



SPICES NEWS

Indian Institute of Spices Research
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Half yearly

Research update

Germplasm enrichment

One hundred and five accessions of black pepper, including local cultivars of Arakulam munda, Poonjaran munda, Karimunda, Kaniakadan, Thevanmundi, Neelamundi, Perumkodi and Marampadathi were added to the germplasm repository of the Institute. *Garcinia* germplasm was enriched by adding fifty Northeast collections.

Cardamom genotypes with dual disease resistance

Six genotypes of cardamom, namely, IC 547222, IC 547223, IC 349645, IC 349649, IC 547158 and IC 349637, with dual resistance against leaf blight and rhizome rot diseases, were identified.

Cardamom mosaic virus detection by RT-PCR

A procedure for total RNA isolation from cardamom and detection of *Cardamom mosaic virus* (CdMV) through reverse transcription–polymerase chain reaction (RT-PCR) using primers designed for the conserved region of coat protein gene was standardized and the method was validated by testing cardamom samples representing different geographical locations of Karnataka, Kerala and Tamil Nadu.

BBrMV infection in cardamom

One *Nilgiri necrosis* isolate and four *Banana bract mosaic virus* (BBrMV) isolates infecting cardamom, were collected and established under insect-proof glass house conditions. BBrMV infection in cardamom was confirmed by RT-PCR and electron microscopy.

Management of shoot borer (*Conogethes punctiferalis*) infesting turmeric

Evaluation of four insecticides (malathion 0.1%, carbosulfan 0.075%, imidacloprid 0.0125%, lambda-cyhalothrin 0.0125%) in the field at Peruvannamuzhi for their efficacy in the management of the shoot borer on turmeric indicated that lambda-cyhalothrin 0.0125% was the most effective followed by malathion 0.1%.

Cassia lines with high yield and quality

Clonal evaluation of cassia elite lines at Peruvannamuzhi,

indicated the superiority of C1 with regard to dry bark yield.

Among the cassia lines tested at CRC Appangala, the highest dry recovery of bark yield (56.25%) was recorded in IC 370401 at first coppicing. IC 370410, IC 370423 and IC 370425 recorded maximum bark oil yield of 4% and IC 370415 recorded 21% oleoresin content.

Rhizobacteria for ginger

Rhizobacteria were evaluated in field for ginger and the rhizobacterial isolate, GRB-68 showed good germination percentage, disease suppression and better yield followed by GRB-35 and GRB-70. The PGPR strains (GRB-36, GRB-38) when applied in combination with 75%N, 100%P and 100%K positively influenced microbial biomass-C, -N, -P, soil respiration and N-mineralization.

PhytoFuRa

PCR detection using species-specific primer pairs was standardized for *Phytophthora nicotianae*, *P. capsici* and also *Rhizopholus similis*. The PCR-RFLP method was used to detect *Phytophthora* infection in citrus plants. *PhytoWeb*, a comprehensive portal on *Phytophthora* diseases of horticultural crops in India was developed by modifying the existing *PhyDisH*.

Leaf Spot Disease

One hundred *Colletotrichum* spp. were identified and pure cultured from 150 field samples of cardamom, black pepper and other component crops, of which, colony, conidial and appressorial characteristics of 50 isolates have been recorded. Leaf blight incidence was recorded in 30 germplasm accessions of cardamom during August to March and anthracnose incidence was recorded in 10 black pepper vines during October and March.

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Personalia

Deputation abroad

Dr. Sheeja TE was deputed for the NAIP sponsored training programme on Plant Variety Protection, conducted by Naktuinbouw, held at Wageningen, Netherlands, during 14-25 June 2010.

Awards/Honours/Recognitions

In the National Conference on Horticultural Biodiversity for Livelihood, Economic Development and Health Care, held at Bangalore during 29-31 May 2010,

- The invited lecture by **Dr VA Parthasarathy** was adjudged as the best talk.
- The research paper entitled 'Western Ghats region is Hot Spot for *Piper* species Diversity' authored by **Utpala Parthasarathy, K Jayaraj, K V Saji and V A Parthasarathy** bagged the award for Second Best Poster.

Anandaraj M

President (Southern Zone), Indian Phytopathological Society.

Participation in Symposia/ Seminars/ Workshops/ Conferences/ Meetings

All Scientists

Karshika Sankethika Darshanam-2010, Technology Week, organized by IISR-KVK and NAIP at Peruvannamuzhi, Calicut, 8-12 February 2010.

Anandaraj M

Brain storming on Technological support to Horticulture Development on Northeast, CPCRI Research Centre, Kahikuchi, 5 January 2010.

Peer review meeting, CTCRI, Trivandrum, 4-5 March 2010.

National Seminar on Tree spices organized by TNAU at Kanyakumari, 6-7 March 2010.

Executive Committee Meeting of Indian Phytopathological Society, New Delhi, 15 April 2010.

Interactive meeting of Directors and Project Coordinators, Directorate of Weed Science Research, Jabalpur, 16-20 May 2010.

Anandaraj M

Ankegowda S J

ICAR Regional Committee Meeting VIII, Bangalore, 13 -15 May 2010.

Anandaraj M

Bhat A I

Biju C N

Praveena R

Suseela Bhai R

National Consultative Meeting on Disease Diagnostics for Horticultural Crops, NRC for Banana, Trichy, 22-24 January 2010.

Anandaraj M

Parthasarathy VA

Meeting with Hon. DG, ICAR, New Delhi, regarding Division-wise presentations in Horticulture, 2-3 February 2010.

