

the type of plant being planted. A two-man crew can plant 8000 to 10,000 plants per day. Standard cultivation then follows.

Alternate liner production method: On some limited cultivars we stick the cutting in a pot using our regular soil mix, which does contain fertilizer. We force grow these cuttings in heated houses and use them for late spring planting the last of April or the first of May. We have used a multipot tray; however, we are not particularly fond of it. Although it is a very durable product, the roots tend to grow out of the bottom, making it very difficult to remove the cutting. We prefer putting the cutting directly in a single pot. Even if the root grows out the bottom, it does not damage an entire flat of cuttings to remove it. At transplanting time, liners produced in pots will be handled in the same way as those rooted in flats.

CHARLIE PARKERSON: How long have you been using pine bark medium with your liner production going out to the field? How many more years will it be before you root everything in pots?

DENNIS McCLOSKEY: The nursery is 16 years old and we have been rooting in pine bark for 15 years. We may never go completely to pots because of the space problem. We are trying to grow 750,000 liners a year for use in our container and field production. This would require a tremendous amount of space. The space problem is magnified if we use the larger pint or quart containers, which we prefer. We have very good livability of the potted liners. It is unusual to lose one if it has been properly planted.

ORGANIZING CUTTING, LINER AND CONTAINER PRODUCTION

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Organization is the key word in production of cuttings, liners and containers at Cottage Hill Nursery. Without this many hours are wasted and it is nearly impossible to come up with a balanced production. About 3 years ago we began by dividing the nursery into sections, each designated by a letter. So instead of sending people to a general area we are now able to give them the exact location. Each section was divided into terraces, which were numbered. We figured the capacity of each terrace in order to know the total capacity of a section. The lath and

greenhouses were numbered, enabling us to direct people without having to go over and show them the area personally.

Another step to cut down on wasted motion was labeling each group of plants so that everyone would know where to find the information in the field. The label on the first plant on the left hand side of each cultivar gives such information as number of plants, plant name, potting date, soil mix and feeding. Not only did this cut down on labor, but it gave us information at a glance when we were in the field.

The number of plants per terrace presented a problem. We did not know the total number of plants a terrace held, and we simply filled it up leaving 15 inch walks in between beds. When time came to space these plants, we often had to carry them to the opposite side of the nursery at great expense in labor and wasted motion. Today all beds are of equal width. the distance between the left corner of the first and the left corner of the second bed is 7-1/2 feet. This leaves rather wide aisles when plants are set pot/pot in rows of five 1 gallon plants, four 2 gallon, and two 3 gallon.

When these plants are spaced, the beds are 6 feet wide with an 18 inch walk between each bed. We save both labor and money by spacing out on the same terrace. We make an exception to this when we pot 1 gallon cans for future shifting into 3 gallon, then the entire terrace is filled — leaving 18 inch walks. At the time of shifting we leave the exact number of plants needed to space that terrace, the remainder is loaded on the wagons and taken to the area where the three gallon are to be potted. These three procedures, I feel, have helped a great deal in cutting down operating cost.

Monthly and weekly worksheets are another part of organized production. Each month a master worksheet is made which lists all the work anticipated for that month. Information pertaining to the production is brought into the office and recorded on index cards. These cards give information including number of plants potted, size container, location, date and soil mix. From these cards we project future production in liners and containers using our sales records as a cross index. In most cases we take cuttings from plants which still have a full season of growing ahead, preferably in 2 or 3 gallon containers.

Up to a few years ago, cuttings were stuck in flats, rooted and transplanted in 3-inch and 3-1/2-inch pots. Today nearly all cuttings are stuck directly into 3-1/2-inch pots. The advantage here is a great saving in labor and a better quality plant. When we were rooting in flats, a house held 400,000 cuttings; or if we used cell packs, a house held 140,000 cuttings. Timing here was extremely important. If we left the cuttings too long in the

flats, the roots became entwined, the plants grew too leggy, and often became too hard. A great many cuttings were discarded because of these conditions. The capacity of a house filled with 3-1/2-inch pots is 42,000 plants. Rooting directly in the pot gave us a space problem, but we took care of this by adding a few more houses. Once the house is filled, there is no more shifting until the plants are sorted, packed and shipped. The losses were reduced and the quality of the plants improved noticeably.

All of these changes were made through planning and organizing. Future plans call for: semi-automatic watering, boom spraying in the greenhouses with a tractor, and propagation in open beds without shade. All of you here have a system. Some are on a computerized program, but all spell out the same thing — organization. Any system needs an overhaul now and then to update its operating methods. Constant planning and organizing are key factors in the success of any operation.

FIELD PRODUCTION OF AZALEAS

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Our method of field production of azaleas at Carolina Floral Nursery spans a time of about 18 months from when the liner is first planted until the finished plant is ready about two growing seasons later. We typically begin planting on the first Monday following the 20th of April.

Bed preparation is a very important process. In the summer preceding the spring planting, we apply limestone to the field at the rate of about 1000 to 3000 pounds per acre. Following that we plant a cover crop of sorghum, usually in August. Sorghum will get 7 or 8 feet tall in a matter of months. The purpose of planting sorghum is to put a lot of organic matter into the ground. Once we dig the azaleas, we must replace as much organic matter as possible. During the winter, we disc the field 3, 4 or maybe 5 times and also subsoil it. Subsoiling is really a very important step in this production to break up the pan that builds up year after year and allow drainage. Furthermore, cracking this hardpan allows moisture from underneath to rise to the surface level of the soil in summer months. After subsoiling, we contract for fumigation of the field with an application of methyl bromide. The tractor rolls ahead injecting methyl bromide down into the soil, and we follow immediately behind, covering the entire field with plastic. We find this gives us field soil that is completely free of insects and most weed seeds.