

NRCS

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News Letter

Volume 2

July - December, 1991

No. 2

NATIONAL RESEARCH CENTRE FOR SPICES
P. O. Box No. 1701, Kozhikode - 673 012, Kerala

NRCS WELCOMES NEW DIRECTOR

Prof. (Dr.) K.V. Peter, joined as Director, NRCS on 20th November 1991.

Dr. Peter, a renowned teacher and scientist holds M.Sc.(Ag.) and Ph.D degrees in Horticulture and Plant Breeding, respectively from G. B. Pant University of Agriculture and Technology, Pantnagar, U.P. He also had Post doctoral training at USA. He has extensive research experience in Horticultural Crops and was Professor and Head, Department of Olericulture and Processing Technology at Kerala Agril. University, Vellanikkara, Trissur from 1979. Dr. Peter also served at G. B. Pant University of Agriculture and Technology for 5 years as Asst. Professor before joining Kerala Agril. University. The scientists and staff members, NRCS welcome him heartily to their fold.



Prof. (Dr.) K. V. Peter

NRCS GREETS NEW ICAR CHIEF

Dr. V. L. Chopra, an eminent scientist and teacher joined as Director-General, ICAR, and Secretary (DARE) (Govt. of India). Director, Scientists and Staff members, NRCS, Kozhikode extend warm greetings and best wishes to him.

RESEARCH ACHIEVEMENTS

Tree spices research makes headway:

Study on variability and intercharacter association for fruit and seed characters in nutmeg revealed maximum variability for fruits/tree followed by fruit weight. Progeny analysis of 9 elite Cinnamon lines with respect to 9 characters including 3 quality traits indicated significant variation in the progenies of the elite lines. An evaluation of 71 Cinnamon germplasm lines for yield and quality attributes revealed maximum variability for dry weight of bark followed by fresh weight of bark. Bark oil and leaf oil were negatively correlated.

Rooting success in allspice cuttings was achieved with a commercial hormonal combination.

Biocontrol research on *Phytophthora* and foot rot yields dividends:

A few bacterial antagonists found effective *in vitro* against *Phytophthora capsici* have been isolated. Their *in vivo* efficacy is being assessed. Inoculation of potted black pepper plants with VAM resulted in suppressing the collar rot caused by *Phytophthora capsici*, *Radopholus similis* and *Meloidogyne incognita*.

Post harvest research on turmeric progresses:

An NRCS study reveals that storage of turmeric rhizomes in proper conditions do not affect the levels of curcumin and oleoresin in the rhizomes.

GERMPLASM CONSERVATION AND COLLECTION

Cassia cinnamon or Chinese cinnamon (*Cinnamomum aromaticum*-N.) is very much in demand in India due to its good aroma, strong pungency and texture. It is not at present cultivated in India. However, a few trees are maintained at a private estate in the

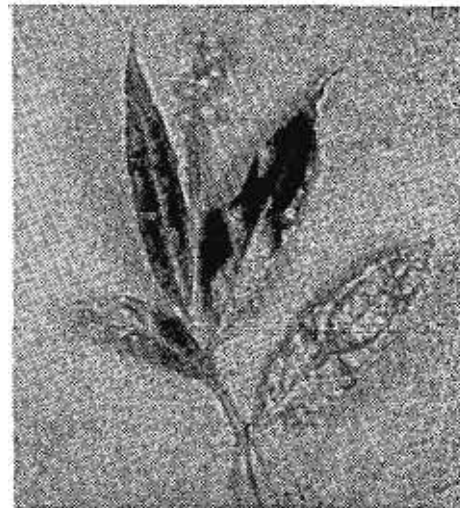
Anamali, Hills of Tamil Nadu. In a collection survey undertaken by Sri B. Krishnamoorthy, Scientist (SG), Genetics, NRCS, Kozhikode a total of 27 accessions of cassia was collected from this estate and are being raised in the tree spices nursery at NRCS Farm, Peruvannamuzhi. Another significant addition to the tree spices germplasm was one nutmeg accession from Feroke, Calicut. This tree produces fruits having 3 sutures on their pericarp and within each fruit, there are 2-3 seeds fused to form a stout, irregularly shaped seed with rich aril and another small rudimentary seed. Seeds and scions are collected from this mother tree and being multiplied in the nursery at Peruvannamuzhi farm.

