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Dr. Y.R. Sarma Takes Over as New Director of Indian Institute of Spices Research, Kozhikode

Dr. Y.R. Sarma, former Head in charge, Plant Protection Division, Indian Institute of Spices Research, Kozhikode is the new Director of the Institute.



Dr. Y.R Sarma

A plant pathologist of national fame, Dr. Y.R. Sarma is a recipient of Dr. M. Puttarudrah Memorial Award as well as VASVIK Research Award 1997 and has more than 28 years of research experience in disease and disease management of spices and plantation crops.

A Ph.D in Botany from S.V. University, Thirupathi, Dr. Y.R. Sarma had Post doctoral training from University of California, Riverside, USA.



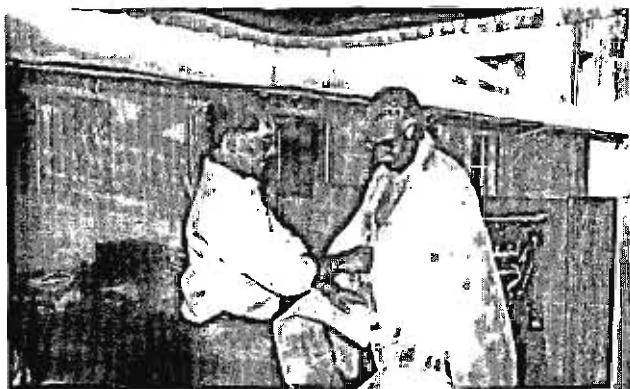
Indian Institute of Spices Research
P.B. No: 1701; Marikunnu P.O; Kozhikode - 673 012, Kerala

An expert in *Phytophthora* disease of spices and plantation crops, Dr. Sarma has published 106 research papers, 14 popular articles and edited 5 books besides guiding seven Ph.D students. He is also the coordinator of the national network on *Phytophthora* diseases of horticultural crops (PHYTONET) operating at 9 centres in the country. He also serves as a member of expert committees on various bodies including the Dept. of Biotechnology, Govt. of India.

Dr. Y. R. Sarma is a consultant to Indo Swiss programme on ginger diseases in Sikkim and to Andhra Pradesh Forest Development Corporation (APFDC).

Dr. P.N. Ravindran, Project Coordinator (Spices), was the acting Director of IISR, Kozhikode till the joining of Dr. Y.R. Sarma as Director.

Dr. K.V. Peter leaves IISR, Kozhikode



Farewell to Dr. K.V. Peter

After a span of eight eventful years as Director of IISR, Kozhikode, Dr. K.V. Peter relinquished the charge of Director to take over as Director of Research, Kerala Agricultural University, Trissur. During the tenure of Dr. K.V. Peter, the Institute received many awards and attained national fame. The scientists and staff members gave him a memorable and very affectionate send off.

RESEARCH HIGHLIGHTS

Germplasm enrichment

A total of 108 *Piper* accessions were collected, consisting of 64 wild types and 44 cultivars, from Sirsi, Sagar and Coorg (Karnataka) Idukki & Kottayam (Kerala). In turmeric, five collections were made including *C. caesia* (black turmeric) from AICRPS (Pundibari). Thirteen ginger accessions were also collected from Karnataka, West Bengal & Nepal. Four collections of *Vanilla*, viz., *V. ptilifera*, *V. vatsalae*, *V. thahitensis* and *V. planifolia* with variegated leaves were also collected.

Heterosis in cardamom

Hybrids clones of cardamom viz. CCS-1 X NKE-12 and NKE-19 X NKE-27 exhibited good heterosis for plant height and number of tillers/plant.

Drought tolerant black pepper

Black pepper accessions 4216 and 4226 are identified as relatively tolerant to water stress.

Biotechnology

In vitro multiplication has been induced in *Piper cubeba* and *Piper attenuatum*. The *in vitro* genebank has been strengthened by the addition of *P. cubeba*, *P. attenuatum* and seed spices viz., *Nigella sativa* and *Trachyspermum ammi*.

Grafting black pepper & Tree Spices

Grafting of black pepper onto *P. colubrinum* helps the vines to avoid foot rot disease. More than one method is available for grafting pepper. Survival rate after 3 years of field planting of grafts indicated double root stock method as the best one (88.9%) followed by tongue and saddle grafting (61.1%).

