

# GRAFTING

## HUMBER NURSERIES 'GREEN THUMB GUIDE'



### **GRAFTING**

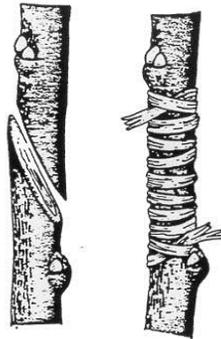
Grafting is a technique by which two parts of different plants are joined together (in particular, the cambium layers) in such a way that they will heal, seal and continue to grow as one plant. The cambium layer is a layer of live tissue right under the bark. Good tight contact is essential.

It must be remembered that only apple scions can be grafted onto apple understock or onto existing apple trees. Similarly, cherry, pear, beech or birch can only be grafted to the same kind of understock or trees.

The first requirement for proper grafting is a good sharp knife. A surgeon's scalpel or a razor type knife would work well. Be careful not to cut your fingers.

A scion is a short length of vigorous stem that has a least two plump healthy buds. Select the variety you wish to graft onto an existing tree or root stock. Scions may be available from a nursery, neighbour or orchardist. The thickness of a scion should be the same as that of a pencil.

Grafting out of doors is usually done in early spring as growth commences. The scions, however, should have been taken in winter when they are quite dormant. They are usually bunched together and kept in damp sand until needed.



*Above: splice or whip grafting - by far the simplest and most widely used grafting technique of all.*



*Above: whip and tongue grafting, a variant on simple whip grafting, ensures an even tighter fit of cambium to cambium.*

Scions vary in length according to the type of plant, but a common length is about 15 cm (6 in.). The stocks should be well established and sufficiently strong to sustain the grafted plant.

With most methods of grafting, it is necessary to tie the scion firmly to the stock and raffia is often used for this purpose. After tying, the union is usually sealed around with a wax or jelly to prevent the entry of water and to check drying out of the wounded tissues.

Grafting wax may be purchased ready for use, and some products may be used cold. Petroleum jelly is also used for sealing grafts and is fairly effective. Adhesive tape can also be used both as a tie and as a substitute for wax.

### **GRAFTING KNIVES**



Excellent pruning knife. Also ideal for grafting larger trees.



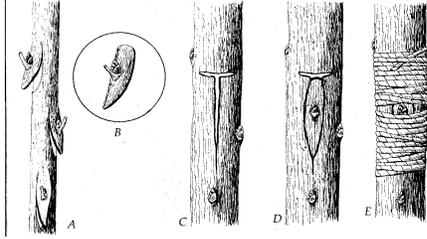
Rose budding knife with solid head.



Fine pruning knife. Excellent for bench grafting.

## BUDDING

Budding is simply a rather specialized form of grafting. The method shown here is known as 'shield' or 'T-budding'.

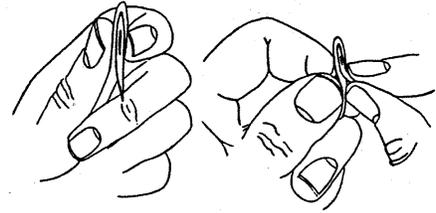


Although budding is usually regarded as a distinct method of propagation, it is really another form of grafting. Instead of being a length of stem being used as the scion, budding consists of grafting a piece of rind with bud attached onto another stem. The union takes place between the cambium layer attached to the piece of rind and the cambium layer of the stock.

Roses are the most important group of plants that are increased by budding, but it is also used in the propagation of fruit trees. Budding is generally done at the height of the growing season (early summer). This is because during these months the rind of most plants separates easily from the wood and makes the operation easier.

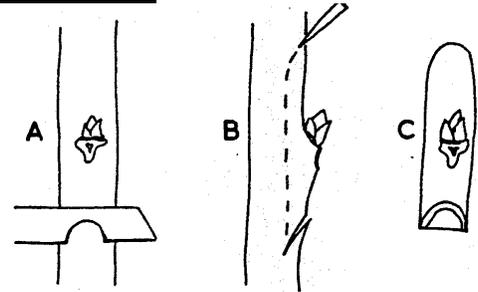
Young stems of the current year's growth provide the buds. After being severed, the stems should be protected from drying out. For this reason, dull moist weather is preferable for budding and the buds should be inserted in the stock immediately after they are isolated. Select plump buds from medium-sized stems and do not use those on the immature soft tips.

There is always a great deal of controversy as to whether or not the wood adhering to the rind should be pulled off. As a rule, it is better to do so because this allows improved cambial contact. In removing the wood, however, there is the risk of pulling out the base of the bud, which is a little green structure about the size of a pinhead. The attached leaf on a bud should be cut off so as to reduce transpiration to the minimum, but the leaf-stalk or petiole is allowed to remain and serve as a handle. The rind is carefully and cleanly loosened and lifted from the wood on either side of the incision on the stock. Into this, the little shield held by its tiny handle is slid down from the top. To complete the operation, bind the union firmly with raffia, leaving the bud uncovered. The binding prevents drying out and the entry of rain or insects.

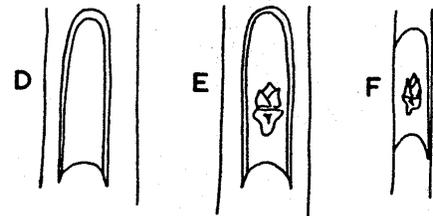


Removing the wood from the bud shield  
*The sliver of wood has begun to separate from the rind and the rind 'tail' is gripped to the base of the thumb by the second finger. The wood is held between finger and thumb, of the other hand, and flicked upwards from the shield.*

## CHIP BUDDING



A very old technique that is finding new favour and is preferred by some over T-Budding. A and B shows the stock being prepared. Portion C will be discarded.



A similar section with bud is cut from the chosen variety and fitted to the stock plant. Some operators prefer to cut the scion first and cut the stock plant to fit it.

A slight margin of the stock rind should be left visible. Very firm tying and waxing is important.

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