

RHODODENDRON PRODUCTION

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*Rhododendron Farm
Mountain Home, North Carolina*

Rhododendron Farm is a small family operated nursery. The husband and wife owners started producing rhododendrons in 1963. The original unit was a greenhouse liner operation. In 1968 this was sold and container growing of larger plants was taken up. About 2½ acres are utilized in Mountain Home, N.C. for finishing off 3 gal plants. The greenhouse liner production was replaced with an out-of-door operation in southern Florida utilizing about 1/2 acre. Attempts to maximize growth have resulted in the production of many cultivars of hybrid rhododendrons to a 15" to 18" size in 15 months from the time the cuttings are taken from the stock plant, and 24" to 30" plants in 27 months. The owners have performed all laborious jobs, except occasional day labor for potting and loading and unloading, until 8 months ago when one skilled person was hired full time to share in the confinement and the long hours require of the business.

Climate. Mountain Home is located near Asheville, N.C., in the Blue Ridge Mountains at an elevation of 2100 feet. Winter temperature seldom goes below +12°F and many nights remain above 32°F. The extreme at the nursery has been -8°F. Ground thawing occurs almost every day so there is seldom any build up of frost in the soil. There are sometimes prolonged warm periods — when the plants become active — followed by sudden hard freezes. Frosts occur as late as May 19 and as early as October 1. Extreme summer temperature does go up to 95°F but rapid cooling almost always follows sunset. Night temperatures usually drop to the high fifties in middle sixties giving a low average daily temperature. At the Florida location, winters are quite like the springs at the North Carolina location. In the past 5 years there has been only one minor frost.

Propagation. A stock block is maintained from which about 75% of the cuttings are taken. The remainder come from production stock in the nursery. Current season's growth is taken just as soon as it hardens. This is very important as in a very few days the buds on these shoots begin to grow into a second flush. Then propagation would have to be delayed until fall. The removal of the cuttings begins around daybreak so as to harvest as many as possible while they are covered with dew and before turgor pressure within the leaf is reduced. Cuttings are stored in plastic bags and taken inside where leaf area is reduced and stem length cut to 2½ inches. A 5 minute soak in a

Malathion-Benlate solution follows. After excess water has dripped off, they are again stored in plastic bags until later in the day. They are then wounded on one side by the removal of a sliver of bark about 1½ inches long from the base of the stem. This portion of the stem is then coated with a film of Hormodin #3 powder and placed on 2 inch centers into a mixture of equal parts peat and perlite.

The rooting beds are designed for handling by forklift, stacking for transport, and for rapid drainage. They are 3 feet wide and 7 feet long. The bottom is made of galvanized wire mesh and is held off the floor by 4 × 4 inch runners. Fine mesh netting is placed over the wire to retain the medium. The beds are placed side against side and lined up in an open ended quonset greenhouse built under heavy shade of large oak trees. Sprinkling is through Buckner rotary sprinklers for 10 seconds at either 5 or 10 minute intervals depending on light intensity and humidity on any particular day. This is controlled manually by placing or removing a tripper on the timer.

Container Production. Cuttings usually root in 8 to 12 weeks. About the first of November they are loaded on a truck and taken to Florida where they are potted and grown through the winter. This step in production replaces the use of greenhouses in North Carolina. During the first week of May the containers are loaded on trailers and returned to North Carolina where growth continues through the summer. This results in five or six flushes of growth with flower buds forming on some cultivars.

White 3-gal plastic containers are used. Actual temperature data taken in 1972 showed the center of the root ball to be 10°F cooler in white than in black containers. There has been a problem with short life of white plastic but the manufacturer is now adding more ultraviolet light inhibitor and hopefully this will solve the problem. Pine bark with no additives is used as the sole container medium. This bark has particles ranging in size up to 3/8 inch and contains about 18% airspace. This has almost eliminated *Phytophthora* root rot and results in a 3-gal root ball 3 months after potting. Fertilizing is done daily through the irrigation system. Little attention is given to pH as this is no longer considered important by us in our system of production. We have had beautiful rhododendrons with a pH of 7.2. The fertilizer contains minor elements. The shaping of plants is accomplished by removal of the terminal buds from the first four flushes of growth. Cultivars which do not respond well to this treatment have been mostly discontinued. Containers are spaced on a gravel surface which has been treated with herbicide. An airblast sprayer is used bi-weekly to control insects and leaf attacking fungi.

