



CPCRI NEWS



CENTRAL PLANTATION CROPS RESEARCH INSTITUTE

KASARAGOD - 671 124, KERALA

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April - June, 2009

PATENT GRANTED FOR TWO INVENTIONS OF CPCRI

Two national patents filed by CPCRI on behalf of Indian Council of Agricultural Research were granted by the Controller of Patents and Designs, Chennai.

Tender coconut punch and cutter (Patent Number: 233744)

Tender coconut water is a nourishing natural health drink which is well known for its nutritional qualities. Every 100 g of tender nut water provides 17.4 calories of energy. Lot of skill and cautious handling is a must for traditional tender nut cutting work.

To make the job easier, a simple tender nut punch has been developed. Tender nut is placed on the nut holder, by operating the lever, a hole of 12mm diameter is made in just 4-5 seconds, and with a straw one can drink the nut water.

After drinking the nut water, customers at the parlour would always appreciate to have the soft and delicious kernel inside. It is a more risky job to cut a tender nut, where a misdirected stroke with a sharp sickle can amputate the finger of the worker. Keeping this in mind, a simple cutter was also developed.

A simple independent cutter has a cutting blade mounted on a stand which can be operated with a

lever pivoted to the other end of the blade through a horizontal hinge. This cutter can be used after water in the tendernut is emptied so as to make use of the edible part with ease.

These machines would enhance the efficiency in tender nut parlours. Women can also operate it with these simple and affordable equipments without acquiring any special skills.

Coconut de-shelling machine (Patent Number: 233742)

Traditionally, after partial drying of split coconut, the kernel and copra are separated using a traditional wooden mallet or knife by holding the individual cups in hand.

To overcome this limitation, a power operated coconut de-shelling machine was designed and developed. Capacity of the machine is 400 half cups per batch. Optimum average moisture content for maximum de-shelling efficiency (92.16%) is 35% (dry weight basis). Optimum speed of the deshelling machine is 10 rpm and the time taken for de-shelling is about 4 minutes per batch.

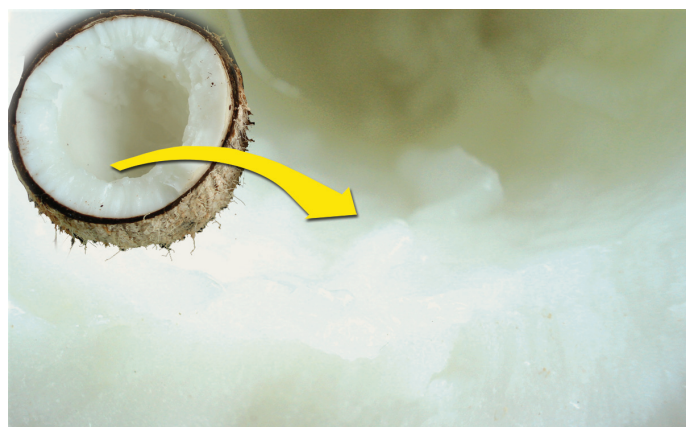
RESEARCH HIGHLIGHTS

Collection of genetic resources in coconut

A germplasm collection trip was undertaken to Andamans during May 2009 during which 18 distinct coconut types including soft endosperm types (similar to Makapuno), dwarf, micro and giant types

were collected. Palms of soft endosperm coconut were identified and the material has been collected for conservation for the first time by CPCRI. Another germplasm exploration trip was undertaken to Assam during June 2009 in which eight distinct coconut collections were made.





Soft endosperm type of coconut accession collected from Andamans

Coconut slug caterpillar infestation in Andhra Pradesh

Survey conducted by entomologists of CPCRI and Andhra Pradesh Horticultural University revealed the slug caterpillar (*Macroleptura nararia* M.) infestation in coconut gardens of East and West Godavari districts of Andhra Pradesh. Scorched/ burnt appearance of leaves in severely affected palms were observed. In severe cases, all leaves were dried leaving only the spindle leaves. Premature drooping of leaves and shedding of nuts were observed in heavily infested gardens.