However, *P. colubrinum* root stock has been found to be affected by mealy bugs at the collar region and root system resulting in death of the grafts.

Myristica beddomei and *M. malabarica* are found to be compatible root stock for approach grafting of the cultivated nutmeg *M. fragrans*. Grafting of clove on *Syzygium beynianum* root stock proved successful.

Serological detection of *Ralstonia solanacearum*

Evaluation of Dot Immuno Binding Assay Kit (NCMELISA) developed by International Potato Centre (CIP Lima Peru) indicated the adaptability of the kit for detection of bacterial pathogens in ginger samples.

Screening black pepper for disease resistance

Three accessions of black pepper including HP-295 showed resistance reaction in the initial screening/field trials against *Phytophthora capsici*.

Compatibility of potassium phosphonate and biocontrol agent

The activity of potassium phosphonate against *P. capsici* in black pepper at the recommended dose of 3 ml⁻¹ declines after 4 days. Studies with higher concentrations of potassium phosphonate indicated that the chemical @ 6-10 ml⁻¹ could give greater protection upto 30 days after drenching without any phytotoxicity. In a pot culture experiment with biocontrol agents alone and in combination with potassium phosphonate, against root rot, showed least mortality in treatment with a combination of *Verticillium tenerum* and potassium phosphonate (11.1%) followed by *Trichoderma virens* and *T. harzianum* in combination with potassium phosphonate (16.6%) compared to control (83.3%)

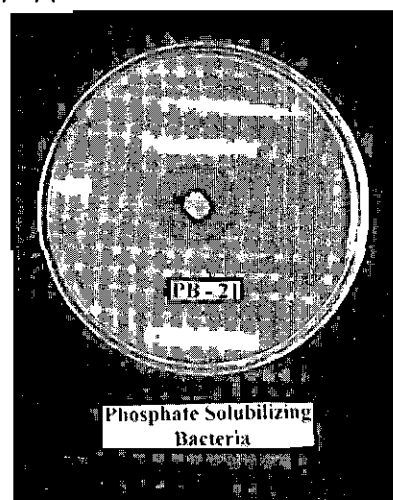
New inoculation technique for screening of ginger for bacterial wilt

A simple inoculation technique is standardized to screen germplasm of ginger for bacterial wilt

tolerance. The technique is very rapid and easy. Reaction could be noticed with in 10 days of inoculation.

Phosphorous solubilizing bacterial strain isolated

An efficient strain of phosphate solubilizing bacteria has been isolated from the rhizosphere of black pepper.



Organic turmeric

In turmeric among the different organic sources tried, chilly spent waste @ 250 g^{-pot} recorded highest yield and was comparable to FYM application @ 1 kg^{-pot}.

Ginger responds to micronutrients

Application of micronutrients viz. boron and molybdenum along with FYM (10^{tho}) and the recommended N P K increased the yield by 32% and 43% respectively.

Nutrition of bush pepper

Application of FYM significantly increased bush pepper yield followed by vermicompost and leaf compost applications. The yield increase was upto 104% in the variety Panniyur-1 and 35% in Karimunda variety over the application of chemical fertilizer alone.

Black pepper lines that hold promise

Black pepper lines suitable for high elevation area of South India have been a persistent demand from planters. An ideal variety suited for high elevation area should possess high yield and good bulk density. Trials at Valparai (collaboration with Tata Tea Limited) has helped to identify few lines suitable for high altitude areas. Black



Coll. 1041, a *Phytophthora* tolerant line suited to high altitude areas

pepper hybrids HP 105, HP 34, HP 728 and Coll. 1041 are few elite lines now identified. These line yield about 5-6 kg fresh berries/vine at the 5th year besides possessing high bulk density (>500 g).

Coll. 1041, besides having high yield and good quality also shows tolerance to

Phytophthora foot rot disease.

Hybrid line HP 1411 and an open pollinated line of Karimunda (OPKM) are the other superior lines of black pepper identified for the planes.

Alleppey Finger Turmeric (AFT) selections

Two AFT lines (Acc. 584 & Acc. 585) are identified as very promising following clonal selection of Alleppey finger turmeric. These lines possess high yield (25-30 t^{ha}), good dry recovery and above 6% curcumin.