In yet another survey of nutmeg belts of Kerala, Mr. B. Krishnamoorthy, Scientist (SG), Genetics, NRCS, identified 50 elite nutmeg trees and the seeds obtained from these plus trees are sown in the nursery.

A black pepper and other spices germplasm collection expedition was carried out by NRCS scientists, Mr. Johnson K. George and Dr. B. Sasikumar in collaboration with NBPGR centre, Trissur and Pepper Research Station, Panniyur (KAU) from Dec. 2-7, 1991. Upper Kodair forests and other parts of Tirunelvally forest ranges were surveyed. A total of 25 black pepper accessions including *P. trichostachyon*, *P. nigrum*, *P. sugandhi* (male and female), *P. hymenophyllum*, *P. argyrophyllum*, *P. attenuatum* was collected besides 2 wild cinnamon, 1 each of wild nutmeg, cardamom, *Curcum* sp. and *Zingiber* sp.

A very important collection during the trip was a female plant of *P. barberi* with matured berries from Kallakattu forests. This is perhaps for the first time matured berries of *P. barberi* are collected. The seeds are sown for germination in the black pepper germplasm nursery at NRCS Farm, Peruvannamuzhi. The other collected accessions are also being multiplied in the nursery.

In another joint germplasm collection survey with NBPGR centre, Trissur at Siruvani project



A lateral branch of *Piper barberi* with matured berries

area, Valayar, Mukkali and Malampuzha forests, Sri. Johnson K. George, Scientist, NRCS collected 7 accessions of black pepper including *P. nigrum*, *P. galeatum*, *P. hymenophyllum*, *P. attenuatum*, *P. argyrophyllum*, *P. sugandhi* etc. These accessions are planted in mist chamber in the nursery.

IN PIPELINE

'P-24' an open pollinated progeny of the black pepper cultivar 'Perambramunda' is found free from *Phytophthora* infection at Sirsi, Karnataka. After further verification this *Phytophthora* tolerant line will be released for general cultivation.

LATEST IN RESEARCH

1. Distinct morphotypes (cyto-types) have been recorded for the first time from an open pollinated progeny population of a black pepper cultivar. A few of the morphotypes resembled wild and related *Piper* sps. The mother plant was found to be a natural triploid ($2n=78$)
2. *In vitro* shoot development and rooting of cinnamon has been achieved.

LITTLE LEAF DISEASE OF BLACK PEPPER — SURVEY

A team consisting of scientists from NRCS (Dr. Y. R. Sarma and Dr. A. K. Sadanandan), KAU and Directorate of Cocoa, Arecanut and Spices development visited Pulppally area in Wynad, during October 1991 to investigate the problem of little leaf disease of black pepper.

LITTLE LEAF DISEASE — THE STATUS QUO

Recently media attention was focused on the little leaf disease of black pepper noticed in Wynad district of Kerala. Some Malayalam dailies featured it even as 'Aids of Black pepper'. However, this is not the first time the disease is occurring. It has been noticed as early as 1976 in Idukki and Wynad districts of Kerala. The disease was first recorded in a Government nursery at Neriamangalam. The affected vines produce small, leathery and crinkled leaves. The internodes of the affected plant parts get reduced and the infected plants gradually become unproductive. This disease is systemic in nature and is transmitted by insects also. The disease is suspected to be caused by Mycoplasma Like Organisms (MLO). Similar disease is also noticed in other black pepper growing countries, such as Malaysia, Indonesia and Srilanka. In a recently conducted International Workshop on Pepper Diseases held at Lampung, Indonesia the disease has been redesignated as 'Stunted disease of black pepper'.

In view of the MLO or viral nature of the disease it may not be amenable to any agrochemical and rouging off the infected plants is the cheapest practical method of the disease management.

