

**PROPAGATION OF RHODODENDRONS AND
AZALEAS AT KINSEALY**

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Studies on production of hybrid rhododendrons from stem cuttings commenced at Kinsealy in 1968. On October 30th cuttings were taken from four-year-old stock plants of Dutch origin. These cuttings were from four to six inches long, and taken as far as possible from the underside of the plants. In preparation, only four leaves were left on the cuttings, which were wounded heavily on both sides at their base and treated with a proprietary hormone powder (0.8% IBA). The cuttings were then inserted in a rooting medium of two parts peatmoss and one part washed river sand, then placed under mist. The bottom temperature was 70-75°F. As controls, small numbers of cuttings of the cultivars used in the trial were left unwounded or received no hormone treatment.

There was no advantage in re-inserting cuttings after the initial lifting, as very few additional cuttings rooted, whilst the remainder quickly degraded. The new plantlets were then potted into four-inch clay pots in a pure peatmoss medium with a range of nutrients added, excepting lime. From early Janu-

Table 1. Rooting results obtained after nine weeks.

Cultivars	Medium*	Hormone	No cuttings inserted	No well rooted	No lightly rooted	No unrooted	Total rooted
'Gomer Waterer'	P	0.8% IBA	10	7	2	1	9
'Gomer Watererer'	2P 1S	0.8% IBA	5	0	2	3	2
'Cynthia'	P	0.8% IBA	8	4	3	1	7
'Cynthia'	2P 1S	0.8% IBA	5	5	0	0	5
'Hugo Koster'	P	0.8% IBA	10	6	3	1	9
'Hugo Koster'	2P 1S	0.8% IBA	5	3	2	0	5
'Purple Splendour'	P	None) 0.8% IBA)	16	0	0	16	0
'Purple Splendour'	2S 1S	None) 0.8% IBA)	16	11	4	1	15
'Purple Splendour'	2S 1S	None) 0.8% IBA)	16	0	0	16	0
'Purple Splendour'	2S 1S	None) 0.8% IBA)	16	7	2	7	9
'Doncaster'	P	0.8% IBA	5	0	2	3	2
'Doncaster'	2P 1S	0.8% IBA	5	4	1	0	5
'Blue Peter'	P	0.8% IBA	6	5	0	1	5
'Blue Peter'	2P 1S	0.8% IBA	5	3	1	1	4
'Prof. Zaayer'	P	0.8% IBA	11	6	0	5	6
'Prof. Zaayer'	2P 1S	0.8% IBA	5	0	2	3	2
'Britannia'	P	0.8% IBA	32	6	0	26	6
'Britannia'	2P 1S	0.8% IBA	32	0	0	32	0

*P — pure peatmoss

2P 1S — two parts peatmoss and one part washed river sand.

ary they were placed in a cold greenhouse, and kept watered as required. The survival rate was high and on April 20th, the plants were knocked out of the pots and planted into wood peat (pH 5.2) at the Peatland Experimental Station, Lullymore, Co. Kildare, as part of trials in progress there on nursery stock production on basin peat.

The plants were slow to break dormancy, and whilst still quite healthy it was not until mid-June that the buds began to grow. These plants are now growing quite strongly and with good cultural care should be saleable in two years.

The rooting of hybrid azaleas (Exbury and Mollis) commenced at Kinsealy in April, 1967. In that month and during May and June, the cultivars 'Balzac' and 'Honeysuckle' were tested for rooting in different composts and at different times. The cuttings used were from the apical portion of the stems, cut closely to the main stem so as to include a small piece of semi-mature tissue. All cuttings were treated with proprietary hormone powder (0.4% IBA) and inserted in four different media; i.e. pure peatmoss, two parts peatmoss and one part sand, two parts sand and one part peatmoss, and pure sand. 'Balzac' proved difficult to root (15 - 20%) even after three months under mist. 'Honeysuckle' showed high rooting percentages (85 - 95%) in two months. The best overall medium was pure peatmoss.

In 1968, nine cultivars of deciduous azalea were tested for rooting. Peatmoss alone was again the best overall medium, but two parts peatmoss and one part sand gave faster rooting. These cuttings were inserted on June 5th and lifted nine weeks later. Those cuttings unrooted were re-inserted for a further month. 'Berry Rose' (12 cuttings), 'Golden Girl' and 'Ballarina' gave comparatively poor results (50%, or fewer, rooted). 'Strawberry Ice', 'Klondyke' and 'Cecile' were intermediate (62-66% rooted). 'Gibraltar', 'Kathleen' and 'Gold Dust' rooted well (87-100%). 'Gibraltar' was notable for vigorous rooting. Cuttings of 'Strawberry Ice' and 'Cecile' inserted earlier gave poorer results (24% and 35%, respectively) but 'Klondyke' and 'Kathleen' responded well (75% and 87% rooted).

In the present season a trial is proceeding to establish the rooting times of the above nine cultivars. Two plants of each of the cultivars were:—

1. Brought into a glasshouse on April 8th and forced at 75-80°F.
2. Covered with polythene on April 8th for forcing in their outdoor beds.
3. Allowed to produce cuttings under natural conditions.

The aim of this experiment is to assess earliness of cuttings produced from each treatment consistent with high rooting percentages and thus establish the best forcing treatment for mother plants. It is our belief that the earlier cuttings can be taken, the faster the rooting, thus allowing several months for the first year's development of the plantlets. Over-winter-

ing will also be assessed, as in trials in the preceding season some losses occurred in plantlets that developed flower buds after rooting and allowed to carry these into the winter.

The cuttings in the trial are being rooted in a mist unit, with bottom heat of 70-75°F. The medium used is two parts peatmoss and one part sand. The stock plants seem capable of yielding a large number of cuttings, and in the case of 'Gold Dust' the two bushes (four years old) gave up to 300 cuttings, whether forced under glass, polythene, or allowed to develop naturally. Cuttings were ready for collection by April 17th from bushes forced under glass, two weeks earlier than those forced under plastic which, in turn, were two weeks earlier than those allowed to develop naturally. The advantages of being able to take cuttings early is evident at the time of writing, as these are now growing strongly in the frames, whilst the later cuttings — still unrooted — show signs of deterioration in the propagation bench. In addition, the latter will have little time to grow on before they go into dormancy and leaf drop commences.

Some cultivars, e.g. 'Honeysuckle', 'Klondyke' and 'Balzac' do not appear to form flower buds during the summer after rooting and hence are not difficult to overwinter without special measures. At this stage in our trials an objective is to distinguish such cultivars from the more difficult kinds which will receive more detailed studies.

G. K. ARGLES: All plants need calcium. Is there sufficient in the peat?

JAMES KELLY: It may be necessary to add some at a later stage.

JAMES WELLS: Our medium consists of equal parts of peat and perlite. We find that a deep wound is advantageous and dibbling is unnecessary. The cuttings are distributed over the benches and struck in rapidly by hand. We have never limed the medium though it is worth thinking about. Perhaps gypsum would be best as this material is very effective on some stock plants. Excess mist is very harmful and this season we have had terrible weather conditions in New Jersey with many plants decaying in the lath houses. In my experience the calibre and vigour of the stock plant is perhaps the most important factor for success and the cuttings taken from the top of the plant are usually best.