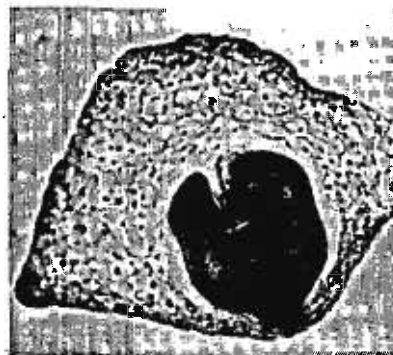
Pesticide residues in black pepper

'Clean Spices' free from residues have a good premium in the international market. In order to

ensure pesticide residue free produce, the pesticide residue levels in black pepper, with the recommended spraying schedules of endosulfan and neem based insecticides, are determined. Spraying of 2 rounds of endosulfan (0.05%); one round of endosulfan (0.05%) + 3 rounds of neemgold (0.6%) and 4 rounds of neemgold (0.6%) resulted in 0.41 ppm, 0.009 ppm and non detectable levels of endosulfan residues, respectively in black pepper berries at harvest. These residue levels are below the permissible level of 0.1 ppm fixed by the importing countries.

Cytogenetics & embryology of spices

Cytological analysis of seedling progenies of turmeric had shown chromosome number variations such as 63, 74, 77 & 84. Cultivated turmeric is triploid, $2n = 63$.



Black pepper embryo

Studies on embryo development in black pepper indicated that during the first three months after pollination the embryo attain a heart shape structure. Further development takes place only during the process of seed germination.

Nematode Bank

Five more root-knot nematode population were added to the nematode live collections at IISR, Kozhikode. A new root-knot nematode species *M. keralensis* is identified from IISR farm, Peruvannamuzhi.

BRAIN STORMING SESSION ON BIOTECHNOLOGY OF SPICES AND PLANTATION CROPS

A brain storming session on Biotechnology of Spices and Plantation Crops was organized at IISR, Kozhikode during January 17-18, 2000. Dr. Manju Sharma, Secretary, Department of Biotechnology (DBT) inaugurated the session. Dr. Renu Swarup, Principal Scientific Officer, DBT chaired the sessions. Spices and plantation crop workers from South India took part in the meet.



Inauguration of the Brain storming session. Dr. Manju Sharma, Dr. Renu Swarup, Dr. K.V. Peter and Dr. Y.R. Sarma are seen

FOUNDATION STONE LAID FOR ATIC

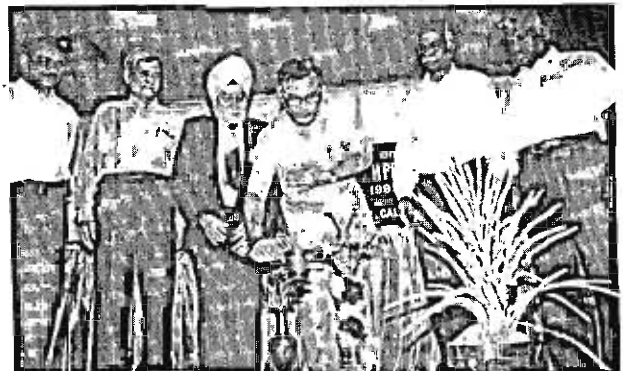
Dr. K.V. Peter, Director of Research, Kerala Agricultural University, Trissur laid the foundation stone for the Agricultural Technology Information Centre (ATIC) building at IISR, Kozhikode.



Foundation stone laying ceremony. Dr. K.V. Peter, Dr. P.N. Ravindran, Mr. Jose Abraham, Dr. K.V. Ramana, Mr. M.K. Sachidanandan and others are seen.

XV WORKSHOP OF ALL INDIA COORDINATED RESEARCH PROJECT ON SPICES

The XV Workshop of AICRP on Spices was held at Kozhikode from 18-21st November 1999. The Workshop was inaugurated by Dr. K.N.S. Nair, Vice Chancellor, Kerala Agricultural University, Trissur in a function presided over by Dr. R.N. Pal, Assistant Director General (PC). Dr. K.V. Peter, then Director, IISR, Kozhikode welcomed the gathering and Dr. P.N. Ravindran, Project Coordinator (Spices) presented the report and highlighted the significant achievements and the progress made by the 20 AICRPS research centres during the preceding two years.



