



# SPICES NEWS



Indian Institute of Spices Research  
Marikunnu (P.O.), Calicut, Kerala, India.

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## IISR WELCOMES NEW DIRECTOR GENERAL



Dr. S. Ayyappan took over charge of Secretary, Department of Agricultural Research and Education (DARE) and Director General (DG), ICAR from Dr. Mangala Rai, who retired from service on 31 December, 2009.

Prior to the present assignment, Dr. Ayyappan has served as the Deputy Director General (Fisheries) during 2002-09; Director, Central Institute of Fisheries Education, Mumbai (Deemed University) during 2000-02; Director, Central Institute of Freshwater Aquaculture, Bhubaneswar during 1996-2000; Scientist, Central Inland Fisheries Research Institute, Barrackpore (1978-84); Senior Scientist and Principal Scientist in the ICAR system (1984-95).

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Dr. Ayyappan has made significant contributions to administration and research management of the National Agricultural Research System since 1996. Under his leadership CIFA received the Best ICAR Institute Award-1996. He was the Founder Chief Executive of the National Fisheries Development Board, DAHD&F, Hyderabad.

Dr. Ayyappan has represented the country in several important international fora. He has been invited to serve as Member/Chairman of the Boards of several international institutions/organizations.

Dr. Ayyappan has over 200 publications in reputed journals/proceedings and books. He also has two patents and one design to his credit. He has received a number of prestigious awards and honours - Zahoor Qasim Gold Medal (1996-97), ICAR Award for Team Research for 1997-98 and V.G. Jhingran Gold Medal (2002). He is Fellow and Vice-President of National Academy of Agricultural Sciences, India; Asian Fisheries Society, Manila, Philippines (2004-10) and Vice President, Indian Society of Coastal Agricultural Research (2008-11).

Dr Ayyappan has served in different capacities in several important committees viz., Chairman, High level Expert Committee for Development of Freshwater Aquaculture in the country, Govt. of India; Chairman, Working Group on Fisheries for Eleventh Plan, Planning Commission; Chairman, Task Force on Aquaculture and Marine Biotechnology, Department of Biotechnology (2006-09) and Member of the Project Steering Committee on 'More Crop and Income per Drop of Water', Ministry of Water Resources, Govt. of India (2006-07). He is the member of the Mid-Term Review (MTR) Committee on Agriculture and Allied Sectors for the XIth Plan (2007-2012), Planning Commission, Govt. of India, 2009.

The Director and staff of IISR, Calicut, welcome the new Director General and wish him all the best in his future endeavour.

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## Research Update

### Germplasm enrichment

From Sabarimalai region five accessions of cardamom were added to the germplasm repository making the total collections as 442.

### *Agrobacterium*-mediated transformation protocol for black pepper

A simple and efficient protocol was developed for *Agrobacterium*-mediated transformation of black pepper plants through somatic embryogenesis.

### Katte, kokke kandu and Nilgiri Necrosis isolates

Six *katte* isolates, five from Karnataka and one from Kerala, and two *kokke kandu* isolates from Karnataka were collected and established under insect proof glass house conditions.

### Screening cardamom accessions for leaf blight and rhizome rot resistance

Natural incidence of leaf blight and rhizome rot incidence were recorded in 58 cardamom accessions and *Amomum subulatum*.

### Biocontrol mechanism of rhizobacteria

The antimicrobial activity of the rhizobacterial isolate, BRB 28 - *Pseudomonas aeruginosa* (FJ493536) was ascertained to be due to the production of both hydrocyanic acid and phenazine carboxylic acid.

## Personalia

### Awards/Honours/Recognitions

#### Anandaraj M

Expert, Review Committee of National Horticultural Mission Projects of Directorate of Areca nut and Spices Development, Calicut, 19-20 August 2009.

ASRB nominee, DPC for Technical staff, CTCRI, Trivandrum, 14 December 2009.

#### Anandaraj M

#### Krishnamurthy K S

#### Thankamani C K

Research Guide in Life Science, Kannur University.

#### Anandaraj M

#### Sheji Chandran

#### Renu Susan George

#### Ishwara Bhat A &

#### Suseela Bhai R

J S Pruthi Award - 2009 for the best research paper published in Journal of Spices and Aromatic Crops Vol. 17, for the article entitled 'Development of SCAR marker for *Phytophthora* resistance in black pepper (*Piper nigrum* L.)'.

#### Ankegowda S J

Member, Selection Committee of best cardamom and vanilla growers in Karnataka for the year 2009-2010.

#### Ankegowda S J

#### Parthasarathy V A

Expert Member, Selection Board of Professor and Associate Professor for Orissa University of Agriculture and Technology, Bhubaneswar.

#### Sheeja T E

#### Himabindu K

#### Anto P

#### Dhanya K

#### Siju S &

#### Vasanth Kumar T

Dr H S Mehta Award - 2009 for the best paper (poster) presented in the National Symposium on Spices and Aromatic Crops (SYMSAC-V) held at Central Institute of Horticulture, Nagaland, India for the paper entitled 'A SCAR marker based method for sex determination in dioecious betel vine (*Piper betle* L.)'.

### Deputation abroad

Dr. Santhosh J Eapen, Senior Scientist (Nematology) visited Vietnam as a TCDC expert in nematode control, during 19 September–4 October 2009, under the FAO project TCP/RAS/3105.

### Participation in Symposia/Seminars/Workshops/Conferences/Meetings

#### All Scientists

Media meet under National Agricultural Innovation Project, IISR Calicut, 9 November 2009.

#### Anandaraj M

National Seminar on Enhancing Productivity and Profitability of Agriculture, Central Marine Fisheries Research Institute, Kochi, 29-30 August 2009.

