

# CRITERIA FOR SELECTION OF SCION MATERIAL FOR PROPAGATION OF CASHEW BY EPICOTYL GRAFTING

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## ABSTRACT

Selection of mature scion wood with 'pointed' apical dormant buds contributed towards high success in epicotyl grafting in cashew during monsoon. Pre-curing of scion wood helps in quick growth of the scion after grafting, although it is not quite essential. It is worthwhile trying application of morphactins to minimize erratic development of apical buds by correcting hormonal imbalances.

## INTRODUCTION

Trials have been carried out to standardize techniques for propagating cashew by asexual means with varying degrees of success. The varietal success achieved with any given technique has been due mostly to the different agroclimatic situations prevalent in the east and west coast regions of the country. Besides the climatic and soil conditions, the other factors which determine the success of vegetative propagation are chiefly, the stock-scion compatibility, selection of suitable scion material, the skill of the operator, and effective management. The cumulative effect of the above factors under a given set of conditions would give the desired results.

In propagating cashew, especially by grafting, selection of scion wood is very important to realize a high percentage of success. A study made on the criteria for selection of scion material and the results obtained at CPCRI Cashew Seed Farm, Shantigodu are presented in this paper.

## MATERIALS AND METHODS

Tender cashew root-stocks, 30-35 days old, raised in polythene containers (25 cm × 15 cm), were utilized for epicotyl grafting during June, July and August, 1981.

Mature shoots of previous season's growth were tagged to select scion shoots with dormant apical buds. The scion sticks were classified into three categories based on the disposition of apical buds, namely, 'pointed', 'oblique', and 'flat'. The apical buds enclosed in leafy scales project out like a needle from the central portion very conspicuously. Hence, such buds are termed as 'pointed'. The buds which show distortion and point sideways not so conspicuously, are classified as 'oblique', and those which look oblate without any projection are termed as 'flat'.

One half of the shoots selected for grafting in each category were pre-cured while the remaining half was left uncured to assess the effect of precuring on the scion growth.

A randomized and replicated design with three major treatments (categories of scion shoots) and two sub-treatments (pre-cured and uncured), replicated five times, was laid out. At the rate of ten grafts per treatment, three hundred grafts were made during June, July and August, and the percentage success worked out (Table 1).

Table 1. Percentage success obtained with scions of 'Pointed', 'Oblique', and 'Flat' apical dormant buds under pre-cured conditions in epicotyl grafts of cashew. Fifty grafts were made in each category (1981).

Category of scion	% success in the month of		
	June	July	August
<i>A. Pre-cured</i>			
(i) Pointed	60.0	65.0	60.0
(ii) Oblique	36.0	38.0	40.0
(iii) Flat	8.0	10.0	8.0
<i>B. Uncured</i>			
(i) Pointed	62.0	64.0	60.0
(ii) Oblique	40.0	40.0	38.0
(iii) Flat	10.0	8.0	60.0

## RESULTS AND DISCUSSION

The studies revealed that the scion shoots with 'pointed' apical dormant buds, when precured one week before severance from the mother tree, had given the maximum success of 60, 65, and 60 per cent in all the three consecutive months respectively. Not much difference was observed between the cured and uncured scions so far as the final success was concerned., but the precured scion shoots emerged out within 25 days on an average after grafting, as against the uncured ones which took 46 days on an average.

The percentage success with the scion shoots having 'flat' apical buds had varied from 6-10 per cent while those with 'oblique' apical buds recorded 20-40 per cent success, showing no significant difference between the precured and uncured scion wood under different treatments.

The results gave clear indication with regard to choice of scion shoots with 'pointed' apical dormant buds to secure a high percentage of success with epicotyl grafting in cashew, during monsoon under the conditions prevailing in the west coast region. Precuring of scions was found to be desirable to secure quick growth of the scion after grafting although it was not quite essential.

The erratic development of apical dormant terminal buds in cashew might be due to hormonal imbalances, and to overcome such situations, it is worthwhile trying applications of morphactins which are known to cause deformation in plants and also affect the endogenous levels of growth substances as reported by Chadha *et al.* (1979) in their studies on mango.

## REFERENCE

- CHADHA, K. L., SAHAY, R. K. and PAL, R. N. 1979. Induction of floral malformation-like symptoms in mango by morphactin. *Indian J. Hort.* **36**: 220-221.