Own Your Seedlings

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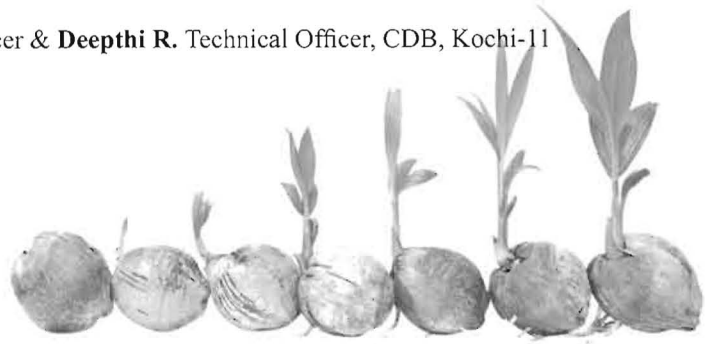
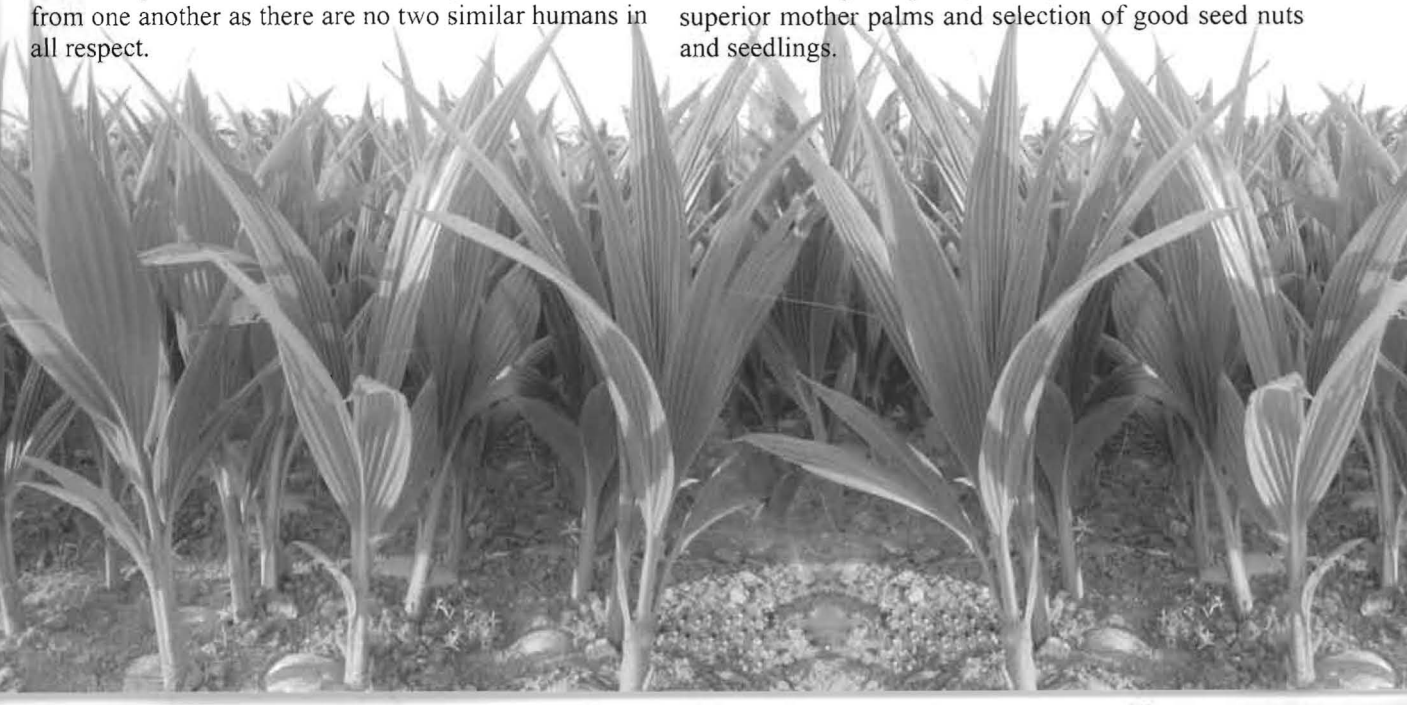
The coconut palm otherwise called the tree of heaven is a tropical palm species well known for the diversified products derived from it. From age old period coconut has been playing a vital role in the daily life of people especially in tropical countries. Coconut a major source of vegetable oil accounts as a source of food, fiber and beverage. Coconut is much adapted for cultivation in various climatic zones varying from islands, seashores, plains and hills. Coconut is bestowed with the name "Tree of Life" as its each part can turn into useful products. A number of products which can sustain the human life can be derived from nut, husk, frond, inflorescence and trunk of a coconut palm; thus serving local and international markets.