Brain Storming Session on Seed Spices, National Research Centre on Seed Spices, Ajmer, 17-18 September 2009.

National Seminar on Spices, Rajasthan Agricultural University, Jaipur, 20-21 December 2009.

**Anandaraj M**

**Bhat A I**

**Suseela Bhai R**

Fifth International Conference on Plant Pathology in the Globalized Era, Indian Agricultural Research Institute IARI, New Delhi, 10-13 November 2009.

**Anandaraj M**

**Thankamani C K**

Review meeting of the National Horticulture Mission Project, 'Planting material production of spice crops', *Bidhan Chandra Krishi Viswavidyalaya*, West Bengal, 19-20 August 2009.

**Anandaraj M**

**Kandiannan K**

**Saji K V**

**Srinivasan V**

National Symposium on Spices and Aromatic Crops (SYMSAC-V) - Harnessing the Potential of North Eastern States for Spices Production through Technologies Interventions, Central Institute of Horticulture, Medziphema, Nagaland, 30-31 October 2009.

**Ankegowda S J**

Regional Seminar on Black pepper, Balupet Farmers' Association and Department of Horticulture, Spices Board, Balupet, 22 September 2009.

Regional Seminar on Black pepper, P J Varghese Black pepper plantation at Kanchinala, Shimoga District, organized by Spices Board, Shimoga, Udyana Kala Sangha, Thirthahalli and Taluk Krishik Samaj, Thirthahalli, 15 October 2009.

KPA-UPASI Coffee conference, Atria Hotel, Bangalore, 13 November 2009.

**Babu K N**

**Bhat A I**

**Biju C N**

**Johnson George K**

**Parthasarathy VA**

**Santhosh J Eapen**

**Suseela Bhai R**

**Usha Rani T R**

National Seminar on Horticultural Biotechnology, Indian Institute of Horticultural Research, Bangalore, 28-29 October 2009.

**Bhat A I**

Project Management and Evaluation Committee (PMEC) meeting to discuss operationalization of Accredited test laboratory under National certification system for tissue culture raised plants, DBT, New Delhi, 12 August 2009.

Awareness Programme on National certification system for tissue culture raised plants, Kochi, 13 October 2009.

**Biju C N**

**Senthil Kumar**

Brainstorming Session on Horticultural Development in Kodagu, Central Horticultural Experiment Station, Chettalli, 8 August 2009.

**Devasahayam S**

Institute Management Committee, Indian Institute of Spices Research, Calicut, 11 November 2009.

Institute Management Committee, Central Tuber Crops Research Institute, Trivandrum, 7 December 2009.

**Dinesh R**

Review meeting of AMAAS Project (Application of Microorganisms in Agriculture and Allied Sectors), *National Academy of Agricultural Sciences* Complex, New Delhi, 26 August 2009.

**Jayasree E**

Meeting on Tools and Machinery Development of Horticulture, Central Plantation Crops Research Institute, Kasaragod, 18-19 December 2009.

**John Zachariah T**

Consortium Implementation Committee meeting of NAIP on 'Studies on Cryogenic Grinding for Retention of Flavour and Medicinal properties of some important Indian Spices', Central Institute of Post-Harvest Engineering and Technology, Ludhiana, 8 July 2009.

Training on Procurement related matters and Financial Management under World Bank aided NAIP Projects, Tamil Nadu Agricultural University, Coimbatore, 3-4 September 2009.

Launch workshop of NAIP sub-project 'Mobilising Mass media support for sharing Agro information', Directorate of Information & Publication of Agriculture, ICAR, New Delhi, 9 September 2009.

Consortium Advisory Committee meeting of NAIP 'Studies on Cryogenic Grinding for Retention of Flavour and Medicinal properties of some important Indian Spices', CIPHET, Ludhiana, 9-10 October 2009.

Management Development programme on 'Technical Aspects of Agricultural Communication and Knowledge Management', Indian Institute of Management, Lucknow, 16-20 November 2009.

Brainstorming session on 'Post-harvest management of Spices', Indian Institute of Vegetable Research, Varanasi, 24-26 November 2009.

#### **John Zachariah T**

##### **Thankamani C K**

Seminar on Sustainable development of Kerala in Agriculture sector, organized by Janasree Sustainable Development Mission, Calicut, 25 September 2009.

##### **Kandiannan K**

National Symposium on Weed Threat to Environment, Biodiversity and Agriculture Productivity, Tamil Nadu Agricultural University, Coimbatore, 2-3 August 2009.

##### **Mathew P A**

National Conference of KVKs, Tamil Nadu Agricultural University, Coimbatore, 6-7 November 2009.

Seminar on Vision Badagar organized by Sri Mullappally Ramachandran, Minister of State for Internal Affairs, Town Hall, Vadagara, 13-14 November 2009.

##### **Parthasarathy V A**

Meeting of the Monitoring Committee for Implementation of Pepper Development Project in Idukki District organized by Spices Board, Kochi at CMFRI, Kochi, 28 August 2009.

National Seminar on Enhancing Agricultural Productivity and Profitability, CMFRI, Kochi, 29-30 August 2009.

##### **Parthasarathy V A**

##### **Santhosh J Eapen**

##### **Utpala Parthasarathy**

Workshop on IT Applications in Horticulture Research, Central Potato Research Institute, Shimla, 24-25 August 2009.

##### **Rajeev P**

Linkage and Consultative Meeting with Media under NAIP - 'Mobilising Mass media support for sharing Agro information', NAAS Complex, New Delhi, 23 July 2009.

