



## Research Paper

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# Effect of grafting height and cultivars on the performance of soft wood grafting in mango

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**Abstract :** A field experiment was conducted at Bihar Agricultural College, Sabour, Bihar during 2008-09 to find out the effect of grafting height and cultivars on performance of softwood grafting in Mango. Maximum sprout initiation days 12.11 and 12.13 were registered under cultivars of Dudhia Maldah and when performed at 25 cm grafting height, respectively. However, the maximum success and survival per cent were noticed in Maldah followed by Amrapali whereas the minimum were in Chousa. Interaction effect between cultivars and grafting height on survival per cent attained there maximum when grafting was performed at 100 cm height. Similarly, the linear and radial growth of bud in case of cultivar were achieved maximum 12.23 cm and 1.78 cm by Zardalu and Mahmood Bahar, respectively whereas grafting at different height, the maximum linear length of 13.11 cm and radial growth of bud 1.86 were recorded when grafted at height of 100 cm and 50 cm, respectively. Moreover, maximum number of leaves 14.05 was found in Mahmood Bahar and minimum 11.93 in Prabha Shankar. As regard the grafting at different height, maximum number of leaves was observed when grafting was performed 100 cm height.

**Key words :** Mango, Cultivars, Root stocks, Grafting height

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Presently, most of the orchards in India are raised from seedlings resulting in low and uncertain productivity. Rapid means of vegetative propagation is a most for the expansion of area under superior clones of fruit plants. As the vegetative propagation is the only way to preserve the unique characters of a genotype and to maintain genetic architecture of the off springs. Among the accepted methods of vegetative propagation in mango, some detached methods such as veneer, soft wood and stone grafting have been successfully used as an efficient, economic and rapid method (Srivastava, 1989; Roy and Hoda, 1996; Kaur and Malhi, 2006). Grafting is a critical physiological process with distinct developmental phases, there is certainly great influence of environmental parameters, age of root stock, method of grafting and cultivar used (Sharangi *et al.*, 2002). Hence, taking into consideration some of the vital aspects of grafting operations, it is highly essential to standardize the height of

seedling root stock of important mango varieties on success of soft wood grafting in mango.

## RESEARCH METHODS

Experiment was conducted at Horticultural garden of Bihar Agricultural College, Sabour during 2008-09, to study the effect of grafting height and cultivars, grafted in mid August at one year old root stock on success of softwood grafting in 10 different cultivars of mango. All possible combinations of grafting height of root stock and cultivars were allocated in a split plot design with three replications. In each replication, there were 20 grafts. The stones were sown in the field at distance of 40cm x 50cm on 18<sup>th</sup> June 2008 and seedling stocks was ready for grafting after completion of one year. The scion shoots for grafting were selected from the current season and six month old terminal shoot of different mango cultivars *viz.*, Amrapali, Prabhashankar, Gulabkhas, Mahmood Bahar,