

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

Research update

Twenty three Piper accessions collected form Bisle Ghats were added to the germplasm. Thirteen *G. gummigutta* and three *G. indica* were also collected from this region. Fifty more black pepper accessions were planted at the alternate germplasm center at CPCRI (Kidu)

Isolation of good quality DNA from chilli powder and its probable adulterants (dried red beet pulp, almond shell dust and powdered *Ziziphus nummularia* fruits) and the utility of RAPD primers for the detection of adulterants in marketed chilli powder. Selected RAPD primers which produced adulterant specific bands in simulated samples were used for analyzing market samples of chilli powder. Out of the six market samples analyzed, one sample amplified *Ziziphus nummularia* specific band indicating the occurrence of adulteration in market samples. All the market samples tested were free from dried red beet pulp or almond shell dust adulteration.

Correlation and path analysis for yield and yield contributing characters in two types of micropropagated ginger plants (plantlets directly regenerated from aerial stem explants and plantlets regenerated from aerial stem derived callus) were carried out over first and second generations in two varieties viz. var. 'Jamaica' and var. 'Varada'. Irrespective of the regeneration

Highlights

- Germplasm collection and conservation
- ▶ Detection of adulterants in chilli powder
- Path analysis in micropropagated ginger
- Solarized potting mixture
- ▶ SCAR marker for *Phytophthora* resistance
- Bean common mosaic virus in vanilla
- DNA extraction from archived nematodes

Accreditation of Test Laboratory: The Indian Institute of Spices Research, Calicut test laboratories under the Division of Crop Protection and Division of Crop Improvement and Biotechnology have been accredited for virus indexing and quality testing of spices respectively for a period of two years by the Accreditation Unit of DBT established at Biotech Consortium India Limited, New Delhi as per the criteria laid down under National Certification System for Tissue Culture Raised Plants (Registration No: TL200605; Accreditation No: TL2007001).

methods, the *in vitro* derived plants showed high positive correlation and maximum positive direct effect of circumference of cormlets, length of cormlets and number of cormlets with the rhizome yield in the first generation. Tiller number exhibited negative correlation and

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negative direct effect with the rhizome yield. In the second generation of the aerial stem regenerated plants, tiller number, number of nodes per cormlets, circumference of cormlets, number of cormlets and plant height exhibited high positive correlation and maximum direct effect with rhizome yield.

Pront line demonstrations on performance of improved varieties of black pepper released from IISR have been launched in 18 farmers' plots in three blocks of Calicut viz., Thamarassery, Koorachund and Anakkampoyil.

Plants raised in solarized potting mixture with recommended nutrients (urea, superphosphate, potash and magnesium sulphate 4:3:2:1) showed significant increase in number of leaves(5.3), length of roots (20cm), leaf area (177cm²), nutrient contents and biomass (3.7g pl¹¹). The results indicated superiority of solarized potting mixture for reducing the incidence of diseases besides yielding vigorous planting material.

SCAR marker for *Phytophthora* resistance has been developed and tested on Phytophthora tolerant black pepper lines. Three species of *Phytophthora* has been characterized based on ITS-rDNA and the sequence data submitted to GENBANK.

Rhizobacteria isolated from seed spices have been tested for their growth promotion and suppression of pathogens. Two isolates were short listed and these are being tested at seed spices centres of AICRPS.

The diseased vanilla plants showing typical viral symptoms were subjected to reverse transcription (RT) PCR using primers designed for the conserved region of NIb and coat protein (CP) region of Potyvirus. A ~1000 bp RT-PCR amplified fragment was consistently seen in only infected plants. The RT-PCR amplified fragment was purified and cloned in TA vector and its nucleotide sequence determined. Sequenced region contained 1033 nucleotides comprising part of NIb and coat protein gene of the virus. Sequence comparison based on per cent nucleotide and amino acid identities and phylogram illustrating phylogenetic relationship among different potyvirus isolates (generated based on CP amino acid sequences) showed that vanilla isolate of the *Potyvirus* is a strain of *Bean common mosaic* virus (BCMV).

A new protocol has been standardized to extract quality DNA from formalin-fixed, preserved nematode specimens. The protocol is successful with nematodes belonging to different genera and preserved for varying periods (upto 20 years).

The Bioinformatics Centre of IISR has designed and developed the new website of Agricultural Scientists Recruitment Board, New Delhi. It is available at the URL http://asrb.icar.org.in

Personalia

Awards/ Honours/ Recognitions

Anandaraj M

Executive Council member, National Academy of Biological Sciences, Chennai.

DG's nominee for the DPC of Indian Institute of Horticultural Research, Bangalore.

Chairman, Session for the selection of best oral presentation for HS Mehta memorial award during SYMSAC IV, 26 November 2007, OUAT, Bhuvaneswar.

Team leader to formulate the National Network project on Phytophthora and wilt diseases for funding by ICAR, New Delhi.

Aravind R Dhanya K

Best Research Paper Presentation (2006-07) for research scholars.

Bhadramurthy V Bhat AI Jasmine George Thankamani CK

Mathew PA

Alapatti Prasada Rao Award (2007) for the best poster on *Variation in the concentration and indexing black pepper plants for viruses through DAS-ELISA,* SYMSAC IV, OUAT, Bhubaneswar, 25-26 November 2007.

Chandravally PK Poovappa BK Prabhakaran Nair P Sundaran P Unni Nair I

Institute Award for Excellence (2006-2007)

Jacob TK

Chairman, subgroup, Agriculture and Soil conservation of the Technical Advisory Group of the Calicut District for evaluation of projects of Zilla, Block and Local Panchayats submitted for Peoples Participatory Planning of XI five year plan of the Calicut district, 05 October 2007.

