

In conclusion, it is possible to root rhododendrons successfully over an extended period of time and doing so may allow you to use your labor and facilities more efficiently.

MODERATOR ZONDAG: One paper has been added to our program this afternoon and is entitled, "Observations on the Rooting of Rhododendrons", by Arie Radder.

## **OBSERVATIONS ON THE ROOTING OF RHODENDRONS**

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At Imperial Nurseries we have switched from field growing of rhododendrons to 100% container growing. In our Connecticut winter climate we have to protect the containers; this is done by placing them in plastic hoop houses where we stack them together in November and leave them under plastic protection until the end of March.

About the third week of March we start to remove the plants from the hoop houses and space them on black plastic in the growing area so that we can put some good growth on them without any further spacing during the season. At the same time we will shape up all the plants to obtain compact, full rhododendrons. In the past we threw the clippings on the compost heap, but I noticed that there was a considerable amount of nice propagating wood among the clippings so we decided to try to root them. We had space open in our propagating houses and on April 4, 1973 we placed cuttings of four cultivars of rhododendrons in our cutting benches. The rooting medium consisted of 60% Canadian peatmoss and 40% coarse horticultural grade perlite.

On April 10, 1973 we stuck 2500 'Nova Zembla', 2200 'Catawbiense Boursault', 500 'Catawbiense Album' and 150 'Roseum Elegans'. The cuttings were treated with 2% IBA in talc with 12-1/2% Dichlone active and 50 ppm boric acid added. Additional dates and treatments were as follows:

- 4/10/73 Immediately after insertion all material was drenched with a solution of 8 oz Dexon and 6 oz Benlate per 100 gal of water.
- 4/20/73 Cuttings were sprayed with Dithane M 45, 2lb/100 gal.
- 5/8/73 Repeat of Dexon and Benlate drench.
- 5/15/73 Repeated Dithane spray.

- 5/27/73 All cuttings were sprayed with a solution of 12 oz Captan WP and 1 pt of 20% Malathion per 100 gal.  
 6/18/73 Repeated Dithane spray.  
 7/2/73 Repeated Dexon-Benlate drench.

Temperature of the rooting medium was maintained at 67°F during the first 2 weeks and raised to 70°F afterwards. The intermittent mist was operated from 9:30 a.m. to 4:30 p.m. except on cloudy days when we misted manually about 2 sec every hour.

Root initiation was observed after about 3 weeks. Plants were lifted and potted on July 16, 1973. (They could have been lifted earlier but because of other priorities they were not). The results were as follows:

Variety	No. stuck	No. rooted	Percent rooted
'Nova Zembla'	2500	1740	70
'Catawbiense Boursault'	2200	2100	96
'Catawbiense Album'	500	420	84
'Roseum Elegans'	150	120	80

Very few of the unrooted cuttings had died, so most were re-stuck, rooted and potted up. We found these results quite gratifying and intend to repeat the tests in 1974 with greater quantities and all varieties that we have in cultivation.

#### ROOTING UNDER MIST IN OUTDOOR BEDS

We have several outdoor mistbeds which were originally tobacco seedbeds. They are 6 ft wide and 100 ft long with ends and sides made of 2 x 12" planks set on edge. On both sides and about 3 inches below the top of the plank runs a 1 inch galvanized waterpipe with small nozzles 3 ft apart which throw a fine fan-like spray. We put these on time clocks and grow our softwood shrub and evergreen cuttings in these outdoor mistbeds. Early in June, I decided to try to propagate rhododendron cuttings in these mistbeds. We emptied out some of the sand and put in a 4 inch layer of 60% Canadian peatmoss and 40% coarse perlite.

Cuttings were taken from 1 year old container plants on June 28, 1973. All cuttings were washed first in a solution of Captan and then treated with No. 3 Hormodin powder with 12-1/2% Dichlone active and 50 ppm boric acid added. Our mist clocks operated on sunny days from 7:30 a.m. to 6:30 p.m. but were shut off on cloudy or rainy days and operated manually if necessary.