Horticulture Divisional Meeting, ICAR, New Delhi, 4 February 2010.

Directors and Project Coordinators Conference, ICAR, New Delhi, 15-17 February 2010.

Anandaraj M

Kandiannan K

Parthasarathy VA

Rajeev P

National Conference on Production of Quality Seeds and Planting Material – Health Management in Horticultural Crops, ICAR, New Delhi, 11–14 March 2010.

Anandaraj M

Parthasarathy VA

Santhosh J Eapen

Annual review meeting of *PhytoFuRa* – ICAR Outreach Project on *Phytophthora, Fusarium and Ralstonia* Diseases of Horticulture and Field Crops, NAAS Complex, New Delhi, 15-16 March 2010.

Anandaraj M

Parthasarathy VA

Prakash K M

Rajeev P

Senthil Kumar R

Usharani T R

Utpala Parthasarathy

National Conference on Horticultural Biodiversity for Livelihood, Economic Development and Health care, UHS, New Campus, PG and Hitech Research Centre, Bangalore, 28-31 May 2010.

Ankegowda S J

Horticulture exhibition, 28th Group meeting of AICRP (Vegetable Crops) Workers Meeting, IIHR, Bangalore, 16 January 2010.

Flower Show organized by Department of Horticulture, Madikeri, 1 May 2010.

Ankegowda SJ

Biju C N

Praveena R

Senthil Kumar R

Usharani T R

Master Training programme for Agricultural and

Horticultural Officers at Cardamom Research Centre, Appangala, 11 March 2010.

Bhat A I

National Conference on Horticultural Crops, New Delhi, 11-14 March 2010.

Project Monitoring Committee Meeting of DBT funded project on 'Development of transgenic plants resistant to viruses', IARI, New Delhi, 28 April 2010.

Biju C N

Praveena R

First Annual Progress Meeting of Outreach Programmes on Diagnosis and Management of Leaf Spot Diseases of Horticultural Crops and *Phytophthora*, *Fusarium* and *Ralstonia* Diseases of Horticultural and Field Crops, NASC, New Delhi, 15-16 January 2010.

Chempakam B

Dinesh R

Krishnamurthy K S

Parthasarathy V A

Shamina A

Sheeja TE

Brainstorming Session on Application of Nanotechnology in Agricultural Science, CIFE, Mumbai, 27-28 March 2010.

Devasahayam S

First Meeting of Standing Committee of PLACROSYM XIX, Kottayam, 29 January 2010.

Devasahayam S

Jacob T K

Review Meeting of Outreach Research Programme on Sucking Pests of Horticultural Crops, Bangalore, 16 May 2010.

Interactive Meeting of Entomologists of Horticultural Division of ICAR on Whiteflies, Bangalore, 17 May 2010.

Dinesh R

Half yearly Review Meeting of ICAR Network Project on Application of microorganisms in agriculture and allied sectors (AMAAS), NBAIM, Mau, 9 January 2010

Dinesh R

Srinivasan V

Training programme cum Seminar for farmers organized by DASD, Beach Ground, Calicut, 22 January 2010.

Meeting on refinement of POP on organic cultivation of spices, SAMETI, Trivandrum, organized by Department of Agriculture, 23-24 April 2010.

Dinesh R

Suseela Bhai R

Growers Meeting and Seminar on Black pepper organized by Spices Board, Pulpalli, Wynad, 20 March 2010.

Jacob T K

Rema J

Srinivasan V

Suseela Bhai R

State level Workshop on Package of Practices-2010, 24 February 2010, KAU, Vellanikkara, Thrissur.

Jayarajan K

One-day Symposium on *PKI Outreach Programme*, Malabar Palace, Kozhikode, Organized by Controller of Certifying Authority and CDAC, Bangalore, 4 June 2010.

Orientation training programme on SAS software installation of NAIP on '*Strengthening Statistical Computing for NARS*', Dept. of Agrl. Statistics, GKVK, UAS Bangalore, 21-22 June 2010.

Jayarajan K

Sushama Devi CK

13th National Convention on Knowledge, Library and Information Networking-NACLIN 2010, BITS-Pilani, Goa Campus, Goa, 15-18 June 2010.

Jayasree E

Technology Expo & Farmers Mela for showcasing technologies under 'Mobilising Mass Media support for sharing Agro Information' organized by CIFT, Cochin, 11 March 2010.

Jayasree E

Sheeja TE

Srinivasan V

ICAR Zonal Technology Management and Business Planning and Development Meeting-cum- workshop on Intellectual Property and Technology Management, CIFT, Cochin, 12-13 March 2010.

Jayasree E

Kandiannan K

Processing and Management of Turmeric and Ginger for farmers of Jalgoan Dt., Maharashtra, organized by the State Department of Agriculture, Maharashtra, 5-6 March 2010.

John Zachariah T

Project Monitoring and Advisory Committee Meeting of NAIP on 'Mobilising Mass Media support for sharing Agro Information', IIHR, Bangalore, 23 January 2010. Review meeting of NAIP on 'Mobilising Mass Media support for sharing Agro Information', IIHR, Bangalore, 27 March 2010.

World Bank Mission Review Meeting of NAIP of Kerala, CMFRI, Kochi, 23 May 2010.

Kandiannan K
Parthasarathy V A
Srinivasan V

Thankamani CK
Utpala Parthasarathy

National Seminar on Soil, Water and Crop Management for Higher Productivity of Spices, CWRDM, Calicut, 11-12 February 2010.