CENTRAL TEAM FOR QUICK WILT

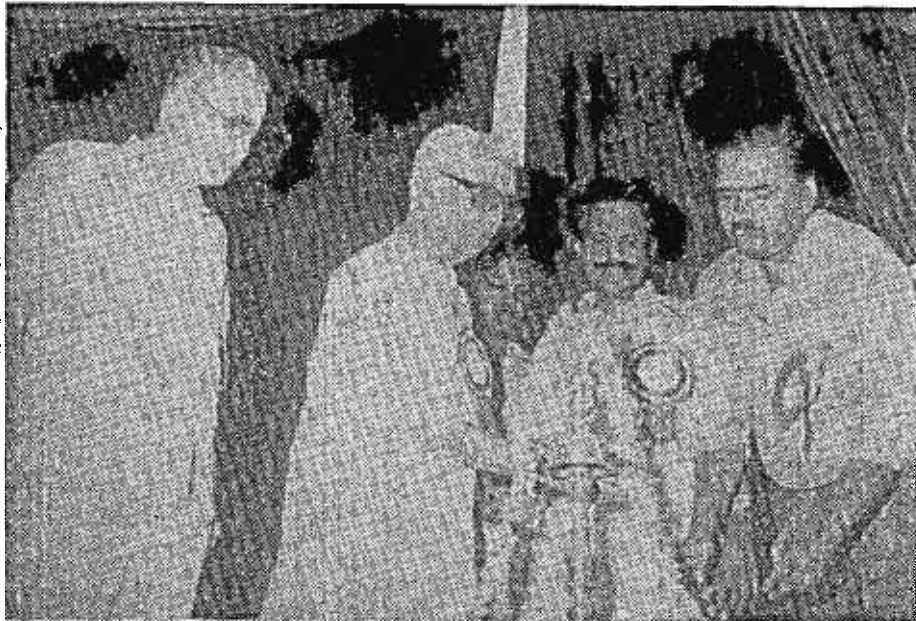
Dr. S. Edison, Project Co-ordinator (Spices) was nominated as one of the members of the Central Team by Honourable Minister of State for Agriculture & Corporation (Government of India) to survey the quick wilt affected pepper areas in Idukki & Wynad districts, during October 7-12, 1991. A detailed report is submitted to the Minister after the study for necessary action.

EXPLORATORY SURVEY OF TREE SPICES

Dr. S. Edison, Project co-ordinator (Spices) made an exploratory survey of tree spices at Yelagiri Hills, Virupakshi - Sirumalai Hills as well as Iyyampalam and Kolli Hills of Tamil Nadu during June, October and November 1991, respectively.

GROUP MEETING OF AICRP ON SPICES

The National Group Meeting (XI Workshop) of the Research



Hon'ble Chief Minister of Kerala, Sri. K. Karunakaran inaugurating the group meeting on Spices (XI Workshop) at Kanakakunnu Palace, Thiruvananthapuram. Sri. P. P. George, Hon'ble Minister of Agriculture and Animal Husbandry (Govt. of Kerala) and Dr. K. L. Chadha, DDG (Hort.), ICAR look on. Dr. S. Edison Project co-ordinator (Spices) and Dr. S.G. Nair, Scientist, CTCRI, Tvm. are also seen

Workers of AICRP on Spices under the aegis of ICAR was held at Kanakakunnu Palace Thiruvananthapuram during July 26-28, 1991.

Shri. K. Karunakaran, Hon'ble Chief Minister, Government of Kerala, inaugurated the national group meeting on the forenoon of 26th July 1991. Shri P. P. George, Hon'ble Minister of Agriculture and Animal Husbandry, Government of Kerala, presided over the function. The Chief Minister in his inaugural address highlighted the necessity of improving the productivity of spices by adopting modern scientific methods, use of high yielding varieties and adopting post harvest technology etc. He emphasised the need for fixation of floor prices so as to improve spices export.

