

CENTRAL PLANTATION CROPS RESEARCH INSTITUTE

In the service of farmers



Central Plantation Crops Research Institute
(Indian Council of Agricultural Research)
Kasaragod - 671 124, Kerala, India



Organization set up

The Central Plantation Crops Research Institute (CPCRI) was established in 1970 under the Indian Council of Agricultural Research (ICAR). Research on major plantation crops like coconut, arecanut and cocoa is being carried out at CPCRI. The Institute has three regional stations at Kayangulam (Kerala), Vittal (Karnataka) and Minicoy (Lakshadweep) and four research centres at Kannara (Kerala), Kidu (Karnataka), Kahikuchi (Assam) and Mohitnagar (West Bengal). The Coconut Gene Bank for Southeast Asia is established under the Coconut Genetic Resources Network/Asian Development Bank Programme at the research centre in Kidu. Adaptive research support to the institute is provided by 16 centres at State Agricultural Universities under the All India Co-ordinated Research Project (AICRP) on palms.

Mandate of CPCRI

- Develop appropriate production, protection and processing technologies for coconut, arecanut and cocoa through basic and applied research
- Act as a national repository for the genetic resources of these crops
- Produce parental lines and breeders stock
- Develop improved palm based cropping/farming systems
- Collect, collate and disseminate information on the mandate crops to all concerned
- Co-ordinate research on the mandate crops within the country and execute the research programmes under the All India Coordinated Research Project on Palms
- Transfer technologies developed at CPCRI to the farmers.

Salient achievements

Crop improvement

- CPCRI has the world's largest germplasm collection of coconut comprising of 361 accessions (132 exotic and 229 indigenous).
- The Institute also has a rich collection of arecanut germplasm (153 accessions; 23 exotic

and 130 indigenous) and cocoa germplasm (185 exotic accessions).

- Improved coconut cultivars viz. Laccadive Ordinary (Chandrakalpa) and Philippines Ordinary (Kerachandra) have been released.
- Chowghat Orange Dwarf has been released as the best tender nut cultivar.
- Three high yielding hybrids have also been released viz., Chandrasankara (Chowghat Orange Dwarf x West Coast Tall), Chandralaksha (Laccadive Ordinary x Chowghat Orange Dwarf) and Kerasankara (West Coast Tall x Chowghat Orange Dwarf). These hybrids produced 49 to 77 per cent more copra yield compared to local tall and are early bearers as well.
- Embryo culture in coconut has been standardized and found to be very useful in field collection of coconut germplasm from distant places.
- Four varieties of arecanut viz., Mangala, S u m a n g a l a , Sreemangala and Mohitnagar have been released which give higher yield compared to local varieties.
- Hirehalli dwarf, a dwarf mutant of arecanut, is being used to produce hybrids of improved varieties.



Management

Institute has developed palm based farming systems and cropping models with compatible combinations for effective utilization of solar

radiation and soil resources available in the interspaces in coconut and arecanut gardens.

- Mixed farming system including coconut, dairy, poultry, rabbitry, sericulture and pisciculture has been successfully demonstrated in coconut.
- A low cost technology for the large scale production of vermicompost from coconut plantation wastes has been standardized with a large, pigmented, epigeic local earthworm species.
- Nitrogen fixed by symbiotic cover legume, *Calopogonium mucunoides/Mimosa invisa-Rhizobium* association substituted fifty per cent of the fertilizer nitrogen requirement of coconut palm when grown as green manures in basins.



Crop protection

- Productivity of root (wilt) affected coconut palms can be improved by adopting integrated management practices.
- Integrated disease management practices have also been developed against important diseases of coconut such as leaf rot, stem bleeding and basal stem rot.
- Prophylactic spray of 1% Bordeaux mixture and protective covering of bunches with polythene bags is effective against Mahali disease of arecanut.
- Productivity of yellow Leaf Disease affected areca palms can be sustained for about 7-8 years by adopting appropriate management practices.
- Integrated pest management practices have been evolved against pests of coconut si



rhinoceros beetle, red weevil, leaf eating caterpillar, scale insects etc..

- The spindle bug of arecanut (*Carvalhoia arecae*) can be controlled by placement of 2 g phorate granules in polythene sachets in the crown.

Physiology, Biochemistry & Post harvest Technology

- Drought in coconut gardens may be managed by adopting soil moisture conservation practices like burial of husk, application of composted coir pith, FYM or farm waste in the coconut basin by taking 20-30 cm trench in the basin area of 1.8 m radius. Surface mulching with coconut leaves and farm waste also help in soil moisture retention.
- An electronic tensiometer and an automatic irrigation system have been developed to optimize irrigation in coconut gardens.
- Copra dryers of various capacities have been developed at CPCRI and technologies of the dryers have been transferred to manufacturing agencies for production and distribution to farmers.
- A copra moisture meter to determine moisture content between 5% and 40% has been developed.
- Technology for cultivation of oyster mushroom utilizing palm wastes has been developed at CPCRI.
- Technology evolved at CPCRI for the preparation of chips from coconut kernel is getting popular.



Transfer of technology

- Institutional training programmes on different aspects of production technology of palms and cocoa for the benefit of extension personnel and farmers are regularly organized at CPCRI.
- Front line demonstrations are arranged in farmers field to convince the farmers about the



technical feasibility and economic viability of the technologies.

- Effective utilization of mass media like Radio, TV, Newspapers and Farm Magazines is made to create awareness among cultivators. Extension pamphlets, CD ROMs, Video Cassettes etc. are also prepared for effective dissemination of the cultivation technologies in palms and cocoa among the farmers and extension personnel.
- Exhibitions, Seminars, Kisan Melas and Group Meetings are also regularly organised as part of the technology transfer activities of the institute.

Agricultural Technology Information Centre

- Agricultural Technology Information Centre (ATIC) is established at CPCRI, Kasaragod to provide the required technology information, diagnostic and advisory services and supply of quality planting material to farmers through a single window delivery system.



Krishi Vigyan Kendra (KVK)

- The Krishi Vigyan Kendras, functioning under CPCRI at Kasaragod and Kayangulam, cater to the training needs of farmers of Kasaragod and Alappuzha Districts respectively.

For further details, contact:

The Director,
CPCRI, Kudlu post, Kasaragod - 671 124,
Kerala, India.
Telephone : 04994 232893/4/5
Director : 04994 232333
Fax : 91-04994- 232322
E-mail : cpcri@nic.in; cpcri@yahoo.com
Web site : <http://cpcri.gov.in>

Extension publication 181

Published by : George. V, Thomas
Director, CPCRI
Compiled and edited by : C.Thamban and
M.K. Rajesh
Page lay out : C.H. Amarnath
Photographs : K. Shyama Prasad