Parthasarathy V A

PPV & FRA Meeting, New Delhi, 19 January 2010.
 Assessment Committee Meeting, New Delhi, 1 April 2010.

Meeting on Horticulture Information System, New Delhi, 20 April 2010.

XXII Meeting of ICAR Regional Committee No. VIII, Bangalore, 13-15 May 2010.

Swadesh Prem Jagriti Sangoshthi-2010, Bangalore, 28-31 May 2010.

Scientific Advisory Committee on Resource-Specific Network Programme, New Delhi, 14 June 2010.

Meeting on ARS Disciplines – Dr. R.S. Paroda Committee, New Delhi, 29 June 2010.

Parthasarathy V A

Senthil Kumar R

Utpala Parthasarathy

National Symposium on *Garcinia* Genetic Resources : Linking Diversity, Livelihood and Management, Sirsi, 8-9 May 2010.

Rashid Pervez

Santhosh J Eapen

National Conference on Innovations in Nematological Research-Challenges and a Roadmap Ahead, TNAU, Coimbatore, 23-25 February 2010.

Saji KV

Malabar Wild Life Sanctuary - Biodiversity and conservation organized by Forest Dept. of Kerala, Biodiversity Board, Malabar Natural history Society and Zoological Survey of India, at Calicut, 20 March 2010.
 National Workshop on Establishment of the Information sharing Mechanism for monitoring the Implementation of Global Plan of Action (GPA) for conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture (PGFRA) at NBPGR, New Delhi, 17 April 2010.

Regional workshop on FAO sponsored project on Establishment of the Information sharing Mechanism for monitoring the Implementation of Global Plan of Action for conservation and Sustainable Utilization of Plant Genetic Resources for Food and Agriculture at NBPGR Regional station, Trichur, 19 May 2010.

National consultation on Agro biodiversity management, NAAS complex, New Delhi, 26-27 May 2010.

Santhosh J Eapen

XXI All India BTIS Coordinators Meeting, Central Agricultural Research Institute, Port Blair, Andamans, 3-4 February 2010.

International Symposium on Biocomputing, National Institute of Technology, Calicut 15-17 February 2010.

Srinivasan V

National Seminar on Soil, Water and Crop Management for Higher Productivity of Spices, 11-12 February 2010.

Srinivasan V

Suseela Bhai R

State Level Workshop on Package of Practice Crops 2010, Kerala Agricultural University, Trichur, 24 February 2010.

Suseela Bhai R

Training on Modern Agricultural Practices and Techniques –Foot rot & Slow Decline diseases, MSSRF, Kalpetta, 11 March 2010.

Lectures delivered

Anandaraj M

Wilt diseases in Horticultural Crops - Diagnostics development, constraints and future prospects, National Consultative meeting on Disease Diagnostics for Horticultural Crops, NRC (Banana), Trichi, 22-24 January 2010.

Plant protection measures for enhanced productivity of spices, National Seminar on Spices and Aromatic Crops, CWRDM, Calicut, 10-11 February 2010.

Towards sustainable management of diseases in tree spices, National Seminar on Tree spices at Vivekananda seminar Hall, Kanyakumari, Horticultural Research Station, Pechiparai, TNAU, 5-7 March 2010.

Detection of soil borne pathogens for raising quality planting material in spices, National Conference on production of quality seeds and planting material-Health management in Horticultural Crops, New Delhi, 11-14 March 2010.

Technologies for Increasing Production of Spices, National Conference on Horticultural Biodiversity for Livelihood, Economic Development and Healthcare, UHS, Bangalore, 28-31 May 2010.

Ankegowda S J

Good agriculture practices in spices cultivation, Workshop on Good agriculture practices and marketing at Madikeri, organized by Karnataka State Agriculture Marketing Board, Mysore and AIR, Madikeri, 28 January 2010.

Black pepper cultivation practices, Training programme

conducted by Rural Development Trust, Mysore at Chembu Village, Sullya, 3 February 2010.

Black pepper and tree spices cultivation practices, NHM Training programme at Murkajja, Sullya, 17 February 2010.

Agronomy and post harvest technology of black pepper, Master training programme- Black pepper for Agriculture/Horticulture officers at CRC, Appangala, organized by Spices Board, Madikeri, 11 March 2010.

Cultivation practices in black pepper and related spices, Quality improvement training programme at Bhadamandala, organized by Spices Board, Bhagamandala, 24 March 2010.

Bhat A I

Microarray Technology, Summer training programme on Techniques in Bioinformatics and Biotechnology, IISR Calicut, 5 May – 4 June, 2010.

Molecular techniques for detection of Plant viruses, Summer training programme on Techniques in Bioinformatics and Biotechnology, IISR Calicut, 5 May – 4 June 2010.

Plant molecular farming, Summer training programme on Techniques in Bioinformatics and Biotechnology, IISR Calicut, 5 May– 4 June 2010.

Biju C N

Pest and Disease Management in Black pepper, Master training programme- Black pepper for Agriculture/Horticulture officers at CRC, Appangala organized by Spices Board, Madikeri, 11 March 2010.

Hamza S

Organic cultivation practices for black pepper, Training on modern agricultural techniques in black pepper production for farmers of Wynad Dt., 10 March 2010, MSSRF, Kalpetta.

Jayasree E

Post Harvest Technology and Engineering Aspects of Spices, Indian Institute of Plantation Management, Bangalore, IISR, Calicut, 8 January 2010.

John Zachariah T

Flavour profiling of Spices, Mangalore University, Cauvery Campus at Madikeri, 12 March 2010.