The timers are set for 30 sec of mist every 5 min. We surround the mistbeds with 4 ft high snowfence covered with clear plastic to prevent wind from changing our mist pattern. Cuttings are in full sun without any protection. The results are shown below:

Variety	No. stuck	No. rooted	Percent rooted
'PJM' <sup>1</sup>	980	911	93
'Roseum Elegans'	1000	800	80
'Catawbiense Boursault'	500	450	90
'Catawbiense Grandiflorum'	900	750	83

<sup>1</sup> The 'PJM' cuttings were potted 8/6/73 while others were potted 9/19/73

We have also tried rooting in outdoor mistbeds in pots placed on a 6-inch layer of coarse concrete sand. We used the Slim Line pot (Nursery Supplies, East Patterson, N.J.). It is a smooth white plastic pot 7 inches deep. It has three 1/2 inch holes about 3/16 inch up from the bottom and has six rows of 1/16 inch holes (8 holes per row) with rows 3/4 inch apart.

These pots were loosely filled to about 1/2 inch from the top with our rooting medium and 522 *Rhododendron* 'Roseum Elegans' were stuck in them in our outdoor mistbeds on July 11, 1973. They were left out until approximately October 1, 1973 and are now in one of our propagating houses to over-winter. Root initiation was good and from testing at various times I would guess we have about 100% rooting.

We intend to use both methods on a larger scale next year.

MODERATOR ZONDAG: Thank you Arie; that completes this portion of the program and I will now turn the podium over to Al Fordham for his new plant forum.

AL FORDHAM: To begin this portion of the program we have James Jozwiak who will describe some unusual conifer selections which they have made.<sup>1</sup>

AL FORDHAM: Virgil Drake has a red maple which he would like to tell us about.

VIRGIL DRAKE: We have propagated this tree by budding for the past 5 years. The tree has green leaves until about August 1 when it changes color three times between August 1 and October 15. At the first change the outside edge of the leaves become purple and the inside remains green, then about September 15 the purple turns red and the inside remains green and, at the

last change, the outside remains red while the inside turns yellow. Trees will be available as soon as the patent application is completed.

AL FORDHAM: Elwin Orton has two new dwarf hollies which will be described by Dick Zimmerman.

DICK ZIMMERMAN: Two dwarf selections, *Ilex crenata* 'Dwarf Pagoda' (female) and *Ilex crenata* 'Green Dragon' (male) have been made. These selections came from a population of 850 seedlings resulting from a cross of *Ilex crenata* 'Mariesi' x *Ilex crenata* 'John Nosal' made in June, 1965. The original plants are 12 to 15" tall and have been maintained in 2 gal containers for the last 4 years. These plants were selected for their dwarf habit, dark green glossy foliage and unusual or artistic habit of growth. The plants propagate readily from stem cuttings 1/4" in length or longer. The plants average 2" of growth per year.

These two clones are being introduced as speciality items for use in rock gardens, as indoor bonzai or potted plants, and in terrariums. Propagation material is available to commercial propagators from Dr. Elwin R. Orton, Jr., Rutgers University.

AL FORDHAM: Joe McDaniel has some hybrid oaks and a pond bald cypress he would like to tell us about.

JOE McDANIEL: The English have been more active than American nurserymen so far in propagating hybrid oak cultivars, but we, with our greater array of native species, have a choice of more naturally occurring hybrids, several of which are now being investigated as material for propagation. Most hybrid oaks I have observed are fertile and their acorns will yield hybrid seedlings though, of course, they do not reproduce the parent exactly. There are hybrids in the Midwest that combine the European *Quercus robur* with such American species as *Q. alba*, *Q. prinus*, *Q. macrocarpa* and *Q. muhlenbergii*. In several cases such hybrids, in addition to the greater vigor associated with interspecific hybridity, have shown much greater resistance to mildew than pure *Q. robur*.

My first picture, taken at Kew Gardens, shows a massive old specimen of Turner's oak, *Q. x turneri*, which originated in England before 1785 as a cross between *Q. robur* and the introduced Mediterranean evergreen, *Q. ilex* or Holm oak, which is related to our own *Q. virginiana*, the live oak of the Southern states. There is a variety *Q. pseudoturneri* which, according to Rehder, is better known in cultivation than the type. He says it is a shrubby

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<sup>1</sup> EDITOR'S NOTE. Mr Jozwiak showed slides of *Picea glauca* and *Pinus resinosa* compact forms which they have developed through their breeding program. He indicated that scions and cuttings are available to nurserymen requesting them through established USDA procedures.

tree with handsome dark green leaves retained in milder climates until spring.