The slug caterpillar damaging coconut palm in these tracts was an early instar caterpillar feeding on the under surface of the leaflets, giving a glistening appearance on feeding areas, leaving black halo markings which later coalesce and the later instar caterpillars feed on the lamina leaving only the midrib.

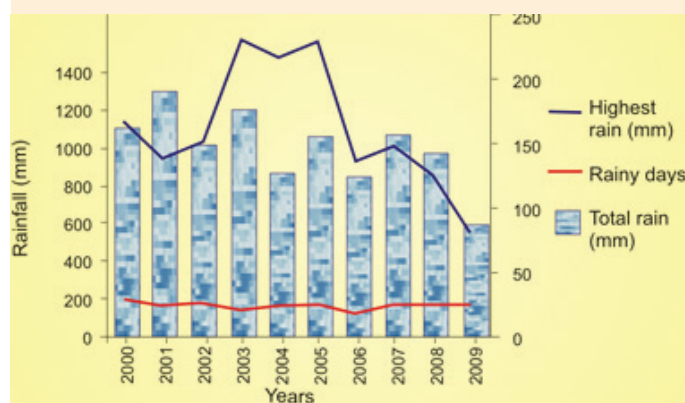


Slug caterpillar damaged garden in Andhra Pradesh with inset showing the insects feeding on coconut leaf

IPM including installation of light traps in endemic tracts, phytosanitary measures, chemical control using carbaryl @ 0.15%, usage of bioagents such as *Bacillus thuringiensis*, *Beauveria bassiana* and rejuvenation of palm with organic manures, basin management and inorganic fertilizers were recommended for the management of the pest.

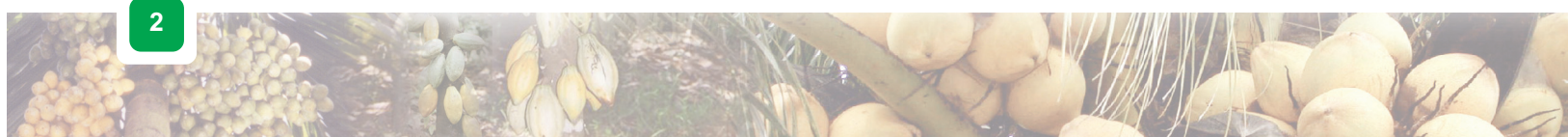
Rainfall was scanty in June 2009

Rainfall pattern in the month of June 2009 was compared with that in the previous years of the decade. Out of these, June rainfall was above 1000 mm in six years and it was 850 mm and above in another three years. Where as, this year, it was only 589.6 mm, which was almost half the ten year average (1001.8 mm). Highest rainfall recorded in a single day during June 2009 was 79.4 mm, where as it was 229.8 mm in 2003. The number of rainy days were 25 in June 2009. However, low rainfall in June alone cannot be considered as an important factor for forecasting plantation crops yield.



NEW PROJECT SANCTIONED

A new project entitled "Soil and plant health management through organic recycling in coconut based production system" was sanctioned by the Coconut Development Board, Kochi for which Dr. V. Krishnakumar, Sr. Scientist (Agronomy), CPCRI, RS, Kayamkulam is the Principal Investigator. The project is for a period of four years from April 2009 to March 2013 with an outlay of Rs. 25 lakhs.



IMPORTANT MEETINGS / PROGRAMMES HELD

Workshop on arbuscular mycorrhizae at New Delhi

A workshop on AMAAS sub-project - 'Harnessing arbuscular mycorrhizae for biofertilization in horticultural crops' was held at Conference Hall, NAS Complex, New Delhi on 5th May 2009. The meeting was chaired by Dr. H.P. Singh, DDG (Hort) and attended by Prof. D.K. Arora, Director, NBAIM and Project Leader, AMAAS Network Project, Dr. T.P. Rajendran, ADG (PP), Dr. S. Rajan, ADG (Hort. I), Dr. Umesh Srivastava, ADG (Hort. II), Dr. George V. Thomas, Director, CPCRI and Principal Investigator, Mycorrhizae sub-project. Co-PIs from ten cooperating centres and Dr. P. Sivaprasad, Prof. & Head, Dept. of Agri. Microbiology, KAU, Vellayani also attended the workshop.