##### **Santhosh J Eapen**

Bioinformatics Facility Executive Committee Meeting, Calicut University, Calicut, 06 July 2009.

ATMA Farmers-Scientists Interface, Agricultural Marketing Centre, Calicut, 30 July 2009.

#### **Membership in committees/ professional societies:**

##### **Parthasarathy VA**

Member, Project Appraisal Committee of Protection of Plant Varieties and Farmers' Rights Act.

Chief Editor, NABS Newsletter.

Member, Assessment Committee of the Scientific Staff of TBGRI, Trivandrum.

Member, National Advisory Committee of the National Seminar on 'Harnessing the potential of North Eastern States for Spices production through technological interventions'.

Member, Steering Committee of National Seminar on Climate Change.

Reviewer for selecting nominations for IPA Kaushalya Sikka memorial award for outstanding contribution to potato.

Expert Member, Selection Committee of DOEACC for considering the promotion.

#### **Lectures delivered/papers presented**

##### **Anandaraj M**

*Wilt and Wilt Management in Horticultural and Field Crops*, National Seminar on Enhancing productivity and Profitability in Agriculture, CMFRI, Kochi, 29-30 August 2009.

*Disease management in ginger and turmeric*. SYMSAC-V, Harnessing the Potential of North Eastern States for Spices Production through Technological Interventions. CIH, Medziphema, Nagaland, 30-31 October 2009.

*Challenges in managing soil-borne diseases with reference to Phytophthora, Fusarium and Ralstonia*, Fifth International Conference in Plant Pathology, Indian Phytopathological Society, IARI, New Delhi, 9-13 November 2009.

*Importance of Rhizosphere in Biological Control of Soil-borne Pathogens*, Winter School at National Bureau of Agriculturally Important Insects, Bangalore, 18 December 2009.

##### **Ankegowda S J**

*Agronomic practices in black pepper cultivation*, Regional seminar on black pepper at Balupet, organized by Spices Board, Balupet Farmers' Association and Department of Horticulture, Saklespur, 22 September 2009.

*Agronomic practices in black pepper cultivation*, Regional seminar on black pepper at P J Varghese Black pepper Plantation at Kanchinala, Riponpet, Shimoga District, organized by Spices Board, Shimoga and Udyana Kala Sangha, Thirthahalli, 15 October 2009.

*Ginger and cardamom cultivation practices*, KVK, Gonikoppal, 8 September 2009.

*Cardamom cultivation practices*, KVK Gonikoppal, 15 October 2009.

*Scientific cultivation practices in black pepper production*, KPA-UPASI coffee conference, Atria Hotel, Bangalore, 13 November 2009.

#### **John Zachariah T**

*Cardamom and ginger cultivation practices for NHM trainees*, KVK, Gonikoppal, 26 November 2009.

Flavour profiling of Spices, Dept. of Life Science, University of Calicut, 27 August 2009.

#### **Santhosh Eapen J**

*Molecular evolution*, DBT sponsored training on Development and use of Bioinformatics tools and Resources for Plant Genome Analysis, CPCRI, Kasaragod, 24 November 2009.

*ESTs and their Significance* - DBT sponsored training programme on Recent Advances in EST analysis and their annotation, 20 October 2009, IISR, Calicut.

*Current status of Bioinformatics in Horticultural Research*, National Seminar on Horticultural Biotechnology, Bangalore, 28 October 2009.

#### **Training programme**

##### **Devasahayam S**

*Vigilance Administration*, NAARM, Hyderabad, 29-31 October 2009.

##### **Hamza S**

*Management of Natural Resources and Environment*, Indian Institute of Public Administration, New Delhi, 5-11 October 2009.

#### **Video conference**

*Diseases of ginger and turmeric*, 26 November 2009 (Suseela Bhai R).

#### **Radio talk**

*Important cardamom cultivation practices*, AIR, Madikeri, 8 July 2009 (Ankegowda S J).

*Value addition in Spices*, AIR, Calicut, 28 August 2009 (John Zachariah T).

*Production Techniques of Spices*, AIR, Calicut, 28 August 2009 (Mathew P A).

*Intercropping of spices in coconut garden*, AIR, Calicut, 6 September 2009 (Prakash K M).

*Scope of Nutmeg as an intercrop in coconut garden*, AIR, Calicut, 7 September 2009 (Mathew P A).

*Integrated pest and disease management in cardamom*, AIR, Madikeri, 20 October 2009 (Ankegowda S J).

## News and events

#### **News from Bioinformatics Centre**

The Bioinformatics Centre organized a short-term training on 'Recent Advances in EST analysis and



**Dr Vinod Scaria addressing the trainees**

their Annotation' during 20-23 October 2009. The training programme was attended by 17 trainees from different institutions. Dr Vinod Scaria, Scientist, Institute of Genomics and Integrative Biology, New Delhi, gave the plenary lecture.

miRNA Blast, a local blast tool was developed using the predicted miRNA results from spices and *Radopholus* ESTs. During the period under report three M.Sc. students carried out their project work at the Centre.

#### **National Symposium on Spices and Aromatic Crops (SYMSAC-V)**

Indian Society for Spices (ISS) in collaboration with Indian Institute of Spices Research, Calicut, Directorate of Areca nut and Spices Development, Calicut and Central Institute of Horticulture (CIH), Nagaland organized Fifth National Symposium on Spices and Aromatic Crops at CIH, Medziphema, Nagaland during 30-31 October 2009. The theme area of the seminar was 'Harnessing the potential of North Eastern States for Spices Production through Technological Interventions'. The symposium was inaugurated by Dr. Chumben Murry, Minister of Agriculture, Nagaland and presided over by Alemtemshi



**Inaugural session of SYMSAC-V**

Jamir, Additional Chief Secretary, Development Commissioner & Agriculture Production Commissioner, Nagaland. More than 150 delegates including Scientists, officials from Department of Agriculture/Horticulture, farmers and entrepreneurs attended the symposium.

