

**PROPAGATION AND GROWING OF
CONTAINER STOCK IN
NORTHERN FLORIDA**

JOHN P. SPARMANN

*Imperial Nurseries
Quincy, Florida 32351*

Climatic conditions in our area make it possible to grow a wide variety of plants which are hardy in northern temperate zones. A longer growing season and the need for very little protection make it economical to ship these plants to northern markets. We generally have mild winters, temperatures drop to the low teens occasionally, and I have seen the ground remain frozen for as long as 5 days at a time. Average annual rainfall in Quincy is 54 inches, with extremes of 30 or 84 inches.

Propagation by cuttings is done from May through February. The cuttings are taken from 1 or 2 yr old container stock, and we like to let the time the cuttings are taken coincide with the time the plants need pruning.

Cuttings are taken from healthy and well watered plants. They are washed in fungicide solution, wounded by means of stripping and cut to a uniform length. Each worker gets a small wooden stick, previously cut to insure this uniformity. Cuttings must be short and stocky, in order to produce a bushy plant. Most cuttings are stuck in flats after being treated with a hormone powder. IBA in talc is used from 0.2 to 2% in strength, depending on cultivar and condition of the cuttings.

The rooting medium consists of 50% Canadian or Maine peatmoss, 25% perlite, 25% washed river sand by volume, and it is mixed at our mechanized mixing plant. The medium is put into galvanized metal trays which stand a lot more abuse, than common wooden flats, and can be washed and sterilized very easily. Conveyors in our propagating house let us handle these flats in an assembly line-like manner. The flats are taken to a shaded mist area by means of farm wagons, where conveyors again simplify the handling.

All tools and tables are washed daily with a solution of L-F 10. For our mist system we use Flora Mist foggers with a 1/32 inch orifice opening at a spacing of 4 feet. Timeclocks regulate mist requirements and are set according to weather conditions. Fungicides are applied weekly.

When the cuttings are rooted and sufficiently hardened off, they are fertilized with the help of a fertilizer proportioner and are included in the routine nursery spray program.

In September the cuttings are potted into 3 or 5 inch plastic pots. On a long potting table along one wall of our potting shed, we pot about 16,000 plants per day by hand. For the past 2 yr we also employed the use of a small potting machine. The main purpose of this machine is to prevent roots from being curled, which often occurs when bareroot cuttings are being handpotted. The mix is supplied from the outside of the building through chutes in the wall. Metal trays rolling on conveyors carry the plants to a specially built flat wagon, with the capacity of 1,200 three inch pots. The wagon takes the plants under a shower of water and then to polyethylene houses, where they are placed on benches, again with the help of portable conveyors.

The houses are shaded with tobacco shade cloth (20%) and are equipped with gas-heaters, fans, and manually operated watering systems. Fertilizing is done by means of handwatering and the help of a fertilizer proportioner. Regular soil tests, made on a Solubridge, prevent over fertilization. The plants are hand-pinned as needed, which is usually twice between October and March.

During the fall and winter months some of our juniper cuttings are stuck in open mist beds in native sandy soil, which has previously been treated with methyl bromide. These cuttings are put directly into 1 gal containers the following fall and winter. Our mix consists of Canadian peatmoss, Michigan peatmoss, perlite and sand. Except for the sand, these materials come in by railroad and are unloaded directly into our mix-building. Conveyors throughout the building let us do this in a short time and with a minimum of effort.

Bales and bags of peatmoss and perlite are rolled over a belt conveyor 25 ft long and 2 ft wide, and are split open to allow the materials to fall onto the belt. One man shovels a thin layer of sand on to the belt as it travels by. Ingredients such as lime, deildrin, fungicides, fertilizers, etc. are spread over the peatmoss on the belt. The belt then takes the material to a shredder-mixer-transporter. A water nozzle mounted at the end of the transporter belt adds some water before the mix falls onto a truck.

At the end of March we start potting our plants out of the polyethylene houses. The plants are placed in metal trays for transportation and again with the aid of conveyors taken to the shade, where they are potted into 1 or 2 gal containers. As of this time, we still do our potting into containers by hand.

Women pot the plants at a potting wagon and place the finished containers on conveyors behind them. This potting wagon is 18 ft long with one high side. The mix-truck backs up to this high side, and the mix is shoveled onto the potting wagon. Finished containers on plywood pallets are rolled to the

end of the line, and are placed in beds, eight 1 gal or six 2 gal containers wide. The planting wagon is moved once a day, leaving space for a days production between the wagon and the previously planted containers. Plants are watered-in by hand immediately; after that overhead irrigation takes over.

After the plants have grown about 6 months in 1 or 2 gal containers under 30% shade, they are spaced 6 or 8 inches apart. Proper grading of the land where containers are placed and roadways are located is most important. Downpours of 4 or 5 inches of rain on one day are not uncommon in our area and can present a big problem if the water can not drain rapidly.

All azaleas and certain *Ilex* varieties remain under shade until shipped. Plants are hand-pruned as required (twice a year for most plants) and fertilized through the overhead irrigation system. Most containers grown in this fashion are marketable 18 to 24 months after the plant has been propagated. A certain amount of 1 gal containers are upgraded to larger containers, such as 3, 4 and 5 gal, and grown for 1 or 2 more years.

Being located in a somewhat depressed farm area, we have not been plagued by the acute labor shortages that most of the northern growers experience. I suppose, this is the reason why we still do a number of jobs by hand, which could be done with the use of machines.

TOM LANDZAAT: What fungicides do you use on your cuttings and do you rotate them?

JOHN SPARMANN: We use mostly M45 at 1 lb/100 gal and occasionally we use Benlate but it is used only once.

BILL BENNETT: Would you repeat how you use the Treflan?

JOHN SPARMANN: We use 1.4 lb/1000 sq ft of 5% material every 8 weeks. The plants are spaced out after 4 to 6 months so this means only three treatments at the most. If we were to apply Treflan after spacing, 75% of the material would end up on the plastic beneath the cans and eventually end up in our water supply as the result of run-off.

PRESIDENT TUKEY: Thank you very much, John; we will be down there in 2 years and it looks like you have lots of things to show us when we get there.

The title of our next paper is, "VPD and Poly in Plant Propagation", and it will be presented by Mr. Slezinsky.