DOPR NEWS

DIRECTORATE OF OIL PALM RESEARCH

(Indian Council of Agricultural Research)

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From the Director's Desk

Dear Readers,

The oil palm, an introduced crop, has widely been accepted as the highest oil-yielding crop suitable to ameliorate the acute shortage of edible oil in the country. The commercially grown planting material of oil palm is a *tenera* hybrid produced by crossing *dura* (low oil yielding type) as mother palms and *pisifera* (generally female sterile) as the male parent. The present day breeding programmes are based on utilization of available genetic resources in the country which are only very few in number and are mostly *tenera* having limited immediate direct use in crop improvement and hybrid seed production programmes.

Oil palm (*Elaeis guineensis* Jacq) was first introduced as an ornamental palm at the National Botanical Garden, Calcutta in the later part of 19th century. Systematic research work on oil palm was started in 1960 by Kerala State Department of Agriculture in a 40 ha plantation at Thodupuzha using Deli *dura* materials introduced from Malaysia and *tenera* X *tenera* population from Nigeria. Later, some more *dura* genotypes from Nigeria, Malaysia, Cote de Ivoire, Papua New Guinea and Zaire were planted at Little Andaman in 1976 and 1983.

Since oil palm is being grown in a wide variety of soils and under varied climatic conditions, and that too has been accepted as an irrigated crop, the need for introduction of stress tolerant materials mainly to drought and cold became a necessity. A joint prospection by Indian Council of Agricultural Research, TMO&P and FAO was launched during the period 1994-95 and a large number of such accessions were collected from Cameroon, Tanzania, Zambia and Guinea Bissau. These materials are being evaluated under different agro-climatic locations of Andhra Pradesh, Maharashtra, Kerala and West Bengal. Two accessions of *Elaeis oleifera* were also introduced from Malaysia and Costa Rica. The performance of these accessions is being studied so that suitable types could be introgressed in the breeding programme on yield and quality. Further, during evaluation of collections made in 1981 from NIFOR, Nigeria, Ivory Coast, Palode and Zaire, 20 best performing tenera hybrids have so far been identified and will be selfed for future use in crop improvement programmes. Apart from this, three oil palm seed gardens have been developed in India at Taraka (Karnataka), Rajahmundry (Andhra Pradesh) and Lakshmipuram (Andhra Pradesh) where the material pertaining to first selection cycle of selected *dura* genotypes (inter se crossed/ selfed) and *tenera* x *tenera* progenies have been planted.

The major bottleneck oil palm breeders have been facing is its narrow genetic base on one hand and very less germplasm collection in India on the other. Though efforts had been made in the recent past for collecting germplasm from different sources, most of the collections made were not from the natural habitat and were *tenera* having very limited potential use in oil palm improvement programmes.

· Presence of *dura* palms as contamination in commercial plantations has been reported in *tenera* of ASD Costa Rica. Similarly, the presence of *duras* in commercial plantations of exotic planting materials is required to be tapped in India. In addition, highly potential and elite *teneras* from such plantations may be selfed for production of *dura* palms too. Identification, collection and exploitation of such elite palms will also help our country in improving the genetic base of the crop. Hence, Directorate of Oil Palm Research is initiating a major programme for survey and selection of elite palms in exotic commercial plantations in major oil palm growing states of Andhra Pradesh, Karnataka, Tamil Nadu, Kerala, Maharashtra, Little Andaman and Goa and crossing of the selected palms for collection of seeds to enrich the oil palm genetic resources at national level for future crop improvement programmes.

S. Arulraj
Director

SECTORAL NEWS

STRENGTHENING OIL PALM DEVELOPMENT PROGRAMME IN INDIA

Government of India launched a special programme on "Oil Palm Area Expansion"(OPAE) under RKVY programme of Govt. of India with an objective to bring additional area of 60,000 hectares under oil palm cultivation and allocated a budget of Rs.300 crores during 2011-12. Technical support for the project is being provided by Directorate of Oil Palm Research.

Identification of Additional Potential Area for Oil Palm Cultivation

Department of Agriculture & Cooperation, Ministry of Agriculture, Government of India has constituted a committee for assessing the potential areas for oil palm cultivation. Committee will assess the prospects of oil palm cultivation in new states other than the states recommended by Chadha Committee in 2006 for XIth Plan period. Committee will also assess requirements of oil palm sprouts/planting material for these states.

Price Fixation Formula for Oil Palm Fresh Fruit Bunches

Department of Agriculture & Cooperation, Ministry of Agriculture, Government of India has constituted a committee to review the formula to fix the price of oil palm Fresh Fruit Bunches (FFBs) under the chairmanship of Director, DOPR. The committee will finalise a formula for pricing of FFBs acceptable to different states, farmers and processors. Suggestions would be incorporated for reviewing the formula at periodical intervals and provide information on FFB prices paid by the processors based on the recommendations of Project Management Committee (PMC) for oil palm in major States of Andhra Pradesh, Tamil Nadu and Karnataka.

