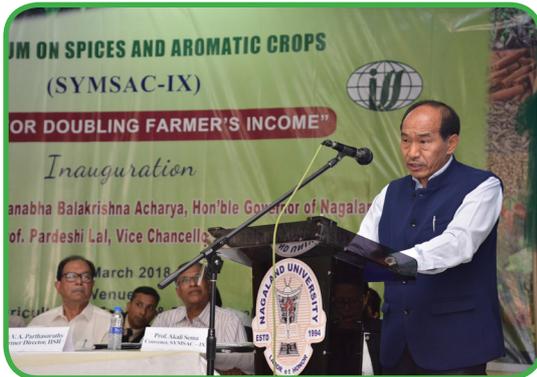
KEYNOTE SPEAKER DR. S.P. GHOSH FORMER DDG (HORT.), ICAR



DR. V.A. PARTHASARATHY, FORMER DIRECTOR ICAR-IISR GIVING A BRIEF REMARK



DR. NIRMAL BABU, DIRECTOR, ICAR-IISR GIVING A BRIEF REMARK



ADDITIONAL DIRECTOR OF AGRICULTURE, GON. GIVING A BRIEF REMARK



DEPUTY DIRECTOR OF HORTICULTURE, GON, GIVING A BRIEF REMARK



PROF. V.B. SINGH, PRESIDENT, HSNEI, GIVING A BRIEF REMARK



GUEST OF HONOUR PROF. PARDESHI LAL, VICE CHANCELLOR, NAGALAND UNIVERSITY



RELEASING OF SOUVENIR SYMSAC-IX



CHIEF GUEST SHRI. P.B. ACHARYA, HON'BLE GOVERNOR OF NAGALAND, GIVING INAUGURAL ADDRESS



CO-CONVENOR SYMSAC-IX, DR. D. PRASATH ANNOUNCING THE AWARDEES



AWARD PRESENTATION



Special number by EU members



ORGANISING SECRETARY SYMSAC-IX, DR. PAULINE ALILA, GIVING VOTE OF THANKS

# EXHIBITION HALL



EXHIBITION HALL, SYMSAC-IX



CHIEF GUEST, Shri P.B. ACHARYA HON'BLE GOVERNOR OF NAGALAND INAUGURATING THE EXHIBITION HALL



EXHIBITORS AND THEIR PRODUCTS



HON'BLE GOVERNOR OF NAGALAND EXAMINING THE EXHIBITS



HON'BLE GOVERNOR OF NAGALAND INTERACTING WITH THE EXHIBITORS



HON'BLE GOVERNOR OF NAGALAND TASTING MANGO GINGER

## TECHNICAL SESSIONS



CHAIRMAN AND CO-CHAIRMAN OF TECHNICAL SESSION I



RAPPORTEUR OF TECHNICAL SESSION I



PAPER PRESENTER OF TECHNICAL SESSION I



CHAIRMAN AND CO-CHAIRMAN OF TECHNICAL SESSION II AND III



RAPPORTEUR OF TECHNICAL SESSION II AND III



ORAL PRESENTER, TECHNICAL SESSION II



CHAIRMAN AND CO-CHAIRMAN OF TECHNICAL SESSION IV



RAPPOREUR OF TECHNICAL SESSION IV



ORAL PRESENTER, TECHNICAL SESSION IV



CHAIRMAN AND CO-CHAIRMAN OF TECHNICAL SESSION V



RAPPOREUR OF TECHNICAL SESSION V



ORAL PRESENTER, TECHNICAL SESSION V



CHAIRMAN AND CO-CHAIRMAN OF TECHNICAL SESSION VI



RAPPORTEUR OF TECHNICAL SESSION VI

## POSTER SESSION



PRESENTER IN TECHNICAL SESSION VI



POSTER PRESENTATION SYMSAC-IX



INTERACTION BETWEEN POSTER PRESENTER AND DELEGATES



INTERACTION BETWEEN POSTER PRESENTER AND EVALUATORS

## FARMERS INTERACTION



FARMERS' INTERACTIVE SESSION



SUBJECT EXPERT INTERACTING WITH FARMERS



SUBJECT EXPERT INTERACTING WITH FARMER



SUBJECT EXPERT REPLYING TO FARMERS QUERY

## SPECIAL MEETING OF BUYERS/SUPPLIER WITH APEDA



MEETING WITH APEDA



DR. A.K. YADAV, ADVISER (NAB), APEDA, GOI, NEW DELHI

# BUSINESS MEET



PROF. AKALI SEMA INTRODUCING THE BUYERS



BUYERS MAKING PRESENTATION



INTERACTION OF BUYERS AND SUPPLIERS



DISCUSSION BETWEEN BUYERS AND SUPPLIERS



DISCUSSION BETWEEN A BUYER AND SUPPLIER



Discussion time for buyers and sellers

# INTERACTIVE SESSION OF BUYERS, SELLERS AND GROWERS



Prof. Akali Sema facilitating the program



CHAIRMAN, CO-CHAIRMAN & RAPPOREUR OF BUYERS AND SELLERS MEET



BUYER INTERACTING WITH THE SELLERS



NAGA LADY ENTREPRENEUR ENCOURAGING THE FARMERS



SUPPLIER INTERACTING WITH BUYERS AND GROWERS.



