

um for another 4 to 6 weeks, after which time the remaining portion of the understock is removed. In this operation a clean sharp pruning shears is used, making a slanting cut of the understock down and away from the scion. Be careful not to cut the scion. Those grafts that have not callused sufficiently should be plunged again into the medium where they will remain until they do. Those grafts that have not taken and where the scion has deteriorated should be discarded.

## **SADDLE GRAFTING**

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I will discuss a type of grafting, called a saddle graft, which is not used as often as some other types, but is valuable in certain situations. In saddle grafting the scionwood should be soft enough so that one can cut into the center of the wood with little effort and without splitting or otherwise damaging it. The scion is held with the base pointing away from the grafter. A 1 in. long cut is made starting about  $\frac{1}{4}$  in. from the base and to the center of the scion. The scion is then turned over and an identical cut is made on the other side. The wedge of wood is removed. The rootstock is cut by making 1 in. long cuts on both sides of the top to form a wedge. The scion is placed tightly over the cuts on the rootstock and tied with a rubber band. If the union is to be waxed, grafting twine should first be used to tie the union.

The grafted plant is then placed in a poly chamber or grafting bench and buried with moist peat to above the union. Healing should be complete in 4 to 6 weeks. When the grafts are healed they are taken out of the chamber or bench, potted in growing medium, and set in the greenhouse where they are allowed to continue growing. In potting, the graft union should be left exposed.

Saddle grafting is more time consuming and, as a result, has decreased in popularity to the faster, more productive method of side veneer grafting.

Another technique I would like to discuss is the use of a poly bag chamber over the graft. The rootstock is decapitated at an angle at the desired height. Using the side veneer graft with the lip, the root is cut about  $1\frac{1}{4}$  in. down. The scion is then cut on both sides into a wedge. Cutting the scion into a

wedge shape will not leave a knob on the stem after the graft has healed and the plant has grown for a few years. Be sure the bark at the base of the scion does not separate from the wood. If it separates then make new cuts. Scions with the separated bark will not take. The union is then tied with a rubber grafting strip. It is advisable to leave a space between loops of the tie to allow for the callus to form between rootstock and scion. It is also advisable to keep the rubber strip above the base of the scion as it should not be covered.

After the graft is made and tied a ball of wet sphagnum moss, the size of a lemon, is tied to the rootstock 1 in. below the union. A plastic bag is then inflated and put over the scion and down below the sphagnum moss where it is tied with another rubber strip. This method is useful to the propagator who has limited greenhouse space. The grafted plants can be stood-up in the aisles of the greenhouse or at the ends where they are out of the way. No other care, except for watering, is needed until the grafts have healed.

### **SHIELD BUDDING**

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Shield or "T" budding is the most widely practiced form of detached scion grafting used in commercial propagation because it is easy to perform, fast, and effective. It is used for hybrid roses, fruit trees, and ornamentals such as dogwoods, lilacs, and shade trees.

The knife used for budding is rounded on the end of the blade, which facilitates making the cuts. In contrast a grafting knife is straight to the end and comes to a sharp point. Budding knives may have a folding or stationary blade and usually some form of an attachment to help "lift" the bark if necessary after the cuts are made. This attachment can be a thin piece of bone attached to the handle or an extra "bump" on the top of the blade. Whatever knife is chosen, it should be of good quality, light-weight and "feel good" in the hand of the user. A budding knife should be kept razor sharp at all times. A budder must take the time to learn how to sharpen his knife properly. This will help to insure good clean cuts that heal properly.