https://doi.org/10.29321/MAJ.10.A03437

Madras agric. J. 61 (8): 525–530. August 1974

Suitable Season for the Collection of Seed Coconuts in the East Coast of Tamil Nadu

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ABSTRACT

A study on periods of collection of seed coconuts and storage requirements prior to planting in the nursery under East Coast conditions revealed that (1) the seed coconuts can be collected from February to August; (2) the seed coconuts should be stored in sand under shade for one or two months to get high percentage of germination and quality seedlings and also to reduce the cost of cultivation by minimising the irrigations for one or two months during storage; (3) the seednuts harvested during June, July and August can be planted with or without storage as there is not much difference in germination percentage and out-turn of quality seedlings; (4) the planting of seednuts should be completed before the middle of October to get the benefit of North East monsoon and (5) the seednuts harvested in the month of June and July produce more percentage of quality seedlings.

INTRODUCTION

John (1930) reported that the seednuts harvested in the summer months of March, April and May recorded high percentage of early and total germination under West Coast conditions. Patel (1938) stated that the seednuts harvested from February to May under West Coast conditions gave high percentage of germination and larger outturn of quality seedlings. Aiyadurai (1954) was of the opinion that the optimum period for the harvest of seed coconuts might vary from tract to tract. Menon and Pandalai (1958) also supported this view. Hence the present study was taken up to find out whether seednuts collected from all the months of the year could be used for raising seedlings and whether such seednuts might differ in the requirements of storage prior to planting in the nursery.

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MATERIALS AND METHODS

Seed coconuts were harvested in all the twelve months of the year i e. from March, 1961 to February, 1962 from 75 selected mother palms in a single garden, at Thambikottai of Thanjavur district. Every month 300 seednuts were harvested and divided into three lots (treatments) by random selection of 100 each. The first lot was planted immediately after harvest, second lot 30 days after harvest and the third lot 60 days after harvest. The second and third lots were preserved in sand with stalk end up till they were planted. The experiment was laid out in the Coconut Nursery at Pattukkottai in Thanjavur district of Tamil Nadu. Each lot of 100 nuts was planted vertically at random in a single bed of four rows at 25 nuts per row. A spacing of one foot between and in the row was adopted. Watering and usual after care for the nursery were taken up.

RESULTS AND DISCUSSION

1. Date of germination of individual nuts :

There was no difference in the period taken by the seednuts for germination from the date of harvest, irrespective of the time of planting either just after harvest or one or two months after harvest. The planting of seednuts after storage for a period of two months appeared to be more economical from the point of saving irrigation expenses for this period. Storage of seednuts in fine sand till the time of planting had also no bad effect on the viability of seednuts or quality of seedlings obtained as already reported by John and Narayana (1942) and Budihal (1952).

2. Girth at collar of seedlings: The girth at collar was more and on a par in the nuts harvested from March to August and however, there was an indication that the nuts planted immediately after harvest during July and August gave the maximum girth at collar (Table 1)

3. Height of seedlings : Good growth in seedlings was noticed in the case of nuts harvested from March and April and was found on a par. Nuts harvested from March to June and stored for one or two months prior to planting also showed good growth.

4. Number of leaves per seedling: The average number of leaves by a seedling was more and on par in the case of nuts harvested from April to August and it was greater in the case of nuts harvested during June, July and August and planted immediately or one or two months after storage. Nuts harvested during April and May and planted after storage for one or two months, registered good growth.