Parthasarathy VA

Co-Chairman, Technical Session on biotechnological approaches in banana production and improvement, National Conference on Banana, NRCB, Trichy, 25 October 2007.

Chairman, Technical Session on Crop Production, XIX National group meeting of research workers of AICRP on spices, OUAT, Bhubaneswar, 23-25 November 2007.

Utpala Parthasarathy Jayarajan K Johny AK Parthasarathy VA

HS Mehta Memorial Award (2007) for the best oral presentation *Identification of suitable areas and effect of climate change on ginger- A GIS study,* SYMSAC IV, OUAT, Bhubaneswar, 25-26 November 2007.

Venugopal MN Prasath D Ravindra Mulge

J S Pruthi award (2006) for the best research paper *A rhizome rot resistant and high yielding variety of cardamom* (*Elettaria cardamomum* Maton). J. Spices and Aromatic Crops, 15 (1), 14-18.

Corrigendum

Diby Paul Anandaraj M Kumar A Sarma YR

J S Pruthi award (2005) for the best research paper *Antagonistic mechanisms of fluorescent pseudomonads against Phytophthora capsici in black pepper (Piper nigrum.* L). J. Spices and Aromatic Crops, 2005, 14: 122-129.

Participation in Symposia/ Seminars/ Conferences/ Meetings

Anandaraj M

National Horticultural Board meeting, IIHR, Bangalore chaired by Shri Sharad Pawar, hon'ble Union Agriculture minister and EFC discussion convened by the DG and DDG (Hort) ICAR, 17-18 Dec 2007.

Anandaraj M Anke Gowda S J Chempakam B

XIX National group meeting of research workers of AICRP on spices, OUAT, Bhubaneswar, 23-25 November 2007.

National symposium on spices, medicinal and aromatic crops (SYMSAC IV), 25-26 November 2007 at OUAT, Bhubaneswar.

Devasahayam S Dinesh R Kandiannan K Kumar A Leela NK

XIX National group meeting of research workers of AICRP on spices, OUAT, Bhubaneswar, 23-25 November 2007.

National symposium on spices, medicinal and aromatic crops (SYMSAC IV), 25-26 November 2007 at OUAT, Bhubaneswar.

Ishwara Bhat A

International conference on emerging and re-emerging viral diseases in the tropics and sub tropics, IARI, New Delhi, December 11-14, 2007.

Meeting on the proposed ICAR network project on diagnosis and management strategies for virus and virus like diseases in field and horticultural crops, NASC complex, New Delhi, 06 November 2007.

Fourth meeting of the apex committee for certification of tissue culture raised plants, DBT, New Delhi, 20 September 2007.

First meeting of the project monitoring committee to review the progress under DBT network project on development of transgenic plants resistant to viruses, University of Delhi, South Campus, 23 July 2007.

Jacob TK

Action plan meeting on NAIP for Wayanad District, RARS, Ambalavayal, 04 July 2007.

State level committee meeting for nominating meritorious scientists for the Krishi Vigyan Award of the Department of Agriculture, Vikas Bhawan, Trivandrum, 17 July 2007.

Technical advisory group meeting of the Zilla Panchayat, organized by Zilla Panchayat and KILA, SK Pottekad Memorial Hall, Calicut, 30 August 2007.

Workshop on Adhoc package of practices on organic farming for crops, Directorate of Research, KAU, Trichur, 30 November 2002.

Johnson George K

Discussion meeting on Annual fee part of Gene fund - Protection of plant varieties at G B Pant University, Pantnagar, 07-08 September 2007.

National training workshop on Biosafety Regulatory Frame Work: Assessment, Decision, Implication and Public-Private Interface, Madurai Kamaraj University, Madurai, 26-28 September 2007.

John Zachariah T

Meeting of technical advisory committee of Planning Commission on promotion of secondary agriculture, Government Secretariat, Thiruvananthapuram, 26 September 2007.

Industry- institution interactive meet organized by Board of Apprenticeship, NIT, Calicut, 16-17 October 2007.

Kumar A John Zachariah T

Review meeting of KSCTE funded project on production of white pepper, Rajiv Gandhi Center for Biotechnology, Thiruvananthapuram, 14 December 2007.

Kumar A

Network project on Phytophthora and wilt diseases of horticultural and field crops, NAAS complex, New Delhi, 05 December 2007.

Kumar A Ishwara Bhat A Johnson George K Nirmal Babu K Sasikumar B Sheeja TE

First meeting to finalize the draft DUS test guidelines for Black pepper, Cardamom, Ginger and Turmeric, IISR, Calicut, 29-30 October 2007.

National seminar on horticultural biotechnology, IIHR, Bangalore, 08 December 2007.

Parthasarathy V A

Fourth Governing Body Meeting of State Horticulture Mission, Trivandrum, 06 July 2007.

ICAR Directors' Conference, ICAR, New Delhi, 16-18 July 2007.

Interactive Workshop on Agrobiodiversity Hot Spots and Access and benefit sharing, Annamalai University, Annamalainagar, 19-20 July 2007.

QRT meeting, NRC Banana, Trichi, 8th – 10 August 2007

Review meeting / discussion of XI Plan proposals, IIHR, Bangalore, 18-20 August 2007.

Meeting on establishment of AICRPS centre, Adilabad and Jagtial, 14 September 2007.

Meeting on XI Plan / EFC, ICAR, New Delhi, 26 -27 September 2007.

Technical Session on "Biotechnological approaches in banana production and improvement" as Co-Chairman in the National Conference on Banana, NRC Banana, Trichy, 25 October 2007.

