TAMIL NADU AGRICULTURAL UNIVERSITY
COIMBATORE
&
INDIAN SOCIETY FOR SPICES
KOZHIKODE

Cordially invites you to the
National Symposium on Spices and Aromatic Crops
(SYM SAC-VIII)
Towards 2050 - Strategies for Sustainable Spices Production

Inaugural Function

Dr. N.K. Krishna Kumar
Deputy Director General (Hort. Science), ICAR, New Delhi
will be the guest of honour

Dr. K. Ramasamy
Vice-Chancellor, TNAU, Coimbatore
will preside over the function

Dr. K. Nirmal Babu
President, ISS, Kozhikode
will welcome the gathering

Dr. J. Suresh
Professor and Head & Organizing Secretary
will propose vote of thanks

Date: 16.12.2015
Time: 2.30 pm

Venue: Anna Auditorium
Tamil Nadu Agricultural University
Coimbatore

Programme

Date: 16.12.2015
Time: 2.30 pm

Lighting of Kuthu Vilakk

Invocation

Welcome Address

President Address

Inaugural Address

Key Note Address

Felicitation

Distribution of Fellowships/Awards

Vote of Thanks

Inauguration of Exhibition

Dr. K. Nirmal Babu

Dr. J. Suresh

Dr. D. Prasath

Tamil Nadu Agricultural University
Coimbatore

&
Indian Society for Spices
Kozhikode

NATIONAL SYMPOSIUM ON SPICES AND AROMATIC CROPS
(SYMSAC-VIII) 2015

INAUGURAL FUNCTION

INVITATION

Venue: Anna Auditorium
Tamil Nadu Agricultural University
Coimbatore

Dr. N.K. Krishna Kumar
Deputy Director General (Hort. Science), ICAR, New Delhi

Dr. K. Ramasamy
Vice-Chancellor, TNAU, Coimbatore

Dr. N.K. Krishna Kumar
President, ISS, Kozhikode, ICAR, New Delhi

Prof. R.R. Hanchinal
Chairman, FIP & FMD, New Delhi

Sr. L. Sathiresan, IAS
Director (Horticulture and Plantation Crops), Chennai

Dr. V.A. Parthasarathy
Director, ICAR-ISR, Kozhikode

Dr. M. Anandaraj
Director, ICAR-ISR, Kozhikode

Dr. S. Mariappan
Director, ICAR-ISR, Kozhikode

Dr. Balraj Singh
Director, ICAR-WICS, Ajmer, Rajasthan

Dr. Jitendra Kumar
Director, ICAR-GMPR, Anand, Gujarat

Dr. Honeypreet Cheryan
Director, ISECS, Lucknow

1) Sugandha Bharathi Award
2) 15 Fellows
3) Sugandha Shree Award
4) Dr. V.S. Korukanthaw Award for the best Ph.D. Thesis
5) Smt. Vijaya V. Korukanthaw Award for the best M. Sc. Thesis
6) Dr. J.S. Puthi Award of Honour

Dr. J. Suresh
Professor and Head, Dept. of Spices and Plantation Crops, ICAR-ISR, Kozhikode

Dr. D. Prasath
Co-Organising Secretary, ISS, Kozhikode

Dr. N.K. Krishna Kumar
Director, ICAR-ISR, Kozhikode

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Professor and Head, Dept. of Spices and Plantation Crops, ICAR-ISR, Kozhikode

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KOZHIKODE

NATIONAL
SYMPOSIUM ON SPICES AND AROMATIC CROPS
(SYMSAC-VIII) 2015

16 - 18 December 2015

PROGRAMME

Venue : Anna Auditorium
Tamil Nadu Agricultural University
Coimbatore
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&

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Dr. J. Suresh
Professor and Head (DSPC) & Organizing Secretary,
HC&RI, Coimbatore