Dr. K.N.S. Nair inaugurating the XV workshop at Kozhikode. Dr. P.N. Ravindran, Dr. R.N. Pal, Dr. J.S. Prethy, Dr. K.V. Peter and Dr. S. Edison are seen

Dr. K.N.S. Nair, Vice Chancellor in his inaugural address stressed the need for monitoring the impact of ecological changes as a result of pepper and cardamom cultivation in the Western Ghats of Kerala and the importance of developing sustainable ecofriendly production technology. From coastal areas pepper cultivation had shifted to foot hills and because of depletion forest cover the space available for cardamom cultivation is shrinking. The impact of these changes had to be studied since it would have an effect on the volume of production of these spices in which Kerala was the leader, he said.

The Workshop recommended 10 new varieties of spices for presentation before central/state variety release committees. The spices varieties recommended for release were Panniyur-6 and Panniyur-7 in block pepper from the Pepper Research Station, Panniyur, Kerala Agricultural University; RR-1 (rhizome rot resistant line of cardamom) from Indian Institute of Spices Research (IISR), Cardamom Research Centre, Appangala; RCr-435, RCr-436, RCr-84 in coriander, RMt-303 in fenugreek and RF-101 in fennel developed by the Rajasthan Agricultural University; Guj. Methi-1 and Guj. Cumin-3 developed by the Gujarat Agricultural University, Main Spices Research Station, Jagudan.

STAFF RESEARCH COUNCIL MEETING

The XIV Staff Research Council Meeting was held during 26-28 April 2000 at IISR, Kozhikode. Dr PN Ravindran, the then Director chaired the meeting. The progress of all the ongoing project was reviewed.

RAC MEETING

The Research Advisory Committee (RAC) Meeting of IISR was held 2-3 March 2000. Dr VL Chopra, National Professor and former DG (ICAR) chaired the meeting. Dr AM Michael, Dr Mansingh Manohar and Dr K C Maurya also attended the meeting besides Dr P N Ravindran, then Director and Member Secretary and Scientists of IISR, Kozhikode.

RECREATION CLUB DAY

The annual day celebrations of Recreation Club was held at IISR, Kozhikode on 29th April 2000. Dr RN Pal, Assistant Director General (PC) was the chief guest. Quiz programmes, games, sports and other entertainment programmes are conducted for

the staff members and their children. Dr RN Pal gave away prizes to winners in various events.



Dr RN Pal, ADG (PC) distributing prize to a winner, Sri. M.K. Sachidandan

CENTENNIAL CONFERENCE ON SPICES AND AROMATIC PLANTS

The Indian Society for Spices and Indian Institute of Spices Research in collaboration with the Indian Council of Agricultural Research are organizing a Centennial Conference on Spices at Kozhikode (Hotel Taj Residency) during September 20-23, 2000. Invited papers and contributing papers on production and productivity; management of biotic and abiotic stresses; biotechnology; post harvest technology; information technology as well as economic and marketing will be presented and discussed in the three days symposium.

TRANSFER OF TECHNOLOGY

Radio Talks

Y R Sarma

Phytophthora foot rot management. AIR, Kozhikode, 24th June, 1999

T John Zachariah

Value added products from pepper. AIR, Kozhikode, 13th August, 1999

T John Zachariah

Question and answers on 'Value added products' from pepper, AIR, Kozhikode, 20th August, 1999

S S Veena

Seed procurement in ginger & turmeric, AIR, Kozhikode, 19th December, 1999

PARTICIPATION IN SYMPOSIA/SEMINARS/TRAINING**T John Zachariah**

National Seminar on R & D in Aromatic plants: Current trends in biology, uses, production and marketing of essential oils. Presented a lead paper "Spices oils and oleoresins - challenges and opportunities". CIMAP, Lucknow. 30-31 July, 1999.

B Sasikumar

'cDNA cloning' CAS, Division of Biochemistry, IARI, New Delhi, 16-30 September, 1999.

Y R Sarma

Biotechnology popular lecture series - 'Biocontrol in plant disease management'. CPCRI, Kasaragod. 28th September 1999.