### Consultancy Processing Cell

During July-December 2009, Rs. 0.35 lakh was generated through various consultancy activities. A share of 77% of the amount was generated from analysis of manure samples received from different farmers' clusters and private entrepreneurs. Other consultancy services offered were analysis of biocontrol agents (10%) and visits to private farms based on requests (13%).

### Media meet for sharing Agro information

The Indian Institute of Spices Research (IISR), Calicut organized a Media Meet on 9 November 2009 at its campus as a part of the NAIP sub-project on *Mobilising Mass Media Support for Sharing Agro-Information*. The World Bank-aided NAIP project, is aimed at developing a model platform for technology dissemination through the media. Dr. V. A. Parthasarathy, Director, IISR, Calicut presided over the function. Dr. T. John Zachariah, Principal Scientist and Co-CCPI of the project welcomed the delegates. Dr. T. P. Trivedi, Project Director, DIPA and ADG,



ICAR and Dr. B. N. Chattopadhyaya, Co-PI of the Project and Coordinator & Nodal Officer (ICAR, New Delhi) briefed about the project and the necessity of strengthening media relations at the regional level.

Dr. V A Parthasarathy, made a presentation on the recent technologies developed by the Institute. *IISR at a glance*, a video programme on the Institute's activities was also screened. Dr. T K Jacob, Principal Scientist, made a presentation on the frontline demonstration of technologies developed by the Institute. Over twenty journalists representing various news papers, TV channels and AIR attended the function.

## हिन्दी अनुभाग

जुलाई से दिसंबर 2009 की अवधि में राजभाषा कार्यान्वयन समिति की तिमाही बैठकें दो बार आयोजित की गईं। बैठक की अध्यक्षता संस्थान के निदेशक, डा.

वी. ए. पार्थसारथी ने की। संस्थान के अधिकारियों एवं कर्मचारियों को हिन्दी के प्रति रुचि पैदा करने के लिये दो हिन्दी कार्यशालाओं का आयोजन किया। प्रथम कार्यशाला 17 सितम्बर 2009 में आयोजित की गई जिसमें डॉ. ई. राधकृष्णन, हिन्दी प्राध्यापक, हिन्दी शिक्षण योजना ने “हिन्दी टिप्पणी एवं लेखन” के बारे में व्याख्यान दिया तथा द्वितीय कार्यशाला 18 दिसंबर 2009 में आयोजित की गई जिसमें डा. सी. डी. मुरलीधरन, सहायक निदेशक, कर्मचारी भविष्य निधि कार्यालय, कालिकट ने “हिन्दी टिप्पणी एवं लेखन” के बारे में व्याख्यान दिया। नगर राजभाषा कार्यान्वयन समिति की 44 वीं बैठक में सुश्री. एन. प्रसन्नकुमारी तथा उपसमिति की बैठक में डा. राशिद परवेज, हिन्दी अधिकारी एवं एन. प्रसन्नकुमारी ने भाग लिया। जनवरी- जून 2009 को प्रकाशित “स्पाइसेस न्यूज़” का हिन्दी रूपान्तर प्रकाशित किया। संस्थान तथा ए. आई. सी. आर. पी. एस की वार्षिक रिपोर्ट का हिन्दी रूपान्तर किया गया। रिपोर्टाधीन काल में राजभाषा कार्यान्वयन सम्बन्धी दो तिमाही रिपोर्ट तैयार की गईं।

संस्थान में 14 से 19 सितम्बर 2009 तक हिन्दी सप्ताह का आयोजन किया गया। हिन्दी सप्ताह के दौरान विभिन्न प्रकार की प्रतियोगिताओं का आयोजन किया गया। समापन समारोह के मुख्य अतिथि डा. ए. अच्युतन, पूर्व विभागाध्यक्ष, हिन्दी विभाग, कालिकट विश्वविद्यालय, कालिकट ने सभी प्रतियोगिताओं के प्रथम, द्वितीय तथा तृतीय स्थान पर रहे प्रतिभागियों को पुरस्कार वितरित किये। संस्थान में हिन्दी में सर्वाधिक कार्य करने एवं उसको प्रोत्साहन करने के लिए वैज्ञानिक वर्ग में डा. के. एन. शिवा, तकनीकी वर्ग में डा. उत्पला पार्थसारथी एवं प्रशासनिक वर्ग में सुश्री पी. वी. साली को हिन्दी प्रोत्साहन पुरस्कार 2009 से सम्मानित किया गया। कार्यालय में फाइलों में हिन्दी में टिप्पणी एवं लेखन के लिये डा. एस. देवसहायम, विभागाध्यक्ष, फसल संरक्षण विभाग को हिन्दी टिप्पणी एवं मसौदा लेखन पुरस्कार 2009 से सम्मानित किया गया।

नगर राजभाषा कार्यान्वयन समिति द्वारा आयोजित संयुक्त हिन्दी पक्ष समारोह 2009 में संस्थान के कर्मचारियों ने भाग लिया तथा हिन्दी प्रश्नोत्तरी एवं फिल्मी गीत प्रतियोगिताओं में तृतीय पुरस्कार प्राप्त किया। नगर राजभाषा कार्यान्वयन समिति द्वारा 30 नवंबर 2009 को होटल मलबार गेट, कालिकट में आयोजित हिन्दी संगोष्ठी में श्री. बी. कृष्णमूर्ति ने भाग लिया।

# Transfer of Technology

## Technology inputs and advisory services from ATIC

During the period under report 764 farmers availed advisory services from ATIC. Planting material of spice crops worth Rs. 48100 was sold to the farmers. Publications and extension literature for Rs. 9415 was distributed through ATIC. Total income generation of the centre during the period was Rs. 69863, including the sale of biocontrol agents worth Rs. 11748. Under field level demonstration programme of improved varieties of black pepper, the scientists' team visited Anakkampoyil and Thamarassery in Calicut District, twice during the period.