Dr. K. L. Chadha, Deputy Director General (Hort.), ICAR in his welcome speech highlighted the relevance of spices research and development activities in relation to our economy.

Dr. S. Edison, Project co-ordinator (Spices) presented the progress report of the project indicating the salient research achievements. He also reviewed the status of spices research and highlighted the contribution of AICRPS.

Dr. P. Rethinam, ADG (PC) presided over the plenary session.

The meeting was attended by a total of 110 delegates drawn from different states of India covering the 14 coordinating centres under AICRPS located in various Agricultural Universities.

The workshop recommended the release of 11 new varieties of spices including 2 black pepper, 5 cardamom, 1 ginger, 2 coriander and 1 cumin. The Group Meeting also felt the need for initiation of research activities on tree spices under AICRPS. During the workshop a separate discussion was also held under the chairmanship of Dr. K. L. Chadha on the production and distribution of planting materials of spices to farmers. An exhibition highlighting the research achievements from the various centres was also presented.

PARTICIPATION IN SYMPOSIA, SEMINARS AND TRAINING

1. Sri. R. Ramakrishnan Nair, Scientist (Genetics and Cytogenetics) attended the Summer Institute on Conservation and Management of plant Genetic Resources at NBPGR, New Delhi, 1-20th July, 1991.
2. Drs. A. Ramadasan, S. Edison, Y. R. Sarma, P. N. Ravindran, A. K. Sadanandan, K. V. Ramana, M. Anandaraj, B. Krishnamoorthy, Jose Abraham, S. Devasahayam, K. Nirmal Babu, John Zachariah and A. K. Johny attended the Group Meeting of Research Workers of AICRPS held at Kanakakunnu Palace, Thiruvananthapuram, July 26-28, 1991.
3. Dr. K. V. Ramana attended NARP/KAEP Zonal workshop (North Zone) held at Regional Agricultural Research Station, Pilicode, August 7-8, 1991.
4. Dr. S. Edison, Project co-ordinator (Spices) and Sri. S. Devasahayam, Scientist (SG) participated in the group discussion of Entomologists working in AICRP under the division of Horticulture, August 12-13, 1991, IISR, Lucknow. Sri. S. Devasahayam also presented a paper on 'Pests of Spices'.
5. Dr. A. Ramadasan, attended the Training on Administrative and Financial Management, NAARM, Hyderabad, Sept. 2-7, 1991.
6. Mr. Jose Abraham attended the Workshop on Management Information System of Agricultural Research, held at NAARM, Hyderabad, Sept. 3-13, 1991.
7. Dr. S. Edison, attended the Group Meeting (XI Workshop) of Research Workers of AICRP on Palms, CPCRI, Kasaragod Sept. 26-28, 1991.
8. Dr. (Mrs.) J. Rema attended a DBT sponsored training on 'Application of Tissue Culture

in Crop Improvement'. Department of Botany, Calicut University, Kerala, Oct. 7-25th, 1991.

9. Drs. A. Ramadasan, S. Edison, Y. R. Sarma, P. N. Ravindran, B. Krishnamoorthy, Jose Abraham, K. M. Abdulla Koya M. Anandaraj and Johnson K, George participated in the Workshop on Integrated Development of Spices and Horticultural Crops at Regional Agricultural Research Station, Ambalavayal, Wynad, October 26-27, 1991.
10. Dr. K. V. Ramana attended the Regional Workshop for North Eastern Hill Station for Planning Agricultural Extension Training to Broad Base Extension. Held at ICAR Research Complex for NEH Region, Shillong, Nov. 25-27, 1991.
11. Drs. K. V. Peter, A. Ramadasan S. Edison, Y. R. Sarma, A. K. Sadandan, M. Anandaraj and Jose Abraham attended the ISOCRAD II, Kasaragod, Nov. 26-29, 1991.
12. Dr. A. K. Sadanandan attended the National Symposium on Farming Systems for Sustained Productivity in the Andamans, Dec. 16-17, 1991. He also presented a paper entitled 'Prospects of spice crops in mono and multiple cropping systems'.
13. Prof. (Dr.) K. V. Peter attended the Seminar on Development of Spices and Other Commercial Crops in Coorg Dist. at NARP Agricultural Research Station, Ponnampet, Coorg, Karnataka, 17-19, Dec. 1991.

