



Studies on vegetative propagation in custard apple

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ABSTRACT

The experiment was conducted to evaluate the performance of different methods of propagation viz., shield budding, patch budding, softwood grafting with different periods (March to October). The month of August and April was found to be suitable for maximum success of propagation. Softwood grafting was found to be superior over shield and patch budding performed during April. Therefore, softwood grafting may be recommended for the propagation of custard apple on commercial scale.

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Custard apple (*Annona squamosa* L.) belongs to family Annonacea and now gaining popularity on waste and dry lands. In these soils the major constraints are moisture stress and inherently poor soil fertility, under such conditions custard apple thrive well, therefore, it is generally classified as semiwild fruit. Custard apple trees are mainly propagated through seed and therefore, it exhibits great genetic variability in growth, quality, yield and have greatly extended the juvenile periods.

The present studies were, therefore, undertaken to find out the most efficient grafting/ budding method for adoption on commercial scale.

MATERIALS AND METHODS

The experiment was conducted at Akola (Maharashtra), one year old custard apple seedlings of uniform in growth and thickness of local cv. were selected as rootstock. The scion wood of past season growth of known cultivar Balanagar was used for budding and grafting purpose. Three methods of propagation were tried i.e. shield budding, patch budding and softwood grafting in eight different periods i.e. mid March to mid October. In all there were twenty four treatment combinations. The experiment was laid out in Factorial Randomized Block Design with 3 replications and 20 plants / replication. The data on per cent bud take, per cent bud sprout, number of days required for sprouting / graft union,

mean length of scion of budding / graft, number of leaves per budding / graft and final success percentage after six months were recorded and analyzed statistically.

RESULTS AND DISCUSSION

The grafting success was affected significantly by different methods and period of propagation (Table 1). The highest bud take was noticed in the month of August (74.44%) followed by July (69.99%) and April (65.55%). The method of propagation was found to be non-significant and these results are in close conformity with those of Teotia *et al.* (1963) and Teotia (1962). The possible reason for maximum success during July and August may be that both bud/graft unions were in good sap flowing condition and there was somewhat more humidity in atmosphere since these factors are known to exert marked influence on bud takes success (Grjazev, 1960).

The per cent bud sprouts of the budded /grafted plant were influenced significantly by methods of propagation (Table 1). Soft wood grafting was found superior over shield and patch budding. Interactions between methods and period were found to be significant and highest degree of sprouting (80.00%) was obtained in softwood grafting performed during April followed by August (70.00%). The highest percentage of bud sprout during these months may be due to congenial climatic conditions. These findings are in agreement with those of Pathak *et al.* (1991),