5. Percentage of germination: More than 90 per cent germination was noticed in the treatments where the seednuts were stored for one or two months after harvest. The seednuts planted immediately after harvest recorded lower percentage of germina-

TABLE 1. Suitable season for the collection of seed coconuts

	Months of harvest											
	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
	1	2	3	4	5	5	7	8	9	10	11	12
Girth at collar of seedlings (mm)												
i	95	95	145	139	126	151	164	158	107	82	63	95
ii	120	145	158	151	151	139	145	126	113	120	82	113
iii	120	126	145	151	157	158	151	139	113	126	101	126
C. D. — A — 21.2 ** B — 10.6 *												
Height of seedlings (cm)												
i	53	53	136	121	99	121	121	121	76	46	38	48
ii	76	114	167	159	135	129	121	107	83	61	46	68
iii	83	107	159	152	152	136	121	107	91	91	61	83
C. D. — A 21.3 **; B — 10.7 **												
Number of leaves per seedling												
i	6	6	6	7	7	8	8	8	5	4	4	5
ii	7	7	7	8	8	8	8	8	6	6	5	6
iii	7	7	6	8	8	8	8	8	6	7	6	7
C. D. — A 0.98 **; B — 0.41 **												

Table 1 [Continued]

	1	2	3	4	5	6	7	8	9	10	11	12
Percentage of germination												
i	76	78	86	94	88	84	96	97	87	81	76	83
ii	90	97	97	97	97	94	98	93	93	93	91	93
iii	90	91	95	96	97	94	98	98	94	92	95	95
C. D. – A – 6.58 *; B – 3.28 *												
Percentage of quality seedlings												
i	49	52	84	83	83	93	95	93	65	42	35	45
ii	72	92	95	96	95	93	94	89	68	59	43	57
iii	73	85	91	93	94	94	92	88	79	77	57	67
C. D. – 13.55 **; B – 6.77 **												
Percentage of dead sprouts												
i	15	17	0	6	7	1	1	4	26	30	33	21
ii	8	2	2	0	2	1	0	8	21	19	83	18
iii	10	3	2	1	3	0	5	10	12	7	25	15
C. D. – A – 7.88 **; B – 3.94 *												

A - Main plot treatments – Harvest of seednuts in all the months of a year

B – Sub plot treatments – Preservation of seednuts in sand before planting

i. No preservation ii. One month preservation iii. Two months preservation

* Significant at 5% level ** Significant at 1% level

tion and the germination was less than 85 per cent in the case of nuts harvested from October to February. There was not much difference in germination between the three treatments in the case of nuts harvested from June to August. In general it was found that the months from March to September were found on a par with reference to the percentage of germination.

6. Quality seedlings: The nuts harvested from June to August gave more than 85 per cent of quality seedlings in all the three treatments. The nuts harvested from March to May and planted one or two months after harvest gave similar outturn of quality seedlings and found on a par.

7. Dead sprouts: Comparatively a very low percentage of dead sprouts was recorded when the nuts were harvested from March to July and planted immediately or one or two months after storage. In the case of nuts harvested during August and planted immediately and also when harvested during February and planted one or two months after storage, the percentage of dead sprouts was low and on a par with the above months. A high percentage of dead sprouts was noticed in the case of seednuts harvested from September to December in all the three treatments, perhaps due to severe summer conditions prevailing at the early stage of sprouting and growth. The seednuts take a period of even upto four months for sprouting after harvest.

The importance of selection of seedlings is to increase the crop yield by 10 per cent (Liyange, 1933). Early germination, rapid growth, early splitting of leaf, large number of leaves, good girth at the base, short and thick leaf stalks, large number of roots, vigour and sturdiness of the seedlings are associated with good yield and early bearing in adult palms as stated by John (1930), Patel (1938) and Menon and Pandalai (1958). Considering the above factors it is seen from the restlts obtained that the seednuts harvested from February to July and preserved in sand under shade for one or two months gave good girth at collar, maximum height and more number of leaves to the seedlings with high percentage of germination, more number of quality seedlings and less percentage of dead sprouts. There was not much difference in germination of seednuts and percentage of outturn of quality seedlings in the case of seednuts harvested during June and July and planted immediately after harvest or one or two months after storage. Comparatively a good germination and more number of quality seedlings were obtained from the seednuts harvested from March to August in all the three

treatments and also in the second and third of February harvested seednuts.

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