Dr. H.P. Singh, DDG (Hort.), emphasised the need to have a network project on mycorrhizae as it was not covered in any of the themes in the ongoing AMAAS network project. He enumerated four areas for research under this project, *viz.* a) diversity analysis of mycorrhizae in different horticultural crop based cropping systems, b) diversity analysis of functional groups (PGP bacteria + biocontrol agents) of microbes in relation to mycorrhizal infection, c) interaction of AM with other beneficial soil microbes and d) mass multiplication studies of AMF.

Prof. D.K. Arora mentioned that the project must have novel approaches and aim to propel the current use of mycorrhizae from nursery to field conditions for which ecological research is necessary.

Dr. George V. Thomas, Director, CPCRI and PI presented an overview of the Mycorrhizae sub-project and the research work done at various ICAR Institutes.

Training on Agri-bioinformatics

A national level training programme on agri-bioinformatics sponsored by Dept. of Information and Technology, New Delhi was organised during May 18-22, 2009 at CPCRI, Kasaragod. Participants from Agricultural Universities of Gujarat, Assam, Chhattisgarh, and ICAR Institutes have attended the programme, in which resource persons from C-DAC, Pune handled the training sessions.



Dr. H.P. Singh, DDG (Hort.) chairing the Workshop on mycorrhizae project, Prof. D.K. Arora, Director NBAIM and Network Leader, AMAAS Network Project, Dr. George V. Thomas, Director, CPCRI and PI, Mycorrhizae sub-project, Dr. S. Rajan, ADG (Hort.-I) and Dr. Umesh Srivastava, ADG (Hort.-II) interacting with the Co-PIs of the sub-project



Participants and experts of National Training on Agri-bioinformatics

IJSC Meeting

The 4th meeting of 11th IJSC was held on 12th May 2009 at CPCRI, RS, Kayamkulam under the chairmanship of Dr. George V. Thomas, Director. Various issues related to administration and staff matters were discussed and appropriate decisions were taken.

RECOGNITION

Dr. M.K. Rajesh, Sr. Scientist, Biotechnology has been recognised as a research guide by the University of Calicut for Ph.D. degree programmes.

PUBLICATIONS

Research Article

Balasimha, D. 2009. Effect of spacing and pruning regimes on photosynthetic characters and yield of cocoa in mixed cropping with arecanut. *J. Plantation Crops*. **37**: 9-14.

Popular article

Kasturi Bai, K. V. and Sugghata Padmanabhan. 2009. Importance of weather parameters in coconut. *Bharatiya Nariyal Pathrika*. **19** (4): 10-11 (in Hindi).

Kasturi Bai, K. V. and Sugghata Padmanabhan. 2009. Boiled coconut oil: for health. *Indian Nalikera J.* **38** (8): 2-3 (In Malayalam).

Nair, R.V., Thomas, R.J., Jacob, P.M and Thomas, G.V. 2009. Kalparaksha, a new coconut variety resistant to root (wilt) disease. *Indian Coconut J.* **52** (1): 14-16.

Nair, S.A., Jose, M., Thomas, R.J. and Nair, R.V. 2009. Production of Neera and its value addition. *Indian Coconut J.* **52** (1): 11-13.

Papers presented in seminar/ symposia

John Sunoj V.S., Naresh Kumar, S., Muralikrishna, K.S. and Kasturi Bai, K.V. 2009. Proline may assume greater role in coconut (*Cocos nucifera* L.) adaptation to elevated CO₂ and temperature conditions. In proceedings of the National Workshop on Climate and Development, College of Agriculture, Vellayani, Thiruvananthapuram. 29-30 June, 2009 pp 159-166.

Muralikrishna, K.S, Naresh Kumar, S., John Sunoj, V.S. and Kasturi Bai, K.V. 2009. Elevated carbon dioxide and temperature reduce stomatal density in coconut (*Cocos nucifera* L.). In proceedings of the National Workshop on Climate and Development, College of Agriculture, Vellayani, Thiruvananthapuram. 29-30 June, 2009 pp 153-158.

