

# *A Note on the Parent Locality, Parent Palm and Seednut Selection and Technique of Raising Arecanut Nursery.*

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1. *Parent locality selection* : Procurement of seed-nuts required for nursery units of a particular tract can be made from the same tract itself. The gardens of the locality will have to be surveyed and reputed and well isolated small gardens preferably with one or two acres in extent having a large percentage of high yielding trees have to be located. The gardens must be isolated by barriers like hills or situated at distances of possibly not less than two miles so that the possibility of the palms of such gardens getting pollinated by pollen from the nearby gardens is the least.

2. *Parent palm selection* : After selecting the gardens having trees of more or less uniform age (range being preferably between 25 and 50 years), the parent trees are to be marked out. In any garden mature palms producing no fruit whatever to high yield are noticed randomly distributed. Since these palms more or less receive identical treatments in the growers garden the variation in their yielding capacity is very likely be due to the variation in their genetic constitution. All such palms interpollinate among themselves. Since scientific knowledge on the correlation of morphological characters with high productivity is lacking selection of parent palms by a process of elimination extending over a few years based on the general vigour and yield of the palms has to be adhered to. Much before the commencement of the harvest of the year, all the trees in the garden are to be observed for their vigour and yielding characters and all the diseased, less vigorous and poor yielding trees, i. e. trees having less than 10 open leaves, trees with less than 4 bunches and trees with poor set are to be rejected and marked separately as 'R' and the selected ones as 'S'. During the succeeding years all the irregularly yielding trees are to be noted and numbered as R1 and R2 so that at the end of 2 or

3 years most of the undesirable trees (i. e. less vigorous and less yielding and irregularly yielding) get grouped under R, R1 or R2 (rejects) and selected palms under S. The above observations and method of elimination can be continued even beyond third year till the parent palms finally selected reach a certain standard of uniform high yield.

3. *Seed selection* : In every year right from the first year onwards when the flowering starts, steps are to be taken to prevent the pollen of rejected trees from fertilising the female flowers of the selected palms. For this purpose removal of all the male flowers of the rejected trees has to be taken up as and when the inflorescence emerges out of the spathe and much before the male flowers open and this operation has to be continued at least during the peak months of flowering, for example, under South Kanara condition from early October to May end, so that high yielding palms with desirable characters only breed among themselves and produce seeds. Even in the selected palms inflorescences which have got pollinated prior to starting the removal of male flowers have to be marked out and nuts from such bunches to be rejected. Fully ripe nuts are to be collected from the above palms which had controlled pollination as described above. All under-sized and malformed nuts and nuts having less weight must be rejected.

The above technique by slow degrees extending over a few years is expected to improve the quality of seedlings considerably since in the final stages the seednuts gathered will be only from the trees of high and regular yielding habit bred among themselves.

4. *Nursery technique* : The selected nuts are sown for germination in small shallow pits of about 4" to 6"

depth and convenient size, the soil of which is dug and loosened to depth of 1' and preferably filled with sand to a depth of 3" to 4". The nuts are to be arranged over the sand bed with their calyx end pointing upwards and covered with sand or soil just to cover the seeds. The nuts are to be watered daily.

After about three months of sowing, they are to be planted in nursery beds. The area required for the nursery is to be well dug or ploughed and shade crop of banana to be planted at 9' apart in rows of 12' apart in North-South direction. Planting of banana suckers may be taken up at least six months prior to the planting of sprouts so that they may get well established and give sufficient shade to the young sprouts. The inter spaces between the banana rows are to be thrown into raised beds of 4' width and 6" height and of convenient

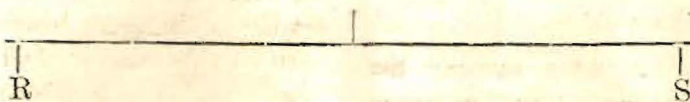
length in the South-North direction. Two nursery beds of 4' width will run between two banana rows with a central drainage-cum-irrigation channel of 1½' width. If the shade of banana is not sufficient, seeds of a leguminous crop like sesbania may be sown in the Western margin of each nursery bed which when grown is found to give enough shade.

The young sprouts are to be planted in the nursery beds at a distance of 1' X 1' and in each bed 3 rows of plants can be planted leaving 1' margin on either side. After planting the beds are to be mulched with green or dry leaf. Care is to be taken to draw in the nursery beds during rainy season and they are to be well irrigated during summer months.

Only vigorous seedlings (which have produced 5 or more leaves at the end of one year having good girth) are to be selected for distribution.

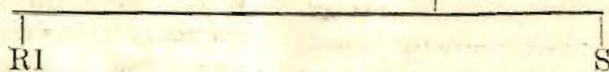
### SELECTION OF PARENT LOCALITY, PARENT PALM AND SEEDNUTS.

Small reputed high yielding and isolated gardens. (Much in advance of harvesting in the first year examine the trees and group them as)



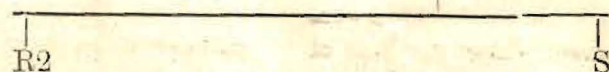
(Diseased trees, trees with less than 10 leaves, trees with less than 4 bunches and trees with poor set) remove male flowers of R.

(Healthy trees and trees with more than 10 leaves and 4 and above bunches with good set and preferably with shorter internodal distance) Examine these trees in second year and group them as



(Irregular yielders with respect to number of bunches and set) male flowers of R and R1 to be removed

(Regular yielders—number of bunches 4 and above with heavy set) Examine these trees in third year and group them as



(Irregular yielders - with respect to number of bunches and set) male flowers of R, R1 and R2 to be removed.

(Regular Yielders) (same as above) Examination and isolation of parent palms to be continued in the succeeding years also.

Select nuts only from trees marked 'S' in all the years.

Reject malformed and undersized nuts and nuts with less weight.