

What Is a Good Liner?  
“If in doubt, throw it out”

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In computer jargon, it’s “garbage in, garbage out.” In other words, what you get out can be no better than what you put in. The same is true in the nursery business. However, in my work with people in all aspects of the nursery business, the desire to turn every plant into a star specimen is intense. In reality, the old phrase that “You can’t make a silk purse out of a sow’s ear” should be kept in mind.

Years ago, I coined the phrase, “If in doubt, throw it out,” as a way to try to get nursery managers to look seriously at every liner before planting. This also applies to plants in containers being shifted into larger containers to grow on. It is worth repeating how I came to focus on this very important practice.

I was in Cleveland, Ohio to speak at a nursery meeting. After the nursery program, I ended up listening to a group of produce managers for grocery stores in an adjacent meeting room. One speaker’s first statement was: “Your first loss is your best loss.” My initial thought was, “How could that be?” The speaker detailed the situation where produce on display had deteriorated to the point of being unattractive and marginal in terms of salability. At the same time, fresh produce of the same kind had arrived and was being held in storage. What do you do? Discount the price of the product on display and hope it sells? If you do, by the time it is sold, what had arrived fresh could have declined in quality. Plus, your customers would have purchased a product of marginal quality while fresh produce sat in storage. The speaker’s point was, take your loss on the marginal produce and throw it out so you can get the fresh product before the customer. Sales will increase as will customer satisfaction.

#### Translating to the nursery industry

This message translates to the nursery industry with only minor modifications. Consider the nursery that purchases 1000 liners of species X. Upon receiving the liners, the manager’s expectation is to plant every one. If all of the liners are excellent quality, that would be realistic. On the other hand, biological systems have variations, and even with plants rooted from a single parent, there are variations in the resulting liners. Some

cuttings have more roots than others. The distribution of roots around the stem may be more uniform on some, and variations exist in cutting stem diameter and branches. The cuttings with the larger-diameter stems and with uniform root development around their circumference grow best and most uniformly—provided the liners are not excessively root bound or suffering from some malady.

Some argue that the only practical action is to plant all of the liners—after all, each one costs X dollars. The basis for this action is the flawed assumption that all will make salable plants. If held long enough, most may eventually reach salability at some price. However, the cost to get the slowest or poorest of the plants to salable size and quality is likely to consume the hoped-for profit on those plants as well as a portion of the profit on the plants that do grow well. The practical way to determine profitability for a given crop is to keep track—start to finish—of the number planted, space required, labor required, and length of time for the last plant to be sold or discarded.

#### How the numbers work

For example, 1000 liners were planted at a cost of \$1 each, plus \$1 each for pot, mix, slow-release fertilizer, pesticides, herbicides, plus 25 cents for each square foot of production bed space per [over] month to cover everything from labor to maintain, prune, spray, space and water, construction costs, ground-cover cloth on the bed, electricity to pump water, as well as overhead for taxes, office personnel, etc. Given these conditions, each plant has a production cost of \$2.25 if sold after one month, \$2.50 after two months, etc. If the first of the crop is sold after 6 months for \$5 each, production cost is \$3.50, and projected profit is \$1.50 each, and all looks good. However, if 20 percent of the crop is not yet ready to sell, a series of complications results:

- The salable plants have to be picked out from among the others, requiring more labor.
- The remaining plants should be congregated, requiring more labor or, more often, the remaining

plants are left on the original bed space until they are sold. This greatly reduces production efficiency and increases production cost per unit.

- More labor for spraying, pruning, etc. is required for the 20 percent that remains. If the remaining 20 percent (200 plants) require nine months to get to the point where only 5 percent (50 plants) remain and are then discarded, the cost per unit has reached \$4.25 ( $\$1 + \$1 + \$2.25$ ) for all 1000 original plants if the remaining 20 percent was left on the original spacing, as often occurs. If 5 percent of the plants never reach salable quality,  $50 \times \$4.25 = \$212.50 / 950 = \$0.23$  cents per plant additional cost that must be added to the production cost of every plant sold, both the first 800 sold and the last 150. Total production cost for the 800 plants is now \$4.25 plus \$0.23 cents or \$4.48 for a true profit of just \$.52 cents each compared to the original projected profit of \$1.50. Therefore,  $950 \times \$0.54 = \$513$  true profit.

Now consider the economic return if 20 percent (200 of the 1000) of the liners were dumped at the beginning and never planted, yet the 800 that were planted were very uniform and all reached salability at the same time. Here's how it works: \$1000 for liners (800 liners costing \$1000 = \$1.25 each compared to the original \$1) plus \$800 for pots, etc., plus \$1.50 for production space and expenses for six months = \$1200 for a total of  $\$3000 / 800 = \$3.75$  true production cost with \$5 selling price -- \$1000 real profit.

By throwing away 20 percent of the liners at the beginning, true profits increase by \$487, which is nearly twice the profit compared to the common production practice. One could argue that by re-spacing the poorer 20 percent, the space cost would go down, which is true, but labor cost would go up. Also 200-plus square feet of space would still be tied up for three additional months or  $\$0.75 \text{ cents} + \$3.50 = \$4.25 \times 50 = \$212.50 / 950 = \$0.23$  cents each plant sold must be charged back against the production cost of each plant that was sold—and this does not include labor for spacing and additional labor for care.

Further, by throwing away 20 percent of the liners, only 800 square feet is committed to this crop compared to 1000 square feet. The 200 square feet of space made available could be producing another crop that is 100-percent salable.

Truly, “Your first loss is your best loss” and “If in doubt, throw it out” not only increases true profitability in the nursery but save time and labor at every turn in the production cycle while allowing the nursery manager to be more responsive to the needs of customers. Remember, it is not how many you plant but how many plants you sell that is important.

This very important point applies to plants rooted from cuttings or grown from seeds or grafted. Being ruthless in terms of which liners pass the test and are planted is one of the most important factors affecting true profitability at any greenhouse or nursery.

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