MEETINGS

1. Pepper Tech. Meeting, July 6-7, 1991, Cochin—Dr. A. Ramadasan.
2. Marketing Panel Meeting of Spices Board, July, 10, 1991, Cochin—Dr. A. Ramadasan.
3. Group Meeting on Spices Department of Biotechnology, Government of India, 21st Aug. 1991, New Delhi—Sri. K.

Nirmal Babu. Presented two project proposals viz. Micro-propagation of Tree Spices and *In vitro* Conservation of Spices germplasm.

4. Meeting of the exporters of black pepper—Dr. S. Edison, Sept. 3rd 1991. Cochin.
5. 15th Meeting of Spices Board, Sept. 18, 1991, Cochin—Dr. A. Ramadasan.
6. Special Meeting of Members of Spices Board, Oct. 10, 1991, —Dr. A. Ramadasan.
7. National consultation cum group discussion on ICAR personnel policies for scientists, NAARM, Hyderabad, Oct. 24-25, 1991—Dr. S. Edison and Sri. K. Nirmal Babu.
8. Sixth meeting of the Spices and Condiments Sectional Committee, FADC 9 - BSI, New Delhi, 10th Dec. 1991. —Prof. (Dr.) K. V. Peter.
9. AIR Rural Programme Advisory Committee Meeting, Udyogmandal, Aluva, Dec. 12th, 1991—Prof. (Dr.) K. V. Peter.
10. Planters meet, Ponnampet, 18th December 1991 - Dr. Y.R. Sarma. He delivered a lecture on Disease Management and *Phytophthora* foot rot of black pepper.
11. Third meeting of the Forum for Exporters of Spices, Spices Board, Cochin, December 30, 1991 - Prof. (Dr.) K. V. Peter, Dr. A. Ramadasan and Dr. S. Edison.

TECHNICAL PUBLICATIONS/REPORTS

1. Salient Research Achievements of AICRP on Spices (1985 - 1990)—S. Edison and Johnny A. Kallapurackal, NRCS, Kozhikode.
2. Report of the central team on quick wilt disease of black pepper in Kerala - S. Edison, NRCS, Kozhikode.
3. 'Black Pepper Diseases'. Proceedings of the International Pepper Community Workshop on Joint Research for the

Control of Pepper Diseases. (Ed.) Y. R. Sarma and T. Premkumar, NRCS, Kozhikode (For copies write to Director NRCS, Kozhikode - 673 012, Rs. 300/- + Postal charges.)

4. Annual Report of AICRP on Spices, 1990-91 - S. Edison & Johnny A. Kallapurackal, NRCS, Kozhikode.
5. Report of a feasibility study on growing spice crops in North West Bengal and Poornia District of Bihar—P. N. Ravindran and A. K. Sadanandan, NRCS, Kozhikode

PUBLISHED ARTICLES

1. Abdulla Koya, K. M., S. Devasahayam, and T. Premkumar. 1991. Insect pests of ginger (*Zingiber officinale* Rose) and turmeric (*Curcuma longa* L.) in India.—A review. Journal of Plantation Crops, 19: 1-13.
2. Edison, S. 1991. Spices - New varieties hold key. Survey of Indian Agriculture, THE HINDU.
3. Edison, S. Increase in Spices Production and Challenges in Research in 2000 A.D. Paper presented in the National Seminar on Agriculture in Nineties - Challenges and Research Needs. Organised by the Indian Society of Agricultural Sciences. IARI, New Delhi, June 20-22, 1991.
4. Edison, S. Production and Protection practices for increased productivity of spices in humid tropics. Paper presented in the National Symposium on Farming System for Sustained Productivity in Humid Tropics, the Andamans, Dec. 16-17, 1991.
5. Gopalam, A., John Zachariah, K. Nirmal Babu and A. Ramadasan. 1990. Effect of different methods of white pepper preparation and aroma quality in selected cultivars of *Piper nigrum* L. Indian perfumer, 34 (2): 152 - 156.
6. Krishnamoorthy, B., B. Sasikumar, J. Rema, A.A.M. Sayed and Jose Abraham. 1991.