Workshop on Administrative and financial matters of ICAR institutes at NIANP, Bangalore, 26-27 October 2007.

First Meeting of the "Agricultural Technology Transfer and Application for the benefit of farmers in Tamil Nadu – Formation of Expert Committee for developing a mechanism for effective Technology Transfer" at TNAU, Coimbatore and Chennai, 31 October to 01 November 2007.

Spices Board Meeting, Spices Board, Kochi, 19 November 2007.

XIX National group meeting of research workers of AICRP on spices, OUAT, Bhubaneswar, 23-25 November 2007.

National symposium on spices, medicinal and aromatic crops (SYMSAC IV), 25-26 November 2007 at OUAT, Bhubaneswar.

DBT meeting on tissue culture quality planting material, DBT, New Delhi, 27 November 2007.

Meeting of the Flexible Complementing Scheme Assessment Committee, Spices Board, Kochi, 30 November 2007.

First and second meeting to finalize the draft DUS test guidelines for Black pepper, Cardamom, Ginger and Turmeric, IISR, Calicut, 29-30 October 2007 and 05-06 December 2007.

National Seminar on horticultural biotechnology, IIHR, Bangalore, 08 December 2007.

Launch of new variety of coffee seed, Coffee Board, Bangalore, 28 December 2007.

Shiva KN Utpala Parthasarathy

National consultative meeting on agrobiodiversity and access and benefit sharing, 19-20 July 2007, Annamalai University, Annamalai Nagar, Tamil Nadu.

XIX National group meeting of research workers of AICRP on spices, OUAT, Bhubaneswar, 23-25 November 2007.

National symposium on spices, medicinal and aromatic crops (SYMSAC IV), 25-26 November 2007 at OUAT, Bhubaneswar.

Prasath D Sasikumar B Shiva KN Srinivasan V

XIX National group meeting of research workers of AICRP on spices, OUAT, Bhubaneswar, 23-25 November 2007.

National symposium on spices, medicinal and aromatic crops (SYMSAC IV), 25-26 November 2007 at OUAT, Bhubaneswar.

Prasath D Suseela Bhai R

First meeting to finalize the draft DUS test guidelines for Black pepper, Cardamom, Ginger and Turmeric, IISR, Calicut, 29-30 October 2007.

Saji KV

National discussion on revitalizing agrobiodiversity for alleviating poverty and hunger, MSSRF, Kalpetta 25-26 November 2007.

Santhosh J. Eapen

ASRB Foundation Day, NAAS, New Delhi, 05 November 2007.

Bioinformatics Task Force Meeting, DBT, New Delhi, 30 August 2007.

Bioinformatics Task Force Meeting, DBT, New Delhi, 30 November 2007.

National seminar on horticultural biotechnology, IIHR, Bangalore, 08 December 2007

Shiva KN Srinivasan V

Two day training on information security, DOEACC and IISR, Calicut, 12-13 November 2007.

Srinivasan V

Panel discussion on networking in organic agriculture, MSSRF, Kalpetta, Wayanad, 06 September 2007.

Srinivasan V Suseela Bhai R Thankamani C K

XIX National group meeting of research workers of AICRP on spices, OUAT, Bhubaneswar, 23-25 November 2007.

National symposium on spices, medicinal and aromatic crops (SYMSAC IV), 25-26 November 2007 at OUAT, Bhubaneswar.

Thankamani CK

Workshop on planting material and rejuvenation of horticulture crops at Bangalore organized by Additional Secretary, Ministry of Agriculture, Department of Agriculture& Cooperation, New Delhi, 21 September 2007.

Review meeting on CSS-NHM-Planting material production, Directorate of Arecanut and Spices Development, Calicut, 26 September 2007.

Membership in committees/ professional societies

Kandiannan K

Member, Steering Committee on optimum utilization for large-scale turmeric cultivation as a commercial crop in Mizoram State, constituted by Technology Information, Forecasting & Assessment Council (TIFAC), New Delhi.

John Zachariah T

Member, QRT team of AICRP spices of three centres Kumarganj, Dholi and Raigarh, 10-11 July 2007.

Parthasarathy VA

Chief Editor, National Academy of Biological Sciences News letter.

Executive Councilor, Horticultural Society of India.

Member, DBT North East Mission Programme Committee.

Member, QRT, NRC on Banana, Trichy

Member, Expert Committee on Agricultural Technology Transfer and Application of Farmers in Tamil Nadu, Government of Tamil Nadu.

Member Secretary, Taskforce VII, Committee for preparation of DUS guidelines for spice crops, PPV & FA, Government of India.

Suseela Bhai R

Life member, Society for Biocontrol advancement. Member, State level quality control team for monitoring production and distribution of quality rooted cuttings of black pepper.

