

DOPR News

DIRECTORATE OF OIL PALM RESEARCH

(Indian Council of Agricultural Research)

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From the Director's Desk

Dear Readers,

As oil palm is not naturally occurring in India, germplasm materials were collected from African countries (in addition to materials obtained from other countries) by the Indian scientists in collaboration with Food and Agriculture Organization (FAO) during the nineties. Dura types collected under this programme are being maintained at DOPR, Pedavegi (Andhra Pradesh); DOPR Research Centre, Palode, Plantation Corporation of Kerala Ltd, Athirapalli (Kerala); CPCRI Research Centre, Mohitnagar (West Bengal) as well as All India Coordinated Research Project on Palms (AICRP) Centres at Gangavathi (Karnataka) and Mulde (Maharashtra). These materials were evaluated for various morphological, physiological and yield parameters.

We are pleased to inform our oil palm fraternity in India that we could identify a number of promising types in these trials that include - highest yielding accessions with better oil yield, very high number of bunches under cold weather conditions as well as types with low height increment.

These selections were subsequently utilized for the development of basic planting materials for planting new seed gardens at national level and also for developing D x P progenies for commercial use.

S. ARULRAJ
DIRECTOR

VIDEO FILM ON OIL PALM

"The Golden Palm", a Digital Video film, on recommended package of practices of oil palm cultivation is available for sale in nine languages viz. English, Hindi, Gujarati, Kannada, Malayalam, Mizo, Oriya, Telugu and Tamil.

Cost per DVD to farmers : ₹ 175/-
for others : ₹ 350/-

Sectoral News

Tissue Culture Protocol in Oil Palm

Directorate of Oil Palm Research has standardized tissue culture protocol of oil palm using immature inflorescence as explant. For ensuring rapid multiplication of superior oil palm planting material using the afore-said protocol, DOPR is taking concerted efforts towards refinement and commercialization of the technology through M/s. **AgrInnovate India Limited, New Delhi** to ensure that the benefits reach the stakeholders at the earliest. It is expected that the commercialization process will supplement efforts being taken for achieving self sufficiency in indigenous oil palm planting material production.

The tissue culture methodology developed at DOPR has been licensed to two companies, M/s. Bejo Sheetal Bio-Science Foundation, Jalna, Maharashtra and M/s. Vijaya Phyto Farms Private Limited, Hyderabad through M/s. AgrInnovate India Limited, New Delhi. The process of transfer of DOPR tissue culture technology to these companies which includes the visit to laboratories of the respective companies, sharing of explants, training of human resources, etc is in progress. This will pave way for rapid multiplication of uniform planting material with desired characteristics viz., higher yield coupled with improved oil quality, dwarfness, drought tolerance, etc.

RESEARCH ACHIEVEMENTS/ FINDINGS

Ablation tool for oil palm developed: Flowering in oil palm starts from 14-18 months after planting. Ablation, removal of male and female inflorescences produced during the early stages of the palm up to 3 years, has been recommended to help the plant in gaining adequate stem girth, vigour and developing adequate root system. At DOPR, a tool has been designed and developed for practising ablation. It consists of a long handle of GI pipe, which has a "U" shaped holder at one end with a width of 2.0 cm at the welding point and gradually widened to 5.5 cm towards the outer end. A sharp pointed nail is welded

on to the centre of the U holder. The operator has to locate the unopened inflorescence to be removed (ablation) and push the U holder into the inflorescence. In this process, the sharp needle pierces into



the inflorescence and with a small push, inflorescence gets broken and is hooked like a fish. This tool can generally be operated without drudgery at an angle of 68° with respect to the ground level from a distance of 1.3 m. The average time taken to ablate one inflorescence would be 2.0 seconds. On an average, a worker can ablate 125 inflorescences per hour. Cost of this tool would be less than Rs. 250/-.

Effect of low temperature storage on oil palm seed viability

Seed viability measured through triphenyltetrazolium chloride staining test revealed that the viability was lost when stored at sub-

freezing temperatures (-4, -20 and -40 °C) irrespective of the storage duration (15 to 90 days). Storage at 23 °C or at ambient (room) temperature did not affect the viability even after 90 days. Observations on the effect on seed moisture or oil content during storage did not show consistent trend. From the experimental results, it appears that oil palm seed is neither recalcitrant nor orthodox, but it is intermediate.

TRANSFER OF TECHNOLOGY

Training programmes organised

A total number of six training programmes were organized at DOPR, Pedavegi to the officers and



farmers involved in oil palm cultivation. Specialized training courses related to different aspects of oil palm cultivation were given to officers, whereas one day training programmes on oil palm cultivation were offered to the farmers.