A training programme sponsored by the Kerala State Horticulture Mission on *Production, management and post-harvest technology of major spices* was conducted during 15-19 September 2009, in which, 10 officers from Kerala State Department of Horticulture participated. Five video conferencing classes were organized under RSVY/VSAT scheme in which 259 farmers from four Village Resource Centres attended the sessions. Three hundred twenty two students from various educational institutions made study visits. A total of 1183 users visited the centre.

The Institute participated in the exhibitions in connection with the Foundation day celebration of NRC for Banana, Trichi on 21 August 2009 and *Haritholsavam - 2009*, Ministry of Agriculture, Kerala, at Kochi during 28-31 August 2009.



DDG with Director and staff after inauguration of PHT Laboratory at Peruvannamuzhy.

## Krishi Vigyan Kendra

Krishi Vigyan Kendra published a training manual on 'Training of Gardeners'.

Four Field Level Demonstrations on black pepper and coconut are in progress in 123 farmers' fields and on cow and goat in 290 farmers' fields. Three OFTs on black pepper and coconut are in progress in 15 farmers' fields and one field trial in 5 farmers' fields.

## Outreach Programme on Phytophthora, Fusarium and Ralstonia

The outreach programme on *Phytophthora*, *Fusarium* and *Ralstonia* with Indian Institute of Spices Research, Calicut as lead centre along with 16 coordinating centres started functioning. The salient achievements are :

- Forty new *Phytophthora* isolates collected from different parts of Kerala and Coorg District of Karnataka were added to the repository of *Phytophthora* making a total of 284 isolates.
- Avirulence-associated protein has been identified based on the EST annotation and primers for elicitor genes have been designed and synthesised for testing on *P. capsici* populations.
- Eight pairs of degenerate primers were designed from conserved p-loop and GLPL motifs of NBS-LRR regions of six *Phytophthora* resistance genes.
- Seventy endophytic fungi were isolated from healthy black pepper and studied for their antagonistic potential.

Phytoweb, a comprehensive portal on *Phytophthora* diseases of horticultural crops in India was developed with the following components:

- *Phytophthora* diseases of horticultural crops and their management methods
- A web interface for monitoring the PhytoFuRa project on a Real time basis.

## Outreach Programme on Leaf Spot Diseases

The achievements of the outreach programme on Diagnosis and Management of Leaf Spot Diseases in Field and Horticultural Crops are as follows:

- Eighty nine *Colletotrichum* spp. were identified and pure cultured from 100 field samples of cardamom, black pepper and other component crops.
- Leaf blight incidence was recorded in 30 germplasm accessions of cardamom and anthracnose incidence in 10 black pepper vines.
- Eight *Trichoderma* spp. were isolated from the rhizosphere of black pepper, cardamom and coffee from Cardamom Research Centre, Appangala.

## News from library

Biometric access control system was introduced in the library to ensure security. Publication of the electronic version of 'AGRI tit bits' as a monthly news service was started from September 2009. Three issues were published during the period. The library added 74 books, 4 technical reports, 2 theses and 5 project reports during the period. About 120 external users and 3100 internal users made use of the library facilities.

## SAC Meeting

SAC Meeting was held on 24 September at KVK, Peruvannamuzhy under the chairmanship of Dr. V A Parthasarathy, Director, IISR, Calicut.



Dr. H P Singh, DDG (Hort.) with staff after laying foundation stone for the Centralised Laboratory for Advanced Research at Chelavoor Campus.

**Institute Joint Staff Council**

The VIIth Institute Joint Staff Council meetings were held on 29 September and 19 December under the chairmanship of Dr VA Parthasarathy, Director, IISR, Calicut.

**Institute Management Committee Meeting**

Institute Management Committee Meeting was held on 11 November 2009 under the chairmanship of Dr VA Parthasarathy, Director, IISR, Calicut.

**Vigilance awareness week**

Vigilance awareness week was observed during 3-7 November 2009. A pledge was administered to the staff on 3 November. Competitions on essay writing, elocution and slogan writing were conducted for the staff of the Institute and school children in Calicut city and prizes were distributed to the winners. Sri K Rajan, Station Director, AIR, Calicut was the chief guest in the valedictory function.

**National Integration and Quami Ekta week**

National Integration and Quami ekta week was observed during 19-25 November.

**Institute Research Committee Meeting**

Mid-term review of research projects of the Institute was held during 8-9 December 2009 under the chairmanship of Dr VA Parthasarathy, Director, IISR, Calicut.

**Distinguished visitors**

Dr. T. P. Trivedi	Project Director, DIPA and ADG, ICAR, New Delhi	9 November 2009
Dr. B. N. Chattopadhyaya	Coordinator & Nodal Officer, ICAR, New Delhi	9 November 2009
Mr. Umesh Srivastava	Assistant Director General, ICAR, New Delhi	11 November 2009
Dr. H P Singh	Deputy Director General, ICAR, New Delhi	21-22 November 2009
Prof. K Kannan	Vice Chancellor, Nagaland University	3 December 2009
Dr. Krishna Srinath	Director, Directorate of Research on Women in Agriculture, Bhubaneswar	21 December 2009



Director with staff during Christmas celebrations

**News from SARANI**

SARANI, the recreation club of the Institute hosted farewell functions in connection with the superannuation of the staff. Sarani played active role in distribution of preventive medicine to the staff and family as part of antifilariasis campaign of Kerala Govt. The recreation club was also involved in celebrating Independence day, Onam and Christmas. A demonstration and display of Maruti vehicles for the staff was entertained by the club.