Leela N K

Bioactive components in spices, Summer training programme on Techniques in Bioinformatics and Biotechnology, IISR Calicut, 5 May – 4 June 2010.

Parthasarathy VA

Biodiversity of Horticultural Crops, World Environment

Day- 2010, Jubilee Hall, Calicut, 5 June 2010.

Shamina A

Functional foods and nutraceuticals, Summer training programme on Techniques in Bioinformatics and Biotechnology, IISR Calicut, 5 May – 4 June 2010.

Senthil Kumar R

Varieties and land races in Black pepper, Master Training Programme for Agricultural and Horticultural Officers, CRC, Appangala, 11 March, 2010.

Srinivasan V

Processing and Value addition in spices, Seminar on Spices cultivation, Calicut flower show, 4 January 2010.

Utpala Parthasarathy

Intra species diversity influenced by environment, National seminar on Soil, water and crop Management for higher productivity of spices, CWRDM, Calicut, 11-12 February 2010.

Membership in Committees/Professional Societies

Bhat A I

Suseela Bhai R

Member, Quality Control Team, Agriculture Dept, Calicut for selection of mother vines for raising planting materials of black pepper at various nurseries of the Department of Agriculture, Calicut Dt.

Parthasarathy V A

Member, The Consultative Group, Geographical Indications Registry, [Government of India, Ministry of Commerce & Industry, Controller General of Patents, Designs, Trade Marks], S T Road, Guindy, Chennai 600 032 .

Member, Dr R S Paroda Committee on ARS Disciplines.

Rashid Pervez

Fellow, Nematological Society of India-2010.

Radio Talk

Hamza S

Role of micronutrients in spices, AIR, Calicut, 28 April 2010.

Biofertilizers for spices, AIR, Calicut, 28 April 2010.

John Zachariah T

Spices as health supplements, AIR, Calicut, a7 January 2010.

Leela N K

Flavour components of cinnamon, AIR, Calicut, 28 April 2010

Saji KV

High yielding varieties of black pepper, AIR, Calicut, 29 March 2010.

Suseela Bhai R

Integrated disease management of foot rot disease of black pepper, AIR, Calicut, 22 April 2010.

Diagnostics for viral diseases in black pepper, AIR, Calicut, 28 April 2010.

Thankamani C K

Inter cropping with ginger and turmeric, AIR, Calicut, 7 May 2010.

T V Programme

Ankegowda S J

Pest management in cardamom, Doordarshan Kendra, Bangalore, 15 March 2010.

Water management in cardamom, Doordarshan Kendra, Bangalore, 30 March 2010.

New technologies in black pepper, Doordarshan Kendra, Bangalore, 5 April 2010.

Water management in black pepper, Doordarshan Kendra, Bangalore, 15 April 2010.

News and events

Kisan Mela

A five days' programme on showcasing of Technologies under the NAIP sub-project on 'Mobilising Mass Media Support for sharing Agro Information' and Kisan Mela were organized at IISR Experimental Farm, Pervannamuzhi, during 8-12 February 2010.

The main event of Farmers Meet was held on 8 February under the chairmanship of Dr. V A Parthasarathy, Director, IISR, Calicut and was inaugurated by the Kozhikode District Panchayath President, Sri. K P Kunjammed Kutty.

About twenty participants, including Indian Institute of Spices Research, Kozhikode; Central Plantation Crops Research Institute, Kasaragod; Central Tuber Crops Research Institute, Thiruvananthapuram; Central Marine Fisheries Research Institute, Kochi; Directorate of Cashew Research, Puthur, Karnataka; National



Sri. K. P. Kunjammed Kutty, Kozhikode Dt. Panchayath President delivering inaugural speech during Kisan mela.

Seeds Corporation, Palakkad; Subiksha, Kozhikode; RAIDCO, Kannur; COD, Thamarasseri; Kudumbasree Mission, Agro-green and KVK Self Help Groups set up stalls exhibiting their technologies and products. Three hundred farmers and 2500 school children visited the stalls and were enlightened by the various technologies show cased.

Special Training Programme for Vigilance Officers of ICAR Institutes

A Special Training Programme for Vigilance Officers of ICAR Institutes, organized by NAARM, Hyderabad was held at IISR, Calicut, during 22-24 February 2010. Twenty vigilance officers from various ICAR institutes participated in the programme. The programme was inaugurated by Dr. Ajai Kumar, Director (DARE) & CVO, ICAR, New Delhi, on 22 February 2010. The faculty for the programme included officials from ICAR, Central Vigilance Commission, New Delhi and NAARM, Hyderabad. Sri. Ashish Roy, CAO, NAARM, Hyderabad and Dr. S. Devasahayam, Head (Crop Protection) & Vigilance Officer, functioned as the Course Director, and Local Convenor of the programme, respectively. The valedictory session was held on 24 February 2010 and Dr. V. A. Parthasarathy, Director, IISR, Calicut, delivered valedictory speech and distributed certificates to the trainees.



Dr. Ajai Kumar, Director (DARE) & CVO, ICAR, New Delhi, addressing the audience.

Research Advisory Committee meeting

The RAC meeting of Indian Institute of Spices Research, Calicut was held during 8-9 April 2010 under the chairmanship of Dr N Mohanakumaran, Former Director of Research, Kerala Agricultural University. Other RAC members present were Dr Umesh Srivastava (ADG, Hort. II), Dr I Irulappan, Former Dean,



RAC meeting in progress

TNAU, Coimbatore, Dr KUK Nampoothiri, Former Director, CPCRI, Kasaragod and the farmers' representatives Sri M J Ummen and Sri G Rathikumar.

