

Studies on propagation of bael (*Aegle marmelos* Correa)

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ABSTRACT

The experiment was carried out to standardize the ideal duration and technique of budding for propagation of bael under north India conditions. The experiment was laid out in split plot design with five duration of budding (Mid of May, June, July, August and September) as main plot treatment and three methods of budding (modified ring, patch and shield) as subplot treatment. Ten plants were used as unit which was replicated thrice for recording the observations. Period from mid of June to July was found to be ideal duration, and patch budding showed better sprouting (Mid of June 95.16% and July 92.45%) and survival (Mid of June 94.27% and July 88.15%) followed by modified ring budding, while shield budding showed poor response at all stages.

Key words : Propagation, Bael, *Aegle marmelos* Correa.

Bael (*Aegle marmelos* Correa) is an important fruit, indigenous to India which belongs to family Rutaceae. It is very popular because of its rich nutritive, sweet, aromatic mucilage and pectin contents, very good for all kinds of stomach disorders. Bael fruits are very useful in chronic diarrhea and dysentery, particularly in the case of patients having diarrhea, alternating with the spells of constipation. Sweet drink (sherbet) prepared from the pulp of the Bael fruits produce a soothing effect on the patients who have just recovered from bacillary dysentery. The fruit plants propagated by vegetatively are true to type, and as a result, it is possible get uniformity in growth, yield and quality of fruits. Vegetative propagated fruit trees come in to bearing earlier as compared to seedling, while bael is commonly propagated from seeds and root suckers. Organized orcharding of bael are not available due to lack of recognized cultivars and well accepted vegetative propagation techniques. Singh (1954) and Moti *et al.* (1976) obtained preliminary success through patch budding during May and June in north India. However, detailed information with respect to duration and techniques of its propagation are lacking. Hence, the present investigation was undertaken to standardize the ideal duration and technique of budding for maximizing the success.

MATERIALS AND METHODS

The present investigation was carried out at Bharat Nursery Govt. registered, 03 k.m. away from N.D. University of Agriculture and Technology, Kumarganj, Faizabad (U.P.) during the year 2006-07. Rootstock consisted of one year old uniform seedling plants growing

in the nursery and scion shoots having pencil thickness were procured from 10 years old fruiting tree of bael genotype "Narendra Bael-9". The experiment was laid out in split plot design with five duration of budding (Mid of May, June, July, August and September) as main plot treatment and three methods of budding (modified ring, patch and shield) as subplot treatment. Ten plants were used as unit which was replicated thrice for recording the observations.

RESULTS AND DISCUSSION

The data recorded on time of budding showed considerable response and the percentage sprouting varied from 32.45 to 91.12 (Table 1). Maximum sprouting was observed in mid of June (91.12%) followed by July (87.51%), May (76.18%), August (52.28%) and lowest in September (32.45%), all the treatment showed significant variations. However, Jauhri and Singh (1971) obtained appreciable success from May to July under Basti conditions. Poor success during July and August might be because of heavy rains. Bael fruits initiate developing after the onset of rains, hence the energy is being diverted for the growth of fruits and, therefore, bark adheres with wood, resulting in poor success.

Considerable variation was found with respect to survival which varied from 27.85 to 87.65 per cent (Table 1). Budding during June showed maximum survival (87.65%) which decreased subsequently and a minimum survival of 27.85 per cent was recorded in September.

Methods of budding also showed significant variations. Patch budding showed maximum sprouting