Title of the training	Date	Number of Participants	Officers/Farmers represented from
Officers Training programmes			
Training on Plant Protection in Oil Palm	October 23-25, 2013	17	Andhra Pradesh, Tamil Nadu, Goa, Odisha.
Training on Nursery Management in Oil Palm	November 20-22, 2013	16	Andhra Pradesh, Tamil Nadu, Kerala, Karnataka, Gujarat.
Orientation Training on Oil Palm Cultivation and the Prospects of Oil Palm Industry	November 27-29, 2013	11	Department of Agriculture, Arunachal Pradesh.
Farmers Training programmes			
Oil Palm Cultivation	December 17, 2013	28	Andhra Pradesh
Oil Palm Cultivation	December 19, 2013	14	Karnataka
Oil Palm Cultivation	December 21, 2013	25	Andhra Pradesh

At DOPR, RC, Palode, one day training programmes on 'Oil Palm Production Technology' were organized to 14 officers, 81 students and 42 farmers. The details are as follows:

S. No.	Date	Number of participants	Participants represented from
1	8.10.13	10 (Officers), 20 (Farmers)	Tenkashi, Tamil Nadu
2	21.10.13	30 (Students)	Trivandrum, Kerala
3	21.11.13	4 (Officers), 51 (Students)	Trivandrum, Kerala
4	19.12.13	22 (Farmers)	Uthampalayam, Theni, Tamil Nadu

Orientation cum training on oil palm tissue culture organised

'Orientation cum training on oil palm tissue culture' was organized for the staff of M/s. Bejo Sheetal Bio-Science Foundation, Jalna at DOPR, Pedavegi during November 7-8, 2013.

Oil palm technology disseminated through Mobile Message Services

Under the project OPKIMMS (Oil Palm Kisan Mobile Message Services), five voice messages were published on oil palm cultivation practices reaching 55,902 mobile / land line numbers. Text SMS (Short Message Services) were published on oil palm cultivation practices, four each in English (Goa, Mizoram, Meghalaya and Arunachal Pradesh), Hindi (Gujarat and Maharashtra), Telugu (Andhra Pradesh) and Kannada (Karnataka) languages to 57,817 mobiles of oil palm growers.

Hon. Agriculture Minister visits DOPR exhibition stall

An Agri-Expo was organised at College of Horticulture and Forestry, Pasighat, Arunachal Pradesh, during November 26-27, 2013. DOPR stall arranged in the Agri-Expo could attract a large number of visitors. Shri. Sharad Pawar, Hon'ble Union Minister for

Agriculture and Food Processing; Shri. Nabam Tuki, Chief Minister of Arunachal Pradesh; Shri. Ninong Ering, Union Minister of State for Minority Affairs; Shri. Setong Sena, Agriculture & Horticulture Minister; Shri. Rajesh Tacho, Fisheries Minister; Shri. Bosirarn Sirarn, Education Minister and other State Department officials and non official dignitaries and large number of farmers from the State visited the stall. Queries raised by farmers and others were clarified. Dr. M. V. Prasad and Dr. R. K. Mathur, Principal Scientists of DOPR participated in the Agri-Expo.



Research Publications

Behera, S. K. and Shukla, A. K. (2013). Depth-wise distribution of zinc, copper, manganese and iron in acid soils of India and their relationship with some soil properties. *J. Ind. Soc. Soil Sci.* 61(3): 244-252.

Narsimha Rao, B., Suresh, K., Ramachandrudu, K. and Mary Rani, K.L. 2011. Influence of fertigation on growth and yield of oil palm. *Int. J. Oil palm*, 8 (1&2): 13-16.

Sunilkumar, K, and Sparjanbabu, D.S. (2013). Haploid breeding in palms-A brief review, *Advances in Crop Science and Technology*, 1: 4, 2013 <http://dx.doi.org/10.4172/2329-8863.1000113>

Sunilkumar, K, Mathur, R.K. and Sparjanbabu, D.S. 2011. Efficacy of dyes and media on pollen viability and germinability in oil palm (*Elaeis guineensis* Jacq.). *Int. J. oil palm*, 8 (1&2): 9-12.

Suresh, K., Kiran Kumar, M., Lakshmi Kantha, D., Prasanna Lakshmi, R., Manoja, K., Raj Kumar, P., Narsimha Rao, B. and Behera, S.K. 2011. Effect of different irrigation methods and levels on nitrate reductase activity in Oil Palm. *Int. J. oil palm*, 8(1&2):5-8.

Technical Publications

Naveen Kumar, P., Mathur, R.K., Sunilkumar, K. and Ravichandran, G. (2013) Quality Planting Material of Oil Palm through Seed Gardens. E Publication at <http://krishisewa.com/cms/articles/seed-production/358-oil-palm-planting-material.html>

Mathur, R. K., Murugesan, P., Prasad, M. V., Naveen Kumar, P., Praveena Deepthi, K., Srinu, B., Praveen Kumar, B. and Ravikumar, K. (2013). Oil Palm sankara vittanotpati lo cheyya valasinavi mariyu cheyyakoodanavi (Telugu), Technical Bulletin published by Director, DOPR, p 16.

Participation in Symposia / Seminars / Workshops / conferences etc.

