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# Collecting Seed Coconuts

by

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**P**RODUCTION of quality seedlings in the coconut involves the strict observance of a series of steps such as selection of mother palms, selection of seednuts, raising nursery and selection of seedlings. The workable criteria to be observed in each of the above aspects have been established.

## **Cutting the seednut bunches vs. Lowering the bunches**

On account of the suspected possibility that seednuts may get damaged and become unfit for planting in the nursery if harvested in the ordinary

manner, viz., severing the bunches from the crown and allowing them to fall to the ground with great force, seednut bunches from selected mother palms are usually cut and lowered by means of ropes. But there does not appear to be any experimental evidence to show whether the nuts do get really damaged to the extent as to have marked adverse effect on germination or on the subsequent growth of the seedlings arising from them, by harvesting the nuts as is ordinarily done. The purpose of this study was to elucidate the above aspects.

### Trials conducted

The trial was carried out at the Central Coconut Research Station, Kasaragod during 1953-54. A number of palms growing in the North Block were selected at random for the purpose. The height of the trees in this block is, in general, more than that in the other parts of the Research Station. In the month of April, half the number of nuts selected at random from each mature bunch were cut and allowed to fall to the ground while the rest of the nuts along with the bunch were lowered by means of ropes. In this way a total of 100 nuts were collected from 22 trees for each of the treatments. These nuts were planted in the nursery in the month of June in the usual manner and detailed data recorded on the germination of

nuts and the vegetative characters of the seedlings relating to growth such as girth at collar, height of seedlings and number of leaves, when about a year old.

### Results

Examination of the nuts which were harvested in the usual manner and allowed to fall to the ground did not reveal any external damage to the nuts, except for some slight scratches on the husk of some of them. The observations made on the germination of nuts and seedling characteristics in respect of "lowered" and "fallen" nuts of each of the trees were studied. The differences observed in different characters studied between the two groups of each of the trees were statistically analysed and the results are summarised below.

Particulars	Mean values			Standard error of difference	"t" value calculated	Conclusion
	Fallen nuts	Lowered nuts	Difference			
<i>Seednuts</i>						
Percentage of germination	92.9	95.3	2.4	...	...	...
Number of days taken for germination	111.8	112.2	0.4	1.90	0.211	Difference not significant
<i>Seedlings</i>						
Girth of collar (cm.)	10.0	10.3	0.3	0.16	1.875	Difference not significant
Height (cm.)	98.1	101.9	3.8	2.50	1.520	do
Number of leaves produced	5.0	5.3	0.3	0.06	5.000	Difference significant

\* From table for 21 degrees of freedom  $t_{0.05} = 2.080$   
 $t_{0.01} = 2.881$

### **No significant difference**

The differences between the two groups of nuts are not significant except in respect of the number of leaves produced. It may, therefore, be concluded that as a routine measure lowering of seednuts may have no special advantage over the usual method of harvest followed in the area.

The heights of the trees from which the nuts were utilised for the studies, ranges from 37' to 58'. Correlations were worked out between the heights of the trees and the nut and seedling characters. The correlation coefficients were in all cases low and not significant showing thereby that within the limits of the recorded data, the heights of the trees had not influenced to any appreciable extent the characters of the nuts or seedlings.

Some of the trees also happened to be standing in an unploughed area where the land was harder than the rest of the garden which had been ploughed and the soil kept in a loose and friable condition. This difference in the condition of the soil did not also appear to have any influence on the characters under study.

### **Harvesting in the usual manner not harmful**

The indications obtained from this trial are only to be expected. In the mature stage the nuts are comparatively light in weight, the shell fully hardened and the husk is light and fibrous. These features enable the force of impact of the fall to be absorbed to a great extent without the nut inside getting damaged in any way. Immature nuts of

course do often break on falling from great heights on hard surfaces; but then, nuts at that stage of maturity are quite unfit for being used as seednuts.

This finding is not without some practical importance. Where only a few mother palms are to be harvested, lowering of nuts or harvesting in the usual way may not make much difference, but when thousands of mother palms are to be harvested within a relatively short period as in the case of nurseries with high targets of production, considerable saving in money and time can be effected by dispensing with the practice of lowering nuts as is currently done. Lowering seednut bunches by ropes requires a minimum of two men to work as a team and is relatively a slow process. On the other hand, one man working by himself can harvest seednuts from 80 to 100 trees in a period of 8 hours i. e., nearly three times the out-turn of work that can be expected from two men within the same period if lowering is to be done. Thus the cost of harvesting nuts can be substantially reduced and the work pushed through more expeditiously. Since obtaining the above evidence, seednuts numbering about 20,000 from about 750 mother palms of the station were being harvested only in the ordinary manner and no adverse effect whatsoever on germination or out-turn of quality seedlings has been noticed.

### **Limitations**

There are, however, certain conditions when lowering of seednut bunches may have to be still continued. Thus, where for one reason or another fully mature nuts are harvested along with less mature nuts which cannot be used

for seednut purposes, lowering may be necessary. By harvesting in the usual way the nuts of the different bunches are likely to get mixed up making it rather difficult to separate the nuts of the required maturity from the entire lot. This problem will arise only in rare cases where harvests are done at long intervals resulting in two or more bunches being gathered at the same time.

Lowering may also be necessary where the seednuts are to be planted in soil subject to white ant attack. Sometimes the husk of the seednuts may show slight cracks or concussions because of the fall during harvest. Though these need not by themselves detract the value of the nuts for seednut purposes, they may provide an opening for the white ants to get inside and damage the young

sprouts. Even this danger can be avoided by a judicious use of insecticides such as BHC or DDT.

The necessity or otherwise of lowering seednut bunches by means of ropes was investigated. It was seen that ordinary method of harvest can be adopted and lowering as a routine measure need not be followed except where the trees are very tall and the ground below very hard. Some special occasions where also rope lowering of seednuts may appear necessary are indicated.

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