Variability and association in nutmeg. Indian Cocoa, Arecanut and Spices Journal. Vol. XIV 3: 121 - 122.

7. Krishnamoorthy, B., J. Rema, and B. Sasikumar. 1991. Progeny analysis in Cinnamon. Indian Cocoa, Arecanut and Spices Journal, Vol. XIV 3: 124 - 125.
8. Krishnamoorthy, B. and J. Rema, 1991. Allspice. Spice India, 4 (10): 9 - 10.
9. Krishnamoorthy, B. 1991. Pests and diseases of tree spices and their control measures. Spice India (Tamil), 4 (1): 19 - 21.
10. Krishnamoorthy, B. 1991. Tree spices cultivation in Tamil Nadu. Spice India (Tamil), 4 (6): 6 - 12.
11. Ramadasan, A. and B. Sasikumar. 1991. Black pepper Research at NRCS, Kozhikode. Spice India (Mal.), 4 (11): 5 - 8.
12. Ravindran, P. N., R. A. Nair, K. Nirmal Babu, K. Chandran and M. K. Nair, 1991. Ecological and Morphological notes on *Piper* sp. from the Silentvalley forests, Kerala. J. Bombay Natural History Society, 87: 421 - 26.
13. Sarma, Y. R., K. V. Ramana and M. Anandaraj. Disease management in Black pepper and Ginger. Paper Presented at the workshop on Integrated Development of Spices and Horticulture Crops, RARS, Ambalavayal, Oct. 26-27, 1991.
14. Sarma, Y.R., K.K.N. Nambiar and M. Anandaraj. Foliar yellowing and root rot in coconut seedlings affected by *Phytophthora* sp. Paper presented at ISOCRAD II, Kasaragod, Nov. 26-29, 1991.
15. Sadanandan, A. K., Jose Abraham, M. Anandaraj and S. Hamza. Effect of coconut-pepper mixed cropping on soil fertility and crop productivity. Paper presented at ISOCRAD II, Kasaragod. Nov. 26 - 29, 1991.
16. Sasikumar, B., 1991. Shoot tip colour variation in black pepper. Spice India, (Mal.) 4 (9): 17 - 18.

17. Sasikumar, B. 1991. A New technique for multiplication of black pepper. Spice India, 4 (10): 17 - 18.
18. Sasikumar, B. and T. John Zachariah, 1991. Black pepper quality — Research results and latest trends. Spice India (Mal.), 4 (12): 15 - 18.
19. Sasikumar B. and S. Sardana. Tapping Upland Resource of Tripura During Rabi Season. Paper presented in the National Seminar on Hill Agriculture held at ICAR Research Complex for NEH Region, Shillong, Oct. 26 - 30, 1991.
20. Sasikumar, B. and S. Sardana. Technology for Increasing Oil seed production in the Uplands of Tripura. Paper presented in the Seminar on Resource Management in Tripura, held at Agartala, Sept. 14-15, 1991.
21. Upadhyaya, R.C. and S. Edison, 1991. Performance of certain sweet potato varieties at Basar (Arunachal Pradesh) J. Root Crops, 17 (2) : 120 - 22.

TRANSFER OF TECHNOLOGY

Training Programmes :

A training programme on Spices Production Technology was conducted at NRCS, Kozhikode, from Oct. 28 to 2nd Nov. 1991. Six agricultural officers from Kerala and Karnataka attended the programme. In a one day training programme on spices cultivation (28th Oct. 1991) another 6 agricultural officers from Assam participated. Fortysix subject matter specialists from Assam were given training on spices cultivations from 11-12 Nov. 1991 at NRCS, Kozhikode. A training on nursery management in spices was arranged for 20 progressive farmers (16 from Kerala and 4 from Karnataka) during 18-19 Dec. 1991 and to 12 farmers from Orissa on 27th Dec. 1991. at NRCS farm, Peruvannamuzhi. A group of progressive

farmers from Sirsi, Karnataka visited NRCS Appangala centre.