HRD / TRAININGS

Dr. K. Subaharan, Senior Scientist has attended Summer School on "Changing pest scenario and management strategies in different crops" at ANGRAU, Hyderabad from 4-6-2009 to 24-6-2009.

Dr. V. Arunachalam, Dr. S. Elain Apshara, Dr. M.K. Rajesh, Sr. Scientists, Dr. N. Ravikumar, Dr. K. Devakumar and Dr. R. Manimekalai, Scientists (SS) have undergone training on "Agri bioinformatics Promotion Centre Project" at CPCRI Kasaragod from 18-5-2009 to 22-5-2009.

Sri H. Muralikrishna, Technical Information Officer, Smt. K. Sreelatha, Hindi Translator, Sri Hareesh G.S., Instrumentation Mechanic, Smt. A. Premavally, Private Secretary, Smt. Girija Chandran, P.A., Smt. K.S. Vishalakshi, UDC, Smt. Sulochana Nair, P.A., Smt. Preethi, LDC, Smt. Roopa Manikantan, UDC, Smt. Prema Pillai. UDC, Smt. Veeramma PA and Smt. Aruna Kumari UDC, have undergone "Condensed translation training" conducted by Central Translation Bureau, New Delhi at CPCRI Kasaragod from 27-4-2009 to 1-5-2009.

SEMINARS / SYMPOSIA / CONFERENCES / WORKSHOPS ATTENDED

Name of Personnel and Designation	Name of the symposium	Place & duration
Dr. George V. Thomas, Director	International Conference on emerging trends in production, processing and utilisation of natural fibres and delivered the keynote address	CIRCOT, Mumbai 18-4-2009 to 19-4-2009
Dr. George V. Thomas, Director and Dr. V. Niral, Senior Scientist	Brainstorming meeting on management of horticultural genetic resources	NBPGR, New Delhi 21-4-2009
Dr. T. Arumuganathan, Scientist (SS)	National seminar on coconut oil and its derivatives	IICT, Hyderabad 27-06-2009
Dr. Chandrika Mohan, Sr. Scientist	XVIII Biocontrol Worker's Group Meeting and presented the progress of work on biocontrol of coconut pests.	AAU, Jorhat May 29-30, 2009
Sri. P. Rajan, Principal Scientist Dr. Chandrika Mohan and Dr. A. Joseph Rajkumar, Senior Scientists	Interaction Meeting of Entomologists of ICAR Institutes of Horticulture Division	CITH, Lucknow June 10-11, 2009.

OTHER INFORMATION

Five priced books, 21 gratis publications, five reprints and three electronic publications were added to the library at the headquarters during the period April - June 2009.



TRANSFER OF TECHNOLOGY

KASARAGOD

Cyber Extension Programmes

Scientist-Farmer interface programmes through videoconferencing were conducted during May-June, 2009.

Scientists from CPCRI, Kasaragod, farmers from various locations and officials from Coconut Development Board, Kochi, Chennai, Secunderabad and Guwahati have participated in these interface programmes.

Awareness-cum-training programme on soil and water conservation and water harvesting

An awareness-cum-training programme on soil and water conservation and water harvesting was organised at CPCRI, Kasaragod under the project on "Farmer Participatory Action Research Programme (FPARP) on Soil and Water Conservation and Water Harvesting in the West Coast Region of Kerala" sponsored by Ministry of Water Resources, Government of India in which farmers from Kasaragod district participated. Mr. C.T. Ahmed Ali, M.L.A. inaugurated the training programme.



Mr. C.T. Ahmed Ali, M.L.A. inaugurating the training programme on soil and water conservation and water harvesting



Farmers visiting the experimental plot on soil and water conservation in coconut garden

Dr. George V. Thomas, Director, CPCRI, presided over the inaugural function. Participants of the programme visited the demonstration plots and held discussion with the scientists on adopting various technologies for soil and water conservation.

Special training programme on 'Value added products from coconut'

A special training programme on 'Value added products from coconut' was organized on 19-05-2009, in which entrepreneurs from Kozhikode and Malappuram Districts participated.