Lectures delivered

- Black pepper nursery practices, delivered at Tata Coffee estate Bhagya, Saklespur, 24 July 2007 (Ankegowda SJ).
- Black pepper production technology, delivered in the Institute training programme on Spices production technology, IISR, Calicut, 25 July 2007 (*Thankamani CK*).
- Agronomical practices in black pepper, delivered in master training programme for extension officers of different developmental departments, Krishi Vigyan Kendra, Gonikopal, 26 July 2007 (Ankegowda SJ).
- Molecular characterization and detection of bacterial pathogens of vegetatively propagated planting material, delivered at NRC Banana, Trichy, 21 September 2007 (Kumar A).
- Production technology of black pepper, ginger and turmeric, delivered in the refresher course for technical and supporting staff, IISR, Peruvannamuzhi, 28 September 2007 (*Thankamani CK*).
- Problems in agriculture and solutions, delivered in the National level meeting of INFARM, Sandesh Bhawan Conference Hall, Thalassery, 08 October 2007 (Jacob, TK).
- Occurrence and characterization of Bean common mosaic virus on vanilla (Vanilla planifolia Andrews) in India, poster presented at the X International plant virus epidemiology symposium, ICRISAT, Hyderabad, 15-20 October 2007 (Bhadramurthy V, Bhat AI).
- Application of GIS in Agriculture, invited lecture delivered at Department of Geo-informatics, Mangalore University, 16 October 2007 (*Utpala Parthasarathy*).
- Black pepper, cardamom and ginger cultivation practices, delivered in farmers training programme, Coffee Board, Mukodalu, Madikeri, 04 October 2007 and Kigal, Madikeri, 25 October 2007 (Ankegowda SJ)
- Cardamom cultivation practices to be followed at Shanthally due to high rainfall and katte disease, delivered in spices board training programme,

- Somwarpet, Kodagu, 31 October 2007 (*Ankegowda SJ*).
- Production management in black pepper, delivered in the training programme on Production and processing technology of spices under NHM—Maharashtra, 04 November 2007 (Thankamani CK).
- DUS guidelines for spices (PPV & FRA), invited talk delivered in the XIX National Group Meeting of research workers of AICRP on spices, OUAT, Bhubaneswar, Orissa, 24 November 2007 (Parthasarathy VA).
- Evaluation of small cardamom accessions for moisture stress, poster presented in the National Symposium on Spices, Medicinal and Aromatic Crops (SYMSAC IV), OUAT, Bhubaneshwar, 25-26 November 2007 (Ankegowda SJ, Krishnamurthy KS).
- Black pepper, lead talk delivered in National Symposium for Spices, Medicinal and Aromatic Crops (SYMSAC IV), OUAT, Bhubaneswar, 25-26 November 2007 (Anandaraj M, Devashayam S, Prasath D).
- Variation in the concentration and indexing black pepper plants for viruses through DAS-ELISA, poster presented in the National Symposium on Spices, Medicinal and Aromatic Crops (SYMSAC IV), OUAT, Bhubaneshwar, 25-26 November 2007 (Bhadramurthy V, Bhat AI, Jasmine George, Thankamani CK, Matthew PA).
- Processing and valued addition in spices, lead talk delivered in National Symposium for Spices, Medicinal and Aromatic Crops (SYMSAC IV), OUAT, Bhubaneswar, 25-26 November 2007 (Chempakam B, John Zachariah T, Shiva KN, Jayashree E).
- Random amplified polymorphic DNA technique for the detection of plant based adulterants in chilli powder (Capsicum annuum), delivered in National Symposium for Spices, Medicinal and Aromatic Crops (SYMSAC IV), OUAT, Bhubaneswar, 25-26 November 2007 (Dhanya K, Syamkumar S, Jaleel K, Sasikumar B).
- Molecular characterization of primitive, elite and exotic ginger genotypes to protect the biowealth of elite ginger accessions, poster presented in National Symposium for Spices, Medicinal and Aromatic Crops (SYMSAC IV), OUAT, Bhubaneswar, 25-26 November 2007. (Jithin Prem, Jaleel Kizhakkayil, Elizabeth Thomas, Dhanya K, Syamkumar S, Sasikumar B).
- PCR based detection of bacterial wilt pathogen Ralstonia solanacearum in ginger and soil collected from bacterial wilt affected fields presented in National Symposium for Spices, Medicinal and Aromatic Crops (SYMSAC IV), OUAT, Bhubaneswar, 25-26 November 2007 (Kumar A, Abraham S).
- Ginger, lead talk delivered in National Symposium for Spices, Medicinal and Aromatic Crops (SYMSAC

- IV), OUAT, Bhubaneswar, 25-26 November 2007 (*Parthasarathy VA, Krishnamurthy KS, Srinivasan V*).
- Isolation and selection of indigenous Azospirillum inoculants for their influence on growth and nutrient uptake of rooted cuttings of black pepper, delivered in National Symposium for Spices, Medicinal and Aromatic Crops (SYMSAC IV), OUAT, Bhubaneswar, 25-26 November 2007 (Sangeeth KP, Suseela Bhai R, Srinivasan V).
- Evaluation of fungal bioagents for management of root-knot nematodes in ginger and turmeric fields, poster presented in the National Symposium on Spices, Medicinal and Aromatic Crops (SYMSAC IV), OUAT, Bhubaneshwar, 25-26 November 2007 (Santhosh J. Eapen, Beena B, Ramana KV).
- Turmeric-A spice and a mighty cure, lead talk delivered in National Symposium for Spices, Medicinal and Aromatic Crops (SYMSAC IV), OUAT, Bhubaneswar, 25-26 November 2007. (Sasikumar B).
- Effect of solarized potting mixture on growth of black pepper (Piper nigrum L.) rooted cuttings in the nursery, poster presented in the National Symposium on Spices, Medicinal and Aromatic Crops (SYMSAC IV), OUAT, Bhubaneshwar, 25-26 November 2007 (Thankamani CK, Dinesh R, Eapen SJ, Kumar A, Kandiannan K, Mathew PA).
- Insect pest management in ginger, turmeric, black pepper, vanilla and tree spices and diseases of tree spices, delivered in the training of master trainers from Maharastra, 05 December 2007 (Jacob TK).
- Gene Cloning in Horticulture Status and future, delivered in the National seminar on horticulture biotechnology, IIHR, Bangalore, 08 December 2007 (Johnson George K).
- Status of Genomics and Bioinformatics in Indian Horticulture Research, delivered in the National seminar on horticulture biotechnology, IIHR, Bangalore, 08 December 2007 (Santhosh J. Eapen).
- *IPR in horticulture with special emphasis on GI*, delivered in the National seminar on horticulture biotechnology, IIHR, Bangalore, 08 December 2007 (*Sasikumar B*).
- Integration of full length coat protein gene sequence of Banana bunchy top virus in cardamom (Elettaria cardamomum Maton) genome, delivered in the International conference on emerging and re-emerging viral diseases in the tropics and sub tropics, IARI, New Delhi, 11-14 December 2007 (Bhadramurthy V, Selvarajan R, Bhat AI, Balasubramanian V, Venugopal MN).
- PCR based indexing for screening black pepper (Piper nigrum L.) plants against Piper yellow mottle virus, delivered in the International conference on emerging and re-emerging viral diseases in the tropics and sub tropics, IARI, New Delhi, 11-14