Dr. S. Arulraj, Director attended Foundation Day Celebrations of the AgrInnovate India Limited, New Delhi on October 18, 2013; ICAR-State Interface Meeting held at Agricultural College, Bapatla on November 16, 2013; Model Training Programme on "Participatory Technology Transfer Approaches for Plantation Crops" (sponsored by Ministry of Agriculture, Govt. of India) at CPCRI on November 26, 2013 as the Chief Guest for the Valedictory Function and also presented a Lecture on "Participatory Technology Transfer approaches in Oil Palm Sector".

Dr. S. Arulraj and Dr. M. V. Prasad participated in Third International conference on "Extension Educational Strategies for Sustainable Agricultural Development-A Global Perspective" held at Bangalore during December 5-8, 2013.

Dr. K. Suresh and Mrs. A. Bhanu Sri attended the meeting conducted to review the RFD activities of RC and RSCs of Horticulture Division held on October 28, 2013 at NASC Complex, New Delhi under the Chairmanship of Dr. N. K. Krishna Kumar, DDG (Hort.), ICAR.

Dr. P Murugesan attended National workshop on 'Tree Seed Science and Silviculture' held at IFTGB, Coimbatore during November 28-29, 2013 and delivered an invited lecture entitled "An overview on national and international strategies in seed germplasm conservation in oil palm"; Meeting on PGR- Horticulture at NRC Grapes, Maharashtra convened by Nodal Officer (Horticulture-PGR), IIHR, Bengaluru on November 29, 2013; and a Joint meeting of Standing and working committee of

PLACROSYM XXI at IISR, Calicut on December 16, 2013.

Dr. P. Naveen Kumar and Dr. K. Sunilkumar participated in the 'Interactive meeting on doubled haploids: Scope and future in horticultural crops', organized by Society for promotion of Horticulture and IIHR at Bengaluru on October 4, 2013.

Tissue Culture License Agreement signed: The signing ceremony for execution of license agreement to license the DOPR developed tissue culture technology of oil palm to Ms. Vijaya Phyto Farms Private Limited, Hyderabad through M/s. AgrInnovate India Limited, New Delhi was held at Krishi Bhawan, New Delhi on November 20, 2013. The Ceremony was chaired by Director General, ICAR. DOPR Scientists made a presentation on the details of the Technology along with the Action Plan proposed for the execution of the Project.



Signing ceremony in the presence of DG, ICAR for licensing oil palm tissue culture technology

HRD programmes attended

Dr. S. Arulraj, Director, Sri W. Sreenivasa Bhat, AO & Sri K.S.N.D. Mathur, AF&AO attended 'Interactive workshop on Administrative and Financial matters for the ICAR institutes located in Southern region' at NAARM, Hyderabad during December 9-10, 2013.

Dr. S. K. Behera, Senior Scientist attended the NAIP International training in the area of "Sensor based application including Bio-indicators (Horticulture)" in the lab of Dr. V. I. Adamchuk, Department of Bioresource Engineering, Faculty of Agricultural and Environmental Sciences, Mc Gill University, Quebec, Canada from September 18 to December 16, 2013.

Dr. K. Sunilkumar, Senior Scientist participated in the ICAR short course on "Recent advances in conservation of genetic resources of plantation crops", organised by CPCRI, Kasaragod during October 22-31, 2013.

Dr. P. Naveen Kumar, Senior Scientist participated in the NAIP sponsored National training on 'MAS for molecular breeding in fruits' at CISH, Lucknow during November 11-24, 2013.

Sri K.S.N.D Mathur, AF&AO attended the 'Orientation course in Record Management for Record Officer' at National Archives of India, Records Centre, Southern Zone, at Puducherry during December 2-6, 2013.

Institute Management Committee Meeting held

The XXV meeting of the Institute Management Committee of Directorate of Oil Palm Research was held at DOPR, Pedavegi under the Chairmanship of Dr. S. Arulraj, Director, DOPR and discussed budget utilization under plan and non plan sources.

Consultancy project sanctioned

Consultancy project on "Feasibility study for identification of new area for oil palm cultivation in Krishna District, Andhra Pradesh" has been sanctioned by the Commissioner of Horticulture, Govt. of Andhra Pradesh.

Promotions/Transfers / New appointments

Mrs. A. Bhanu Sri, Technical Officer promoted to the post of Senior Technical Officer with effect from 19.06.2013

Sri J. Mohan Rao, Senior Technical Assistant promoted to the post of Technical Officer with effect from 1.7.2013

Dr. Goutam Mandal, Senior Scientist has joined in the post of Associate Professor at Department of CIHAB, PSB, Visva-Bharati University, Santiniketan, on lien for a period of two years

Sri V. Sunil Duth, Senior Technical Assistant, DOPR, Pedavegi has been transferred to DOPR, Research Centre, Palode with effect from 31.10.2013

Recognition / Awards received

Dr. M. V. Prasad, Principal Scientist received Best Paper Presentation Award for the research paper entitled "Oil Palm Kisan Mobile Message Services (OPKIMMS) - A new paradigm in technology dissemination" during the third International Conference on "Extension Educational Strategies for Sustainable Agricultural Development-A Global Perspective" held at Bangalore during December 5-8, 2013.



Edited by :

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