

- Marburger, J.E.** 1993. Biology and management of *Sagittaria latifolia* Willd. (Broad-leaf arrow-head) for wetland restoration and creation. *Res. Ecol.* 1:248-255.
- Murashige, T. and F. Skoog.** (1962). A revised medium for rapid growth and bioassays with tobacco tissue cultures. *Physiol. Plant.* 15:473-497.
- Pategas, S.G.** 1992. Wetland mitigation and its impact on the nursery industry. *Florida Nurseryman* 39:36.
- Seliskar, D. M.** 1995. Exploiting plant genetic diversity for coastal salt marsh creation and restoration, pp. 407-416. In: M. A. Khan and I. A. Ungar (eds.), *Biology of salt-tolerant plants*, Department of Botany, University of Karachi, Pakistan.
- Sutton, D. L.** 1995. Culture of common arrowhead. *Proc. Fla. State Hort. Soc.* 108:414-418.
- Xianggan, L. and J. L. Gallagher.** 1996. Tissue culture and plant regeneration of big cordgrass, *Spartina cynosuroides*: Implications for wetland restoration. *Wetlands* 16:410-415.

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## Liner Production: Asset or Liability?®

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### INTRODUCTION

Are we maximizing propagation departments to their fullest potential; or, are we merely satisfied fulfilling our production numbers at a reasonable cost? Can we generate more income from the propagation department?

Since we usually succeed in propagation more than we fail, I would like to share with you how you might consider developing the propagation department to increase your bottom line.

While an extremely high percentage of nurseries have a propagation department, only a handful of these nurseries produce liners for the open market. This somewhat untapped market of selling liners is the potential asset I would like discuss.

At Sarasota Growers, Inc., the concept of selling liners started a few years ago by chance. We had excess liners and took them to a trade show. What happened at the trade show opened our minds to the idea of developing a liner division. Our booth was constantly full of people looking at the liners and placing orders. As a consequence, we also were able to sell more finished material. We also realized that you do not have to be a big operation to sell liners all over the U.S.A.

Sarasota Growers, Inc. is a small nursery in Sarasota, Florida. We have approximately 7 ha (17 acre) in production, with 0.8 ha (2 acre) dedicated to propagation and liner production.

In 1999, sales were \$94,000 per acre, all generated from sales of finished material. This year, we will have sales of \$215,000 per acre. The importance of this increase in sales is that it was achieved with no additional labor nor increase in production acreage. Instead, increased sales was accomplished by reallocating more attention-to-detail and labor to the propagation department — among other things.

### WHY PROPAGATION?

**Increased Revenue per Unit of Land.** We knew we could not dramatically increase our sales by increasing production volume of finished material because of the cost of developing additional acreage in our geographical area. We needed to generate more money per acre. An average flat of liners occupies 0.2 m<sup>2</sup> (2 ft<sup>2</sup>) and sells for \$22. An average spaced 1-gal container occupies 0.1 m<sup>2</sup> (1 ft<sup>2</sup>), and in our market sells for \$2.00.

**Increase Dollar Turnover.** We needed to increase sales turnover. The \$22 flat is saleable in the same amount of time as the two 1-gal containers that sell for \$4.00 and occupies the same amount of space.

**Less Susceptibility to Market Pressures.** Supply and demand determining market value of your product is less volatile with liners than it is with finished material, because there is less competition. If we price a liner at \$0.35, there is less chance that a buyer will find that same liner available in the specific time frame they need it at a better price. On the other hand, if a buyer needs a substantial amount of finished, full-sized material, they are more able to shop-price because availability is greater.

**Increased Customer Base at No Additional Cost.** It is easier to ship liners in small or large quantities all across the country than it is to ship finished material. Nobody will buy \$1000 worth of 1-gal-sized material a thousand miles away. It would be cost prohibitive. Liners are a different story. This automatically increases your market span therefore increasing your customer base which releases you from local market fluctuation.

**High Sales Dollars Generated by Propagation Employees.** Labor is divided into two groups; producers and nonproducers. Those that directly create income are the producers, those that help everything in the organization come together are not. The more producers you have as a percentage of nonproducers, the better. Office personnel, managers, weeders, pullers, sprayers, owners are but a few examples of nonproductive people. Potters, propagators (those that actually take, prepare, and stick cuttings), and salesmen on commission are examples of producers. Their work directly contributes to the bottom line and can easily be quantifiable. So, as a percentage of total employees, increasing the amount of personnel that actually cuts and sticks cuttings directly increases potential sales because they generate something tangible.