December 2007 (*Bhat AI, Siljo A, Jiby MV, Srija K, Thankmani CK, Mathew PA*).

- Identification and detection of Badnavirus infecting black pepper (Piper nigrum L.) in India, delivered in the International conference on emerging and reemerging viral diseases in the tropics and sub tropics, IARI, New Delhi, 11-14 December 2007 (Hareesh PS, Bhat AI)
- Primer designing and molecular visualization tools, delivered in the training on applications of bioinformatics tools in biological research, Calicut University, Kerala, 15 December 2007 (Santhosh J. Eapen).

Participation in trainings

Jayarajan K

Training for the Nodal Officers/Data enterers of Intelligent Reporting System (IRS), NAARM, Hyderabad, 30-31 August 2007.

Networking Essentials for Information Management in Agriculture, NAARM, Hyderabad, 16-25 October, 2007

John Zachariah T

Intellectual Property rights and World Trade organization related issues, Administrative Staff College, Hyderabad, 30 July to 03 August 2007.

Shiva KN

Two day training on Information security, DOEACC and IISR, Calicut, 12-13 November 2007.

Distinguished visitors

Dr. K.V. Ahamed Bavappa, Former Director, CPCRI and FAO Consultant, 29 October 2007.

Dr. S.Edison, Director, CTCRI, Trivandrum, 29 October 2007.

Dr. J.Thomas, Director (Research), ICRI, Myladumpara, 29 October 2007.

Dr S. Nagarajan, Chairperson, PPV & FRA, New Delhi, 06 December 2007.

Prof. K.V.Peter, Former VC, KAU, 06 December 2007.

Dr. Y.R.Sarma, Former Director, IISR, 06 December 2007.

News and Events

Vigilance awareness week



In compliance with the directions from Central Vigilance Commission and Indian Council of Agricultural Research, the Vigilance awareness week at IISR was observed from 12-16 November 2007. The celebrations started with administering of the pledge by the Dr. V.A. Parthasarathy, Director, IISR. The pledge was also administered at Cardamom Research Centre, Appangala and IISR Experimental Farm, Peruvannamuzhi. To create awareness on efficiency and transparency in the customer oriented programmes, competitions were held for school children and staff members. For school children elocution competition on the topic "Right to information Act" was held on 13 November 2007. The valedictory function was held on 16 November 2007. Mr.P.P. Bharathan, Chief Manager, State Bank of India was the Chief Guest.

Institute joint staff council meeting

The I and II meeting of the VII Institute Joint Council was held on 24 September and 13 December 2007 respectively. The meetings were presided over by the Director.

Promotions

Name	Post	Date
Nirmal Babu K	Principal Scientist	31 December 2005
Madan MS	Principal Scientist	07 January 2006
John Zachariah T	Principal Scientist	14 January 2006
Sasikumar B	Principal Scientist	29 April 2006
Jacob TK	Principal Scientist	27 July 2006
Rema J	Principal Scientist	27 July 2006
Saji KV	Sr. Scientist	26 December 2006
Shiva KN	Sr. Scientist	28 July 2007

Transfer

Name	Post	Date
Rehana KM	LDC	10 December 2007 (To CRC, Appangala)

SARANI - IISR Recreation Club

The new office bearers of IISR recreation club (SARANI), Dr. V.A.Parthasarathy as President, Dr. B.



Diabetes camp

Chempakam as Vice-President, Dr. A. Shamina as Secretary, Mr. M.M. Augusthy as Joint Secretary, Ms. K.M. Rahana as Treasurer took office. The 60th Anniversary of Indian Independence was celebrated with a Tableau presentation. The Onam celebrations were celebrated with several programs and a festive 'Onasadhya' on 22 August 2007. The award ceremony of the Institute Award for Excellence & Best Paper Presentation for the years 2006-2007 was conducted on 23rd August 2007. The function was presided over by Dr. V.S. Ramachandran, Co-ordinator, Regional Science Centre, Calicut. A farewell party was organized for Dr. K.V. Ramana, ADG (Plantation Crops), ICAR, in the event of his superannuation, on 17th October 2007. Sarani also organized a Diabetes Detection and Awareness Camp for all the staff of IISR, in association with the Malabar Diabetes Foundation & Research Centre, Calicut, on 20 November 2007.

DUS meeting



The first meeting of the task force for preparation of DUS test guidelines for spice crops was held from 29-30 October 2007 at IISR, Calicut under the Chairmanship of Dr. K.V. Ahamed Bavappa, Former Director, CPCRI and FAO Consultant. The members present were Dr. S.Edison, Director, CTCRI, Trivandrum (Consultant),

Dr. J.Thomas, Director (Research), ICRI, Myladumpara (Consultant), Dr. V.A.Parthasarathy, Director, IISR, Calicut (Member Secretary). The second meeting was held from 05-06 December 2007. Besides the members present in the first meeting, Dr. S. Nagarajan, Chairman, PPV & FRA, New Delhi, Prof. K.V.Peter, Former VC, KAU (Member), Dr. Y.R.Sarma, Former Director, IISR, Calicut (Member) were also present during the second meeting.

