

ARIE RADDER: How long did you get control with the materials you were using?

TOM FRETZ: We were still getting pretty good control with most of the materials at the end of 75 days, but some of the materials were beginning to break down.

ARIE RADDER: We have been using Trifluralin for a number of years now and we find that it has a longer residual action than any of the other materials we have tried.

DICK AMMONS: Would there be any merit to spreading your mulch out on a driveway and spraying it with Trifluralin and then using it to mulch the cans?

TOM FRETZ: We haven't done this, but other workers have done similar things such as mixing the Trifluralin with the mulch. You do, of course, get some weed control from the mulch itself. I don't incorporate my Trifluralin, but I do use a water seal; that is, water is applied immediately after applying the Trifluralin.

RALPH SHUGERT: I want to emphasize your statement concerning the difference in the cost of control between grasses and broadleaf weeds. Having chemically weeded seed beds for the past 10 or 12 summers, I have found that costs are tremendously higher when attempting to control grasses. Dacthal in my opinion is a tremendous help in grass control, but what Dacthal would do in cans I don't know since I have had no experience with it.

TOM FRETZ: We have tests in which we are using Dacthal. We have used it at tremendously high rates, but I cannot say that I am very well pleased with it; thus far it has been very erratic and others that I have talked to have found the same thing.

MODERATOR FLEMER: Our next paper also deals with container growing and it concerns lightweight media for containers. It will be presented by one of our old stand-by members, Mr. Harvey Gray.

**LIGHT WEIGHT MEDIA FOR CONTAINER GROWING
OF ERICACEOUS PLANTS
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The production of containerized woody plants with the desired soil mixes is a major operation. If the plants to be marketed in containers could be grown in a medium in beds, properly spaced, much of the labor might be reduced. Plants grown in beds are easier to care for, particularly in regard to watering and fertilizing. The following remarks are made with these points in mind.

Experience and observation have proven that a soil mix high in organic matter and with a fair amount of clay has several points in its favor. Increased water holding capacity reduces the frequency of irrigation and a reduction of fertilizer loss. This is most important when containerized plants are on display for sale. A growing medium containing some soil classified as loam, possessing 20 to 25% clay, permits the roots of certain container-grown plants to make ready entry into the surrounding soil when planted in the landscape. Also the clay fraction of the loam soil serves in holding exchangeable ions of nutrition.

This is a report on a procedure to modify a loam consisting of 25% sand, 50% silt and 25% clay, in order to make a soil mix lighter in weight, retentative of more water, and possessing a favorable oxygen content. Such a mix is intended to produce ericaceous plants which would be dug and transferred, after one or two seasons of growth, to containers for marketing. Beds are prepared under pipe frame structures, the structures to be covered with plastic film for winter protection. When the plants have reached the desired size they are transferred during the cold of the winter. Portable oil heaters may be used at containerizing time to eliminate the light crust of frozen growing medium as well as for the comfort of the workers.

After a series of trials and calculations the existing loam in the growing structures are prepared to have equal parts of loam, sphagnum peat, sawdust or wood chips and perlite. The beds are first prepared with a rotovator and tilled to a depth of 2 inches of the firm soil. The amendments are added in 2 inch layers. A bed consisting of 1000 square feet will be dressed with:

Sphagnum peatmoss	20 bales (6 ft. ³)
Sawdust or wood chips	6 yd. ³
Perlite (supercoarse)	30 bags (4 ft. ³)
Dolomitic limestone	100 lb.
Superphosphate	100 lb.
Long lasting fertilizer (21-15-15)	25 to 30 lb.

FERTILIZER FORMULA:

Magamp (7-48-6)	15 lb.
Ureaform (38-0-0)	40 lb.
Di-ammonium phosphate (21-53-0)	15 lb.
Potassium nitrate (13-0-44)	15 lb.
Muriate of potash (0-0-60)	15 lb.

The soil additives are blended into the tilled loam with the rotovator at least twice for a good blend. Care should be taken not to till into the base soil any deeper than the original 2-inch cut. Such a mixture when settled should produce a 6-inch light weight medium.

Roots of ericaceous plants will not grow into the loam below the prepared strata. This makes it possible to dig and shape the plant ball to fit an 8-inch Zarn # 350 plastic container. If the ericaceous plants are to be placed into larger containers with greater depth, the bed would be prepared to a greater depth with an increase in the amounts of soil additives. Sometime during the soil mix preparation in the beds, the area should be sterilized with either Vapam or methyl bromide. Course, deep-rooting plants, such as cotoneaster or pyracantha, quite likely would not adapt to this program.

All species of ericaceous plants, whether propagated by seed or cuttings, do not produce plants of equal size nor form in the same time period. For this reason some plants may reach marketable size earlier than others of the same batch of seedlings or cuttings. At containerizing time all plants are put in containers except the culls. Those plants which are not marketable will be carried on for another growing season in the containers.

The system outlined here is adaptable to seedling propagated plants of *Leucothoe*, *Oxydendron* and *Pieris*, as well as rooted cuttings of small leaf rhododendrons, such as *R. carolinianum* and its hybrids, *R. ferrugineum*, *R. myrtifolium* and *R. obtusum* forms, as well as the deciduous azaleas.

Experience in the growing of ericaceous plants from seed proves the value of early seed sowing and using light media, such as equal parts of shredded sphagnum peat and vermiculite, #4 grade. To make one bushel of mix add:

Dolomitic limestone	3 tbsp.
Superphosphate	3 tbsp.
Di-ammonium phosphate	1 tbsp.
(dissolved in 1 gallon of warm water)	

When this seed sowing medium is used, there will be the least amount of root disturbance in the pricking off of well-spaced seedlings from the seed flats.

The seedlings are pricked off into 3-inch square plastic pots when the plants have two or three leaves and are large enough to handle. The square pots are placed in trays made with 1 x 2 inch turkey wire bottoms, and then filled with the growing-on medium. Growing-on light weight mixture:

Shredded sphagnum peat	1 / 2 yd. ³
Perlite (propagation grade)	1 / 2 yd. ³

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Dolomitic limestone	2 lb.
Superphosphate	2 lb.
Long lasting 21-15-15 fertilizer	1½ lb.

It is suggested that rooted cuttings and seedlings be induced to make rapid growth during February, continuing on until early June when they are planted out in beds. This is possible by sowing the seed late in December and making use of night temperatures of 72° to 75° F. Subjecting seed and germinated seedlings to a longer day of 18 hours is suggested. Rooted cuttings may be treated in a similar fashion; however, the plants will respond best when subjected to 40° F. during December and January in order to break bud dormancy.

MODERATOR FLEMER: Thank you very much, Harvey. We will have time for only one question.

DICK BOSLEY: Have you observed any difference in the ability of the plants that survive when you plant them from your soil mix to native soils?

HARVEY GRAY: There is a problem with the roots not wanting to move out of these lightweight soil mixes into the surrounding native soils, but this soil mix retains about 20% soil and I think it is a breakthrough in overcoming this reluctance for roots to grow out into the existing soil.

MODERATOR FLEMER: This concludes this morning's program.

FRIDAY AFTERNOON SESSION

December 3, 1971

The session convened at 1:30 p.m. in the West Ballroom. President Tom Pinney, Jr. served as moderator.

MODERATOR PINNEY: Our first speaker this afternoon is Mr. Bill Morsink from the Shade Tree Research Laboratory at the University of Toronto. He will speak on a subject which many of you have requested. The title of his paper is "Mist Propagation of *Acer saccharum*".