

Miscellany

Soft wood grafting in clove (*Syzygium aromaticum* (L.) Merr. & Perry) on related species

The influence of root stocks on size of the tree, precocity, and reaction to biotic and abiotic stresses is well known. In clove (a major tree spice of India), harvesting is laborious and expensive, and the tree is susceptible to many pests and diseases, which infest the basal region of the stem and roots. To overcome these problems efforts were made at the Indian Institute of Spices Research, Calicut, during September 1996 to study the feasibility of grafting clove on various related species.

Seedlings of *S. heyneianum* (Dutie) Wall ex. Gamble, *S. fruticosum* (Roxb.) DC, *S. cumini* (L.) Skeels, *S. zeylanium* (L.) DC, *S. lanceolatum* (Lam). Wight and Arn. and *Eugenia uniflora* L. were raised in polybags and grafted at 30 cm height on the soft wood portion using clove scions from semi-mature shoots. The scions were enclosed in polybags and the grafted plants were protected from direct sunlight and watered regularly. Graft union was ascertained after observing the elongation of shoots and maturation of newly emerged leaves. Successful grafts were subsequently planted in pots and monitored for 2 years (Table 1).

The study indicated that the number of successful unions in various species is very poor indicating incompatibility barriers between clove and the related

species. Clove survived only on *S. heyneianum* rootstock after 2 years of observation and the survival percentage was only 3.6. The shoot growth of these plants were normal without any dwarfing effect. On other species of *Syzygium*, yellowing of leaves was observed akin to nitrogen deficiency before mortality. Other related species of *Syzygium* are being evaluated to identify an ideal rootstock for clove.

Table 1. Grafting of clove on related species

Species	No. grafted	No. initially successful	Survival after 2 years
<i>Syzygium cumini</i>	120	2	0
<i>S. fruticosum</i>	140	7	0
<i>S. lanceolatum</i>	10	0	0
<i>S. zeylanicum</i>	10	0	0
<i>S. heyneianum</i>	110	4	2
<i>Eugenia uniflora</i>	26	0	0

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