V Srinivasan

Winter school on "Recent developments in survey sampling in relation to Agricultural Research" 14th September - 5th October, IASRI, New Delhi 1999.

Y R Sarma

Biocontrol workshop. PDBC, Bangalore, 25-26 October, 1999

S Hamza

Public hearing on 'Environment and developments'. Central Water Commission. CWRDM, Kozhikode. 30th October, 1999.

V Srinivasan, S. Hamza and M R Rubina

National Seminar on Development in soil science. TNAU, Coimbatore. 26-30 November, 1999.

Y R Sarma

Global Symposium on Potato. ICAR, New Delhi. 6-10 December, 1999.

Y R Sarma

Annual meeting and Symposium of Indian Phytophthological Society, (Southern Chapter). Delivered a lecture on 'Biocontrol strategy on disease management of *Phytophthora* foot rot in black pepper'. CPCRI, Kayamkulam. 14th December 1999.

S S Veena

Indian Phytopathological Society (Southern Chapter) Annual Meeting and Symposium 'Integrated Plant Disease Management, CPCRI, Kayamkulam, 14-16 December, 1999.

S Devasahayam

Indo-UK workshop on Innovative Integrated Crop Protection Practices. 18th December, 1999

V Srinivasan, V S Korikanthimath and B Krishnamoorthy

International Conference on 'Managing Natural Resources for Sustainable Agricultural Production in the 21st century'. IARI, New Delhi. 14-18 February, 2000.

B Sasikumar

'PCR amplification and gene cloning'. CAS, Division of Biochemistry, IARI, New Delhi, 29th March to 18 April 2000

GUEST LECTURES DELIVERED/PAPERS PRESENTED**S S Veena**

Foot rot management in black pepper. Lecture delivered to Panchayath Presidents, Farmers Training Centre, Kozhikode. 7th July 1999.

S S Veena

Disease management through biocontrol. PDS, Peermade, Idukki. 16th August 1999

S Hamza

Bush pepper propagation and cultivation. People's planning forum, Shornur Municipality. 25th September, 1999

John T Zachariah

Instrumental methods in biological sciences. Refresher course for college lecturers. Calicut University. 27th October 1999.

John T Zachariah

Value added products from black pepper, cardamom & ginger. Seminar on Food Tec. World Organized by KINFRA. Taj Residency, Kozhikode 2nd November 1999.

Y R Sarma

Spices crops research and development. Taj International, Kozhikode. Sponsored by KINFRA, 2nd November, 1999

Y R Sarma

Nursery management in black pepper. Farmers meet. Kalpetta Planters Associate, Wynad 6th November, 1999

S Devasahayam

Integrated management of insect pests of black pepper. Indo-UK Workshop on Innovative integrated crop protection practices. Chennai. 18 December, 1999

S S Veena

Disease management in spices. RASTA, Komnbalakkad, Wyanad. 21st January

A Kumar

Trichoderma-an eco-friendly fungus with multi prong biocontrol activities. Lecture delivered to Agricultural officers of Department of Agriculture, Govt. of Kerala at KVK, Peruvannamuzhi.

PUBLICATIONS**Review Article**

Sasikumar, B and Ravindran, P.N. 1999. Genetic resources, conservation and improvement of major spices through selection and hybridization. Proc Summer School "Improvement of Plantation Crops" (Eds.) Ratnambal, M. J. et al CPCRI, Kasaragod, pp 107-114.

Research Articles

Devasahayam, S. and Abdulla Koya, K.M. 1999. Integrated management of insects pests of spices. Journal of Spices, Medicinal and Aromatic Plants. 1 : 19-23.

Hamza, S., Sadanandan, A.K. and Srinivasan, V. 1999. Influence of soil physicochemical properties on black pepper yield. National Seminar on Developments in Soil Science. November 26-30, 1999, TNAU, Coimbatore, (Abs.) p-129.

