

such as your preferences for meeting topics, times, and places, as well as whether you would like to moderate a section.

DAVID MORGAN: Does that mean we would be on the program?

BRYSON JAMES: No, the program chairman plans the program and selects the speakers. The vice-president is the program chairman for the annual meeting. The vice-president usually will canvas the members for program contribution and ideas. If you have something you want to present, by all means let the program chairman know!

## **PROPAGATION AND LINER PRODUCTION OF AZALEAS**

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Since there are almost as many ways to root cuttings and grow plants as there are nurserymen, I will not try to tell you how it should be done, but will tell you what we do at Cottage Hill Nursery. First and foremost — whatever method one uses in propagation — sanitation and cleanliness are a must if it is to be at all successful. This begins with the stock from which the cuttings are to be taken. Stock plants must be healthy and free from disease. The clippers or knives used to make the cuttings and the baskets or boxes used to hold cuttings must be clean. The area in which the cuttings are processed, the greenhouse or area in which the cuttings are placed for rooting, the rooting medium, and the benches or containers in which the medium is placed — all of these should be disinfected and/or sprayed down with a fungicide to eliminate contamination from any residue from previous crops.

The greater part of our propagation is done under saran shade or lath shade (50-60% shade). Only in the winter do we propagate under cover, and then we use a polyethylene cover over our quonset type houses with some heat to protect from freezing. This probably sounds strange to many of you, especially since it is so easy with the plastics to make an enclosed "greenhouse". We have found that we have better success and far less disease problems with the cooler temperatures and additional air movement we get in the "open" beds.

Another matter in conflict with our old way of thinking is the time we take cuttings. It used to be that the only time we made cuttings was in the late spring and early summer — now we root cuttings at almost any time of the year. The wood must be at the proper stage of growth, however. Not just any cutting

will do; we prefer a young tender cutting with the nutrient level fairly high. We feel that it is a waste of time and money to make cuttings of old, hard wood. It is far better to cut back the stock plants and wait for the new growth — even if it means a delay of as much as two months.

We use two methods in propagating our azalea cuttings. In the first we use plastic trays with inserts having 96 individual compartments of a little less than one inch square. A mixture of 1/3 Canadian peat, 1/3 vermiculite, and 1/3 perlite is used as a rooting medium. This medium drains very well. Cuttings rooted in this manner handle very well and there is practically no shock when transplanting. Also, after rooting, the cuttings can be held in the cell-pak for several weeks or longer if we are unable to transplant immediately when rooted.

The second method we use in our propagation is to root the cuttings directly in the pots in which we grow our liners. This has proven to be, by far, the most satisfactory method for us. By rooting directly in the pot we feel that we reduce our labor costs by at least 50%. We also save the cost of the peat, perlite, vermiculite, and the plastic trays that are not used here as in the first method.

The medium used in direct pot rooting is the same as we use to grow all of our lining out stock: 3 parts pine bark, 1 part peat moss, 1 part sawdust and 1 part sandy soil, together with fertilizer, minor elements and lime. This soil mixture provides excellent drainage, which is another absolute necessity for successful propagation.

With both methods — cell-paks and direct sticking in the pots, we use time clocks and solenoid valves to provide controlled moisture and humidity. The “mist” is set to be on for a 30 second period once ever 15 minutes at the early stage and gradually reduced to being on only once each hour. The system is operational 8-10 hours a day in the early stages, with the time on being gradually shortened until the “mist” is applied only once or twice a day before being removed entirely. By handling in this manner the cuttings are gradually hardened off after they are sufficiently rooted and can be transplanted (when using the cell-pak) with minimal shock. This is much safer than transplanting from a tight greenhouse or using bare-root cuttings.

Actually I have been using the term “mist” very loosely, since we do not actually use a mist nozzle, but mostly Ross 24-H spinners which are placed 10-12 feet apart. We have had excellent results using Rainbird #20 sprinklers. It is actually not too critical as to how you apply the moisture. Rather, it is critical that you apply it in the right amounts and at the proper time.

When going directly to pots with our cuttings, we begin by placing empty pots on a layer of shavings or sawdust. Then we fill these pots with our potting soil by hand — carrying the soil to the beds in buckets and pouring it on and into the empty pots. We rake this down with a hand rake to just cover the tops of the pots and then water it in with a garden hose to settle and thoroughly moisten the media.

Ladies and young girls do most of our cutting work. Each cuts, strips, and sticks her own cuttings, placing a label with her name on the portion done by her. This provides a little competitive spirit, and also allows us to check each person as to their productivity and quality of work.

After the soil is thoroughly watered the ladies sit on a cardboard boxtop directly on the pots and slide backward on this as they stick. This may seem rather crude, but it is effective. If we have “good” cuttings — cuttings fairly easy to make and handle — five of our ladies can cut and stick 20,000 pots per 8 hour day, or 4,000 per person. This works out to be about 1/2 cent per cutting for labor.

Now, back to sanitation and cleanliness. It is far better to prevent disease from entering the crop, if possible, than it is to clean it up after it becomes established. We therefore use a pre-stick soak. All of the cuttings receive a 30 minute soak of Daconil® or Polyram® as a precaution against the various root rot, stem rot, and leaf spotting disease.

Two weeks after transplanting cuttings to pots, or after the mist is off in direct rooting, we apply a thorough drench of Dexon® and Terrachlor®. We follow in about six weeks with a second drench using Banrot®, or possibly Dexon® alone. For foliage protection we like to spray the foliage at least every two weeks during the growing season with Daconil® or Benlate® or comparable fungicides as a preventative measure against leaf spot diseases.

The greatest danger to our crops, however, is not from diseases. The two things that can cause more losses than all the diseases and insects put together are OVERWATERING and OVERFERTILIZING. All the drenching and spraying in the world won't help if you do not control these two items. Use water and fertilizer with great caution and respect.