**Publications**

**Research papers**

Anil Kumar R, Vasu K, Velayudhan KT, Ramachandran V, Suseela Bhai R & Unnikrishnan G 2009 Translocation and distribution of <sup>32</sup>P-labelled potassium phosphonate in black pepper (*Piper nigrum*. L), *Crop Protection* 28: 878– 888.

Bhadramurthy V, Anju George, Bhat A I & Shiva K N 2009 Coat protein gene sequence studies suggest that *Cucumber mosaic virus* infecting paprika (*Capsicum annum* L.) in India belongs to subgroup IB. *Archives of Plant Pathology and Plant Protection* 42: 857–863.

Bhat A I, Siljo A, Jiby M V, Thankamani C K & Mathew P A 2009 Polymerase Chain Reaction (PCR)- based

- indexing of black pepper (*Piper nigrum* L.) plants against *Piper yellow mottle virus*. *Journal of Spices and Aromatic Crops* 18 (1):28–32.
- Biju C N, Niazi F R & Jasvir Singh 2009 Identification of differential rice cultivars for characterization of rice tungro disease isolates of India. *Indian Phytopathology* 62 (2): 240–244.
- Bobby Paul, Balaji S, Sathyanath V & Eapen S J 2009 JUZBOX: A web server for extracting biomedical words from the protein sequence. *Bioinformatics* 4(5): 179–181.
- Chandrasekar A, Riju A, Sithara K, Anoop S, Eapen S J 2009 Single nucleotide polymorphisms (SNPs) and indels in expressed sequence tag libraries of turmeric (*Curcuma longa* L.) *Online Journal of Bioinformatics* 10 (2): 224-232
- Chandrasekar A, Riju A, Sithara K, Anoop S & Eapen S J 2009 Identification of single nucleotide polymorphism in ginger using expressed sequence tags, *Bioinformatics* 4(3): 119-122.
- Dhanya K, Syamkumar S & Sasikumar B 2009 Development and Application of SCAR Marker for the Detection of Papaya Seed Adulteration in Traded Black Pepper Powder, *Food Biotechnology* 23: 97–106.
- Hamza S, Srinivasan V & Dinesh R 2009 Nutrient diagnosis of cardamom (*Elettaria cardamomum*) gardens in South India, *Indian Journal of Agricultural Sciences* 79(6): 429–432.
- Jaleel K & Sasikumar B 2009 Variability for quality traits in a global germplasm collection of ginger (*Zingiber officinale* R.). *Current Trends in Biotechnology and Pharmacy* 3: 254-259.
- Jayashree E, Zachariah T J & Gobinath P 2009 Physico-chemical properties of black pepper from selected varieties in relation to market grades. *Journal of Food Science and Technology* 46(3): 263–265.
- Nair R R & Sasikumar B 2009 Chromosome number variation among germplasm collections and seedling progenies in turmeric, *Curcuma longa* L., *Cytologia* 74(2): 153–157.
- Rajeev P & Kurup K N 2009 Integrated disease management in black pepper -A study on technology diffusion and impact, *Agriculture Extension Review* 21(2):20.
- Riju A, Sithara K, Suja S Nair, Shamina A & Eapen S J 2009 *In silico* screening of major spice phytochemicals for their novel biological activity and pharmacological fitness, *Journal of Bioequivalence & Bioavailability* 1(2): 63-73.
- Senthil kumar R, Prasath D, Leela N K, Krishnamoorthy B & Venugopal M N 2009 Performance of cassia [*Cinnamomum cassia* (Blume)] genotypes under high rainfall and high altitude Kodagu region of Karnataka, *Journal of Spices and Aromatic Crops* 18(1): 37-39.
- Sheji C, Renu S G, Balaji S & Anandaraj M 2009 Ribosomal DNA analysis of three *Phytophthora* species occurring in India. *Indian Phytopathology* 62(2):155-162.
- Srinivasan V, Hamza S & Dinesh R 2009 Critical limits of zinc in soil and plant for increased productivity of ginger (*Zingiber officinale* Rosc.), *Journal of Indian Society of Soil Science* 57:191-195.
- Suseela Bhai R, Anandaraj M & Srinivasan V 2009 Validation of farmers practice of using sodium chloride for controlling foot rot disease of black pepper (*Piper nigrum*). *Indian Journal of Agricultural Sciences* 79(8): 722-726.
- Suseela Bhai R & Sarma Y R 2009 Effect of organic amendments on the proliferation stability of *Trichoderma* and suppression of *Phytophthora* sp. in cardamom soils in relation to soil microflora, *Journal of Biological Control* 23 (2):163-167.
- Velayudhan K C, Pandravat, S R, Johnson K G & Varaprasad K S 2009 Report of occurrence of a new taxon *Curcuma longa* var. *Vanaharidra* from Visakhapatnam District, Andhra Pradesh, India, *Journal of Economic and Taxonomic Botany* 33(1): 172-176.

### Popular articles

Ankegowda S J & Venugopal M N 2009 Pepper cultivation practices- How? What?, *Spice India* (Kannada) 22(6): 4-8.

Mathew PA 2009 Neelapankiyum meenkariyum, *Kerala Karshakan* 55(6): 64-65.