ATIC activities

Technology inputs and products including planting materials, farm products, farm literature and CD ROMs worth Rs 3,62,767/- were sold through ATIC. A total of 1863 visitors including farmers, extension personnel and students availed ATIC facilities.

Radio programmes

Dr. C. Thamban, Sr. Scientist answered to the queries raised by farmers on 'Basin opening and application of manures in coconut', in the phone-in programme, which was broadcast on All India Radio, Kannur on 27-06-2009.

KAYAMKULAM

Training Programmes

A batch of 23 farmers from Kollam District under ATMA programme was given one day training on recent advances in coconut cultivation, with special emphasis to plant protection operations in coconut on 22-05-09. Skills were imparted on plant protection techniques and coconut climbing.

A batch of 50 farmers and two officials under the National Horticultural Mission from Dharmapuri District of Tamil Nadu were trained on coconut cultivation on 25-06-09.

A batch of 25 young farmers under the SHM programme from College of Agriculture, Vellayani along with two staff members were given special training on Scientific Management of Coconut Gardens on 08-05-09.

An off-campus training programme was arranged for the demonstration farmers on integrated management of root (wilt) affected coconut palms and management of red palm weevil on 26-05-09, in which 47 farmers participated.

IFAD Project on “ Overcoming Poverty in Coconut Growing Communities- Coconut Genetic Resources for Sustaining Livelihoods in India”

All the CBO members from Pathiyoor, Thodiyoor and Devikulangara were provided with dwarf coconut seedlings from CPCRI as a tender nut promotion strategy and banana suckers. The CBO, Pathiyoor in collaboration with Pathiyoor Panchayat, where, medicinal plants like neem and Nagadanthi were distributed to the members.

Exhibitions

Participated in seminar –cum- exhibition organized by Command Area Development Authority at Thevalakkara, Kollam on 16-06-2009.

Radio Programmes

An interview with Dr. S. Kalavathi, Sr. Scientist, was broadcast on 22-04-2009 by AIR, Thiruvananthapuram.

Dr. P. Muralidharan, Scientist has delivered a radio talk on “Problems of soil filled agricultural lands and the remedies” which was broadcast on 27-04-2009 by AIR, Thiruvananthapuram.

VITTAL

Off campus training programme

Training for farmers on Profitable Horticulture sponsored by National Horticulture Mission and Department of Horticulture was conducted at Shiralakoppa, Shikaripur on 23-06-2009.

MINICOY

Training programme on introducing *Azolla*

A one-day training programme on ‘Introducing *Azolla* cultivation as cattle-feed in Lakshadweep Islands’ was organized on 02-04-2009 at CPCRI, RS, Minicoy in which sixty participants including officials from Agricultural Department attended. Dr. Murali Gopal, Scientist-in-Charge and Dr. H. Ouge, Veterinary Surgeon delivered lectures. Dr. P.M. Jacob Principal Scientist, CPCRI, RS, Kayamkulam was the chief-guest. This was the first field demonstration conducted in whole of Lakshadweep on *Azolla* cultivation in the inter-spaces of coconut palms. The participants were given seed culture of fresh *Azolla* for multiplication.

A team of 84 trainees and three faculty members of Institute Secretariat Training and Management, Department of Personnel and Training, New Delhi visited CPCRI (RS), Minicoy on 27th April, 2009.



Demonstration of *Azolla* cultivation in the interspaces of coconut palm to the participants of the training programme

A training programme was organized by CPCRI on 9-6-2009 at Agricultural Unit, Kalpeni on biological control of coconut diseases with special emphasis on treatment of stem bleeding disease of coconut using *Trichoderma* in which 75 farmers and personnel from Agricultural Department participated. Dr. M. K. Rajesh delivered a talk on biological control of diseases and its relevance under island condition. Hands - on training was also imparted to participants on biological control of stem bleeding disease, mushroom cultivation and vermicomposting.

