

## EXTENSION NOTES

### AZALEA PROBLEMS

There has been a renewed interest in azalea forcing and growing in North Carolina. Associated with this trend has been some fundamental problems encountered that are listed below.

A. PROPAGATION. Those growers who propagate their own plants, usually take the cuttings during the spring or early summer months. Terminal shoots that are three to five inches in length make satisfactory cuttings. Some growers have been guilty of removing all possible shoots for cuttings without regard to their location on the stock plant. Only those shoots that are vigorous and fully exposed to the light should be considered as cutting material. All cuttings suspected of disease should be discarded.

The propagation medium will vary with individual growers. Most growers are using an equal mixture by volume of peat moss and coarse perlite. Other media that have been used successfully include: peat moss and coarse sand; peat moss; coarse sand; and peat moss and vermiculite. Any medium selected should provide good aeration and drainage. If propagation is practiced during the winter months, some form of bottom heat should be provided.

B. POTTING MEDIA. Peat moss has long been the universal potting medium for azaleas. There has recently been a renewed interest in the use of peanut hulls as a possible amendment. Excellent results have been obtained with a mixture of 7 parts peat moss and 3 parts peanut hulls. If peanut hulls are used, they should be sterilized either by steam or methyl bromide to prevent contamination with nematodes.

Some growers have recently experienced difficulty in uniformly wetting peat moss media immediately after potting. The non-ionic wetting agent, Aqua-Gro, can be used once at 1 ounce per 5 gallons. Apply eight ounces of the solution per six-inch pot.

Prior to potting in acid peat moss, some dolomitic limestone should be incorporated. Several reports have indicated that the German or Polish peat moss has a pH of 3.9, much too low even for azaleas. Mix thoroughly 8 to 10 pounds of dolomite per 6 cubic foot bale of the aforementioned peat moss. Canadian or Michigan peat moss may have pH readings that vary from neutral to very acid. All peat moss should be analyzed to determine the pH before the potting operation.

C. PINCH DATE. Many commercial flower growers and nurserymen have customarily used June 15 as the cut off date for the last pinch or shearing for azalea plants that are to be forced for spring holidays or sold as a nursery ornamental plant. A study conducted in Mississippi indicated that many popular varieties of azaleas could be successfully pinched in the south as late as August 1 or September 1. Since the night temperature during September is rather unpredictable in North Carolina, it is suggested that July 15 to 20 be the last pinch or shear date for all plants grown outdoors. (Most azalea varieties require a minimum night temperature of 65°F for six weeks after pinching or shearing to insure proper flower bud initiation). If the plants are transferred to plastic houses or greenhouses, a September 1 pinch can be provided with good results. It is imperative that with such a late pinch, the minimum night temperature must be maintained at 65°F for at least six weeks!

D. FERTILIZATION. If rapid growth is to be expected with azaleas during the spring and summer, the plants must receive adequate fertilizer. Regardless of the fertilization program followed, GOOD DRAINAGE is essential to prevent soluble salt build up (azaleas are very intolerant to high salt concentrations).

Upon becoming established, azaleas can be fertilized every ten days with 25-10-10 or 21-7-7 at 1 oz. per 4 gal. Especially good results have been obtained at N. C. State U. with potassium nitrate and 21-7-7 alternated weekly at 1 oz. per 5 gal. Soluble fertilizers such as 25-10-10 or 21-7-7 can be applied at each watering at 1 oz. per 12 gal. (For a 1:100 injector, mix 8 1/3 oz. of fertilizer per gal. of concentrate; twice that amount for a 1:200 proportioner). Some growers have tried fertilizing with the same fertilizer dilution prepared especially for chrysanthemums

and other florist crops, resulting in severe root injury from the subsequent high soluble salts.

Iron in the form of iron chelate can be applied monthly at 1 oz. per 15 gal. Generally iron deficiency is the result of iron becoming unavailable to the plant due to pH, root injury or media temperature. Root injury usually results from over watering, high soluble salts or root rot diseases and nematodes.

#### E. PESTS.

##### 1. Insects:

- a. Spider mites. Make 3 Kelthane (18.5% WP) (1 to 1 1/2 lb/100 gal.) spray applications at 10- to 14-day intervals immediately after spring pinch. Repeat treatments after summer pinch. All new plants should receive immediately a series of 3 sprays of Kelthane or Thiodan at 10- to 14-day intervals.
- b. Leaf rollers. Use Zectran (25% WP) (2 lb./100 gal.) sprays to 10- to 14-day intervals until infestation is eliminated.
- c. Aphids. Use Thiodan sprays (25% WP) (2 lb./100 gal.) or dusts (3%) (3/4 to 1 lb./1000 sq. ft.) to 10- to 14-day intervals until infestation is eliminated.

##### 2. Diseases:

- a. Pythium or Phytophthora (Root Rot). Drench monthly with Dexon (70% WP) at 2 oz. per 100 gal. Note: Avoid contamination of water hose - keep the end of the hose off the greenhouse floor. Sterilize all pots and potting media.
- b. Cylindrocladium. Dispose of all diseased plants as soon as detected, especially those that wilt and fail to regain turgidity. Spray weekly with Thylate or Zineb at 4 lbs. per 100 gal. Use a good spreader sticker. When taking cuttings use only those shoots from vigorous and clean plants.
- c. Septoria leaf spot. Spray at 10-day intervals during the spring and fall with Zineb, 1 1/2 lb. per 100 gal.
- d. Rhizoctonia (cutting rot). Steam or chemically treat propagating media, flats, etc. Grow stock plants in treated media and observe strict sanitation. To stop outbreak drench spot with Terraclor at 1 1/2 lb. per 100 gal.

F. CHRISTMAS FLOWERING. Only certain varieties can be successfully forced for Christmas. Several recommended varieties for trial are: Alaska, Chimes, Coral Bells, Hershey Red, Hexe, Red Wing, and Triomphe.

For a December 1965 flowering the following schedule is recommended:

1. Pinch or shear plants on June 9, 1965. Make sure all shoot tips are removed.

2. Spray with B-Nine (2 oz./gal.) on July 7, 1965. Make sure that the plants are not syringed for 24 hours after chemical treatment.

3. Allow the plants to grow under normal daylengths until August 4, 1965.

4. Start short day treatment on August 4, 1965. Apply black sateen cloth daily over the plants at 5 p.m. and remove the following morning at 8 a.m. Short day treatment should be given for six weeks, terminating on September 15, 1965.

5. All plants should be prepared for precooling on September 15, 1965. One of the following methods can be used for the six weeks storage:

a. Store the plants in a 35°F cooler with no lights (or)

b. Store the plants in a 45-50°F cooler with lights. At least 10 foot candles of light should be provided for 12 hours each day. It is important that the plants not be allowed to dry out during storage. Such treatment can result in severe leaf drop or death of the plants.

6. Upon completion of the six weeks precooling on October 27, 1965, the plants should be placed in the greenhouse for forcing. It is suggested that the night temperature be maintained at 55°F for the first 10 days of forcing. Afterwards, the night temperature can be raised to 60-65°F.

7. If this is your first attempt at December azalea flowering, use only small numbers of the suggested varieties.

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