Cultivar Selection. We currently list 40 cultivars of hybrid rhododendrons and this number gets smaller every year. While we have discarded over 200 cultivars, we still continue to search for new material and put it under trial in our environment. We find that generally those cultivars which are more cold hardy are also more heat tolerant. We do not have a breeding program but do have a number of selected seedlings obtained from other people.

Conclusion. We find this to be an efficient system of growing rhododendrons for our size of operation. There is no regular person at the Florida operation. A neighbor checks the pump daily to see that it functions properly. All other routine labor is performed on a bi-weekly commuting basis by one person. Since inventory turnover is rapid, less investment in physical facilities is needed. There is also considerable saving in fuel comparing that used for transportation with that which would be required for heating a 1/2 acre greenhouse.

Wednesday Evening, August 25, 1976

The twenty-sixth annual banquet was held in the Neilson Dining Hall of Cook College, Rutgers University, New Brunswick, New Jersey.

On behalf of the Society, Dr. Francis Gouin presented an award for the best student paper to Mr. Brian Dykeman. A separate award was presented to Dr. Harold Davidson as director of the work presented in the paper by Mr. Dykeman. Mr. Leonard Savella made the following presentation:

MR. SAVELLA: The nominee for the 1976 IPPS Eastern Region Award of Merit is a career nurseryman. He has been quite active serving on various committees within the Eastern Region, including the Executive Committee.

Because of these efforts, and his work as an Eastern Region president, the growth and development of this Region has been helped greatly. Our recipient has that rare quality of being an outstanding plant production-oriented person along with the attribute of being business-minded. Cost and cost production data have always been something of which he is keenly aware. He possesses that precious quality of seeking and sharing. The papers which he has presented to our Society plus those which have been printed in the various trade publications have assisted countless plant propagators. He also seeks information from his brother Society members to upgrade and improve his present production techniques. His concern for his fellowman exemplifies his deep Christian belief which is felt so keenly by

him. The constant effort to improve and to contribute are apparent to anyone who has worked with him. Ladies and gentlemen, it is a great honor for me to present the Eastern Region 1976 Award of Merit to the person who served as the Eastern Region President in 1970, Mr. Tom Pinney, Jr., Evergreen Nurseries, Sturgeon Bay, Wisconsin.

The banquet speaker was Mr. Phillip Alampi, Secretary of Agriculture for the State of New Jersey.

QUESTION BOX

The Question Box Session was convened at 8:15 p.m. immediately following the annual banquet. Mr. Ralph Shugert and Dr. William Snyder served as moderators.

MODERATOR SNYDER: Ben Davis, have you tried grafting peach cultivars onto *Prunus besseyi* or *P. tomentosa*?

BEN DAVIS: The paper I presented dealt with producing standard trees but we have used *P. besseyi* as a dwarfing rootstock. We have never tried grafting them; we T-bud them but when we used *P. tomentosa* we had very poor results so we now T-bud only on *P. besseyi*.

MODERATOR SNYDER: Were the bench grafts you made done by hand or machine?

BEN DAVIS: We bought one of those grafting machines and so we made them both ways; I had a count made but after looking at the figures I'm not sure they're correct. This year we made about 25% of our apple grafts on the machine and, as a rough figure, we got about 25 to 30% take as compared to 50 to 60% by hand grafting. We were saving \$19/1000 grafts in labor costs by using the machine but when we only get 25% take this isn't very good.

MODERATOR SHUGERT: Harold Stoner, what is the cost of your finished sewage sludge compost per cubic yard?

HAROLD STONER: This is still experimental and everything we use is given to us. The only cost we have is transporting the material from the treatment plant to our nursery and this amounts to about \$1/yd. I will probably have these figures for you next year but at present I just haven't figured it out.

MODERATOR SHUGERT: Could Bruce Briggs explain his pallet or box technique of sticking cuttings — size, depth, handling?

BRUCE BRIGGS: The size of the box was determined by the way they fit into the sheds and the way they are handled by the equipment. We began with a 4 × 8 foot box but are now using a 4 × 6 foot size. They are 6 inches deep and made of steel with 2 by 4's beneath to hold them off the floor. We are using