South East Asia is considered as the centre of origin of coconut and disseminated to other areas through natural means. In early years sailors across various countries took coconut from different coconut growing islands where wild coconuts were predominant. This has resulted in cross pollination and in the emergence of new cultivars. Coconut being a highly cross pollinated crop; the seedlings raised also show variations from the ancestor palm. Seedlings derived from parent palm may show characteristics of either or both the ancestral palms. Thus each coconut palm is different from one another as there are no two similar humans in all respect.



Planting of quality seedlings- the basic step in profitable coconut cultivation

The perennial nature of crop demands a minimum of 5-6 years for attaining a stable yield. This prolonged pre bearing period makes the selection of planting material an item of utmost importance. Any error in selection of planting material may result in huge loss to the time and money of the farmer. One of the reasons for reduced production of coconut in the state is believed to be the cultivation of genetically poor quality coconut seedlings. The selection of genetically pure seedlings in the state of Tamil Nadu has come up with promising results. As there are no rapid multiplication techniques available in coconut seedling production, we have to depend on the traditional method of raising seedlings from selected good quality seed gardens for genetically superior mother palms and selection of good seed nuts and seedlings.



Estimated demand for seedlings in coconut growing states			
State	Area "000" ha	No.of palms (in lakh)*	Seedlings demand estimated (in lakh)**
Kerala	649.85	974.775	9.75
Karnataka	515.03	772.545	7.73
Tamil Nadu	465.11	697.665	6.98
Andhra Pradesh	105.99	158.985	1.59
Odisha	50.68	76.02	0.76
Gujarat	31.63	47.445	0.47
West Bengal	29.41	44.115	0.44
Maharashtra	28.1	42.15	0.42
Other states	100.01	150.015	1.50
Total	1975.81	2963.715	29.64
			* planting density 150 palms per hectare
			** seedlings for 1% replanting per year

The demand for quality seedlings from the coconut cultivating states is estimated to be around 30 lakh seedlings every year. The estimation is based on the assumption that atleast 1% of the total cultivated coconut palms are replanted / newly planted every year. In the state of Kerala alone, there is need for about 10 lakh coconut seedlings.

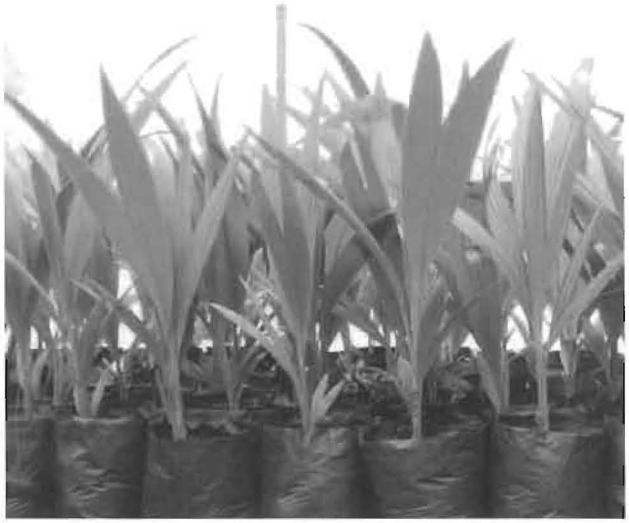
Seedling production (in numbers) from CDB farms over last five years					
DSP Farm	2011-12	2012-13	2013-14	2014-15	2015-16
Mandya	135493	258092	228199	145589	161302
Vegiwada	61198	81607	316360	14714	63853
Neriaman-galam	16088	98597	130928	147825	129123
Pitapally	17083	93028	299566	65025	111422
Kondagaon	7104	92446	120818	100278	40541
Madhepura	6377	103580	162204	0	500
Abhayapuri	16507	122979	63519	290316	19286
Palghar	0	0	5256	21214	67682
Dhali	0	0	0	0	73541
Total	259850	850329	1326850	784961	667250

However only a few agencies like Coconut Development Board, Central Plantation Crops Research Institute, Kerala Agricultural University, Dept of Agriculture and few private nurseries are producing

quality coconut seedlings. Production from such sources is not enough to meet the demand for seedlings. This often makes the farmers to depend on unreliable sources for seedlings. Farmers often get cheated by many false practices in seedling production sector too. One way to get rid of the situation is the production of own seedlings.

