

Strength of hormone is important for quick, well-structured rooting, and needs to be increased as the season and the hardness of the wood develops. Chloromone, I had been told, works better than powders on green-stemmed cuttings with heavy lenticels. Though used here with no noticeable positive results, I will pursue the use of Chloromone again in the future.

In most cases there has been a limited number of cuttings at my disposal, so I have not been able to test the importance of cutting length or number of nodes (usually 3-4) in my trials. One sample of single node *A. spicatum* cuttings, however, did not root at all, whereas multi-node cuttings did. Perhaps the successes enjoyed by many nurserymen with single node cuttings of *A. rubrum* cultivars are not possible with all *Acer* species.

I was very surprised by the good rooting of *A. cappadocicum* 'Aureum' despite the fact that the cuttings were stuck fresh, with no special preparations. I thought that such species with milky sap did not root easily. In the future, I will try to duplicate this success with *A. campestre*, *A. mono* and *A. plantanoides*.

Cuttings must be weaned away from the mist as soon as they are rooted; good drainage around the new roots is important. In one case a raised flat of *A. griseum* cuttings sitting next to cuttings in the bench rooted much better, indicating the advantage of better medium porosity. I will also try various peat, styrofoam and sand mixtures in an effort to eliminate the excess weight of sand-filled flats

PROPAGATING PIERIS AND LEUCOTHOE

EDWARD LOSELY

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This presentation will restrict itself to those *Pieris* and *Leucothoe* species that are produced at our nursery. We propagate and grow *L. fontanesiana* (*L. catesbaei*); *L. fontanesiana* 'Girard's Rainbow, a form with multi-colored leaves; and the related *L. axillaris*, a plant with smaller leaves, smaller stature, and more compact habit of growth. We propagate and grow our own selection of *Pieris japonica* and also *P. japonica* 'Variegata'. We tried and discarded several so-called pink selections of *P. japonica* as not hardy enough for field production in northeast Ohio.

All *Leucothoe* and *Pieris* are propagated from cuttings using a procedure developed by our propagator, John Ravenstein.

Cuttings are made in mid-October. To facilitate the taking of cuttings we usually dig up several plants from our field production. We find it more efficient to remove the cuttings at a work bench than bending down in the field. A further advantage of digging the stock plants is that, when necessary, the cutting material is more easily stored than severed cuttings; i.e., only the roots need to be kept moist.

The cuttings are cut to length as they are removed from the stock plants. They are then immersed in a tub of well water and agitated by hand to remove adhered soil, particulates, and to reduce any pesticides that may be present. The *Leucothoe* cuttings are 4 to 5 inches long and the *Pieris* cuttings are approximately 2½ inches long. Terminals are left on all the cuttings. Leaves are stripped from approximately one inch of the basal end; this is usually about two nodes. After stripping, the cuttings are placed in flats with the basal ends up. This procedure is followed to permit the basal ends to dry prior to dipping in Hormodin No. 2. We feel that too much hormone powder may adhere to the wet cuttings. The cuttings are inserted into 3 inch deep white cedar flats that are filled with a medium composed of Canadian sphagnum peat moss (Heveco Brand), coarse horticultural perlite, fine horticultural perlite, mason grade silica sand (5:2:2:1 V/V). The flats are placed on benches and watered thoroughly. Bottom heat is maintained at 65 to 70°F. Syringing is accomplished by a mist line that is operated manually at this time of the year, since we experience much cloudy weather. An occasional hose syringing is done to maintain an optimum moisture level in the medium. A weekly dusting with Captan dust (7½%) is applied to the foliage. When the outside temperature permits, we find that by running the exhaust fans at one end of the propagating house while operating a hand cranked duster at the intake end of the house, the Captan is applied with a minimum of time and effort.

The cuttings develop root balls approximately the size of a quarter in 6 to 8 weeks. They are then transplanted 28 plants per flat into white cedar flats measuring 22 × 15½ × 3 inches deep. The medium is a coarse horticultural grade Michigan sedge peat. The flats of transplants are placed on benches in double layered, air inflated, clear poly houses that are maintained at 50°F.

As the days lengthen and light intensity increases in mid to late February, the plants break dormancy and are lightly top-dressed with a slow release fertilizer (Scotts Pro Grow 24-9-9). The plants are pruned one or two times by cutting off the tops with a hedge shear.

By early to mid-June they have grown to be 4 to 6 inch plants with good root systems and are ready for planting into outdoor ground beds.

TOM McCLOUD: Question for Bob Simpson. Are there any selections of *Ilex* males that are more preferable?

ROBERT SIMPSON: Yes. The cultivar 'Winter Red' blooms earlier than the majority of the seedlings we have. So we have selected some earlier blooming male forms to go with that cultivar. *Ilex verticillata* 'Aurantiaca' also flowers very early.

FRANK GUOIN: Question for Bill Flemer. At the Toronto meeting a paper was presented on harvesting *Tilia* seed when nearly all the seed coats had turned from green to grayish brown. Have you tried that?

BILL FLEMER: We have tried it but it has been inconclusive for us. Some times we harvest then on the gray side and they turn to mush for us. We have not been able to pinpoint the exact time. I suspect it varies from year to year. We have settled on picking the seed when we know they are ripe and going through the traditional method

DICK JAYNES: Question for Bob Simpson. What is the possibility of selecting a monoecious clone?

BOB SIMPSON: There are no clones that contain both male and female flowers. I have seen male hollies with fruit but that was from some type of shock.

RALPH SHUGERT: Comment to Bill Flemer. My experience with *Tilia* × *euchlora* 'Redmond' is that it is equally compatible with *T. americana* and *T. cordata*

BILL FLEMER: It seems to grow faster on *T. americana* and appears to be more dwarf on *T. cordata* with us. There is a question in my mind if it is a *T.* × *euchlora*. I have sent specimens to various arboreta asking what it is and it comes back as *T. americana*. It may therefore not be *T.* × *euchlora*.

VOICE: Question for Timothy Brotzman. How old were the maple trees you were taking cuttings from?

TIMOTHY BROTZMAN: They were quite variable in age. For example, the *Acer henryi* was 4-5 years while *A. miyabei* was probably 25 years old. The *A. griseum* was about 8 years old.