Dr. D. Prasath
Co-Organizing Secretary, ISS,
Kozhikode
PROGRAMME

Date: 16.12.2015  Time: 2.30 pm

Lighting of Kuthu Vilakku

Invocation : Prayer

Welcome Address : Dr. K. Nirmal Babu  
President, ISS, Kozhikode

Presidential Address : Dr. K. Ramasamy  
Vice-Chancellor, TNAU, Coimbatore

Inaugural Address : Dr. N.K. Krishna Kumar  
Deputy Director General (Hort. Science), ICAR, New Delhi

Key Note Address : Prof. R.R. Hanchinal  
Chairperson, PPV & FRA, New Delhi

Felicitation : Sri. L. Sithirasenan, IAS  
Director (Horticulture and Plantation Crops), Chennai

Dr. V.A. Parthasarathy  
Former Director, ICAR-IISR, Kozhikode

Dr. M. Anandaraj  
Director, ICAR-IISR, Kozhikode

Dr. S. Mariappan  
Dean (Hort.) i/c, HC & RI, TNAU, Coimbatore

Dr. Balraj Singh  
Director, ICAR-NRCS, Ajmer, Rajasthan

Dr. Jitendra Kumar  
Director, ICAR-DMAPR, Anand, Gujarat

Dr. Homey Cheriyan  
Director, DASD, Kozhikode

Distribution of Fellowships/Awards

1) Sugandha Bharathi Award  
2) ISS Fellowships  
3) Sugandhasree Innovative Farmer Award  
4) Dr. V.S. Korikanthimath Award for the best Ph.D. thesis  
5) Smt. Vijaya V. Korikanthimath Award for the best M.Sc. thesis  
6) Dr. J.S. Pruthi Award of Honour

Vote of Thanks : Dr. J. Suresh  
Professor and Head, Dept. of Spices and Plantation Crops, HC&RI, Coimbatore.

Inauguration of Exhibition : Dr. N.K. Krishna Kumar  
DDG (Hort. Science), ICAR, New Delhi.
## PROGRAMME