The action taken on the recommendations of previous RAC meeting was reviewed and the progress made during the last one year in thirteen mega projects of the Institute was evaluated in the technical sessions. The chairman emphasized the need for multidisciplinary approach to find solutions, popularization of the released varieties and their impact on adoption.

Transfer of Technology

Dr. K Kandiannan and Dr. E Jayashree visited Khiroda village of Raver Taluk, Jalgaon Dist. of Maharashtra on 5 March 2010, in connection with the training on 'Ginger Production' and delivered lectures on agro-techniques and processing aspects. Two hundred farmers participated in the training programme. They also visited the KVK at Satpuda Vikas Manadal, Pal and



IISR Scientists with ginger growers in Maharashtra

farmer's field, explained latest technologies for cultivation of ginger. On 6 March 2010, field demonstration of agro-techniques and processing of ginger was done at Kingaon village and 50 farmers participated.

Institute Research Council Meeting (IRC)

The IRC meeting was held on 26 April 2010 under the chairmanship of Dr V A Parthasarathy, Director, IISR, Calicut and on-going research projects were discussed and future programmes were chalked out.

Summer training on Techniques in Biochemistry, Biotechnology & Bioinformatics

Summer training on Techniques in Biochemistry, Biotechnology & Bioinformatics for MSc students was held during 5 May - 4 June 2010. Nineteen MSc students from eight different universities participated in the training programme. The training was inaugurated by Dr. V. A. Parthasarathy, Director, IISR, Calicut and the course curriculum covered theory and hands on practical classes on advanced techniques in

biochemistry, biotechnology and bioinformatics, GIS, statistical procedures and IPR. In addition to the lectures offered by the scientists of IISR, Calicut, Dr. Maheshwaran, Professor, TNAU, Coimbatore delivered a talk on 'Molecular markers in crop breeding'. The performance of trainees was evaluated during the course and Sri. Radesh Krishnan, PSG College of Arts and Science, Coimbatore bagged the merit certificate for the best trainee.



हिन्दी अनुभाग

जनवरी से जून 2010 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 रूचि पैदा करने के लिये दो हिन्दी कार्यशालाओं का आयोजन किया। प्रथम कार्यशाला 25 मार्च 2010 में आयोजित की गई जिसमें श्रीमती सेलिन वर्गीस, सहायक निदेशक (रा भा) ने "राजभाषा नियम और उनका अनुपालन" के बारे में व्याख्यान दिया तथा द्वितीय कार्यशाला 18 जून 2010 में आयोजित की गई जिसमें श्री. एन. अरविन्दाक्षन, हिन्दी अनुवादक, कर्मचारी भविष्य निधि कार्यालय, कालिकट ने "हिन्दी टिप्पणी एवं मसौदा लेखन" के बारे में व्याख्यान दिया। श्रीमती उर्मिला हरित, सहायक निदेशक (रा भा), कृषि अनुसंधान एवं शिक्षा विभाग, भारत सरकार, नई दिल्ली ने 5 फरवरी 2010 को संस्थान में राजभाषा कार्यान्वयन का निरीक्षण किया।

राजभाषा को प्रोत्साहित करने हेतु तिमाही राजभाषा कार्यान्वयन योजना के अन्तर्गत संस्थान की श्रीमती सी. के. बीना को प्रथम, श्री. के. जी. जगदीशन को द्वितीय तथा श्रीमती पी. वी. साली को तृतीय पुरस्कार से सम्मानित किया गया। डा. के. एन. शिवा, वरिष्ठ वैज्ञानिक ने 16 फरवरी 2010 को स्टेट बैंक ऑफ द्रावणकोर, कालिकट में नगर राजभाषा कार्यान्वयन समिति द्वारा आयोजित हिन्दी कार्यशाला में भाग लिया। डा. राशिद परवेज. एवं सुश्री. एन. प्रसन्नकुमारी ने नगर राजभाषा कार्यान्वयन समिति की 45 वीं बैठक तथा उपसमिति की बैठक में भाग लिया। जुलाई-दिसम्बर 2009 का "मसाला समाचार" तथा अनुसंधान के मुख्य अंश 2010 को प्रकाशित किया। रिपोर्टधीन काल में राजभाषा कार्यान्वयन सम्बन्धी दो तिमाही रिपोर्ट तैयार करके भारतीय कृषि अनुसंधान परिषद, नई दिल्ली, नगर राजभाषा कार्यान्वयन समिति, कालिकट तथा उप निदेशक (कार्यान्वयन), क्षेत्रीय कार्यान्वयन कार्यालय, कोचिन को प्रेषित किया।

News from HRD

During January-June 2010 nine students from various universities completed their M.Sc. project work in Biotechnology, Biochemistry, Microbiology, Bioinformatics and Plantation Development and one student has joined for M Phil project work in Biotechnology.

News from Bioinformatics Centre

The Bioinformatics Centre offered special training to two scientists of ICAR, one each from NRC (Citrus) and NRC (Banana) during 27 January–2 February 2010. During the period, studentship was offered to three post graduate students and two post graduates were offered training in Bioinformatics. A new database, GST Lead Base (www.spicebioinfo.res.in/gstleadbase), containing chemical properties of potential nematicidal compounds that inhibit glutathione-S-transferase in nematodes was developed and hosted.

Consultancy Processing Cell

During January-June 2010, the revenue generation through consultancy activities was around Rs. 2.37 lakhs. A share of 44% of the amount was generated by offering summer training to MSc students from different educational institutions and the rest from analysis of soil and manure samples for different nutrients and analysis of biocontrol agents.

