

2. How can tracking costs help you on an everyday basis? I think that by keeping up with unit costs of production on a daily basis it is possible to know the status of your operation at all times. It certainly aids supervisors to assist in the control of these costs as they work with you.

3. How often do you take a look at costs? How about your supervisors? I will answer this from my experience. We look at unit costs of production daily; that is cuttings, potting and canning. All other costs for labor we examine weekly. Monthly we study over-all performance, which includes purchases of supplies and services.

4. Why budget? Who creates your budget? Again, from my standpoint, we budget to have some idea where we are going and what it *should* cost to get there. Budgeting also gives a measure with which to compare our performance as we go. Our budget is prepared by all supervisors contributing from their vantage point.

The objective from a motivational standpoint for budgeting and costing is to get everybody involved that is going to participate in controlling costs. Objectives established by responsible people are as effective a motivational tool as I have found. They will make every effort to accomplish the goals they have helped establish.

Bonus incentives, if desired by management, can be based on reaching these goals at year end or throughout the year at definite time intervals.

PRODUCTION OF LINERS FOR FIELD CULTURE

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There are numerous ways to root cuttings and germinate seed — most of you have selected a method that is most productive and profitable for your business.

This morning I would like to explain the method we use at Windmill Nurseries to produce liners and to transplant these to our field. All of our broadleaf liner production for the field is handled as follows:

First: The cuttings are rooted in metal flats or seed is germinated in flats. Our medium is composed of 17 4-cubic foot bags of perlite and one 6-cubic foot bale of peat moss. Depending on cultivar, from 150 to 500 cuttings are placed in each flat. Women do all of this work on an hourly wage basis. They take, strip and stick the cuttings. I am satisfied with a 2000 per day

per worker average. Of course, this varies greatly; it is much higher on easier cuttings.

Second: The flats of cuttings are placed in the mist houses and handled accordingly. I will not go into detail as this subject has been discussed in other papers.

Third: After the cutting has rooted, we move the flat out of the mist house as soon as weather permits.

Fourth: The next step is potting the rooted cutting or seedling into either a 3 or 4-inch pot, pint or quart container, depending upon what cultivar is being potted. We are presently changing so that all liners for field use will be potted in no smaller than a pint container. Some items will be grown in quarts. Our reason for changing is that the most critical time for a young field plant is from the 2 to 6-inch stage. Cultivation damage is highest at this time. The larger liner is more able to withstand mechanical abuses.

At this point in the process, the potters are on a piece work schedule of 1-1/4 cents per 3-inch pot, or 1-1/2 cents per 4-inch pot, pint or quarter container. The worker pots the cutting or seedling and places the pots in flats and sets the flats in beds. Each flat holds 30 three-inch pots per flat or 20 pints per flat. Generally the liner is grown for one season in this container.

The potting medium is composed of 80% pine bark, 20% sand, 8 pounds dolomitic lime, 11 pounds Sta-Green Soil Mix number 3, and 10 pounds of 18-6-12 Osmocote are added per yard. Our bark is fine; it has been aged 5 to 8 months and run through a hammermill. The sand is directly out of a gravel pit unscreened and may contain some pea gravel.

Going to the field: We do not limit our field planting to any set time. Being on the border of Zones 8 and 9, 50 miles north of New Orleans, a major effort is made to plant our potted liners in September, October, and/or November. In the winter of 1976-77 we had 18 nights less than 20°F. It got down to 10°F, which is extremely unusual for us. During a normal winter, the temperature drops to the mid 20's a few nights. We ordinarily do not provide wind protection, although during the winter of 1976-77 we did have considerable damage on podocarpus and viburnum that we failed to protect properly.

The next step is to prepare the area in which we will plant. After chisel plowing to a depth of 20 inches, the land is then bottom plowed, disced and leveled with a harrow. A 60-inch Howard Rotavator, with a homemade bed shaper, then builds the row. It takes a 70 horsepower tractor to pull this. It leaves a well-tilled bed. A converted pine seedling planter is then used to plant the liners on 24-inch centers. This distance varies with

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