e.g. *P. barbigera*, seldom exceed 70%. Most types of leucadendron root 90 to 100% and leucospermum approximately 70%.

For the future I feel that if a suitable soil type could be found these plants could be grown from cuttings placed directly into the nursery row through polythene. The obvious advantages of this would be the time and labour saved plus the bonus of having saleable plants in 12-18 months.

A POSSIBLE MEANS OF ATTAINING AND MAINTAINING VIRUS-FREE DAPHNE ODORA CULTIVARS WITHIN SIMPLE NURSERY PRACTICE

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We have grown daphne for many years but it wasn't until fairly recently that Dr. Ken Milne from Massey University pointed out that our plants were virtually virus-free. Dr. Milne has been working on the incidence of viruses on daphne in New Zealand and has collected samples from a wide source.

I knew our stock looked quite clean but thought the presence of viruses, e.g. cucumber mosaic were masked. We have no leaf drop in the propagation pit at all; leaf drop is quite apparent in virus-infected plants. Similarly, saleable infected plants tend to drop leaves shortly after being balled-up — here again we have no problems. How we achieved such clean stock is a bit of a puzzle but I have a few thoughts on the matter which I would like to expound.

Rogueing and burning of any plants immediately any visible signs of virus occur is important and we have been quite meticulous about this over the last ten years, now finding only 20 to 30 infected plants in a batch of 5,000. Control of aphids is of utmost importance and this also means weed control.

Propagation of daphne cuttings at high temperatures is reputed to kill the virus. We achieve this by propagating in the pit, closed down under polythene. The fact that viruses are eliminated seems to be borne out; how else could we have started originally with virus infected stock and ended up with relatively clean material?

I feel that our fertiliser programme assists in keeping the stock clean so we commence fertilization immediately the cuttings are rooted and tubed up. The phosphate and Uramite added at this stage produce healthy dark green plants which are planted out in

the spring through polythene. I wonder if the heat absorbed by the polythene continues the "killing" process of the virus. Certainly the plants produced are far superior to those planted without polythene. The fertiliser used prior to planting depends on the soil pH. Mine is about 5.5 which is fairly high. I add a little superphosphate and a lot of poultry manure because I feel the ammonia in this does something to keep the virus in abeyance. The lime in the poultry manure doesn't seem to affect the plants. If necessary we add side dressings of fertilizer — either dried blood or sulphate of ammonia, or something similar, to supply nitrogen.

G. SMITH - You didn't say whether cuttings are made of the soft tips or firmer wood.

O. GIBSON - No, because we have no misting. Soft tips tend to flag in the hot pit and, although they produce better shaped plants, we use stem cuttings 2 or 3 down the stem.

P. BATES - When are the cuttings taken?

O.GIBSON - It depends on the firmness of the wood. Mid-summer seems to be the best time under our conditions.

DR. COHEN - I would like to add a word of caution about the words "virus free". There are at least 8 viruses detected in daphne in N.Z. and relatively clean material still has virus present. The point that Mr. Gibson made is that if he doesn't look after the material it begins to show signs of infection; this is indicative that virus is present.