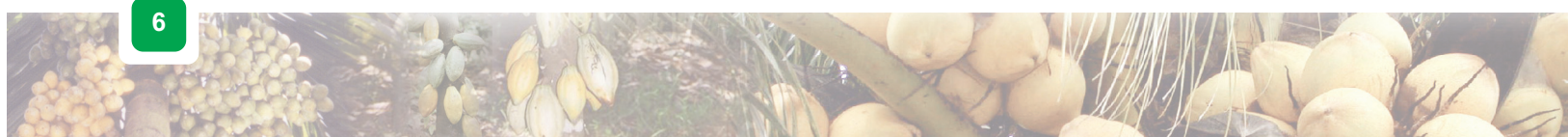
KAHIKUCHI

On campus training

Training programmes on a) Scientific production technology of plantation crops, spices and vermicompost technology and b) Arecanut and coconut based cropping systems and disease pest management were organised at CPCRI RC, Kahikuchi on 12-05-2009, 12-6-2009 and 26-06-2009, in which a total of 99 participants were given training.

Off campus training

A training programme on Scientific production technology of plantation crops and spices and vermicompost technology was conducted at Kandupur village under Rani Development Block on 02-06-2009, in which 43 farmers participated. A total of 56 nos. of farmers from three districts viz. Nalbari, Marigaon and Kamrup district of Assam participated in the visit conducted on 04-04-2009. Similarly, about 19 beneficiaries from Nalbari and Kamrup districts of Assam under SIRD took part in the field visit held on 20-04-2009.



Mohitnagar

Participated in the exhibition organized jointly by RAU, Bihar and Lt. Amit Singh Memorial Foundation at Samastipur during 28th to 30th May. About 3000 farmers and dignitaries visited the stall.

A Farmers-Experts Interface Programme on latest developments in horticulture in NE region was organised on 27th June jointly by CPCRI, Mohitnagar and Doordarshan. About 150 farmers attended the programme. The queries raised by the farmers were answered by the experts from CPCRI and State Department of Horticulture. The programme was telecast live by Doordarshan (DDBangla).



Scientists – farmers' interface programme conducted at CPCRI, Research Centre, Mohitnagar

Scientists – Farmers Interface Programme

Dr. A.K. Sit participated in a TV Programme in Kisan Channel (DD Jalpaiguri) on 18th June and three programmes on different aspects of plantation crops were broadcast on ETV (Bangla).

Krishi Vigyan Kendra, Kasaragod

Training programmes

A total of 12 training programmes were organised, in which 282 participants including farmers, farm women, rural youth and extension personnel were trained. Out of these programmes, nine were on-campus programme and three off-campus programmes.

Radio programmes

Sri R. Sanal Kumar, SMS had participated in a phone in programme organised by the AIR, Kannur on the topic "Cultivation of mushroom" which was broadcast on 20-06-2009.

Smt. M.P. Jayasree, SMS, delivered a radio talk on "Cultivation of coconut" at AIR, Kannur on 30-04-2009.

Krishi Vigyan Kendra-Alleppey

Training programmes

KVK Alleppey has conducted 10 on-campus trainings, 5 off-campus and 4 sponsored trainings. In these trainings, a total of 183 men and 192 women participated.

Soil testing campaign

A group of 32 farmers in the Clappana Panchayath attended the campaign programme for reviving their paddy field with a crop rotation of sesame-paddy in the un-utilized fields.

On farm trials (OFT)

Prophylactic measures for preventing mammary infection in dairy cattle

Teat dipping were done in animals immediately after milking by using mixture of Glutaraldehyde (5.0 g), 1,6 Dihydroxy hexane (5.2 g) and Polymethyl urea solution (3.0 g) and sprayed the cow shed with this solution once in a month. The dilution rate was 10 ml / litre of water for teat dipping and spraying. As a result no cases of mammary infection were reported in all the animals after the treatment and other disease were also not reported after spraying the shed.

Management of ectoparasite infestation in dairy cattle

To reduce the ectoparasite infestation in dairy cattle, Ivermectin injection @ 1 ml/ 50 kg of body weight of cattle was found effective. Infestation was found reduced to 14% in 20 days and complete eradication by 50 days of treatment from the initial level of 42%. The milk production was increased to 450 ml per day and the general health was also improved.