A training programme on 'Entomological Technique in Spices with Special Reference to Black Pepper' was organised during Oct. 7-8, 1991 for two entomologists working in AICRP on Spices.

Fifty B.Sc. (Ag.)-IIIrd year students from Kerala Agricultural University visited the NRCS Kozhikode campus as a part of study tour on 19-12-'91 and another 15 students from Allahabad Agricultural Institute also visited the campus on 20th Dec. 1991 after undergoing practical training at the NRCS Farm, Peruvannamuzhi from 16-21st Dec., 1991.

EXTENSION ACTIVITIES

Kisan Mela

A Kisan mela was organised at the NRCS Farm, Peruvannamuzhi on 5th Oct. 1991. A good number of farmers participated in the mela which was inaugurated by Smt N. K. Radha, MLA, Perambra.

Exhibition

NRCS conducted a spices exhibition at RARS, Ambalavayal, Wynad, Kerala in connection with the workshop on Integrated Development of Spices and Horticultural Crops during Oct. 26-27, 1991 and also at CPCRI, Kasaragod in connection with the International Symposium on Coconut Research and Development (ISOCRAD I) Nov. 26-30, 1991.

VISIT ABROAD

Dr. Y. R. Sarma attended the International Workshop on Black pepper Diseases, 3 - 5 December 1991, Lambung, Indonesia and presented four papers besides chairing the technical session on 'Progress on *Phytophthora* Research in Black pepper'.



Smt. N. K. Radha, MLA, Perambra, inaugurating the Kisan mela at Peruvannamuzhi



Hon'ble Minister of State (Agric. and Co-operation) Govt. of India, Sri. Mullappilly Ramachandran at the NRCS stall at Ambalavayal. Dr. A. Ramadasan the then offg. Director is also seen.

Post graduate studies

1. Ms. Lizy Antony, M.Sc. (Hort.) student of Allahabad Agri. Institute completed her M.Sc.

(Hort.) thesis work on black pepper propagation at NRCS, Kozhikode in partial fulfilment of M.Sc. (Hort.) degree.

2. Mr. P. P. Rajan, UGC Jr, Research Fellow joined for Ph.D programme under Dr. Y. R. Sarma, Sr. Scientist Plant Pathology, NRCS, Kozhikode.

DISTINGUISHED VISITORS

1. Dr. N. M. Nair, Principal Scientist, Division of Vegetable Crops, IARI, New Delhi visited NRCS, Kozhikode on 16-12-'91.
2. Ms. Santha Sheela Nair, Jt. Secretary and Horticultural Commissioner, Ministry of Agriculture (Govt. of India), New Delhi-110 001, visited NRCS, Kozhikode and the research farm at Peruvannamuzhi on 27-12-'91.

INSTITUTE JOINT COUNCIL

The 8th Institute Joint Council was held at NRCS, Kozhikode on 15-11-'91 under the Chairmanship of Dr. A. Ramadasan, then Offg. Director, NRCS, Kozhikode. Pending issues regarding service matters were discussed as resolved.

GREEN FINGERS

Breakthrough in Cardamom Production :

Is it possible to break the international record of cardamom production of 400kg/ha? Mr. C. P. Appanna do not think twice before answering 'Yes'. In his Chettolli Estate, located on the Madikeri-Siddapur road, 18 km away from Madikeri, Karnataka, the father and son team of Mr. C. P. Appanna and Mr. C. A. Ponnappa is producing about 778 kg of dry cardamom per hectare per year, against the national average of 60 kg/hectare!

Kodagu district in Karnataka is not a traditional cardamom tract. Coffee is the preferred crop of the region. But Mr. Appanna did not follow exactly the path of tradition in this case. In the year 1981 in a modest way started growing cardamom in a 10 acre plot after uprooting the well established robusta coffee. Something unimaginable to his compatriots at that time! The path breaker never looked back since then. Today he is the highest producer of cardamom/ha in the country!!

