

In 1978 a team of plant taxonomists at the Harvard University Herbaria, using evidence from anatomy, chemistry, morphology and palynology, placed the following species in the genus *Elliottia*. Some propagational data are listed below with the thought they might provide guidance to those working with these plants.

1. *Elliottia bracteata* (previously *Tripetaleia bracteata*)  
Seeds had no dormancy and softwood cuttings rooted readily.

2. *Elliottia paniculata* (previously *Tripetaleia paniculata*)  
Seeds had no dormancy and softwood cuttings rooted readily.

3. *Elliottia pyroliflora* (previously *Cladothamnus pyroliflora*)  
Seeds germinated after 3 months of cold stratification at 40°F.

## REFERENCES

1. Bohm, B.A., S.W. Brim, R.J. Hebda, and P.F. Stevens, 1978 Generic Limits in the tribe *Cladothamneae* (*Ericaceae*) and its position in the *Rhododendroideae*. *Jour. Arnold Arb* 59: 311-341.
2. Fordham, A.J., 1969. *Elliottia racemosa* and its propagation. *Arnoldia* 29: 17-20.
3. Lee, Clermont H., 508 East 57th Street, Savannah, GA 31405. Personal correspondence, 1968-73.
4. Wood, C.E., Jr., 1961, The genera of *Ericaceae* in the southeastern United States. *J. Arnold Arb.* 42: 10-80.

PETER VERMEULEN: I have a question regarding hardiness in *Elliottia*. Watnong Nursery is in north central New Jersey and the plant looked good in your slides. We have had -23°F in our area. Do you think that the range extends beyond the Philadelphia area?

AL FORDHAM: No. I think the plant looked good as it was in a favorable location and the past winter had not been too severe. If a bad winter occurs the plant would, no doubt, be badly damaged or killed as would be the case in the Boston area.

## HOW I SOLVED THE PROBLEM

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Propagation of *Picea pungens* 'Glauca' and other cultivars by grafting has been a successful method at Bald Hill Nurser-

ies for many years. When grafting spruce we like to use 2 year old wood which gives us a large scion and a sizeable graft when completed.

When preparing the scions for grafting, around the first of February, we thought how nice it would be if we could root the healthy, well budded, lateral cuttings we were removing from the scion.

We decided that nothing would be lost if we tried, so we stuck approximately 200 cuttings in three different rooting media using several hormone powder combinations. By the end of May, three of the cuttings rooted. This was a success to me because I am a great believer that if you can get one to root the others should root, if taken at the proper time.

In June, when we were sticking our summer outdoor mist cuttings I found the key. I decided that when we finished sticking our dwarf Alberta spruce cuttings that I would stick the different cultivars of blue spruce using the same hormone powder (Hormodin 2).

We took 1000 cuttings of different sizes and from various locations on the stock plants. Half the cuttings were cut, the other half plucked. The cuttings were dipped and stuck in sand without removing the needles. When they were lifted in about 8 weeks the results were amazing. The cuttings had rooted 85%. The following year 5000 cuttings were stuck at the same time using the same treatments and again we got about the same percentages of rooted cuttings as we did the year before. The problems was solved.

WAYNE MEZITT: How large have you grown the rooted spruce in your nursery?

LEONARD SAVELLA: Six to 8 feet tall from the first successful batch of rooted cuttings. Be sure to take cuttings from the rooted cuttings because your percent success will increase.

TOM INTVEN: What time did you take the cuttings?

LEONARD SAVELLA: Between the sixth of June and the end of June when the terminal shoots are about 3 to 4 inches. If you want success the smaller the cutting the better. The closer the cutting to the main trunk the better. Terminal shoots are not the best. Lateral shoots that come off the one year old wood make the best cuttings: The cutting should pluck concave. This is the proper time.

DAVID DUGAN: How do you get a terminal established?

LEONARD SAVELLA: Once the cutting starts to grow it

will develop a leader. In 3 years a 5 to 6 inch well shaped plant will form.

HANS HESS: Len, would you give us some idea of the root structure you have on the cuttings? Our experience is that you have 1 to 2 roots and subsequently develop a poor root structure.

LEONARD SAVELLA: When they root the cuttings have 1 to 2 roots. After rooting the cuttings are transferred to flats containing a peat and sand medium. During transplanting, the root system is pruned. You will be surprised at the amount of new root growth you get from that pruning. The plants are again rooted/pruned when set in the field. Root pruning is very important.

JOERG LEISS: Was your hormone treatment important? We found that hormone treatment made no difference.

LEONARD SAVELLA: We have not tried rooting without a hormone.

CARMINE RAGONESE: What is the purpose of dipping in water after making the cuttings?

LEONARD SAVELLA: To prevent desiccation.

WILLIAM SCHWARTZ: What was your temperature above and below the cuttings?

LEONARD SAVELLA: No bottom heat was used.

## **HOW I SOLVED A DIFFICULT PROPAGATION PROBLEM**

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There is an implication in the title of this panel that parallels a common misconception on the "ah ha!" theory of solving a problem or making a discovery. I suggest that the process is usually a gradual and evolving one rather than a sudden revelation. There is an analogy, for instance, with the "discovery" of a new cultivar. It generally takes 15-25 years to get a new cultivar to market, so, when do we say it is new? Was it when the cross was first made or when the plant was first selected? To the horticulturist or nurseryman neither event may be remarkable for it may be several years later before he is certain that the cross or selection is truly unique. Even then his excitement may be tempered until he is certain the plant can be propagated and he sees how it is received in the market place. Likewise, timing of when a problem is