Above efforts are being made to make a fair deal on pricing of FFB for both farmers as well as entrepreneurs and oil palm sector as a whole in the courntry would march ahead due to the resultant motivation. These efforts will strengthen the oil palm development programme in progressing towards self sufficiency in vegetable oil production in the country.

RESEARCH ACHIEVEMENTS

Studies on fertigation in oil palm nursery

Results of the study on fertigation to oil palm nursery indicated that seedling height (125.7cm), number of functional leaves/seedling (18.3) and stem girth (29.3cm) were maximum in seedlings treated with 50% of the recommended dose of fertilizers applied through drip irrigation. Seedling height 93.36cm number of leaves/seedling 14.6 and stem girth 21.4cm were recorded in the plots applied with recommended dose of fertilizers.

Effect of Palm Oil Mill Effluent (POME) sludge on growth and vigour of oil palm seedlings

Treatment with soil+POME (4:1) recorded maximum seedling height (168.16cm), stem girth (34.24cm) and number of leaves/seedling (22.16), while the minimum values (130.12cm, 26.84cm and 20.52 respectively) were recorded for the said characters with soil + recommended dose of fertilizers.

Seed storage & germination

Aluminum foil and high density plastic containers are found suitable for storage of *dura* seeds under room condition as there was no substantial decrease in germination for six months of storage in the above containers whereas there was nil to very low germination recorded in seeds stored without any treatement.

Desiccation effect on seed germination and seedling quality of *oleifera* germplasm

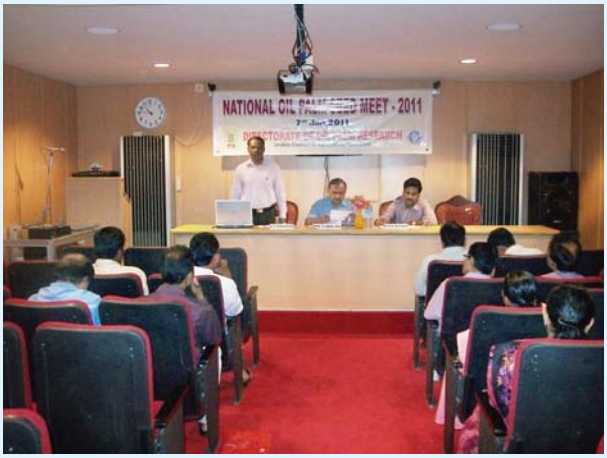
Desiccation effect on seed germination and seedling quality of oil palm was studied in a germination response study and results revealed that *E. oleifere* seeds are more sensitive to desiccation than *E.guineensis* seeds. This has direct effect on germination response after desiccation.

Research on slow growing oil palms

DOPR has identified four slow growing oil palm plants from African germplasm, which are being utilized in developing DXP hybrids and pre-breeding population for the trait of dwarfness. Efforts are also being made to select dwarf and high yielding palms in exotic commercial plantations of India.

CAMPUS NEWS

Oil Palm Seed Meet



Eighth National Oil Palm Seed Meet was organized on January 7, 2011 at Conference Hall of DOPR, Research Centre, Palode, Kerala, under the chairmanship of Dr. S. Arulraj, Director, DOPR. Scientists from DOPR, Officials and In charges of various seed gardens participated in the meet and presented their views on seed production potential, as well as experiences, constraints and steps taken for ensuring the production of quality seeds. Seed production targets for the year 2011-12 were finalised along with seed supply schedule for the nurseries located in different states.

Farmer friendly Oil palm Website launched on the eve of DOPR Foundation Day

Revised version of Institute website was launched as a part of the XVII Foundation Day Celebrations of Directorate of Oil Palm Research held at the Institute on February 19, 2011. The Website ID is : http://dopr.gov.in. The website contents were made more farmer friendly. In addition to the Institute details, research achievements and future programmes, the website offers information on technology to be adopted by farmers for improving oil palm productivity. A separate column on 'Frequently Asked Questions' has been included in the site to clarify the normal queries raised by farming community and Oil Palm Development Officers from different states during the Interaction programmes. A list of successful oil palm growers is also provided in the website to provide recognition to the farming community. Contact details of the experts available in the Institute are provided to enable the farmers and extension personnel to receive additional information directly from the concerned Scientists.

Transfer of Technology

Officers Trained: Training on "Oil Palm Production technology" was organised to 7 officers from Andhra Pradesh and Gujarat, during 18-25 January, 2011 at DOPR, Pedavegi, Andhra Pradesh.

Training on "Oil Palm Hybrid Seed Production" was organised to 3 officers from Kerala, Karnataka and Andhra Pradesh, during 4-6 January, 2011 at DOPR, Research Centre, Palode, Kerala.

