

GRAFTING IN SOHIONG

A novel multiplication technique



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Sohiong (*Prunus nepalensis*) belongs to family Rosaceae is an important indigenous underutilized fruit of the NE region. It has great potential in the region due to its quality, unique colour and flavour. It is found in East Khasi Hills, West Khasi Hills and Jaintia Hills district of Meghalaya and some parts of Manipur state. Fruits are eaten as fresh, while fruit juice and pulp are used for preparation of various processed products like squash, jam, Ready To Serve



beverage and wine. *Sohiong* plants are propagated through seeds by the farmers from long time. Propagation from seeds results variation in fruit quality, long gestation period (> 8 years) and huge canopy size. It is well proven that the vegetative propagation in any plants results in true to type crop with short juvenile phase and canopy size. A novel multiplication technique through grafting (wedge and tongue) in *sohiong* has been standardized at ICAR Research Complex for NEH Region, Umiam (Meghalaya) for raising the quality planting material.

The steps involved in new techniques are

Seed extraction

The well ripen fully blackish /purplish coloured fruits should be collected during September for seed extraction purpose. The seed should be extracted from fruit by removing the pulp by soaking of seed in water for about 3 to 4 days for fermentation of pulp adhering on seed. Then after, seeds are washed in water and dried under shade for 24 hours.



Raising of rootstock

Freshly extracted dried seeds are kept for 3-4 weeks in a pot under alternate layer of moist sand for stratification. Seed coat starts rupturing at 3 weeks of stratification and then these ruptured seeds should be sown in poly bag containing equal amount of soil, sand and FYM mixture at about 5 cm depth during October. Seeds germination start about 30 to 45 days after sowing. Germination of seeds can be improved by treatment with GA3 @ 150-200 ppm or Thio-urea @ 5 g/litre water.

Selection of scion

Five to six month old shoot should be selected as scion material from healthy mother plants of *sohiong*. The scion shoot of pencil thickness with 3 to 4 internodes of 25-30 cm long should be used for grafting.

Grafting technique

One year old rootstock of pencil thickness (0.5-1.0 cm) should be used for grafting purpose. Best time of grafting is IInd week of October, when stock and scion are in dormant condition. Stock and scion of equal diameter is selected.

Tongue grafting: A smooth slanting cut of 4 -5 cm long is made on the rootstock at about 15-20 cm above the ground level and another downward cut is given starting approximately 2/3rd from the top of the slanting cut and about 2 cm in length. This form a tongue like structure on the stock. Similar cut is also made on the lower side of the scion exactly matching the cut given on the rootstock and then fixed in to the rootstock. The union is tied with the 150-gauge polythene strip.

Wedge grafting: The rootstock is headed back about 15-20 cm above the ground level and then, the beheaded rootstock is split to about 3.5 to 4 cm deep through the center of stem with grafting knife. A wedge shaped cut, slanting from both the sides (3-4cm long) is made on the lower side of the scion shoot. The scion stick is then inserted into the split of the stock and pressed properly. The union is tied with the 150-gauge polythene strip.

More than 80% graft success can be achieved through wedge as well as tongue grafting.



After care

The graft union is completed within 30-45 days of grafting and after that polythene strip is removed with the help of sharp knife/blade to avoid girdling. Regular watering should be done and the sprouts emerges below the graft union are removed periodically. Plants are ready for planting within nine months after graft success.

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