GROW-BAGS: ARE THEY ALL WE HAD HOPED FOR?

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The Titanic is unsinkable! Grow bags are wonderful! Some people may bet their lives or livelihood on these statements. We know what happened to the Titanic, and we are witnessing equally disastrous results for many on their maiden voyage with grow bags. No! Grow bags are not all we had hoped for.

POSITIVE FEATURES

One positive feature of the field grow bag is continuous root pruning without the growth retardation usually associated with mechanical root-pruning procedures. In our view, this is the ONLY *reason for using a grow bag.*

NEGATIVE FEATURES

Upfront investment. Planting requires extensive investment in time, labor, equipment, and bags at planting. Historically, a big advantage of field-planting over container-growing is the fact that little cost is expended prior to the time plants are sold. With grow bags this advantage is lost. And do not forget the interest on the money. There will be no immediate return on this investment.

Precision hand labor requirement. Planting too deeply, leaving an air pocket, not compacting the soil uniformly, punching a hole in the bag or ripping a stitch can and does cause problems that render the bags useless or cause roots to grow over or through the bag.

Difficult mechanical cultivation. Cultivation for weed control and relief of surface compaction of the soil is almost impossible without damaging the grow bag or covering it with soil, either of which will likely destroy the root-confining capabilities of the bag. Hand cultivation is expensive.

Difficult fertilizer application. For best effectiveness, fertilizers should be applied in the bag, and should be covered with soil. This also will require hand labor, until or unless specialized equipment is developed.

Harvesting problems. Harvesting is not as easy and simple nor as inexpensive as promotional literature implies. One escaped root can make harvesting as difficult as it would have been without the grow bag. A very high percentage of plants we have seen harvested has one or more large roots that had escaped the confinement of the bag.

Off-season harvesting of plants grown in bags requires almost

the same attention as plants grown in the field without bags. Small roots that penetrate the bag apparently function quite well in water uptake. When they are removed at harvesting, plants become water stressed quickly. Due to the small soil-volume: top-growth ratio of harvested plants, frequent watering is essential even after plants are hardened off.

Plants in grow bags are similar to container-grown plants in that they must be harvested at a specific time or size. If not in grow bags, trees may be left to attain a larger, more valuable size when sales are slow.

Unattractive packaging. Grow bags rank higher on the UGLY scale than the rusty metal cans used in the early days of container growing. Additional burlap and pinning are required to confine soil in the bags for handling and shipping.

Bag removal. Grow bags must be completely removed when replanting. This is not an easy task with most plant species. We have seen bags slit vertically with a knife every 6 in. to reduce the power needed to rip the bag away from the roots. When the bag was completely removed the plant was bare-root. Others have used a knife to cut roots away from inside the bag after slitting the sides. This is expensive and frustrating for a landscape contractor, and our guess is that one of two things will happen. Either he will not remove the bag, or he will not buy plants grown in bags.

Stability after planting. Trees with large top growth and small root balls require extensive guying and staking to prevent blow over. This also is an added expense for the landscaper.

Confirmation to AAN standards. Most landscape architects use AAN Grades and Standards for specifications relating to tree caliper and ball size. Changes or additions to these standards to accommodate field grow bags probably will take several years. It will be necessary to determine the bag sizes required to develop a root ball that will support specific caliper trees. In the meantime, sales of plants produced in grow bags will not be used on many jobs designed by landscape architects. One of my good friends had an order for several 3- to 4-in. bald cypress, which specified a minimum 32-in. ball. He had some beautiful bald cypress of the proper caliper in 20-in. grow bags. Before the buyer would accept the plants, my friend had to place the bag-grown plant in a 32-in. wire basket and form a ball around it. How much profit do you suppose he made on that order? We should add that the buyer approved of the procedure as a way to meet the architect's specifications. But, what happens if the trees die or blow over in the landscape exposing the smaller rootball? Obviously, the integrity of both the contractor and the grower will be questioned.

OUR ADVICE

We advise our clients to root prune mechanically the best way

they can and try a few, very few, grow bags on several plant species to observe for themselves. Do they perform well in your soil types? Do they dig easily? Can they be dug safely during the off-season? Will your clients buy them? How do costs compare with your present system?

Containerizing or boxing field-grown plants still are the best growing procedures for providing large trees for off-season sales. With proper care, most species can be harvested safely with a tree spade during the off-season, especially if they were root pruned at least one time after planting into the field.

SUMMARY

Grow bags are still in the early stages of development but are being promoted as a finished and proven growing and marketing system. We sincerely *hope* solutions to most of the many problems will be found before the "Grow Bag Ship" sinks so deeply that it cannot be refloated. At the present, grow bags are not all we had hoped for.

FUNGICIDES USED IN PROPAGATION AT FLOWERWOOD NURSERY

BUDDY MOTLEY

Flowerwood Nursery, Inc.
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Flowerwood Nursery is using several different fungicides for different fungus problems. Our fungicide program begins before we take the cuttings. It is necessary to start off with clean, fungus-free stock plants. The cuttings' first fungicide treatment begins right after they have been cut. They are dipped for 15 to 20 minutes in captan 50 WP mixed at a rate of two pounds per 100 gallons of water, with no sticker. This is the manufacturer's recommended rate. The cuttings are still in the burlap sack where they were placed directly after cutting. After soaking they are spread out on tables under light mist until they are ready for planting.

Our second step of fungicide use is spraying right after the cuttings have been planted in the propagation beds. This is done every seven days as a general spraying. It is done in the afternoon 30 to 40 minutes after the mist clocks have been cut off. We wait this long to allow the cuttings to dry before spraying. We spray with a Bean 200-gallon, 8-hp sprayer mounted on a half-ton pickup truck frame. This makes it easy to drive down the center of the greenhouses.