Farmers Trained: Three training programmes on "Oil Palm Cultivation" of one day duration were organised for 26 farmers belonging to Mizoram, Andhra Pradesh and Chattisgarh.

One day training on oil palm cultivation was organized for 22 farmers from Mizoram at DOPR Research Centre, Palode

RESEARCH ARTICLES PUBLISHED

Kalidas, P., Saravanan, L. and Deepthi, K. P. 2011 Incidence of *Silvanus* sp. (Silvanidae: Coleoptera) in oil palm plantations in Andhra Pradesh, India: A study. *The Planter*, 87(1018):15-20.

Murugesan, P, H. Haseela, S. Gopakumar and M.V.M. Shareef. 2011 Fruit and seed development in *Elaeis oleifera* (HBK) Cortes of Surinam origin. *Ind. J. of Horticulture 68(1):28-30*

PARTICIPATION IN SYMPOSIA / SEMINARS / WORKSHOPS /CONFERENCES etc.

Dr. K. Ramachandrudu, Scientist (SS), attended State Level Seminar on Advances in Cocoa production in Andhra Pradesh organized by APHU, Venkataramannagudem on March 7, 2011 and delivered a talk on Importance of cocoa as an inter crop in oil palm gardens.

Dr. P. Murugesan, Principal Scientist, attended National Seminar on Climate Change & Food Security: Challenges & Opportunities for Tuber crops (NSCFT 2011) held during January 20-22, 2011 at CTCRI, Trivandrum.

MEMBERSHIP IN COMMITTEE / EXPERT TEAMS

Dr. S. Arulraj, Director, DOPR was nominated as the Chairman of the Committee to review Fresh Fruit Bunches (FFB) of Oil palm pricing formula by Govt. of India.

Dr. S. Arulraj, Director, DOPR and Dr. B. Narsimha Rao, Principal Scientist were nominated as the members of the committee constituted by Govt. of India to assess additional potential area for oil palm cultivation in the states outside the purview of Chadha Committee recommendations made in 2006.

Dr. K. Ramachandrudu, Scientist (SS) Member, Technical Sub-Committee for reviewing the conditions of aged oil palm seedlings in Karnataka, constituted by the Dept. of Horticulture, Govt. of Karnataka.

TRAINING COURSES ATTENDED

Dr. P. K. Mandal, Sr. Scientist, deputed for a training programme on Marker Assisted Selection (Horticulture) at Miechigan State Uuniversity, USA from 1st March 2011 onwards for a period of 3 months.

Dr. K. Sunil Kumar, Scientist, attended training programme on 'Data analysis using SAS' from March 3-9, 2011 at CTCRI, Trivandrum, Kerala.

Dr. K. Ramachandrudu, Scientist, attended training course on "Research Station Management" organized by ICRISAT, Hyderabad during January 17-22, 2011.

MEETINGS ATTENDED

Dr. P. Murugesan, Principal Scientist, presented "Research achievements of DOPR Research Centre" in Planning Commission - Interface Meeting with ICAR Institutes, SAUs and State Officials of Kerala, held at CMFRI, Kochi on January 31, 2011

Dr. B. N. Rao, Principal Scientist, attended Price fixation formula committee meeting at Commissionerate of Horticulture, Hyderabad on February 2, 2011.

PARTICPATION IN EXHIBITIONS

DOPR, RC, Palode participated in the following programmes

- National Seminar on Climate Change & Food Security: Challenges & opportunities for tuber crops (NSCFT 2011) held during 20-22 January, 2011 at CTCRI, Trivandrum.
- Karshika Mela at Palode held during 7-15 February, 2011
- Mannikode Karshika Viapaara Mella at Venjaranmoodu, Kerala during February, 2011.
- Agricultural Industrial Exhibition held at Thachonam, Kallarra, Kerala during 20-26 February, 2011.

CONSULTANCY PROJECT

Dr. P. Kalidas, Dr. B. N. Rao, Dr. M. V. Prasad and Dr. K. Ramachandrudu scientists were nominated to identify the new areas suitable for Oil palm cultivation in East Godavari District, Andhra Pradesh. Survey was taken up and report on potential areas for oil palm cultivation was submitted.

TRANSFERS / NEW APPOINTMENTS

- Smt. B. Swarna Kumari on promotion from Assistant Administrative Officer cadre at Central Tobacco Research Institute, Rajahmundry joined as Administrative Officer at DOPR, Pedavegi on 28.1.2011.
- Sri. Sai Kishore joined as Personal Assistant at DOPR, Pedavegi on 28.2.2011
- Sri. S. Siva Ramakrishna joined as Personal Assistant at DOPR, Pedavegi on 7.3.2011.

Edited by :
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