**Venue:** Anna Auditorium, TNAU, Coimbatore

### WEDNESDAY, 16 December 2015

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>5.00 pm – 7.00 pm</td>
<td><strong>Special Session</strong></td>
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<tr>
<td><strong>Chairpersons</strong></td>
<td>Prof. K.V. Peter, Director, World Noni Research Foundation, Chennai</td>
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<td></td>
<td>Dr. M. Anandaraj, Director, ICAR-Indian Institute of Spices Research, Kozhikode</td>
</tr>
<tr>
<td><strong>Rapporteurs</strong></td>
<td>Dr. Sharon Aravind, Scientist (Hort.), ICAR-IISR Regional Station, Appangala</td>
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<td></td>
<td>Dr. B. Senthambizh Selvi, Asst. Professor (Hort.), TNAU, Coimbatore</td>
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<tr>
<td>5.00 pm – 5.40 pm</td>
<td><strong>Western Ghats Kokum Foundation Endowment Lecture</strong></td>
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<td></td>
<td>Dr. Ajit Shirodkar, WGKF, Goa &amp; Dr. P.J. Kshirsagar, Dr. BSKKV, Dapoli</td>
</tr>
<tr>
<td>5.40 pm – 6.10 pm</td>
<td><strong>Special Lecture I</strong></td>
</tr>
<tr>
<td></td>
<td>The challenges and options to sustainable crop production in spices</td>
</tr>
<tr>
<td></td>
<td>Dr. M. Anandaraj, Director, ICAR-Indian Institute of Spices</td>
</tr>
<tr>
<td>6.10 pm – 6.30 pm</td>
<td><strong>Research, Kozhikode</strong></td>
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<td></td>
<td>Special Lecture II</td>
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<tr>
<td></td>
<td>Potentials and policy options for horticultural development in North East</td>
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<tr>
<td></td>
<td>Dr. V.A. Parthasarathy, Former Director, ICAR-Indian Institute of Spices</td>
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<tr>
<td>6.30 pm – 6.50 pm</td>
<td><strong>Spices Research, Kozhikode</strong></td>
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<td></td>
<td>Special Lecture III</td>
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<tr>
<td></td>
<td>Protected cultivation technologies for seed spice crops</td>
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<tr>
<td></td>
<td>Dr. Balraj Singh, Director, ICAR-NRC on Seed Spices, Ajmer</td>
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<tr>
<td>7.00 pm – 8.00 pm</td>
<td><strong>ISS General Body Meeting</strong></td>
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<tr>
<td>8.00 pm – 9.00 pm</td>
<td><strong>Dinner</strong></td>
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<tr>
<td>Time</td>
<td>Session I (Genetic resources, crop improvement &amp; biotechnology)</td>
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<tr>
<td>9.30 am – 12.00 am</td>
<td>Chairpersons</td>
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<tr>
<td></td>
<td>Dr. VA Parthasarathy, Former Director, ICAR-Indian Institute of Spices Research, Kozhikode</td>
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<td>Dr. M. Maheswaran, Director of Research, TNAU, Coimbatore</td>
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<td></td>
<td>Dr. D. Veeraragavathatham, Former Dean (Hort.), HC &amp; RI, TNAU, Coimbatore</td>
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<td></td>
<td>Rapporteurs</td>
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<td></td>
<td>Dr. V. Jegadeeswari, Asst. Professor (Hort.), TNAU, Coimbatore</td>
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<tr>
<td></td>
<td>Ms. S. Aarthi, Scientist (Hort.), ICAR-IISR, Kozhikode</td>
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<tr>
<td>9.30 am – 10.00 am</td>
<td>Lead lectures</td>
</tr>
<tr>
<td>L-1</td>
<td>Crop improvement in spice crops - A way forward</td>
</tr>
<tr>
<td></td>
<td>Dr. B. Sasikumar, Head (Crop Improvement &amp; Biotechnology), ICAR-Indian Institute of Spices Research, Kozhikode</td>
</tr>
<tr>
<td>L-2</td>
<td>Designing a plant for seed spices</td>
</tr>
<tr>
<td></td>
<td>Dr. E.V. Divakara Sastry, Professor (Plant Breeding), Rajasthan Agricultural Research Institute, Jaipur</td>
</tr>
<tr>
<td>L-3</td>
<td>NGS approaches for non-model crops</td>
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<tr>
<td></td>
<td>Dr. Raja Mugasimangalam, Founder &amp; CEO, Genotypic Technology (P) Ltd., Bengaluru</td>
</tr>
<tr>
<td>11.00 am – 11.15 am</td>
<td>Oral presentations</td>
</tr>
<tr>
<td>O-1</td>
<td>Varietal diversity in nutmeg</td>
</tr>
<tr>
<td></td>
<td>Dr. N. Mini Raj, Professor, College of Horticulture, KAU, Thrissur</td>
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<tr>
<td>11.30 am – 12.00 am</td>
<td>Oral presentations</td>
</tr>
<tr>
<td>AP-1</td>
<td>Developing minimal descriptor for nutmeg (Myristica fragrans)</td>
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<tr>
<td></td>
<td>Mr. H C Vikram, Ph.D. Scholar, College of Horticulture, KAU, Thrissur</td>
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<tr>
<td>AP-2</td>
<td>Characterization and evaluation of Nigella sativa L. genotypes for growth, yield and quality</td>
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<td></td>
<td>Mr. Y. Diwakar, Scientist, ICAR-NRC on Seed Spices, Ajmer</td>
</tr>
</tbody>
</table>
### 12.00 – 5.00 pm: Session II (Soil & Plant Health Management)

**Chairpersons**
- Dr. V.S. Korikanthimath, Former Director, ICAR RC Goa
- Dr. K. Ramaraju, Director, Centre for Plant Protection Studies, TNAU, Coimbatore
- Dr. J. Thomas, Former Director (Research), ICRI, Myladumpara