News from Library

A book exhibition was conducted during 1-2 March 2010 in the library premises and books worth Rs.1.5 lakhs were purchased. Six issues of the monthly news online, 'AGRI titbits', were brought out during the period. Library added 152 books, 11 technical reports, 3 theses and 8 project reports during the period. About 459 external users and 2800 internal users made use of the library facilities. Dr C K Sushama Devi, Technical Officer (Lib) and Mr. K Jayarajan, Technical Officer visited IIHR, Bangalore, on 12 March 2010 as per DDG's instruction and gave directions for the modernization of the library.

Institute Management Committee Meeting (IMC)

The IMC meeting was conducted on 8 June 2010 under the chairmanship of Dr V A Parthasarathy, Director, IISR, Calicut. IMC members - Dr Umesh Srivastava, ADG, Dr R P Shukla, Principal Scientist, CIHS, Lucknow, Dr V Ponnuswamy, Dean (HC & RD), TNAU Coimbatore, Dr M Unnikrishnan, CTCRI, Trivandrum, Sri G Rathikumar, Farmer member, and Dr M Anandaraj, Project Co-ordinator (Spices) attended the meeting. Special invitees Dr S Devasahayam and Sri Jagadeesan, and Sri C Padmanabhan, AAO & Member Secretary were also present.

News from Sarani

A lecture on Postal Life Insurance was arranged in February 2010 for the benefit of the staff. *Sarani* participated in the Andhakshri Competition conducted by the Central Govt. Employees Coordination Committee, Calicut, and bagged the first prize. Annual day of *Sarani* was celebrated on 16 June 2010. Sri P.K.Parakkadavu, well-known Malayalam writer was the Chief Guest. Various cultural events were also held. *Sarani* also arranged farewell function for its out-going staff members, on the eve of their retirement and transfer.

Publications

Research papers

Anil Kumar R, Velayudhan K T, Ramachandran V, Suseela Bhai R, Unnikrishnan G, & Vasu K (2010) Adsorption and removal kinetics of phosphonate from water using natural adsorbants. *Water Environment Research* 82(1): 62-68.

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Joseph John K, Latha M, Senthil Kumar R, Asokan Nair R, Abraham Z & Mishra SK (2009) *Vigna dalzelliana* (O.Kuntz) Verdc.: A new distributional record from Andaman Islands, India. Indian Journal of Plant Genetic Resources 22(2): 138-140.

Krishnamoorthy B, Nirmal Babu K, Sasikumar B, Saji K V, Johnson George K, Prasath D, Shiva K N, Ramakrishnan Nair R & Sheeja T E (2010) Improved varieties of spices released by Indian Institute of Spices Research, Calicut. Indian Journal of Medicinal and Aromatic Plants Vol. 11 (4): 156-161.

Krishnamoorthy B & Parthasarathy V A (2010) Improvement of Black Pepper. CAB Reviews; Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources Vol.5 (3):1-12.

Parthasarathy V A, Saji K V & Utpala Parthasarathy (2010) Biodiversity to enhance export of Spices, Indian Journal of Horticulture 67: 57-62.

Prasath D & Venugopal M N (2009) Compound inflorescence cardamom (*Elettaria cardamomum* Maton) in India. Genetic Resources and Crop Evolution 56(6): 749-753.

Prasath D, Venugopal M N & Parthasarathy V A (2010) Inheritance of Cardamom Mosaic Virus (CdMV) resistance in Cardamom. Scientia Horticulturae 125(3): 539-541.

Rajeev P & Kurup K N (2009) Integrated disease management in black pepper-A study on technology diffusion and impact, Agriculture Extension Review 21(2):153-57.

Siju S, Dhanya K, Syamkumar S, Sasikumar B, Sheeja T E, Bhat A I & Parthasarathy V A (2010) Development, characterization and cross species amplification of polymorphic microsatellite markers from expressed sequence tags of turmeric (*Curcuma longa* L.), Molecular Biotechnology 44:140-147.

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.

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planifolia Andrews). Journal of Biological Control 23 (1): 83-86.

Popular articles

Ankegowda S J & Venugopal M N (2010) Scientific cultivation practices of black pepper for better economics and disease free garden. Spice India (Kannada): 23(1): 14-16.

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Parthasarathy V A & Jacob T K & Krishnamoorthy B (2009) Indian Institute of Spices Research- In pursuit of excellence in spices research. In: Preparation for the success of the 2nd Green revolution in Indian Agriculture (A reference book by Magnum Foundation Vol.II Suresh Dhole (Ed.), Chairman, Magnum Foundation. pp. 24-30.

Rajeev P (2009) Nutmeg-Medicinal properties and cultivation. Kisan world 36(4):52-56.

Rashid Pervez R, Eapen S J & Devasahayam S (2010) Keetnashak sutrakrimi: *safita ki kunzi*. Malabar Jyoti: 32-33.

Books

Parthasarathy V & Rajeev P Major spices, Production and Processing, Reprint (2010).

Santhosh J Eapen Jayarajan K & Devasahayam S (Eds.) (2009) IISR Directory, Indian Institute of Spices Research, Calicut.

Book chapters

Bhat A I, Anandaraj M & Parthasarathy V A (2010) Diagnostics for production of disease-free planting materials in vegetatively propagated spices. In: Souvenir released during National conference on Production of quality seeds and planting material-health management in horticultural crops, 11-14 March 2010, New Delhi, pp 171-178.