National group meeting of AICRPS



The XIX National Group Meeting of research workers of AICRP on spices was held at OUAT, Bhubaneswar, Orissa during 23-25 November 2007. The group meeting was inaugurated by Prof. D. P. Ray, Vice Chancellor, OUAT, Bhubaneswar. The group meeting was attended by over 100 scientists from 19 AICRPS centres which are located in 13 agricultural regions of India. Dr. K.V Ramana, ADG (Hort. II), ICAR, New Delhi, Dr V.A. Parthasarathy, Director, IISR; Dr. B.B. Vashishtha, Director, NRCSS and Dr. M. Anandaraj, Project coordinator (AICRPS), led the three day celebrations on genetic resources, crop improvement, crop production and crop protection of different mandate spice crops. The proposal of leafy type coriander variety DH - 228 from CCS HAU, Hisar was accepted and recommended for Haryana State release. The promising 11 technologies from different research projects were identified for adoptive trials. Twelve new technical programmes were approved on different spice crops. The plenary session was chaired by Dr. H.P. Singh, DDG (Hort.), ICAR, New Delhi on 25 November, 2007 and highlighted the roadmap for future spices research in the country.

SYMSAC IV

The National Symposium on Spices, Medicinal and Aromatic Crops (SYMSAC IV) with focus on threats and solutions to spices and aromatic crops industry was



held from 25-26 November 2007 at Orissa University of Agriculture and Technology, Bhubaneswar. The symposium was inaugurated by the His Excellency the Hon'ble Governor of Orissa Shri Murlidhar Chandrakant Bhandare on 25th November. Other dignitaries present were Dr. HP. Singh (DDG-Hort), Prof. D.P. Ray (VC, OUAT), Dr D. Naik (Dean-Research, OUAT), Directors from various ICAR institutes, farmers representatives, NGOs, officials from Spices Board and State Agricultural Universities.



राजभाषा कार्यान्वयन समिति की बैठक तिमाही में दो बार आयोजित की। श्री पी के जनाईनन, सहायक, और श्री टी एच नागराज, सहायक प्रशासन अधिकारी, २-४ फरवरी २००६ को राष्ट्रीय कृषि अनुसंधान प्रबन्ध अकादमी, हाइदराबाद में आयोजित गहन हिन्दी प्रशिक्षण व कार्यशाला में भाग लिया। दिनांक २३.१.२००६ को संस्थान में एक दिवसीय हिन्दी कार्यशाला आयोजित की। श्री हरीश चन्द्र जोशी, निदेशक (राजभाषा), भारतीय कृषि अनुसंधान परिषद, नई दिल्ली ने प्रस्तत कार्यशाला का उदघाटन किया। स्पाइसस न्यज जलाई - दिसंबर २००५ का हिन्दी रूपान्तर प्रकाशित किया। अखिल भारतीय समन्वित मसाला अनुसंधान परियोजना का कार्यकारी सारांश हिन्दी में अनुवाद करके वार्षिक रिपोर्ट में सम्मिलित किया। एन प्रसन्नकुमारी, हिन्दी अनुवादक ने दिनांक १७.४.२००६ को आयोजित नगर राजभाषा कार्यान्वयन समिति की उप समिति बैठक में भाग ली। एन प्रसन्नकुमारी, हिन्दी अनुवादक, बी कृष्णमूर्ति, हिन्दी अधिकारी ने दिनांक २६.४.२००६ को आयोजित नगर राजभाषा कार्यान्वयन

समिति की बठक में भाग ली। श्री वी सी सुनिल, उच्च श्रेणी लिपिक, कुमारी रहना, के एम, निम्न श्रेणी लिपिक और कुमारी अनुपमा एन के, निम्न श्रेणी लिपिक ने राजभाषा विभाग द्वारा प्रयोजित सी - डेक, कोचिन के माध्यम से आयोजित दिनांक १ से १३ जनवरी २००६ तक हिन्दी में कंप्यूटर का आधारभूत ज्ञान (विन्डोज वातावरण में) विषय पर प्रशिक्षण कार्यक्रम में भाग लिया। हिन्दी शिक्षण योजना के जुलई - नवंबर २००५ सत्र में संस्थान के पांच अधिकारियों ने प्रवीण परीक्षा एवं सात कर्मचारियों ने प्राज्ञा परीक्षा पास की।

Bioinformatics news



The Bioinformatics Centre of IISR has designed and developed the new website of Agricultural Scientists Recruitment Board, New Delhi. The site contains several features like provision for submitting online applications, processing of applications, searcheable databases etc. The site was launched by Dr. Mangala Rai, Hon. DG of ICAR on 5 Nov. 2007. It is available at the URL http://asrb.icar.org.in.

