

SOME ASPECTS OF RHODODENDRON PROPAGATION

A. J. TEESE

*Yamina Rare Plants, Moores Road, Monbulk
Victoria*

“Rhododendrons cannot be grown from cuttings with the exception of *R. fragrantissimum*.” This statement was commonly quoted in books and gardening journals prior to 1940. It is difficult to understand why many of the smaller types were not generally propagated from cuttings prior to this time but it would seem that the discovery of “hormones” (more correctly, synthetic auxin stimulants for root production) really started commercial production by cuttings. Rimingtons, the well-known nursery firm in Victoria had some success with heat treatments and plant preparation techniques prior to the use of hormones, using bell jars. Olover Streeton (son of famed artist Sir Arthur Streeton) was one of the early experimenters with hormones.

The genus *Rhododendron* is divided into 43 series — Excluding the Malesian group — 22 of the series are “Lepidote” (with scales). *Azalea* is one of the “Elepidote” series. There are approximately 900 species. For the purposes of this paper we will discuss only the elepidote hybrids, e.g. Alice, Pink Pearl, etc. Komissirov in his compilation of the rooting history of 250,000 cuttings of 200 different genera summed up by saying, “There is no optimum condition or treatment which applies to more than one alone.” This applies particularly to rhododendrons, as so many species are involved in their breeding and the genus is generally so variable.

To Mist or not to Mist. My first experience with commercial rhododendron propagation in quantity was in a “window lite” covered house with frames covered with the same material. A unique method of heating was used. A cement water bath about three inches deep with 3” x 1½” timber spaced approximately 1” apart was placed across the tank about one inch above the water.

Over the timber was a sheet of hessian and then some 4” of sawdust. In this sawdust 5” clay pots were sunk to their rims in which the cuttings were placed. The water was heated by a coke boiler by thermal syphon. Later the boiler was replaced by, firstly, an automatic briquette, and then by an oil burner. As there was variable temperature at each end of the frame by the thermal syphon method, a thermostatically controlled pump was installed and a ½” copper pipe laid in the water to heat by heat exchange. This is the method we mostly use to this day.

In the meantime an electrically heated bench and one bench with a mist system were installed. After a number of years with the different systems; operating results indicate that rising steam gives us, overall, better results than either mist or electric heat-

ing. Electric heating is too expensive in our area. There is less leaf drop under mist but generally slower rooting; control of disease is a little more difficult under the highly humid conditions of the water bath. A certain amount of airing by opening the frames for an hour or more each day in cool weather helps considerably — even more than fungicidal sprays.

Hormones and Chemicals. After attempts with everything from acetic acid to 2,4,5-alpha propionic acid, etc. to finally indole-butyric acid, and with many complete kills, it was finally found that IBA in various strengths, from 0.25% to 2%, in talc gave us the best results. In the process of experimenting, it was found that the softness of the cutting had little to do with the strength of hormone required, but the cultivar does. Jelly-soft cuttings of deciduous azaleas, for instance, could take a higher hormone concentration than many quite hard-wooded rhododendrons.

In recent years a number of fungicides have been added to hormones on the recommendation of American scientists. I have tried Phygon and Benlate — also minute quantities of boric acid — as an aid to hormone effectiveness, and combinations of these, but must say that in the most cases, while keeping leaf drop and basal decay down a little, have found a tendency to promote larger callus and slower rooting. The ultimate percentage may be similar but, on the average, rooting took at least one month longer. One interesting point was that stronger hormones with fungicides gave the best results — perhaps suggesting that one could double the hormone strength where fungicides were used to offset the inhibitory effects of the fungicide. Overhead spraying with Brassicol Super did not seem to detrimentally affect rooting time. This subject obviously needs further experimentation.

Tip Cutting Method: Juvenility is an interesting subject. It has been proved that cuttings from the tips of one-year-old seedlings strike quite readily but rooting drops dramatically in older plants. No valid reason is forthcoming as yet. One of our amateur rhododendron growers tried this method with rhododendron seedlings of the vinera section and found that tip cuttings of tiny, one-year-old rhododendron plants flowered in half the time normally required for seedlings. These cuttings were rooted in a few weeks in peat moss or sphagnum under glass and then exposed to 16 hour light. By this method, only half the time is required to prove a generation of breeding stock.

Grafting. Although grafting is regarded as an outmoded means of rhododendron propagation, it would seem unwise for propagators to lose the technique. Firstly, there are a number of rhododendrons still defying the best techniques to strike them

commercially from cuttings and, secondly, some do not thrive on their own roots in certain soils. There is another reason — the world-wide spread of *Phytophthora cinnamomi*. Some few rhododendrons seem to be immune to this disease and it may become necessary to use these species as stocks if we are to sell rhododendrons interstate or overseas in the future.

THE SELECTION OF AUSTRALIAN NATIVE PLANTS FOR CULTIVATION

R.J.E. DAVIDSON

*General Nurseries Pty. Ltd., Southport
Queensland*

With the gradual acceptance in the late 1950's and 1960's by the Australian community of the necessity of plant life for the community, it became obvious that for Queensland's sub-tropical and tropical conditions we could no longer rely on obtaining new plant material from the traditional temperate climate sources.

Some plants from colder climates — although we could produce them effectively as nurserymen — did not perform well in the State's gardens. We believed that either we introduce shrubs, trees, palms and ground covers to the public that would grow and thrive in the average person's garden, or continue to produce seasonally those species which flowered in containers but did not always grow well for the average gardener.

As we introduced indigenous species that gave satisfaction to the customer and could be planted from containers at any time of the year, the sales graph has changed. This has been achieved by the selection and introduction of selected forms of Australian flora which have been introduced from climatic conditions similar to ours.

From my experience over the years, I have put forward the following points as guidelines for selection of plant material:

1. **Make a study of ecology as well as the soils, weather conditions, and microclimates in your area.**
2. **A basic knowledge of botany is required to recognise species and families of plants.** Obtain as many botanical publications as possible, especially those dealing with local flora. In Queensland — "The Queensland Flora", by F. M. Bailey, published at the turn of the century, is a good one. "Australian Rain Forest Trees," by W. D. Frances, and "Key to the Eucalyptus", by Blakely, are helpful, as well as all publications from your local Botany Department. Study