

**SOME PROPAGATION TECHNIQUES
OF RHODODENDRONS AT A NURSERY
IN THE UNITED STATES ¹**

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Propagation time. About 50,000 to 60,000 rhododendron cuttings are taken each year from August through November with October usually as the ideal month. (Of course this can vary with different years).

The cuttings are taken in bulk early in the morning when they are fairly turgid. These are then brought in and dipped in a solution of Benlate (3 oz/50 gallons water). This washes and cleans the cuttings. They are then drained, labelled, and stored under polythene sheeting to keep them fresh and turgid.

These cuttings are taken from healthy, well grown stock plants, which are grown in a wooded area; they are of current year's growth, with thin growth being preferred to thick

Preparing the cuttings.

- (a) Cuttings are approximately 4 in. long.
- (b) The lower leaves are removed leaving 4 or more leaves at the top of the cutting.
- (c) A heavy wound is given on both sides of the cutting, approximately 1½ in in length.
- (d) The terminal bud is removed.
- (e) Large leaves are trimmed by half.
- (f) The cuttings are dipped in a powder hormone. (Mr. Wells has his own mixes and adds Benlate to all of them. He has found that using Benlate increases rooting and cuts down on cutting decay in the mist.) Easy rooting varieties respond to IBA at 0.8%; more difficult ones may need 2% IBA.

Sticking the cuttings. Cuttings are stuck in a mist bench which has a medium of peat, perlite, 1:1, to a depth of 6 inches. The mist is worked on a time basis, coming on 12 seconds every 5 minutes and is controlled through a weaner unit. This is very important because you are able to alter the length of time between mistings and thus control the amount of water applied to the cutting. This may not be so critical with rhododendrons but with deciduous azaleas it is very

(Ed. Note)

¹This account was given by a young man who, after completing his technical training at the Pershore College of Horticulture, spent 15 months working at James S. Wells' Nursery, Red Bank, New Jersey, U.S.A. engaged in the wholesale production of rhododendrons and azaleas

critical because too much water will leach the nutrients out of the leaves. This can, and usually does slow down rooting — in fact, rooting has been known to stop.

The temperature of the medium is kept at 70° F; the air temperature is controlled by shading and ventilation. The cuttings are stuck in a bench 1 in. x 2 in., or 2 in. x 2 in., depending on the size of the cutting. The cuttings are given this spacing to give good air circulation and help to control decay in the mist. They are watered in with Benlate and Truban solution — 3 oz. of each per 50 gallons of water; this also helps to control cutting decay and *Phytophthora* development, both of which are serious problems in the U S A. because of the high summer temperatures.

Growing. The propagation house is covered with lath shades to protect the cuttings from the bright sun rays. The cuttings usually root in 8 to 12 weeks then are lifted and prepared either for containers or for open land production. Some are canned in 1 gallon cans (potted into 5 in pots), using a medium of 80% peat, 20% grit ($\frac{1}{8}$ in) These plants are then stood on gravel in a polythene house and watered in with Benlate. The houses have heaters and when the temperature drops below 45° F they automatically cut in and heat the house.

These plants are only watered when they need it. We found that the plants rooted better and were more sturdy if the medium was kept barely moist. Once growth commences in the spring, the plants will be fed every time they are watered, using NPK (20-20-20). The fertilising is worked out by experts taking analysis of the medium, then the correct fertiliser requirements are injected into the watering system.

The plants are pruned during the following 6 months so they make bushy, sturdy plants. They will then be sold in the following autumn as one-year rhododendrons in gallon cans (one-year rhododendrons in 5 in pots), which seems to be getting very popular with the American retailer.

The rest of the rooted cuttings (at least 40,000) are lifted and flatted (put in boxes) into 3 parts peat and 1 part perlite, 28 per flat, 7 rows of 4 cuttings. The flats are then stood on gravel in a polythene house and watered in with Benlate and Truban. They get the same treatment as the cuttings in cans until May; then they are lifted and separated out of the flats and planted outside into beds 6 ft. wide and 150 ft. long, each bed containing approximately 1,200 plants.

The beds will have already been fumigated with Vapam a few weeks before, then rotavated and marked out, so that the cuttings can be planted by hand. The cuttings are watered in by irrigation and shaded right after planting.

The red rhododendrons cuttings are flatted and put into a different polythene house because they are stood on gravel under artificial lights to force them into growth. These are given this special treatment because the Reds are slower to commence growth and will make smaller plants unless boosted in this way. They sell 50% reds and 50% all other varieties. The reds are treated the same as the others except for the artificial lights.

Red varieties: 'America'
'Nova Zembla'
'Besse Howells'

Other varieties:

'Catalode'	'Maximum Roseum'
'Catawbiense Boursault'	'Purpureum Elegans'
'Catawbiense Grandiflorum'	'Roseum Elegans'
'Chionoides'	'Roseum Pink'
'English Roseum'	'Roseum Superbum'

The spacing of the cuttings in the bed varies from 6 in. x 6 in. to 6 in. x 8 in. The spacing, of course, depends on the vigour of each variety; vigorous varieties such as 'Maximum Roseum' need bigger spacing. They will stay in these beds until they are sold as 2-year plants — size range 10 to 12 in. and up to 12 to 15 in. This means the plant is 10 to 12 in across and 10 to 12 in. high.

All plants that are sold are lifted, labelled, burlapped, and put on pallets ready to be loaded into a truck (lorry) and shipped to their destination. The plants that are not sold, if any, are either transplanted and sold the following year as a bigger size, or canned (potted) in peck baskets, and sold as canned (potted) stock the following year.

This is the main way of propagating rhododendrons in the nursery, but Mr Wells has also been experimenting with rooting them straight into pint cans (3 inch pots) under an open air mist system with a medium of peat — perlite, 1:1, and he has been very successful with this. He thinks that by this method he will get larger and sturdier plants because the plant does not get such a check when being lifted out of the mist bench.

The cuttings were taken about a month earlier than the first batch, i.e. early July, and given the same treatment, except for being canned (potted) instead of being stuck in the mist bed.