A GROWER INTERACTING WITH THE SUPPLIERS AND BUYERS

## FOOD COURT



PARTICIPANTS ENJOYING MEALS

## CULTURAL NIGHT



STUDENTS PERFORMING A DANCE



STUDENT PERFORMING A CLASSICAL DANCE



STUDENT PERFORMING AN ARUNACHAL DANCE



STUDENTS PERFORMING MIZO BAMBOO DANCE

VIBRANT TRADITIONAL COSTUME OF NAGALAND (STUDENTS OF SASRD)



PERFORMANCE BY LOCAL CULTURAL TROUPE



GROUP PICTURE: DELEGATES AND THE STUDENT PERFORMERS

# VALEDICTORY



CHAIRPERSON DR. NIRMAL BABU, DIRECTOR, ICAR-IISR



CHAIRPERSON DR. M. ANANDARAJ, FORMER DIRECTOR, ICAR-IISR



PROF. A.K. MAKAR, DEAN SASRD, NU GIVING A WELCOME ADDRESS



PRO VICE CHANCELLOR (i/c) PROF. ALEMNILA AO GIVING A BRIEF REMARK



FEEDBACK FROM Mr. Niputal (BUYER)



FEEDBACK FROM EXHIBITOR



FEEDBACK FROM SPICE GROWER



SUPPLIER GIVING FEEDBACK



FEEDBACK FROM SCIENTIST



FEEDBACK FROM SCIENTIST



FEEDBACK FROM STUDENT



CO-CONVENOR SYMSAC-IX, DR. D. PRASATH  
ANNOUNCING THE AWARDEES



**AWARD PRESENTATION**



**PROF. AKALI SEMA, CONVENOR PRESENTING REPORT ABOUT SYMSAC-IX**



**CHIEF GUEST DR. A.K. YADAV, ADVISER (NAB), APEDA, GOI, NEW DELHI GIVING VALEDICTORY ADDRESS**



**Dr. C. S. MAITI ORGANISING SECRETARY GIVING VOTE OF THANKS**



**Dr. C. N. BIJU, CO-ORGANIZING SECRETARY GIVING VOTE OF THANKS**



**CLOSING OF SYMSAC-IX**

SYMSAC-IX on spices for doubling farmer's income concludes

Staff Reporter DIMAPUR, MAR 17 (NPN): Three-day national symposium on Spices Medicinal and Aromatic Crops (SYMSAC-IX) on "spices for doubling farmer's income" concluded on Saturday at School of Agricultural Sciences and Rural Development (SASRD), Nagaland University Mediphema.



Chief guest, Dr. A.K. Yadav, addressing the valedictory programme at SASRD, NU, (NPN)

The symposium was attended by buyers, exhibitors, suppliers, growers, north-east region and other states of the country. Addressing the participants at the valedictory programme as chief guest, government of India, APEDA, Delhi, Dr. A.K. Yadav, highlighted the need to focus on production of spices in north eastern region...

Staff Reporter DIMAPUR, MAR 15 (NPN): Governor of Nagaland, Padmanabha Lakshmana Acharya, highlighted the need to address the plight of farmers and exhibitors in farmers category was bagged by L. Hoi...



Governor P.B. Acharya lights a lamp signifying the start of SYMSAC-IX on Thursday at SASRD

He said the government should not only focus on educating the students but also skill the students especially as there were presently many "highly educated people" who remained unemployed.

No certification facility for seeds in Nagaland

Staff Reporter DIMAPUR, March 17 (NPN): A three-day symposium on Spices Medicinal and Aromatic Crops (SYMSAC-IX) on "spices for doubling farmer's income" concluded at School of Agricultural Sciences and Rural Development (SASRD) in Dimapur district on March 17.



Nagaland Governor, P.B. Acharya, speaking during the inaugural programme of SYMSAC-IX at SASRD, Mediphema on Thursday.

Addressing the participants at the valedictory programme as chief guest, government of India, APEDA, Delhi, Dr. A.K. Yadav, highlighted the need to focus on production of spices in north eastern region...

He encouraged the system. Wake up now and come out of your shell. You should build a society and not only focus on researches which will be kept in storage, said Acharya.

He expressed hope that all the participants would contribute in and liberate on issues concerning spices production and fulfil the dream of Prime Minister Narendra Modi to initiate a second green revolution from north eastern India by 2020.

Be result oriented' urges Gov of Nagaland

Staff Reporter DIMAPUR, March 17 (NPN): Nagaland Governor, P.B. Acharya, urged the participants to be result oriented during the inaugural programme of SYMSAC-IX at SASRD, Mediphema on Thursday.



Nagaland Governor, P.B. Acharya lighting the lamp as other dignitaries look on during the inaugural programme of SYMSAC-IX at SASRD, Mediphema on Thursday.

He encouraged the system. Wake up now and come out of your shell. You should build a society and not only focus on researches which will be kept in storage, said Acharya.

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Focus on linkage and quality: SYMSAC

Staff Reporter DIMAPUR, March 17 (NPN): Marketing linkage and quality were the focus of the three-day symposium on Spices Medicinal and Aromatic Crops (SYMSAC-IX) on "spices for doubling farmer's income" concluded at School of Agricultural Sciences and Rural Development (SASRD) in Dimapur district on March 17.



Dr. A.K. Yadav, Adviser (NAB) APEDA, Gov. New Delhi presenting certificate to one of the awardees at SASRD, Mediphema on Saturday.

Marketing linkage and quality were the focus of the three-day symposium on Spices Medicinal and Aromatic Crops (SYMSAC-IX) on "spices for doubling farmer's income" concluded at School of Agricultural Sciences and Rural Development (SASRD) in Dimapur district on March 17.

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Gov. for result-oriented sympos

Staff Reporter DIMAPUR, MAR 17 (NPN): Governor of Nagaland, Padmanabha Lakshmana Acharya, highlighted the need to address the plight of farmers and exhibitors in farmers category was bagged by L. Hoi...

He encouraged the system. Wake up now and come out of your shell. You should build a society and not only focus on researches which will be kept in storage, said Acharya.

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# *Acknowledgments*

The organizers would like to convey sincere gratitude to all those who in one or the other way contributed towards the grand success of the event

- All collaborating organizations for their full support and cooperation
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