

Grafting

as an Aid to Growing Native Plants

by Steve Riefler

Over the years, the avid native plant enthusiast will inevitably find him/herself hopelessly enamored of certain subjects that will appear to be impossible to grow.

True scrub species almost always possess a high degree of susceptibility to root pathogens, succumbing to these on all but the deepest and driest of sandy soils. These very same species also make some of the finest of horticultural subjects. Most urban soils and flatwoods soils are inimical to the health of these species — plants such as *Persea humilis*, *Prunus geniculata*, *Quercus inopina*, *Pinus clausa*, *Ilex opaca* var. *arenicola*, *Ilex ambigua*, etc.

Despair not! Grafting is a technique that offers the means to grow these species on heavy soils as well as in nursery mixes, often increasing growth rates by 200% to 300% over self-rooted individuals. Moreover, selected clones may be grown in this way, such as spineless *Bumelia tenax*, or scrub holly of a deep green color rarely encountered in seedlings.

In the author's experimental home landscape, there are ten-foot scrub hollies grafted on *Ilex cassine* and pygmy fringe trees (*Chionanthus pygmaea*) grafted on pop ash (*Fraxinus caroliniana*) growing in a hardpan type of flatwoods soil.

Over the years I have developed criteria and methods for grafting difficult scrub species. Two factors appear to be important: The rootstock must be:

1. a normally strong-growing species that is native either to wetlands, flatwoods, or riverine floodplains.
2. compatible physiologically with the scrub species, capable of forming a strong enduring union.

Usually rootstocks should be of the same genus as the stock to be grafted (the scion). The rootstock species must not characteristically be capable of producing adventitious shoots upon roots or root fragments, as this will ultimately frustrate the integrity of the scion. Some genera such as titi (*Cyrilla*), twinberry stopper (*Myrcianthes*), and pawpaw (*Asimina*) are noxious in this regard. Others, such as elm (*Ulmus*) and haw (*Viburnum*) can produce adventitious shoots, but

these will be suppressed by a successful graft.

Sometimes I use seedlings as rootstocks (my preference); sometimes I use rooted cuttings (not preferred); sometimes I use 7.6-cm (3-inch) root fragments (the easiest, fastest way).

A home-grown technique.

Rootstocks are prepared by planting seedlings 4 cm (1.5 inch) high (so that the first bud is well above the soil line) in 6.4-cm (2½-inch) rose pots, and growing them for one season (or until fall or winter). Rootstocks 3 to 6 mm (0.1–0.2 inch) in diameter are suitable for accepting a graft.

A strong, 10-cm (4-inch) leafy slip of the scion is given a V-shaped base with a sharp knife or razorblade, and this is inserted into a vertical slit that has been placed in the rootstock be-

low the epicotyl (cotyledonary buds). This is then bound with a rubber band and placed in a wardian case (or under a white plastic bag, or even under an inverted Mason jar). Place the grafted rootstocks in their protective case in an area out of direct sunshine, such as on the north side of a wall, for six to eight weeks. They will then usually be sufficiently callused to remove them from the protective case and begin hardening; eventually these grafts should be placed in full sun.

When the scion begins active growth, the top of the rootstock should be pruned just below its first bud. After one season of growth in a 15-cm (6-inch) pot, these grafts will be ready to plant in the yard.

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