Parthasarathy V A, Anandaraj M & Krishnamoorthy B 2009 Technology interventions for improved spice production, In: Souvenir of *Swadeshi Prem Jagriti Sangoshti*, 28-31.

Parthasarathy VA & Krishnamoorthy B 2009 Indian Institute of Spices Research, Calicut, *Science India* 12 (8):10-19.

Parthasarathy VA, Kandiannan K & Utpala Parthasarathy 2009 Measure, map and manage agriculture, *Geospatial Today* 8(5): 32-35.

Parthasarathy VA, Kandiannan K & Utpala Parthasarathy 2009 Spices quantum and distribution of rainfall impact on these crops, The Hindu Survey of Indian Agriculture *The Hindu*, pp 61-62.

Utpala Parthasarathy 2009 Digital Mapping and GIS for Boosting Horticulture, *Science India* 12(6): 13-20.

### Books

Anandaraj M, Tamil Selvan M, Dinesh R., Krishnamurthy K S, Srinivasan, V & Saji K V (Eds.) 2009 Souvenir and Abstracts: National Symposium on Spices and Aromatic Crops (SYMSAC-V). Harnessing the Potential of North Eastern States for Spices Production through Technological Interventions, Indian Society for Spices, Calicut.

**Book chapters**

Ankegowda S J & Venugopal M N 2009 Important tips in cultivation of cardamom. In: Narayanaswamy B, Prabhakar B, Joshi SV, Devaiah K (Eds.), Training manual on Organic and Integrated cultivation methods in Horticulture crops (Kannada). KVK, Gonikoppal and Department of Horticulture, Kodagu District. pp18-19.

Ankegowda S J & Venugopal M N 2009 Cultivation practices in turmeric, In: Narayanaswamy B, Prabhakar B, Joshi SV, Devaiah K (Eds.), Training manual on Organic and integrated cultivation methods in horticulture crops (Kannada). KVK, Gonikoppal and Department of Horticulture, Kodagu District. pp 20-23.

Ankegowda SJ & Venugopal M N 2009 Important organic cultivation practices in spice crops in Kodagu In: Narayanaswamy B, Prabhakar B, Joshi SV, Devaiah K (Eds.), Training manual on Organic and Integrated cultivation methods in Horticulture crops (Kannada). KVK, Gonikoppal and Department of Horticulture, Kodagu District. pp 20-23.

Aravind R, Bini Y K, Kumar A & Anandaraj M 2009 Isolation and characterization of rhizobacteria from black pepper (*Piper nigrum* L.) for biocontrol. In: D K Agarwal, Kalyan K Monda (Eds.), Plant Pathology in the Globalized era, Indian Phytopathological Society, Indian Agricultural Research Institute, New Delhi. 311 p.

Bhat AI 2009 Transgenic approaches for the enhancement of nutrition and quality of plants. In: Shamina A, Krishnamurthy K S, Shiva K N, Leela N K and Chempakam B (Eds.) Flavors, nutraceuticals and food colors from horticultural crops. Indian Institute of Spices Research, Calicut. pp 128-139.

Devasahayam S & Jacob T K 2009 Biodiversity of insects in spice crop ecosystems. In : Ananthkrishnan T N (Ed.) Insect Biodiversity : Functional Dynamics and Ecological Perspectives. Scientific Publishers, Jodhpur. pp 31-45.

Eapen S J, Jayarajan K & Parthasarathy V A 2009 IT initiatives of Indian Institute of Spices Research, Calicut, Kerala. In: Govindakrishnan P M, Singh J P, Lal S S, Dua V K, Shashi Rawat and Pandey S K (Eds.) *Information Technology Applications in Horticultural Crops*, Central Potato Research Institute, Shimla, H P, pp 265-270.

Eapen S J, Jayarajan K, Sayed M V V, Devasahayam S & Parthasarathy V A 2009 ARISoft: A promising software from IISR for office automation. In: Govindakrishnan P M, Singh J P, Lal S S, Dua V K, Shashi Rawat, Pandey S K (Eds.) *Information Technology Applications in Horticultural Crops*, Central Potato Research Institute, Shimla, H P. pp 271-273.

Eapen S J 2009 Bioinformatics at IISR. In: Govindakrishnan P M, Singh J P, Lal S S, Dua V K, Shashi Rawat, Pandey S K (Eds.) *Information Technology Applications in Horticultural Crops*, Central Potato Research Institute, Shimla, H P. pp 160-164.

Parthasarathy V A, Kandiannan K & Srinivasan V 2009 Production Technology for Organic Black Pepper and Ginger. In: Tamil Selvan M, Homey Cherian, Manojkumar K, Babhulal Meena (Eds.) Production Technology for Organic Spices. Directorate of Areca nut and Spices Development, Calicut, Kerala, India. pp 38-51.

Suseela Bhai R 2009 Biological Control of Soil Borne Plant Pathogens with Special Reference to Major Spice Crops. In: Ponmurugan P, Deepa M A (Eds.) Role of Biocontrol agents for Disease Management in Sustainable Agriculture. Research India Publications, Delhi, India. pp 231-245.

Venugopal M N & Ankegowda S J 2009 Improved cultivation practices in black pepper, In: Narayanaswamy B, Prabhakar B, Joshi SV, Devaiah K (Eds.), Training manual on Organic and Integrated cultivation methods in Horticulture crops (Kannada). KVK, Gonikoppal and Department of Horticulture, Kodagu District. pp 12-14.

**Training manual**

Eapen S J (Ed.) 2009 *Recent Advances in EST Analysis and their Annotation*, IISR, Calicut, 51 p.