**Rapporteurs**
- Dr. M. Suganthi, Asst. Professor (Agri. Entomology), TNAU, Coimbatore
- Dr. R. Praveena, Scientist (Plant Pathology), ICAR-IISR, Kozhikode

### Lead lectures

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.00 pm – 12.30 pm</td>
<td>Good agricultural practices in medicinal plants</td>
<td>Dr. Jitendra Kumar, Director, ICAR-Directorate of Medicinal &amp; Aromatic Plants Research, Boriavi, Gujarat</td>
</tr>
<tr>
<td>12.30 pm – 1.00 pm</td>
<td>Sustainable plant protection technologies in spice crops</td>
<td>Dr. S. Devasahayam, Head (Crop Protection), ICAR-Indian Institute of Spices Research, Kozhikode</td>
</tr>
<tr>
<td>2.00 pm – 2.30 pm</td>
<td>Carbon sequestration in spices cropping systems- future strategies for climate change</td>
<td>Dr. E.V.S. Prakasa Rao, Former Chief Scientist, CSIR-Central</td>
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</tbody>
</table>

### Oral presentations

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>2.30 pm – 2.45 pm</td>
<td>Importance of micronutrients and designer formulations for spices</td>
<td>Dr. V. Srinivasan, Principal Scientist, ICAR-Indian Institute of Spices Research, Kozhikode</td>
</tr>
<tr>
<td>2.45 pm – 3.00 pm</td>
<td>Climate change in the cloud forest cardamom hot spots in relation to cardamom productivity in Guatemala and India</td>
<td>Dr. Muthusamy Murugan, Professor &amp; Head, Cardamom Research Station, KAU, Pampadumpara, Kerala</td>
</tr>
<tr>
<td>3.00 pm – 3.15 pm</td>
<td>Status of pesticide residues in major spice commodities</td>
<td>Dr. K. Bhuvaneswari, Professor, TNAU, Coimbatore</td>
</tr>
<tr>
<td>3.15 pm – 3.30 pm</td>
<td>The black pepper- <em>Colletotrichum</em> host-pathosystem: Biology, epidemiology and management</td>
<td>Dr. C.N. Biju, Scientist, ICAR-Indian Institute of Spices Research, Kozhikode</td>
</tr>
</tbody>
</table>
### Oral presentations (HS Mehta Award)

<table>
<thead>
<tr>
<th>AP-1.</th>
<th>Leaf curl virus through whitefly transmission and PCR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mr. M. Manikandan, Ph.D Scholar, Horticultural College &amp; Research Institute, TNAU, Coimbatore</td>
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<tr>
<th>AP-2.</th>
<th>3.45 pm – 4.00 pm</th>
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<tbody>
<tr>
<td></td>
<td>Residues and dissipation of chlorfenapyr in chilli under field condition</td>
</tr>
<tr>
<td></td>
<td>Dr. P. Karthik, Research Associate, TNAU, Coimbatore</td>
</tr>
</tbody>
</table>

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<tr>
<th>AP-3.</th>
<th>Cassia occidentalis and Curcuma longa extract mediated synthesis of silver nanoparticles and their nematicidal activity against the root knot nematode</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ms. Kalaiselvi, Ph.D Scholar, Department of Zoology, Bharathiar University, Coimbatore</td>
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<tr>
<th>AP-4.</th>
<th>4.15 pm – 4.30 pm</th>
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<tbody>
<tr>
<td></td>
<td>Nigella sativa L.: Role of sowing window, nitrogen and phosphorus</td>
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<td></td>
<td>Dr. Giridhar Kalidasu, Scientist, AICRPS, Horticultural Research Station, Dr. YSRHU, Lam, Andhra Pradesh</td>
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<tr>
<th>AP-5.</th>
<th>4.30 pm – 4.45 pm</th>
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<tbody>
<tr>
<td></td>
<td>Special method of cultivation for root medicinal and aromatic crops</td>
</tr>
<tr>
<td></td>
<td>Dr. L. Nalina, Assistant Professor, Horticultural College &amp; Research Institute, TNAU, Coimbatore</td>
</tr>
</tbody>
</table>

| 4.45 pm–5.00 pm | Tea |

| 5.00 pm – 7.30 pm: Session III (Mechanization, Post Harvest Management & Quality Standards) |