John Zachariah, T., Sasikumar, B and Nirmal Babu, K 1999. Variation for quality components in ginger and turmeric and their interaction with environment. In : Proc. Golden Jubilee National Symposium on Spices, Medicinal and Aromatic Plants - Biodiversity, Conserva-

- tion and Utilization (Eds.) Sasikumar B. et al. Indian Institute of Spices Research, Kozhikode, PP-116-120.
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- Sasikumar, B., Krishnamoorthy, B., Saji, K.V., Johnson George, K., Peter, K.V., and Ravindran, P.N. 1999. Spices diversity and conservation of plants that yield major spices in India. Plant Genetic Resources Newsletter, 118 : 19-26.
- Sasikumar, B., Saji, K.V., Ravindran, P.N and Peter, K.V 1999. Genetic resources of ginger and its conservation. In : Proc. Golden Jubilee National Symposium on Spices, Medicinal and Aromatic Plants-Biodiversity, Conservation and Utilization (Eds) Sasikumar, B et.al, Indian Institute of Spices Research, Kozhikode. pp 96-100.
- Krishnamoorthy B., Rema, J. and Mathew, P.A. 1999. Tree spices biodiversity conservation and utilization. In: Proc. Golden Jubilee national Symposium on Spices, Medicinal and Aromatic Plants -Biodiversity, Conservation and utilization (Eds.) Sasikumar, B. et.al/ Indian Institute of Spices Research, Kozhikode P. 121-130.
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- John Zachariah T., 1999. Wilt the plant feels. Yojana (Mal.) 28 (3) : 34-35.
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- Krishnamoorthy, B. 1999. Conservation and improvement of Chinese cassia. IPGRI Newsletter for Asia, the Pacific and Oceanic, 29-(4).
- Krishnamoorthy, B. 1999. Multiple use of coriander. Spice India 12 (11) : 18-20.
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- Ravindran, P.N. & Johny, A.K. 2000. All India Coordinated Research Project on Spices - An overview. Indian Spices, 36 (2 & 3): 17-20.

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- Sadanandan, A.K, Hamza, S. and Sajna, A.M. 1999. Organic cultivation practices in ginger, turmeric and tree spices. *Spice India (Mal.)* 12 (2) : 10-11 & 21.
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- Sasikumar, B 1999. Improved turmeric varieties. *Karshakashree (Mal.)* September 1999, p 47.
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- Sasikumar, B. 1999. Ginger in Nepal - A slice. *Indian Spices*, 36 (2 & 3): 7.
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- Sasikumar, B. 1999. Bush pepper. *Science Express*, October 5, 1999.
- Sasikumar, B. 2000. A century of development in Indian agriculture. *Karshakan (Annual Issue) (Mal)* p 6-13.
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- Sasikumar, B. 2000. *Phyllanthus amarus* - a cure for Hepatitis B. *Karshakan (Mal.)* May 2000, p -23.
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Books

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Ravindran, P.N. (Ed.) *Black Pepper* - Harwood Academic Publishers, Amsterdam 2000. pp 553.

Chadha, K.L., Ravindran, P.N. & Leela Sahijram (Eds.) *Biotechnology in Horticultural and Plantation Crops*. Malhotra Publishing House, New Delhi, India. 2000. pp 836.

NEW PROJECTS SANCTIONED

1. Immuno serological approaches to pathogen detection and use of defense protein in disease management of plantation crops - ginger and cardamom- DBT Scheme
2. Sustainable management of plant biodiversity - NATP project
3. Molecular characterization and preparation of molecular map in black pepper - NATP project
4. Field evaluation of tissue culture plants of spices and assessment of the genetic stability using molecular markers - DBT Scheme

HINDI FORTNIGHT CELEBRATION

Hindi fortnight celebrations were held at IISR from 14-09-1999 to 29-09-1999. During this period various competitions were conducted in Hindi. A Hindi workshop was also organized and Smt. B Bindu, Hindi Pradyapak, Hindi teaching scheme delivered a lecture regarding Hindi Noting and Draftings.

IJSC MEETING

The fourth meeting of the IJSC was held at CRC Appangala on 28th October 1999.

WOMEN'S CELL

The Annual day of Women's cell was celebrated on 18th November 1999. Essay and elocution competitions were held for the women staff in this connection. Mrs. P. Vatsala, noted Malayalam novelist inaugurated the function. Mrs. Vatsala Ramadasan a prominent social worker chaired the function. Dr B Sasikumar and Dr T John Zachariah offered felicitations.



Noted Malayalam novelist Mrs. P Vatsala inaugurating the annual day celebration of Women's cell

HONOURS/AWARDS

HONOURS TO DR Y R SARMA

Dr Y R Sarma, Director, IISR, Kozhikode has bagged two coveted awards for his outstanding services to spices research.