DISTINGUISHED VISITORS

Name & Designation	Date of visit	Place
Dr. H.P. Singh, DDG (Hort.), ICAR, New Delhi	07-05-2009	RC, Kahikuchi
Dr. R.P. Medhi, Director, NRC Orchids and PI, Mini Mission-I Scheme	07-05-2009	RC, Kahikuchi
Dr. S.H. Sinha, Pr.Scientist, CPRI, Simla	07-05-2009	RC, Kahikuchi
Dr. D. Dasgupta-Ex-Vice-Chancellor, BCKV, West Bengal and National Professor, Viswa-Bharati University, West Bengal	25-06-2009	Mohitnagar

PERSONALIA

APPOINTMENT

Name of staff	Post appointed	Place	Date
Dr. K. Muralidharan	Head, Div. of Social Sciences	CPCRI, Kasaragod	27-05-2009
Dr. Shareefa M.	Scientist (Horticulture)	CPCRI, Kasaragod	19-06-2009
Sri Mukesh Kumar	Scientist (Biochemistry)	CPCRI, Kasaragod	20-06-2009
Smt. Nihad K.	Scientist (Horticulture)	CPCRI, RS, Kayamkulam	20-06-2009

PROMOTION

Name of staff	From (Designation)	To (Designation)	Date (w.e.f.)
Dr. K. Subaharan	Scientist Sr. Scale	Sr. Scientist	03-07-2007
Dr. M. K. Rajesh	Scientist Sr. Scale	Sr. Scientist	30-11-2007
Dr. K. Samsudeen	Scientist Sr. Scale	Sr. Scientist	18-09-2007
Sri Sheena K.	Assistant, RC, Kidu	Asst. Admin. Officer, RS, Vittal	13-05-2009
Smt. M. Reetha	UDC, CPCRI, Kasaragod	Assistant	19-05-2009
Sri P. Narayana Naik	LDC, CPCRI, Kasaragod	UDC, CPCRI, RC, Kidu	05-06-2009
Smt. K. Jayashree	LDC, CPCRI, Kasaragod	UDC, CPCRI, Kasaragod	06-06-2009

TRANSFER

Name of staff	Designation	From (Place)	To (Place)
Sri N. Dinesh Kumar	Skilled Supporting Staff	CPCRI Kasaragod	CPCRI, RS, Minicoy
Sri M.S. Antony	Assistant	CPCRI Kasaragod	CPCRI, RS, Minicoy
Sri Gangayya	UDC	CPCRI, RC, Kidu	CPCRI, RS, Vittal
Sri B.M. Mohammed Basheer	Technical Officer T-7-8	CPCRI, Kasaragod	CPCRI, RC, Kidu
Dr. H. Moosa	Technical Officer T-6	CPCRI, Kasaragod	CPCRI, RS, Minicoy

RETIREMENT

Name of staff	Designation	From (Place)	On account of Superannuation on
Dr. Mariamma Daniel	Principal Scientist	CPCRI, RS, Vittal	30-04-2009
Smt. M. Sasikala	Principal Scientist	CPCRI, RS, Kayamkulam	30-04-2009
Sri C. Mohanan	Asst. Admin. Officer	CPCRI, Kasaragod	30-04-2009
Sri V.K. Vijayan	Laboratory Attender	CPCRI, RS, Kayamkulam	30-04-2009
Dr. C.P.R. Nair	Head	CPCRI, RS, Kayamkulam	31-05-2009
Sri K.B. Viswambharan	Personal Assistant	CPCRI, RS, Kayamkulam	31-05-2009
Sri P.K. Unnichekkann	Supporting Staff	CPCRI, RS, Kayamkulam	31-05-2009
Sri M. Gopalan	Supporting Staff	CPCRI, Kasaragod	31-05-2009
Smt. P. Saraswathy Amma	T-1-3, Tech. Asst.	CPCRI, RS, Kayamkulam	30-06-2009
Sri Somappa Gowda	Supporting Staff	CPCRI, RC, Kidu	30-06-2009
Sri U Annayya,	Tech. Asst. T4	CPCRI, RS, Vittal	30-06-2009
Smt. B. Kamalamma	T-5, Tech. Officer	CPCRI, RS, Kayamkulam	30-06-2009

Published by: Dr. George V. Thomas, Director

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