A NOTE ON FIELD ESTABLISHMENT OF CASHEW (*ANACARDIUM OCCIDENTALE* L.) AIR LAYERS

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Research work on cashew in India has been in progress for nearly three decades (Aiyadurai. 3). Different methods of vegetative propagation have been attempted in different centres of research and by various research workers in the country and abroad. In all, it has been found that air layering to be comparatively easier than other methods, requires less skill and ready within about 80 days.

Trials coducted (Naik. 13) at Fruit Research Station, Kodur in Ahdhra Pradesh revhaled that the layers readily root witin two months giving cent percent success, if the layering done in the rainy season. Work done at Cashew Research Station, Bapatla (5) indicated success with air layering done all round the year on one year old wood although, percentage of success was high during July-September. Research work carried out in the west coast gave 79 per cent rooting by layering one-year old shoots in adult trees (Rao and Hassan. 15). To obtain good results, layering in cashew was suggested to be done during October-April when cashew is in flowering and flushing (Aiyadurai. 4). Application of root promoting hormones to get better rooting was also reported (Chhonkar and Singh. 8). Acharya and Dash (2), Sen and Chakravarthi. 16). Success achieved with airlayering of cashew has also been reported by several other researchers (Abraham. 1, Kurup and Viswanathan. 11, Muthappa Rai. 12, Damodaran. 9, Fazlullahkhan. 10).

Argles (7) opined that air layering is the most satisfactory method of propagation in cashew while Northwood (14) doubted since it is time consuming and expensive operation that cannot be regarded as satisfactory means of producing improved planting material on a large scale for African farmers. The trials carried out at Central Plantation Crops Research Institute, Regional Station, Vittal during 1973-74 gave an indication that the airlayers when planted in polybags survived to an extent of 22 per cent (December) to 70 per cent (June) as reported (6). Although air layering has been proved successful to a greater extent, establisnment of layers in the field has not met with success either due to planting directly in the field soon after separation from the mother tree or neglect in after care of planting. Hence the present study was taken up when a trial to study relative differences of seedlings *vs* airlayers was laid out by the authors at CPCRI, Sub Station, Shantigodu in South Kanara district of Karnataka.

To obtain airlayers for a field trial in cashew, airlayering was done in two spells in March-April (1977) within four promising accession viz; VTH-11, VTH-35, VTH-150 and VTH-155. Seednuts from the four accessions were also sown at the

same time in polybags for comparison. Moistened sawdust and alkathene film (150g) were used both as medium and wrapping material in the process of layering. No hormone was used to promote rooting in the ringed shoots. The layers were separated soon after the roots were visible within a mean period of 76-81 days.

In all, 747 airlayers were made with a rooting percentage varied from 71.9 to 88.2 per cent on an average from four accessions [(VTH-11-192 (71.9 per cent), VTH-35-178 (78 per cent), VTH-150-228 (88.2 per cent), VTH-155-149 (79.8 per cent)].

Soon after separation of layers from the mother trees, the shoot growth was thinned to reduce transpiration. The alkathene film covering delicate roots of the layers was carefully unwrapped and the layers were kept in a cowdung solution mixed with urea (100 grams per 10 litres of solution) for about an hour. The layers were subsequently planted in polybags (45 × 30 cm of 500 gauge) filled with potting mixture (2 parts sand and one part each of compost and red soil) aud the left out dung solution was emptied into polybags to give boost for layers' growth.

The airlayers after being nursed in polybags for about a fortnight were utilized for planting the trial along with the seedlings. The data with regard to establishment of layers and seedlings were collected from 192 layers and equal number of seedlings spread over in four replications of the trial. The results of the analysis are presented in the Table.

TABLE 1

Establishment of airlayers in poly bags and field establishment of layers and seedlings in four accessions

Particulars	Accessions					
	VTH-11	VTH-35	VTH-150	VTH-155		
A—Establishment in polythene bags	90.1	94.3	94.7	93.9		
B—Establishment in the field :						
(1) *Airlayers :*						
Means	41.2	42.8	44.8	44.2	Mean	43.25
					S.E.	4.82
Percentage establishment	81.2	87.5	89.6	89.6	C.V.	11.14
					L.S.D. (P=0.05)	3.55
(2) *Seedlings :*						
Means	40.4	34.2	45.4	40.4	Mean	40.1
					S.E.	8.34
Percentage establishment	82.2	60.4	89.6	79.1	C.V.	82.60
					L.S.D. (P=0.05)	11.20

As could be seen from th table, the airlayers in all the four accessions gave high percentage of survival (90.1 to 94.7 per cent) in polybags and this might be due to immersion of layers in cowdung + urea solution before planting them in polybags. In field establishment, the layers established significantly better than the seedlings. The better establishment of airlayers was mostly due to good rooting obtained and further nursing them to withstand the shock of separation from the mother trees. Above all, planting at the right time had it's significant contribution as much as production of good planting material.

SUMMARY

Air layers on separation from the mother tree and treated them with cowdung + urea solution for one hour resulted in securing high percentage of survival in polybags. The air layers when planted along with seedlings gave significantly a better field establishment.

ACKNOWLEDGEMENT

The authors are thankful to Dr. N. M. Nayar former Joint Director, CPCRI, Regional Station, Vittal and Mr. K. Shama Bhat, Scientist-in-Charge for the facilities and encouragement given to undertake the trial.

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