Transfer of technology

Trainings

- ♦ Two-day training on Information Security in Government Offices was organized by IT&C Committee of IISR during 12-13 November 2007. There were classes and demonstrations on Network Fundamentals, Information Security Management, Cyber Laws and Internet & E-mail Security by faculty from DOEACC Centre, Calicut. About 20 staff members participated in the programme.
- ♦ A training course on Production and Processing Technology of Spices sponsored by the Maharashtra state Horticulture and Medicinal Plants Board under the capacity building programme for Master trainers under the NHM

was organized for 19 extension officers during 03-07 December 2007

Agricultural Technology Information Centre

Implemented Front line demonstrations in 18 farmers' plots in three blocks at Thamarassery, Koorachund and Anakkampoyil on performance of improved varieties of black pepper released from IISR, Calicut

- 318 farmers availed direct advisory services from the institute
- 429 students form various institutes/schools/ colleges visited the institute
- ♦ 16 farmers availed soil/manure diagnostic services
- ATIC participated in four exhibitions, two at national level and two at district level

Exhibitions were conducted during the National Conference on Banana (NRCB, Trichy, 24-28 October 2007), Rashtriya Kisan Mela (NRC for Citrus, Nagpur, 30-31 October 2007), at JDT Islam Higher Secondary School (07 November 2007) and during the Karshikamela (Gandhiji Study Centre, Thodupuzha, 24-31 December 2007)

Krishi Vigyan Kendra



Training on farm implements

- KVK organized 35 training programs on various facets of agriculture and animal husbandry. About 970 participants were benefited.
- A seminar on organic farming and two animal health campaigns were conducted.
- The income generated through the revolving fund scheme during the period was Rs 98904/-

The KVK also organized FLDs on

- Introduction of HYV of Amorphophallus viz., Sree Padma
- Demonstration on milk production performance in dairy cattle by feeding with silage under scarcity conditions.
- Introduction of Chinchilla rabbits in cage rearing for meat purpose with balanced ration.
- Demonstration of HYVs of IISR ginger varieties.
- Demonstration of HYVs of black pepper.
- Introduction of HYV of oyster mushroom, Co-2

A farmers' study tour to Regional poultry farm, Milma dairy plant, Chathamangalam was organized on 01 October 2007, in which 34 farmers participated.

The KVK also participated in two exhibitions, at District Agricultural Meet, Koduvally on 30 November 2007 and at the Agricultural Fair at Newmans College, Thodupuzha from 23 60 31 December 2007.

A total of 385 farmers visited KVK for consultancy.

Publications

Research papers

Bhat AI, Siju S (2007) Development of a single tube multiplex RT-PCR for the simultaneous detection of *Cucumber mosaic virus* and *Piper yellow mottle virus* associated with stunt disease of black pepper. Current Science, 93: 973-976.

Dinu A, Kumar A, Aravind R, Eapen S.J (2007) An improved method for selection of antagonistic bactria against *Phytophthora capsici* Leonian infections in black pepper (*Piper nigrum* L.). Journal of Spices Aromatic Crops 16: 1-7.

Kandiannan K, Krishnamurthy KS, Thankamani CK, Mathew PA (2007) Pattern and variability of black pepper yields in tropical humid climatic conditions. Indian Journal of Horticulture 64: 314 – 319.

Madan MS, Ankegowda SJ (2007) Economic viability of soil and water conservation technology in cardamom based cropping system. Indian Journal of Soil Conservation 35:64-67.

Madan MS, Srinivasan V, Thankamani CK, Hamza S (2006) Economic analysis of low input technology for increased black pepper (*Piper nigrum*) production, Indian Journal of Agricultural Sciences 77: 445-447.

Manimekalai R, Nagarajan P, Bharthi M, Jayapragasam M, Anitha Karun, Kumaran PM, Parthasarathy VA (2007) RAPD as useful marker for coconut (*Cocos nucifera* L.) analysis. Indian Journal of Horticulture 64: 1-4.

Niral V, Geethalakshmi P, Parthasarathy VA (2007) Intrapopulation allelomorphism in tall and dwarf populations of the coconut. Acta Bot. Croatica 66: 35 – 42.

Prasath D, Ponnuswami V, Muralidharan V (2007) Source of resistance to anthracnose disease (*Colletotrichum capsici*) in *Capsicum* species. Indian Journal of Agricultural Sciences 77: 473-474.

Saji KV, Johnson George K, Sasikumar B, John Zachariah T, Parthasarathy VA. (2005) Coll. No. 5455 (INGR No. 04111, IC-370011). Black pepper (*Piper nigrum*. L.) germplasm with high oleoresin and bold berries. Indian Journal of Plant Genetic Resources 18: 297-98.

Sasikumar B, Johnson George K, Saji KV (2005) IISR-G- 246 (Coll. No. 3513) (INGR No. 04110; IC-432866) a dwarf ginger (*Zingiber officinale* Rosc.) germplasm. Indian Journal of Plant Genetic Resources 18: 297.

Utpala P, Johny AK, Jayarajan K, Parthasarathy VA (2007) Site suitability for turmeric production in India – a GIS interpretation. Natural Product Radiance 6: 142-147.

Veena SS, Anandaraj M, Sarma YR (2006) Compatibility of potassium phosphonate with *Trichoderma harzianum*. Journal of Mycology and Plant Pathology 36:171-174.

Popular Articles

Ankegowda SJ (2007) Cardamom Planting and after care. Spice India (Kannada), 20(7):22-26

Thankamani CK (2007) Inter cropping of spices in coconut garden. Indian Coconut Journal 36:8-10

Book

Parthasarathy VA, Kandiannan K, Srinivasan V (2008) Organic spices. New India Publishing Agency, New Delhi, 694p.

Papers presented in Seminar/ Symposia

Anandaraj M, Devasahayam S, Prasath D (2007) Black pepper. In: Souvenir and Abstracts (Eds Dinesh R, Shiva KN, Prasath D, Nirmal babu K, Parthasarathy VA), National Symposium on spices, medicinal and aromatic crops (SYMSAC IV): Threats and solutions to spices and aromatic crops industry, Indian Society for Spices, Calicut, pp. 161-185.