The success story of Mr. Appanna is the success story of a unique Lab-to-Land experiment in cardamom production. Dr. V. S. Korikanthimath, Scientist-in-charge, National Research Centre for Spices (NRCS), Cardamom Research Station, Appangala is the man behind the transformation of Mr. Appanna. The high production technology (HPT) for cardamom developed at NRCS Cardamom Research Station, Appangala, involving high yielding varieties like Cl.37 and Malabar type, good shade management, judicious fertilizer application, irrigation during summer and regular plant protection and cultural practices was taken to the door steps of Mr. Appanna by Dr. V. S. Korikanthimath. Mr. Appanna wholeheartedly adopted the package. The result is a record production of cardamom. The net profit of Mr. Appanna today is Rs. 60,000 per year per hectare. He declares that 10 acres of cardamom is many times better than 100 acres of coffee! Mr. Appanna also very successfully grows cardamom as an intercrop with robusta coffee. All the technical advises on cardamom cultivation are obtained from the NRCS station at Appangala.

Today, there is an unending stream of planters to visit his estate, after hearing the success story through News papers, Radio etc. Mr. Appanna, the Chief Executive, M/s. Chettolli Estate is being considered for the National Productivity Award, New Delhi.

PERSONNEL

Appointments

Prof. (Dr.) K. V. Peter, joined as Director, NRCS, Kozhikode on 20th November, 1991.

| Name and Designation | Posted at | Date of joining |
|---|----------------|-----------------|
| Sri V. K. Abubacker Koya Farm Superintendent | Peruvannamuzhi | 11-10-1991 |
| Sri A. K. Balan Field Assistant | - do - | - 31-07-1991 |
| Sri K. P. Prasanna Kumar Mali | - do - | 31-07-1991 |

Promotions

| Name | Present position | Promoted as | Station |
|--------------------------|-------------------------|--|-------------------------|
| Sri. M. K. Sachidanandan | Assistant | Superintendent (Audit & Accounts) | NRCS, Kozhikode |
| Sri. V. L. Jacob | Sr. Clerk | Assistant | " |
| Smt. C. Sunanda | Jr. Clerk | Sr. Clerk | " |
| Kum. K. Usha | Superintendent | Asst. Administrative Officer (on adhoc basis) | " |
| Sri. V. Balakrishnan | Tech. Asst. (T-II-3) | Tech. Asst. (T-4) | " |
| Sri. Hamza Zrambikkal | Lab. Tech. (T4) | Tech. Officer (T5) | " |
| Sri. P. A. Sheriff | Sr. Lib. Asst. (T4) | Techn. Officer (Lib.) (T5) | " |
| Sri. Gnanakhan | Jr. Tech. Asst. (T1) | Jr. Tech. Asst. (T2) | NRCS, Peruvannamuzhy |

Transfers

| Name and Designation | From | To |
|--|-------------------------|--|
| 1. Dr. B. N. Reddy Sr. Scientist | NRCS, Kozhikode | Directorate of Oilseeds Research, Hyderabad |
| 2- Sri. B. Koragu Naik JTA (T1) | NRCS, Appangala | CPCRI, Kasaragod |
| 3. Sri. V. Sivaraman JTA (T3) | NRCS, Peruvannamuzhy | NRCS, Kozhikode |
| 4. Sri. N. Ravindran SSGr. I, Mazdoor | - do - | - do - |

Joined Duty

Sri. K. Sivaraman, Scientist (SG), Agronomy and Sri. G. N. Dake, Scientist (SG), Plant Pathology resumed duties on 27-9-1991 and 21-10-1991, respectively after completing Ph.D programme.

Wedding

Sri. M. M. Augusthy, Technical Assistant, (T4), Peruvannamuzhi with Ms. Rosamma (24-11-1991).

Published by Prof. (Dr.) K. V. Peter, Director, NRCS, Kozhikode

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