Believe it or not; there are super palms

Selection of mother palms for production of quality seedlings is an important step in scientific and traditional nursery raising. The mother palms having characteristics such as good health, free from pest and diseases, stable yield etc are selected for the purpose of seed nut collection. The palms having above the average yield ie 80 nuts per palm per year are usually selected for the purpose. But in almost all the coconut growing areas you can find certain palms (about 3% to 5%) giving an yield always higher than 80 nuts per year. Such palms may also show high pest and disease resistance. These palms are called the Super Palms. Such palms can be seen even in the high intensity disease incidence areas. Production of coconut seedlings from such super palms was widely adopted by our forefathers when seedling production was not taken up by Government agencies viz Coconut Development Board, Central Plantation Crops Research Institute or Kerala Agricultural University, Dept of Agriculture.



The Farmer Producer Organizations in each area can identify such high yielding disease free super mother palms of their area. These palms will be indigenous with characters adapted to those peculiar climatic features. Such palms have to be selected locally for collection of seed nuts and further production of seedlings. Thus the traditional knowledge of selecting disease resistant palms from local sources for seedling production is to be promoted.

Polybag Nurseries: A way to avoid transplanting shock

Polybag nurseries are nowadays a common practice in nursery raising. Seednuts are sown in the soil and on germination, initiation of the seedlings are transplanted to polybags. Black polybags of size 60 x 40 cm with 500 gauge are used for transplanting. Potting mixture in the ratio 2:1:1 comprising of top soil, sand and FYM/ vermi compost need to be used. The major advantage of polybag nurseries is that it will avoid transplanting shock while uprooting the seedlings from nursery. Easy establishment of seedlings, vigorous seedling growth and early flowering are the added advantages. The mortality rate in gardens planted with polybag seedlings is much lower than gardens planted with uprooted seedlings. A change in the common polybag nurseries can also be tried while producing seedlings. Instead of going for transplanting the germinated seednuts, direct sowing of nuts in the polybags can be adopted. Thus the chances of even the minute shock can be avoided and seedlings with good vigour and good root system can be obtained.While planting polybag seedlings in the main field, adequate care should be taken to avoid any disturbances to seedlings. While planting, the sides of the polybag may be cut vertically along the sides with sharp blade/knife and planted along with the full mud (potting mixture) inside a big size pit made in the field.

Seed nut villages

Seed villages are a common concept in many other horticultural crops. It is a way to organize seed production in villages so as to make available seeds at the door step of farmers at the right time. As the production of seeds is done locally with participation from farmers the cost can also be reduced considerably. Hybridization training can be taken up for production of hybrids suited to the area. DxT hybrid seedlings of coconut is the most sought of this and recommended variety for which there is great demand. DxT hybrid seedlings produced by private nursery costs between Rs.350/- and Rs.500/- per seedling and the farmer has to wait about one to two years after booking for getting the seedling. One of the main reasons for the short supply of the same is due to low availability of dwarf mother palms where the hybridization is to be done. After selecting the dwarf mother palms one has to wait for 24 months to produce a hybrid seedling. Farmers having few dwarf palms can also produce DxT hybrids by pollinating the mother palms with selected good quality pollen collected from the desired tall male parent.

Training on nursery raising, pollination and hybridization are conducted by Coconut Development Board. The Board also extends financial and technical aid for establishing small nursery units. The same can be availed by farmers and Farmer Producer Organizations. The Farmer Producer Organizations can attain self sufficiency and self reliance through creation of such seed coconut villages.

The demand for seed nut and seedling is escalating day by day. As the number of healthy palms in the state is decreasing and the requirement for quality coconut seedlings is increasing; bulk production of quality coconut seedlings has to be taken up through collaboration with various agencies in the sector. ■