**Chairpersons**

- Dr. M.R. Sudharshan, Former Director (Research), Spices Board, Kochi
- Dr. C. Divaker Durairaj, Dean (Agrl. Engg.), Agricultural Engineering College & Research Institute, TNAU, Coimbatore
- Dr. T. John Zachariah, Head (Crop Production & PHT), ICAR-Indian Institute of Spices Research, Kozhikode

**Rapporteurs**

- Dr. B. Senthamizh Selvi, Asst. Professor (Hort.) TNAU, Coimbatore
- Ms. H.J. Akshitha, Scientist (Hort.), ICAR-IISR, Kozhikode
<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Best Ph.D. thesis on Spices, Medicinal &amp; Aromatic Crops</td>
<td>5.00 pm – 5.20 pm</td>
<td>Therapeutic propensity of selected spice actives against Dr. N. Sathya Prasad, University of Mysore, Mysore</td>
</tr>
<tr>
<td><strong>Lead lectures</strong></td>
<td>L-1. 5.20 pm – 5.50 pm</td>
<td>Harmonization of quality standards in spices Dr. M.R. Sudharshan, Former Director (Research), Spices Board, Kochi</td>
</tr>
<tr>
<td></td>
<td>L-2. 5.50 pm – 6.20 pm</td>
<td>Innovations on spice processing - An overview Dr. M. Madhava Naidu, Head (Spice &amp; Flavour Science), CSIR-Central Food Technological Research Institute, Mysore</td>
</tr>
<tr>
<td></td>
<td>L-3. 6.20 pm – 6.50 pm</td>
<td>Mechanization in spice crops Dr. B. Sridhar, Professor &amp; Head, Agricultural Machinery Research Centre, AEC &amp; RI, TNAU, Coimbatore</td>
</tr>
<tr>
<td><strong>Oral presentations</strong></td>
<td>AP-1. 6.50 pm – 7.05 pm</td>
<td>Microwave assisted extraction of 6-Gingerols from fresh ginger Ms. M. Vedashree, Junior Research Fellow, CSIR-Central Food Technological Research Institute, Mysore</td>
</tr>
<tr>
<td></td>
<td>AP-2. 7.05 pm – 7.20 pm</td>
<td>Cinnamon and turmeric dominate in antioxidant potential among four major spices-study using sequential extracts Ms. Saranya Balu, Senior Research Fellow, ICAR-Indian Institute of Spices Research, Kozhikode</td>
</tr>
<tr>
<td>7.30 pm – 9.00 pm</td>
<td>Cultural Programme</td>
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<tr>
<td>9.00 pm – 10.00 pm</td>
<td>Dinner</td>
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</tbody>
</table>
FRIDAY, 18 December 2015

9.30 am – 11.15 am: Session IV (Quality Planting Material production)

Chairpersons
Dr. N. Kumar, Former Dean (Horticulture), TNAU, Coimbatore
Dr. Homey Cheriyan, Director, Directorate of Arecanut & Spices Development, Kozhikode
Dr. M. Jawaharlal, Dean, HC & RI for Women, Trichy

Rapporteurs
Dr. R. Chitra, Asst. Professor (Hort.), TNAU, Coimbatore
Dr. P. Alagupalamuthirsolai, Scientist, ICAR-IISR, Regional Station, Appangala

