healing process of the wound may have started immediately. The end result may have been quite different if decay had not set in.

CONCLUSIONS

The hydrovac being only a prototype needs many modifications before the vacuum theory can be proved one way or the other.

A dimmer switch may be needed to reduce light levels, which possibly would reduce leaf drop.

The shelves need to be reinforced to prevent buckling under vacuum which caused ponding of the nutrient solution and led to root decay.

A glass panel is required in the door so the cuttings can be observed at any time.

The door needs to be modified, as it is attached by 6 wingnuts making it awkward to replace and obtain an effective seal. This may be achieved by something similar to a coolroom door for ease of operation.

The limited results from the first trial are not a fair indication of whether the vacuum does encourage root initiation or not. What is clear is that roots were produced much quicker in the hydrovac, than in conventional propagation houses. There is sufficient encouragement from these preliminary results to continue testing the vacuum theory.

PROPAGATION OF *PIERIS JAPONICA*

ED AND GWEN ARTLETT

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We have a small, cold climate nursery about 820 metres above sea level. We have developed a method of producing a reliable crop of *Pieris japonica* which has proved to be very successful.

It is essential to have healthy stock plants, as the percentage strike falls if the stock plants are neglected. Cuttings are taken in late summer or early fall (February and March and even in April), but the percentage strike falls if the outside temperature drops below 20°C.

Tip cuttings are collected in the early morning. Cuttings of a uniform length are taken for each cultivar (an abundance of stock material is required to do this). The cuttings are treated

with a basal dip of liquid IBA at 5000 ppm for 5 sec. Cuttings are not wounded and only sufficient basal leaves are removed to allow the cuttings to be inserted into the propagating medium.

The cuttings are placed in Growool propagating sheets, size PB 25-40. Three sheets are placed in a standard punnet tray holding 108 cuttings. The trays of cuttings are placed on a sand bed in the polyhouse. The trays have large square holes and this allows good capillary contact with the Growool, which is essential, as well as providing good drainage.

No mist is used and bottom heat is used only when the temperature falls below 25°C. Roots appear in about four weeks. The bottom heat is kept on until there is good root development. In mid-winter (mid-June to early July), the bottom heat is turned off, and the cuttings are hardened off. They are moved to a bushhouse, still keeping the trays on a sand bed to enable good contact with the Growool.

In early spring (September) the cuttings are potted up into 125 mm pots and are ready for sale by autumn (March) of the following year. Plants in 200 mm pots take about 2 years.

The potting mix used is a sand/peat mix with Nutricote 40-day slow-release fertiliser, dolomite lime, and FTE 36 fertilisers added. Liquid fertiliser is also used.

Table 1. Percentage strike achieved for six *Pieris* cultivars using Growool as a rooting medium.

Pieris japonica	85%
P. j. 'Christmas Cheer'	95
P. j. 'Variegatia Nana'	95
P. j. 'Foresti'	80
P. j. 'Bert Chandler'	90
P. j. 'Florabunda'	90

Results have improved dramatically since we began to use Growool. Its use has cut production costs, because previously cuttings were struck in community trays, time was taken to break out the roots, and plants were very much slower to pot up. Growool is much quicker on the potting machine and transplant shock has been reduced.