Chempakam B, John Zachariah T, Shiva KN, Jayashree E (2007) Processing and value addition in spices. In: Souvenir and Abstracts (Eds Dinesh R, Shiva KN, Prasath D, Nirmal babu K, Parthasarathy VA), National Symposium

on spices, medicinal and aromatic crops (SYMSAC IV): Threats and solutions to spices and aromatic crops industry, Indian Society for Spices, Calicut, pp. 128-160.

Kannaiyan S, Parthasarathy VA, Saji KV, Prasath D (2007) Biodiversity of spices and conservation. In: Souvenir and Abstracts (Eds Dinesh R, Shiva KN, Prasath D, Nirmal babu K, Parthasarathy VA), National Symposium on spices, medicinal and aromatic crops (SYMSAC IV): Threats and solutions to spices and aromatic crops industry, Indian Society for Spices, Calicut, pp. 21-46.

Parthasarathy VA, Krishnamurthy KS, Srinivasan V (2007) Ginger. In: Souvenir and Abstracts (Eds Dinesh R, Shiva KN, Prasath D, Nirmal babu K, Parthasarathy VA), National Symposium on spices, medicinal and aromatic crops (SYMSAC IV): Threats and solutions to spices and aromatic crops industry, Indian Society for Spices, Calicut, pp. 206-228.

Ramachandran K, Srinivasan V, Hamza S, Anandaraj M (2007) Phosphate solubilizing bacteria isolated from the rhizosphere soil and its growth promotion on black pepper (*Piper nigrum* L.) cuttings. First International Meeting on Microbial Phosphate Solubilization, Developments in Plant and Soil Sciences, Springer, Netherlands, 102: 325-331.

Sasikumar B, Krishnamurthy KS, Kandiannan K, Srinivasan V (2007) Turmeric. In: Souvenir and Abstracts (Eds Dinesh R, Shiva KN, Prasath D, Nirmal babu K, Parthasarathy VA), National Symposium on spices, medicinal and aromatic crops (SYMSAC IV): Threats and solutions to spices and aromatic crops industry, Indian Society for Spices, Calicut, pp. 229-259.

Book Chapters

Anandaraj M (2008) Mycorrhiza for growth enhancement and pathogen suppression in black pepper. In: The Mycorrhizae: Diversity, Ecology and Applications (Eds Tiwari M, Sati SC), Daya Publishing House, New Delhi, pp 349-355.

Anandaraj M, Dinesh R (2008) Use of microbes for spices production. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 101-132.

Bhat AI (2007) Molecular techniques for detection of plant pathogens. In: Breeding for resistance to diseases and insect pests in Plantation Crops (Eds RV, Thomas RJ) Central Plantation Crops Research Institute, Kasaragod, Kerala, India, pp 101-104.

Bhat AI (2007) Viral diseases of plantation crops. In: Breeding for resistance to diseases and insect pests in Plantation Crops (Eds Nair RV, Thomas RJ) Central Plantation Crops Research Institute, Kasaragod, Kerala, India, pp 135-138.

S

Devashayam S (2008) Biological control of insect pests. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 133-152.

Devasahayam S, Anandaraj M, Thankamani CK, Saji KV, Jayashree E (2006) Black pepper In: Major Spices-Production and Processing (Eds Parthasarathy VA, Rajeev P), Indian Institute of Spices Research, Calicut. pp15-61.

Dinesh R, Srinivasan V, Kandiannan K, Hamza S (2008) Organic manures. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 39-100.

Kandiannan K, Chempakam B, Krishnamurthy KS (2008) Turmeric. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 387-438.

Kandiannan K, Dinesh R (2008) Vanilla. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 439-458.

Kumar A (2008) Management of bacterial diseases. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 193-214.

Mathew PA (2008) Nutmeg. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 459-476.

Parthasarathy VA, Kandiannan K, Srinivasan V (2008) Introduction. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 1-38.

Parthasarathy VA, Kandiannan K, Srinivasan V (2008) Good agricultural practices. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 611-624.

Prasath D, Venugopal MN (2008) Cardamom. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 285-334.

Santosh J. Eapen (2008) Management of plant parasitic nematodes. Suseela Bhai R. 2008. Biological control of

fungal diseases. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 215-238.

Shiva KN, Malhotra SK (2008) Fenugreek. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 577-594.

Shiva KN, Prasath D, Parthasarathy VA (2008) Chilli and Paprika. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 477-522.

Srinivasan V, Shiva KN, Kumar A (2008) Ginger. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 335-386.

Srinivasan V, John Zachariah T, Chempakam B (2008) Organic certification and quality standards. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 625-650.

Suseela Bhai R (2008) Biological control of fungal diseases. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 153-192.

Thankamani CK (2008) Black pepper. In: Organic spices (Eds Parthasarathy VA, Kandiannan K, Srinivasan V), New India Publishing Agency, New Delhi, pp 239-284.

Utpala Parthasarathy (2007) GIS: An advanced tool to study biodiversity. In: Biodiversity for sustainable agriculture (Ed Trivedi PC), Aavishkar Publishers, Distributors, Jaipur, India, pp. 32-53.

Zachariah TJ, Leela NK (2006) Volatiles from Herbs and Spices. In: Hand Book of Herbs and Spices, Vol.3. (Ed Peter KV), Wood Head Publishing Limited, England, pp.177-218.

Technical publications

Jain RK, Bhat AI, Bag S, Agarwal S (Eds) (2007) Standard operating procedures for detection of viruses in tissue culture raised plants. Manual prepared for distribution among accredited test laboratories under the DBT sponsored Certification of tissue culture raised plants project.

A PDF version of the newsletter is also

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