Dr M Puttarudraih Memorial Endowment National Award, carrying a cash price of Rs 10,000 (Rupees ten thousand) and a citation is bestowed upon Dr Sarma for his shimmered contributions in the field of plant protection of spices.

VASVIK Research Award 1997 is also bagged by Dr Sarma for his significant achievements in the field of Agricultural Science & Technology. This award carries cash price of Rs. 25,000 (Rupees twenty five thousand) and a citation. Scientists and staff of IISR, Kozhikode join 'Spices News' to congratulate Dr Sarma.

INDIAN INSTITUTE OF SPICES RESEARCH IS THE BEST INSTITUTE

Among the 89 Institutes under the Indian Council of Agricultural Research in the country, the Indian Institute of Spices Research, Kozhikode is adjudged the best Institute as it bagged the Best Institute Award for the year 1999 along with IIHR Bangalore. This award carrying a cash price of Rs. 1 lakh (Rupees one lakh) and a citation is bestowed upon IISR, Kozhikode for the outstanding contribution in the field of spices research and development.

The citation reads:

"Indian Institute of Spices Research (IISR), Calicut (Kozhikode), is a premier research organization in the country engaged in spices research. The Institute has assembled the world's largest collection of germplasm in black pepper, ginger, turmeric and tree spices, and has conserved them in the field repositories and in-vitro genebank. The Institute has evolved four new high yielding varieties in black pepper, five high yielding and high curcumin turmeric, one low fibre and high yielding ginger, 2 high yielding disease resistant cardamom and two high yielding and excellent quality cinnamon varieties. High yielding, disease resistant lines of black pepper, high curcumin lines of turmeric, low fibre lines of ginger, high quality nutmeg lines and high quality cassia are under final stages of evaluation. Micropropagation protocols were standardized for over 30 spices and herbs. The IISR has developed efficient technologies for water and nutrient management and has evolved High Production Technologies for black pepper and cardamom, which are widely accepted and adopted by the farmers. Integrated pest and disease management systems including bio-control schedules have been developed for black pepper, ginger and cardamom and have been successfully demonstrated in the farmer's fields. Technologies have been standardized to prepare value-added products like white pepper and salted ginger. The technologies developed by the Institute have led to substantial increase in production and productivity of spices.



Director IISR receiving the best ICAR institute award from Hon'able Union Minister for Agriculture Sri. Nitish Kumar.

The IISR owes its origin to the All India Coordinated Spices Improvement Project (1971) which grew into National Research Centre on Spices at Calicut. This Research Centre was elevated to the Indian Institute of Spices Research (IISR) with effect from 1 July 1995".

The entire staff of IISR feel proud of this achievement as it reflects their commitment to the cause of spices research & development.

PERSONNEL

Promotions

Name	Promoted to	Posted at	Date
Dr K S Krishnamoorthy	Scientist (Sr. Scale)	IISR, Kozhikode	14.9.98
Dr S J Anke Gowda	Scientist (Sr. Scale)	IISR, CRS, Appangala	21.7.98

Appointments

Name	Designation	w.e.f
Dr Kavitha Ramachandran	SRF	28.7.99
Ms Geetha S Pillai	RA	16.8.99

Transfer

Ms. S Vasugi, Scientist (Hort.) is transferred to IIHR, Bangalore w.e.f 7th August 1999.

Resignations

Name	Designation	w.e.f
Ms Suvarna Viswanathan	SRF	31.7.99
Mr K Praveen	SRF	16.8.99

ORISSA FUND

A sum of Rs. 14558 (Rupees fourteen thousands five hundred and fifty eight) was contributed towards Orissa Cyclone Relief Fund through Director (Finance), ICAR by the Scientists and Staff members of Indian Institute of Spices Research, Kozhikode.

WEDDINGS

Dr. (Ms) S S Veena, Scientist, IISR, Kozhikode with Dr. Ashok Divakar

Ms. N Prasanna Kumari, Hindi Translator, IISR with Mr. M Haridas

Ms. P Vijaya, Senior Research Fellow, IISR with Mr. K T Surendran

Congratulations and best wishes to the married couple

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