*Q. x bebbiana*, shown in the next two pictures, is the name for all hybrids between *Q. macrocarpa* and *Q. alba*. First reported near Chicago, it is known from other locations, and may be looked for in most areas where both parent species occur. The Cully Nursery at Jacksonville, Illinois has an F<sub>1</sub> tree which has given F<sub>2</sub> seedlings, some of which color as well as any white oak. The tree in the pictures is a massive old specimen in Harrodsburg, Kentucky, southwest of Lexington, which may be the national champion for this hybrid species. It is in a yard in the east side of town, south of the east-west highway.

My final slide, also taken at Kew Gardens in September, shows a tree of what is perhaps the oldest named cultivar in *Taxodium*: *T. ascendens* 'Nutans', named first by Aiton in his 1789 publication, *Hortus Kewensis*. It is still propagated in European nurseries, but I do not know of a specimen in the U.S., where *T. ascendens* or Pond Baldcypress is native. (The Kew label mistakenly attributes it to Mexico.)

Some botanists now unite all pondcypresses under *T. distichum* as *T. d.* var. *nutans*, but even if we accept this species lumping (which I do not), the distinctive 'Nutans' clone with its pendulous branchlets hanging from near-horizontal main branches, is one which deserves to be retained as a cultivar by grafting. It is different from other *T. ascendens* trees, including the newly patented *T. a.* 'Prairie Sentinel' which was selected in Illinois.

*Taxodium ascendens*, in general, is distinguished from the more common *T. distichum* by usually being a smaller tree, with foliage appressed to the twigs, which make it look more like a deciduous juniper. On its own roots, it usually does not have the "cypress knees" associated with *T. distichum* on wet sites, but these should develop on *T. ascendens*/*T. distichum* grafts; I have seen them on some Florida native trees that otherwise would classify as *T. ascendens*. There probably has been some hybridization where both species occur. Experience in the Midwest shows that both are hardy well north of their native range and, except for natural seed reproduction, they are by no means confined to swampy sites. With the introduction of uniform grafted cultivars, I predict a much wider use of *Taxodium* (both species) in the near future.

AL FORDHAM: Joe Cesarini has an azalea he would like tell us about.

JOE CESARINI: Azalea 'Kaempo' is an outstanding plant. It is a hybrid between *Rhododendron obtusum* var. *kaempferi* and

*R. yedoense* var. *poukhanense*. The cross was made to increase the hardiness of *R. y.* var. *poukhanense*; it blooms about 2 weeks later than anything else. It is hardy and is grown in Rhode Island; we sent some to Alabama and it stands the heat there. I sent some to the West Coast and have heard very favorable comments from there. I entered it in the New York Azalea Show 2 years and both times it won first prize.

AL FORDHAM: Joerg Leiss has a plant he would like to describe.

JOERGE LEISS: This is a weeping form of *Cercidiphyllum japonicum*; and only other one I know of was found in a temple garden in Japan and has been described in the literature. This one has been grafted on a 6 ft stem of the normal *Katsura* tree. It grafts quite readily as long as you do not trim the stems up too quickly; otherwise the stem will die back.

## FRIDAY EVENING SESSION

December 7, 1973

### PROPAGATORS' POTPOURRI

The Friday evening session convened at 8:05 p.m. Larry Carville served as moderator.

MODERATOR CARVILLE: The Potpourri is a little different concept than our usual Question Box in that I've asked two of our members to begin this evening's program with slide presentations showing some new and innovative methods and techniques. Some of these new ideas you saw last night when the tour leaders were discussing the different tours which we went on in England. Some of you were not able to go with us on the "Propagator's Tour of a Lifetime" and I felt it would be a good idea to try to show you some of the things they are doing over there. I've asked Hugh Steavenson to lead off this evening's program by showing you some slides of a new technique that we saw on the tour in England.

EDITOR'S NOTE: Mr. Steavenson showed slides and discussed a jacketed cold storage unit for nursery stock; conifer seedlings and transplants can be stored in these units for as long as 18 months and then taken out to the field and planted with as much as 98% survival. Their soil fumigation procedures are much like ours except that they do not use methyl bromide because a licensed applicator must be hired to do this and it is too expensive. Planting boards of a specific width and notched to indicate where the plants are to be set are used at one nursery and