Lead lectures

L-1. 9.30 am – 10.00 am
Nursery standards and accreditation in spices
Dr. Homey Cheriyan, Director, Directorate of Arecanut & Spices Development, Kozhikode
10.00 am – 10.30 am
Quality seed production in seed spices - Issues and strategies

Oral presentations

O-1. 10.30 am – 10.45 am
Perspectives on quality planting material production (QPMP) in black pepper
Dr. K. Kandiannan, Principal Scientist, ICAR-Indian Institute of Spices Research, Kozhikode

O-2. 10.45 am – 11.00 am
Plug production of turmeric transplants
Dr. R. Chitra, Asst. Professor, HC & RI, TNAU, Coimbatore

11.00 am – 11.20 am: Tea

11.15 – 2.30 pm: Session V (Scientist-Farmer-Industry Interface)

Chairpersons
Dr. S.K. Malhotra, Horticulture Commissioner, GOI, Ministry of Agriculture, New Delhi
Dr. A.K. Singh, Managing Director, National Horticulture Board, Gurgaon
Dr. P. Rethinam, Former ADG, ICAR, New Delhi
Dr. T.N. Balamohan, Dean, HC & RI, Periyakulam

Rapporteurs
Dr. L. Nalina, Asst. Professor (Hort.), TNAU, Coimbatore
Dr. M. Mohanalakshmi, Asst. Professor (Hort.), TNAU, Coimbatore

Lead lectures

L-1. 11.20 pm – 11.40 pm
High production technology in black pepper – Farmers perspective
Dr. S.J. Ankegowda, Head, ICAR-IISR, Regional Station, Appangala, Karnataka

6
L-2. 11.40 pm – 12.00 pm  
Organic Production Technology in Seed Spices  
Dr. Gopal Lal, Principal Scientist, ICAR-NRC on Seed Spices, Ajmer

L-3. 12.00 pm – 12.20 pm  
Nutmeg and coconut based cropping system  
Mr. O.V.R. Somasundaram, Planter, Pollachi

L-4. 12.20 pm – 12.40 pm  
Vanilla from Indian – An opportunity revisited  
Dr. R. Mahendran, Expovan & Indian Vanilla Initiative Pvt. Ltd. Pollachi

L-5. 12.40 pm – 1.00 pm  
Farmer producer company in turmeric – Success story  
Mr. Nallaswami, Chairman, Ulavan Farmer Producer Company, Erode

1.15 pm – 2.00 pm  
Lunch

Lead lectures

L-6. 2.00 pm – 2.20 pm  
Industry: Status and opportunities  
Mr. Philip Kuruvilla, Chairman, World Spice Organization, Kochi

L-6. 2.20 pm – 2.40 pm  
State Horticulture Mission, Tamil Nadu

L-7. 2.40pm – 3.00 pm  
Strategies for sustainable spices production – Role of Spices Board  
Mr. P.C. Gopalakrishnan, Deputy Director, Spices Board, Kochi

Discussion

3.00 pm – 3.30 pm  
Plenary Session

Chairpersons  
Dr. S.K. Malhotra, Horticulture Commissioner, GOI, Ministry of Agriculture, New Delhi  
Dr. A.K. Singh, Managing Director, National Horticulture Board, Gurgaon

Dr. S. Edison, Former Project Coordinator, AICRPS & FAO Expert  
Best oral and poster presentation awards

Presentation of reports by session chairpersons

National Anthem
Poster presentation

THURSDAY, 17 December 2015

Poster viewing: 9.30 am – 4.00 pm

All the presenters are requested to display their Posters in the allotted space before 9.30 am on 17 December 2015
SPONSORS

Indian Council of Agricultural Research, New Delhi

ICAR - Indian Institute of Spices Research, Kozhikode, Kerala

Directorate of Arecanut and Spices Development, Kozhikode, Kerala

National Horticulture Board, Gurgaon, Haryana

Spices Board, Kochi, Kerala

National Bank for Agriculture and Rural Development, Mumbai