Krishnamurthy K S, Kandiannan K, Chempakam B, Utpala Parthasarathy & Parthasarathy V A (2010) Climatic influence on growth and productivity of black pepper). In: H P Singh, J P Singh, S S Lal (Eds.). Challenges of Climate Change - Indian Horticulture, Westville Publishing House, New Delhi, pp. 55-64.

Anandaraj M & Suseela Bhai R (2009) Diseases of *Curcuma* in Open access source book on Turmeric.

Technical reports

Hamza S, Srinivasan V (2010) Basic Instruments Used for Chemical Analysis of Soil, Water, Manure and Plant Samples. In: Training Manual, Summer training on Techniques in Biochemistry, Biotechnology & Bioinformatics, 05 May 2010 to 04 June 2010, IISR, Calicut. pp. 64-67.

Hamza S, Shiva K N, Srinivasan V & Bronisha P (2010) *Production of organic black pepper* (Malayalam). Director, IISR, Calicut & Director of Research, KAU, Thrissur, Kerala, 28p.

Hamza S, Shiva K N, Srinivasan V & Bronisha P (2010) *Production of organic ginger* (Malayalam). Director, IISR, Calicut & Director of Research, KAU, Thrissur, Kerala, 20p.

Extension pamphlet

Hamza S, Shiva K N, Srinivasan V, Suseela Bhai R, Zachariah T J & Bronisha P (2010) *Calendar of operations for Black pepper* (Malayalam). Director, IISR, Calicut & Director of Research, KAU, Thrissur, Kerala, 14p.

Hamza S, Shiva K N, Srinivasan V, Suseela Bhai R, Zachariah T J & Bronisha P (2010) *Calendar of operations for Ginger* (Malayalam). Director, IISR, Calicut & Director of Research, KAU, Thrissur, Kerala, 12p.

Training manual

Srinivasan V & Hamza S (2010) Training Manual. Summer Training On Techniques In Biochemistry, Biotechnology & Bioinformatics, IISR, Calicut. 257p.

Papers presented in symposia/ seminars/ workshops /conferences

National conference on Production of quality seeds and planting material-health management in horticultural crops, New Delhi, 11-14 March 2010.

- Bhat A I & Anandaraj M (2010) Present status of disease diagnostics for production of healthy planting material – Spices
- Parthasarathy V A, Bhat A I, & Nirmalbabu K N (2010) Production of certified planting materials of spices using biotechnological tools. p233.
- Parthasarathy V A, Kandiannan K, Mathew P A (2010) Production of quality planting materials of vegetatively propagated spices. pp. 215–216.
- Kandiannan K, Thankamani C K, Shiva K N & Mathew P A (2010) Ginger seed multiplication - rate and relationships. p 232.

National consultative meeting on disease diagnostics for horticultural crops held at NRC for Banana, Trichy, 22-24 January, 2010

- Bhat A I & Anandaraj M (2010) Future research

needs in spices diagnostics

· Bhat A I & Makesh Kumar T (2010) Viral diseases and development of diagnostics in plantation crops Brainstorming session on application of nanotechnology in agricultural science, CIFE, Mumbai, 27 March 2010

· Dinesh R (2010) Manipulating allelochemicals using nanotechnology in tree species-black pepper rhizosphere

· Shamina A (2010) Encapsulating curcumin in nanoparticles for drug delivery

National Seminar on Soil, Water and Crop Management for Higher Productivity of Spices. Centre for Water Resources Development and Management (CWRDM), Calicut, 11–12 February 2010.

· Kandiannan K, Utpala Parthasarathy, Krishnamurthy K S & Srinivasan V (2010). Ginger phenology and growing degree days – a tool to schedule cultural operations. pp. 172–180

· Kandiannan K, Utpala Parthasarathy, Krishnamurthy K S, Thankamani C K, Srinivasan V & Aipe K C (2010) Crop-weather model to elucidate the rainfall and temperature relationship with black pepper (*Piper nigrum* L.) yield. pp. 181–185.

· Thankamani C K, Kandiannan K, Madan M S, Hamza S & Krishnamurthy K S (2010) Intercropping of tuber and fodder crops in juvenile black pepper garden. pp. 186–190.

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· Nima P L, Riju A., Reena N & Eapen S J (2010) Conserved orthology in mitochondrial genomes of distantly related nematodes. <http://doi.acm.org/10.1145/1722024.1722075>.

· Reena N, Chandrasekar A, Riju A, Nima P L, Eapen S J & Anandaraj M (2010) Gene identification in *Phytophthora capsici* through expressed sequence tags. <http://doi.acm.org/10.1145/1722024.1722043>.

· Riju A, Sithara K, Suja S Nair & Eapen S J (2010) Prediction of toxicity and pharmacological potential of selected spice compounds. <http://doi.acm.org/10.1145/1722024.1722060>.

National Conference on Drug Discovery and Development, University of Delhi, South Campus, New Delhi, 21-23 January 2009.

· Santhosh Eapen J, Sithara K, Riju A, Suja S Nair & Shamina A (2009) Screening Major spice phytochemicals for their Pharmacological Fitness

National Conference on Innovations in Nematological Research for Agricultural Sustainability – Challenges and A Roadmap Ahead, TNAU, Coimbatore, 23-25 February 2010.

· Santhosh Eapen J, Ramana K V & Saji KV (2010) Host resistance in black pepper (*Piper nigrum* L.) against root-knot and burrowing nematodes

National Symposium on Garcinia Genetic Resources-linking diversity, Livelihood and Management, College of Sirsi, Sirsi, Karnataka, 8-9 May 2010

· Utpala Parthasarathy, Nirmalbabu K, Senthil Kumar R, Asish G R & Simi Mohan 2010, Diversity of *Garcinia* species in North Eastern India.