**Papers presented in symposia/seminars/workshops/conferences**

National Symposium on Weed Threat to Environment, Biodiversity and Agriculture Productivity, Tamil Nadu Agricultural University, Coimbatore, 2-3 August 2009.

- Weed management in spices crops (Parthasarathy V A & Kandiannan K).

National Symposium on Spices and Aromatic Crops (SYMSAC-V)-Harnessing the Potential of North Eastern States for Spices Production through Technologies Interventions, Central Institute of Horticulture, Medziphema, Nagaland, 30-31 October 2009.

- Disease management in ginger and turmeric (Anandaraj M)
- Impact of irrigation on cardamom production (Ankegowda S J)
- Organic management of insect pests of ginger and turmeric (Devasahayam S & Jacob T K).
- Organic production technologies for spice potentials in NE states (Kandiannan K, Srinivasan V & Dinesh R).
- Biodiversity in tree spices and its suitability to Northeastern India (Rema J, Krishnamoorthy B & Mathew P A).
- Genetic diversity of black pepper and its suitability to North Eastern States (Saji K V & Johnson George K).
- A SCAR marker-based method for sex determination in dioecious betel vine (*Piper betle* L.) (Sheeja T

E, Himabindu K, Anto P, Dhanya K, Siju S & Vasanth Kumar T)

- Development and characterization of genomic microsatellite markers from turmeric (*Curcuma longa* L.) (Siju S, Dhanya, K, Syamkumar S, Sasikumar B, Sheeja T E, Bhat A I & Parthasarathy V A)
- Crop diversification in black pepper garden through intercropping of tuber and fodder crops (Thankamani C K, Kandiannan K, Madan M S, Raju V K, Hamza S & Krishnamurthy K S).

Fifth International conference on Plant Pathology in the Globalized Era, IARI, New Delhi, 10-13 November 2009.

- Challenges in managing soil-borne diseases with reference to *Phytophthora*, *Fusarium* and *Ralstonia* (Anandaraj M).

- Potential of *Trichoderma* isolates for the management of rhizome rot disease in turmeric (*Curcuma longa* L.) (Anoop K & Bhai R S).
- Serological diagnosis of plant pathogens (Bhat A I).
- An efficient *Agrobacterium*-mediated transformation protocol for black pepper (*Piper nigrum* L.) using embryogenic mass as a source of explant (Jiby M V & Bhat A I).
- Elimination of *Cucumber mosaic virus* and *Cymbidium mosaic virus* infecting *Vanilla planifolia* through meristem culture (Retheesh S T & Bhat A I).
- Role of rhizosphere in determining compatibility among PGPR strains in consortia (Sibi M C & Anandaraj M).

### Externally aided projects

Title of project	Investigators	Funding agency	Period	Outlay (Rs.)
Outreach Research Programme on Sucking Pests of Horticultural Crops	Jacob T K, Devasahayam S	ICAR	2009-11	2,38,000
Outreach Programme on Diagnosis and Management of Leaf Spot Diseases in Field and Horticultural Crops	Biju	ICAR	2009-11	3,53,500

### PhD awarded

Name	Title of thesis	University	Guide
Hareesh P S	Molecular characterization and seed transmission of the <i>Badnavirus</i> infecting black pepper ( <i>Piper nigrum</i> L) in India	Acharya Nagarjuna University	Bhat A I

### M Sc Dissertations

Title	Student	Guide
Comparison of <i>in vitro</i> shoot proliferation potential of four species of <i>Vanilla</i> on SH medium supplemented with different levels of 6-benzylaminopurine (BAP)	Deepthi P St. Mary's College, Thrissur	Ramakrishnan Nair R
Functional annotation and classification of ESTs of two entomopathogenic nematodes	Sruthi Mohandas P, SAFI Institute of Advanced Study, Malappuram	Santhosh J Eapen
Identification of conserved orthologous gene segments in <i>Radophulus similis</i> using mitochondrial genome and available EST resources	Nima P, Lawrence, Mahatma Gandhi University, Kottayam	Santhosh J Eapen
Molecular characterization of <i>Capsicum</i> species of different locations using random amplified polymorphic DNA (RAPD) markers	Siva Kumar K N, Mangalore University	Utpala Parthasarathy

## New Appointment

Name	Designation	Date of joining
Dr. Praveena R	Scientist (Plant Pathology), CRC, Appangala	27 - 08- 2009
Sri. Riyas KP	Research Associate	20 - 08- 2009
Ms. Jashmi KC	Senior Research Fellow	24 -10- 2009
Ms. Darshana CN	Senior Research Fellow	24 -10- 2009

## Promotion

Name	Promoted as	Date
Dr. Prasath D	Senior Scientist	w.e.f. 25 -11- 2008
Sri. Padmanabhan C	Assistant Administrative Officer	w.e.f. 02 -07- 2009
Sri. Sundaran P	Assistant	w.e.f. 02 -07- 2009
Smt. Seema M	Lower Division Clerk	w.e.f. 09-10 - 2009

## Transfer

Dr. Madan M S                      Principal Scientist                      CMFRI, Kochi                      w.e.f. 23-07-2009

## Retirement



Name	Designation	Date
Dr. Venugopal M N	Principal Scientist & Head, CRC, Appangala	31-10-2009
Sri. Gowdigeri Shetty	Skilled Supporting Staff Gr. II, CRC, Appangala	30-09-2009 (VRS)
Sri. Velayudhan B T	Skilled Supporting Staff Gr. II, IISR, Calicut	30-11-2009
Sri. Ramachandran V P	Skilled Supporting Staff Gr. II, IISR, Calicut	31-12-2009

## SPICES NEWS

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