

18. Stanley, J. 1977. A survey of fruit and ornamental tree production in the United States of America. *Miscellaneous Pubn.*, Merrist Wood Agricultural College, Surrey, England. 63 pp.
19. Ward, S. 1978. Leyland clone propagation. *Ann. Rep. Horticultural Centre, Loughgall*, 16.
20. Welch, H.J. 1968. Dwarf conifers; a complete guide. 2nd ed. Faber and Faber, London, 334 pp.
21. Whalley, D.N. and Randall, R.E. 1976. Temperature control in the rooting medium during propagation. *Ann. appl. Biol.* 83:305-309.

PROPAGATION OF *PRUNUS TENELLA* 'FIREHILL'

J.S. WATKINS

Wyevale Nurseries
King's Avenue
Herts, England

The attempts to propagate *Prunus tenella* 'Firehill' by layering and by softwood cuttings in the internal mist unit were failures, mainly because we could not get even the small percentage that rooted to grow on to become saleable plants. I will not tell you how many years we had been trying, but will only go back to 5 years ago when the winter bareroot wax-dipped bench grafting programme was started and *P.* 'Firehill' was one of the subjects tried.

The first problem, and a major one, was trying to find any suitable material for scions. However, by some means or other, about 100 scions were grafted with a take of 20 to 25%. These plants were potted and the subsequent growth was quite good thanks mainly to the understock. It was decided to try budding that summer and strange to relate the success rate was similar, a take of around 25%, and again the growth response the following year was very good. Now we have solved the problem of good quality material for grafting and budding and the routine procedure of using the strong growth from field-budded plants for the winter grafting has established itself. The one thing I must point out is that each year has produced better results and field budding takes are now 90 to 95% and the winter grafting takes 80 to 90%.

To summarize: to be successful with any propagation programme one must, and I cannot emphasize this point too strongly, have the very best quality material to work with.

I am sure some of you must be asking why bud and graft? Well, the answer is this: the budded plants are for sale in winter for bare-root planting some 15 to 18 months after budding. The winter-grafted plants are potted the spring following graft-

ing and by late summer, after hardening off, are ready for sale to garden centres and, of course, are available for the following summer, if we have not sold them all by then.

Now perhaps I can try to explain the method adopted at Wyevale for grafting. The understock we use is Myrobalan B and is lifted from the cutting bed any time from early November until mid-March and held in cold store until required for grafting. The scion material is cut sometime from mid-December to early January, and again held in cold store until required.

The grafting operation takes place any time from mid-January to mid-March. The type of graft used is one that I can only describe as a modified whip, but I would be very grateful if anyone could give me the correct definition. The understock is prepared, just prior to grafting, by nursery staff (I do not like the term unskilled) by cutting the head off to leave a short stem 3" to 4" (2 to 2½cm) and also the root system is trimmed, as this makes it much easier when the plant has to be potted.

At this stage the skilled grafter takes over, and he (or she), trims the top of the stock to leave a slightly sloping cut. The next stage is to make a cut ¾" to 1" long from the highest point of the stock and deep enough to reveal the cambium layer. This now leaves the stock with what I can only call a flap of bark.

Next the scion of 4" to 6" long (10 to 15cm) is selected to match the width of cut on the understock. The top of the scion is trimmed to a bud if it is found to be necessary.

The next cut is made at the base of the scion to match the ¾" to 1" cut on the stock. A second cut is made on the opposite side of base of scion, but not quite so long, and finally a third cut is made at the base of the second cut to form a short wedge shape. This is where the crunch comes: if all the cuts have been correctly judged the scion should now fit snugly into the cuts *on the stock without any cut surfaces showing*. The scion is securely tied in position with cotton or rubber elastic ties. The completed graft is now handed over to the waxing operator who, using the low melting point candle wax, makes sure that the whole of the scion and union are completely waxed by either dipping scion and union into the wax or by painting the wax on with a brush. When the wax has hardened, the roots and stem up to the waxed portion are dipped in a Benlate solution at normal spraying strength. Now the grafted plants are packed into pallet crates and put into cold store where they are checked weekly and sprayed with Benlate solution.

The grafts remain in cold store until early April when they are potted into 7" black poly pots (4 litre size) either by machine or hand. The potted grafts are then stood down, pot thick in poly houses or a greenhouse and grown off until late summer

when they are taken outside and hardened off, ready for early autumn sales or for sale the following late spring or early summer.

During the growing period in polyhouses they are checked over and any unsuccessful ones are removed. If necessary they are caned and tied, but this is not usually needed with 'Firehill'.

Finally, I can only put forward the following reasons for the success of this operation: these are, the waxing technique, holding in cold store for 6 to 10 week period and, once again, to emphasize the importance of using the highest quality scion material.

PROPAGATION OF *CORYLOPSIS*

CHRISTOPHER K.A. VERSTAGE

T. Hilling & Co. Ltd. Chobham, Surrey

Corylopsis is a member of the family Hamamelidaceae, cuttings of which, as a family, are difficult to root and hard to get through their first winter. *Corylopsis* is a genus that has high ornamental value at a time of the year when there is little else in the way of flowering plants available in the garden.

There are various means available to the propagator, e.g. seed, layering, and cuttings.

Seed. This is not a commercial method, as good seed is not easily obtained and does tend to have double dormancy.

Layering. This has been the standard practice for producing plants up until recent times when cuttings have taken over as the best method.

Stock plants are lined out about 2 m apart each way, the beds are top dressed with waste cutting compost, which is worked into the soil to give a good medium for the layers to root into. A shoot from the stock plant is pulled down and pegged into the soil surface; where the stem is bent into the ground the stem is wounded to help in the rooting of the layer. The tip of the stem is placed in a vertical position and staked if required. The bend is covered with soil; this is then left until the following year when it should be well established. It is then severed from the parent plant and containerized and then grown on for 1 to 2 years before being sold.

Cuttings.

Material. This should be obtained from good young plants