Ph.D Awarded

| Name | Title of Thesis | University | Guide |
|------------------|--|--|------------------|
| Jayashree E | Studies on mechanization of field-level post harvest operations in ginger (<i>Zingiber officinale</i>) with reference to washing, peeling and drying | Tamil Nadu Agricultural University, Coimbatore | Dr R Visvanathan |
| Bhadra Murthy V | Identification, molecular characterisation and development of diagnostics for the viruses associated with vanilla (<i>Vanilla planifolia</i> Andrews) | Mangalore University | Dr A I Bhat |
| Elizabeth Thomas | Biochemical and molecular characterization of Major traded spices to augment the trade through geographical indication | Mangalore University | John Zachariah |
| Gobinath P | Biochemical and molecular characterization of chilli (<i>Capsicum annum</i> L) for variability with special emphasis on colour and pungency | Mangalore University | John Zachariah |
| Balaji S | <i>In silico</i> analysis and drugability of the compounds from the family <i>Zingiberaceae</i> | Mangalore University | B Chempakam |

MSc. Dissertations

| Title | Student | Guide |
|---|--|------------------|
| EST based secretome analysis of burrowing nematodes (<i>Radopholus similis</i>) | Ms Sangeetha K, Bharathidasan University, Tiruchirapally | Santhosh J Eapen |
| Exploring ginger (<i>Zingiber officinale</i>) transcriptome using expressed sequence tags (ESTs) | Ms Keerthiga TKB, Bharathidasan University, Tiruchirapally | Santhosh J Eapen |
| Molecular characterization of entomopathogenic nematodes from ginger (<i>Zingiber officinale</i> Rosc.) | Jashna PA | Rashid Pervez |
| Type of planting material and growth medium on performance of bush pepper (<i>Piper nigrum</i> L.) | Prathyusha K | Thankamani C K |
| Evaluation of storage methods of ginger rhizomes | Durgadeth P | Thankamani C K |
| Molecular docking of compounds in medicinal plants as candidates for inhibition of Tumor necrosis factor α - converting enzyme (TACE) involved in Rheumatoid Arthritis | Surya G | Johnson George K |
| Survey of weed flora in black pepper plantation. | Sajini A V | Kandiannan K |
| Comparison of leaf dimensions and major nutrient contents in orthotropic and plagiotropic leaves of black pepper (<i>Piper nigrum</i> L.) | Suhitha V P | Kandiannan K |
| Study on the proliferation of promising biocontrol agents in vermicompost. | Lamya Moideen | Suseela Bhai R |
| Virtual screening and <i>in vitro</i> assay of potential drug-like inhibitors for medicinal plants against glutathione-S- transferase of filarial nematodes | Rosana O.B | Shamina A |

New Appointments

| Name | Designation | Date of Joining |
|------------------|------------------------------|-----------------|
| Sri Jayakumar K | Programme Asst. -Computer T3 | 01-02-2010 |
| Sri Kannan S | Farm Manager | 08-02-2010 |
| Smt Deepthi A | SMS (Home Science) T6 | 08-03-2010 |
| Dr Pratheep B | SMS (Fisheries) T6 | 30-03-2010 |
| Smt Aiswarya K K | SMS (Plant Protection) T6 | 26-04-2010 |
| Smt Jincy V S | Technical Assistant T3 | 26-04-2010 |

Transfer

Dr Shiva K N Senior Scientist NRC (Banana), Trichi w.e.f 1-05-2010

Retirement



Sri MM Augusthy
Technical Officer (T6)
31-03-2010



Sri V Vijayan
Asst. Administrative
Officer, CRC,
Appangala
31-03-2010



Sri M Vijayaraghavan
Technical Officer (T5)
30-06-2010

Promotion

| Name | Promoted as | w.e.f. |
|----------------------|------------------------|------------|
| Dr Johnson George K | Principal Scientist | 05-01-2008 |
| Dr Thankamani C K | Principal Scientist | 11-06-2008 |
| Dr Dinesh R | Principal Scientist | 21-07-2008 |
| Sri Jayarajan K | Technical Officer T6 | 07-09-2008 |
| Smt Chandravally P K | Technical Assistant T4 | 01-01-2009 |
| Sri Krishnadas K | Technical Assistant T4 | 01-01-2009 |
| Sri Sasidharan K K | Technical Assistant T4 | 01-01-2009 |
| Smt Anupama N K | Upper Division Clerk | 08-03-2010 |

Resignation

| | | |
|-------------------|------------------------|------------|
| Sri Srinath Sarma | Senior Research Fellow | 30-04-2010 |
|-------------------|------------------------|------------|

Wedding

Dr T R Usharani,
IISR, Calicut
and
Sri P Umesh

*Congratulations and best wishes
to the newly married couple*



Distinguished visitors

| | | |
|--------------------|---|------------------|
| Dr Jagmohan Singh | Former Vice-Chancellor, Dr Y S Parmar University of Horticulture & Forestry, Solan, NHB Consultant & Team Leader for Accreditation of Nurseries of Spices | 30 January 2010 |
| Sri Sharma MR, IAS | Director, (Plantation), Dept. Commerce, Govt. India, New Delhi | 20 February 2010 |
| Sri Ajai Kumar | Chief Vigilance Officer, ICAR, New Delhi. | 22 February 2010 |

SPICES NEWS

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