PROPAGATION OF DIFFICULT PLANTS

JEAN WHALLEY
Whalley Nursery
Troutdale, Oregon

I will remind you of some rules to follow in dealing with hard-to-root plants.

First — Study your subject. It may take several years of observation before you know the peculiarities of the plant in question. (Unless you are lucky enough to hear about it at a Plant Propagators' Society Meeting, that is.) The parent plant may need to have special care, perhaps more or less water than most, more or less fertilizer, shade or sun.

We have trouble in the Northwest in rooting *Juniperus torulosa* (Hollywood Juniper.) It seems the only way we can get it to root is by putting it in and after it has callused, take it out, remove the callus, redip with hormone, after which it roots quite well. Of course, this is not very practical. I've been told that cuttings which are very small and soft will root readily, but ours merely rotted. Bruce Briggs told me he had had the very same trouble, but when he took cuttings from some plants he got from California they rooted "like crazy". I believe this means the parent plants were in the right condition for the cuttings to root. Perhaps this year ours will do better, as we have had so much more sunshine than usual.

Daphne cneorum is quite difficult to root. However we learned some years ago that if we took cuttings from more or less neglected parent plants, where the cuttings were small and hard they do very well. Our books had told us that cuttings from plants brought into the greenhouse and forced into lush growth rooted well — but they didn't for us!

That brings up another important point — environment. Every propagator will tell you to find the way that is best for you in your own environment and not to change because someone else does it differently. I know people who *do* root soft lush cuttings of *Daphne cneorum*, but ours do best treated as I have said, and we have also learned to keep them away from the mist — just water when the sand starts to dry out and try not to drench the foliage.

Timing may be very important. In Rhododendrons, for example, some varieties like to be put in early, others do better when stuck quite late in the season. If I'm working with a hard-to-root variety and find a date when it does well I try to put it in on that date every year. Sometimes a difference of two weeks or even less will be the difference between success or failure. In Rhododendrons, too, some need more misting than others. Unique and Bowbells have rather cupped leaves which hold the water; Blue Peter has a soft texture which also keeps moist, but Jean Marie looks dry as soon as the mist is off of it.

We used to have trouble rooting *Thuja aurea nana* (Berckman's Arborvitae) when we put it in in the winter with our

other narrow-leafed evergreens. One year we put it in in early March and had great success, so now we always put the cuttings in then and they root almost 100%.

Some cuttings just take *longer* to root than others of the same genus. This year we have reserved one bed for slow and hard to root varieties of Rhododendrons, so that we can leave them all on the heat for a longer period of time instead of taking out cuttings here and there as they root and wasting our electricity in the empty part of the bed.

Of course sometimes success or failure comes as a surprise, when you think you've done exactly as usual. For example we've tried Britannia Rhododendrons just about every month in the year, with different hormones, straight sand, mixtures of sand and peat, etc., with very little success. However, last year we gave them one more try with our own cuttings and, as usual, some of our optimistic customers brought us cuttings to root. They all did fine — ours rooted 90% or better. We don't know why, although we do know that last summer was very cool and rainy and perhaps that put the parent plants in better condition than usual for good cuttings of that particular variety.

On the other hand, Susan, which is a very difficult-to-root rhododendron, did quite well for us year before last and didn't root at all last year.

Last year a customer brought us cuttings to root of tall, second-year growth holly with berries already developed on them. We were very dubious about taking them, but they rooted beautifully. This year the same kind of cuttings look quite poor. Last year, as I have said, we had a cool rainy summer and this summer was hot and dry. These people don't irrigate their holly orchard, so the parent plants apparently were not in the right condition to take cuttings. Also they were just loaded with berries, which of course had used up a lot of strength; then — to top it off — they brought them a week later. So in this case it could be a matter of the parent plants being in poor condition and possibly the timing was a little off also.

In closing, I would like to mention an experiment we have run with Jiffy Grow. Mr. Jackson, the representative of Jiffy Grow, told me about the carnation growers putting their cuttings in with no hormone, then sprinkling over the bed with the Jiffy Grow. We tried a small plot of Rhododendron cuttings this way. He said the carnation growers did this to avoid contamination from one cutting to another as they were dipped in the same solution, also to save time in dipping, as it would be quicker to spray over the whole bed than to dip each cutting. However, we are finding that the small plot which we sprinkled after planting is rooting much faster than the same variety dipped in the usual way. Bruce Briggs tried sprinkling some *Daphne odora* cuttings with the Jiffy Grow solution some time after planting and is finding it is also root-

ing much better than the rest of the same cuttings, which he did not sprinkle. I believe these cuttings had been dipped in his usual hormone when they were planted. About two weeks ago we sprinkled the holly bed I mentioned with the Jiffy Grow solution and are now hoping it will work as it did for Bruce with his Daphne. We had dipped them previously when planted about a month before. I'll let you know later if this turns out as we hope.

Finally, lest we grow conceited, each one of us should remember what Paul wrote — "I planted, Apollo watered, but God gave the growth."

Thank you.

MODERATOR CURTIS: I do not believe our next gentleman on the program has need for a lengthy introduction. He is head propagator for Oki Nursery, Sacramento, California; he was one of those that did so much work to help make our program last year such a great success at Sacramento. Mr. Ed Kubo:

PROPAGATION OF XYLOSMA CONGESTUM

ED KUBO
Oki Nursery, Inc.
Sacramento, California

Defoliation of *Xylosma congestum* during the rooting and liner stage is of great concern to most propagators. Defoliated *Xylosma* cuttings or liners, regardless of rooting, will not grow.

We, at Oki Nursery, have tried to determine how to prevent defoliation. Hormone applications of different concentrations have been used — for example, 650 ppm to 10,000 ppm of indolebutyric acid. We have tried interval misting and no misting, and collecting cuttings from new and old wood at different times of the year. Different ingredients for liner soil mix, rooting medium and variable temperatures and humidity have also been tried.

For the present time, with our experience, we have come to the following conclusions:

Time of Taking Cuttings: We have found that the time of year cuttings are taken has a great effect on the amount of foliage drop. In our area we have found the best time to take cuttings is from August through the middle of October.

Type of Wood: The first and second cuttings, below the tip, are the best cuttings to take. The older the wood, the greater the problem of defoliation.

Rooting Medium and Rooting Hormone: For the rooting medium we use 25% sphagnum peat moss and 75% perlite. We have found 5,000 ppm of IBA in 50% alcohol to be best for rooting of *Xylosma congestum*.

Misting and Hardening Off: Interval misting is required in rooting of *Xylosma* with bottom heat of 70° F. After the