Thus, if one can produce excess liners and sell them, then increased revenue per square foot is generated, and on a timely basis (time is money). With less competition, market pressures are reduced. Also, the fact that liners are small and on a per-unit basis cheaper to ship, gives you endless opportunities to sell them at reduced costs to you.

## **HOW TO SET UP YOUR BUSINESS TO PRODUCE AND SELL LINERS.**

**Independent Department.** To assure that any venture is a profitable one, it must become an independent subsidiary of the business. This is actually easy to do and imperative.

All labor, materials, and other easily tracked expenses that propagation incurs is expensed to that department. All material produced by propagation, whether for in-house use or for sales is considered propagation income to offset their expenses. Land use, equipment depreciation, and administrative costs should also be taken into consideration.

By doing this, you will appreciate the financial status of your propagation department. Actually, this is an excellent process to put into use whether you want to sell liners or not. You need to know how much each liner you produce is costing you. This leads me to the next important step.

## **COSTS OF GOODS SOLD (C.O.G.S) IS DIFFERENT THAN COST OF GOODS PRODUCED.**

There is no point increasing propagation output if you have no control and knowledge of what a liner is costing you.

- All costs associated with propagation must be based on how many liners are used in house and sold externally. Nothing else matters. Who cares if you produce 10 million liners a year if you used 1 million in house and sold 3 million. Who's paying for the other 6 million liners?
- All compensation programs must follow that same thought process. I don't care how many cuttings were stuck yesterday. I do care how many will be usable or salable — this is the only way to know how much you have invested in each liner.
- Example 1 (COGS): Cost of trays, soil, fertilizer, chemicals, real estate costs, and labor = \$10,000; cells stuck: 300,000; cost per cell  $\$10,000/300,000 = 3.3$  cents.
- Example 2 (Cost of Goods Produced): Cost of trays, soil, fertilizer, chemicals, real estate costs, and labor = \$10,000; liners used in house and sold in the open market: 75,000; cost per liner:  $\$10,000/75,000 = 13.3$  cents.

What is the real cost per liner: 3.3 or 13.3 cents? Do you pay your propagation people on what they produce or on what the propagation department generates?

## **DETERMINING WHAT LINERS TO SELL AND TO WHOM?**

One automatically assumes whatever your propagation department generates for your own in-house needs is what you should produce in excess to sell to other nurseries. This train of thought is logistically correct: "We have the stock, so we might as well take the cuttings!"

Problem is, if you have the stock, what makes you think somebody else needs the same plant, too? If it's easy to propagate, other nurseries will produce their own, if it's hard to propagate, you probably need the liners for your own in-house containerized production.

## **One Has to Determine: Where Is There a Potential to Provide the Market with Starter Plants?**

- We found that producers of specimen plants do not typically produce their own liners. Their volume requirements are so low that they cannot financially justify having a propagation department.
- We observed that many nurseries that do produce liners do not produce liners from seeds.

**How Big Is That Market?** We realized that even though a certain plant might not sell in big quantities, if your nursery becomes the only source for that plant as a liner, you can sell a high percentage of them.

**How Competitive Is the Market for Liners and Could We Compete?** We learned that certain plant categories are extremely well represented and marketed at very competitive prices such as annuals, plugs, seasonal plants, and that other categories are well on their way to success by some other nurseries such as perennials and grasses. We also found that some of these nurseries that were the first to dominate a market had become complacent and susceptible to competition.

## **OTHER OBSERVATIONS MADE WHEN DETERMINING WHAT LINERS TO PRODUCE FOR THE OPEN MARKET.**

**Very Few Stock Plants Can Generate Large Amounts of Liners.** This was important because of space restrictions. Examples include but are not limited to ornamental grasses and perennials.

**No Need to Have Stock Plants.** Again, important because of space restrictions and because the liners you might consider growing might not necessarily be the same plants you want as finished material in your local market. Examples include but are not limited to seeds and bare-root bibs.

**Consider Outlets for the Liner Should it Not Sell.** Is it a plant you can step up to a container and later sell with ease or will it compound the problem? An example is palm production.

**Competition.** Is anybody else producing the same species and selling it at a price that is too low for you to financially compete?

**Can You Produce it Economically?** That is, no use having a production cost of one dollar if the market will only pay \$0.50.

**Facilities.** Can you produce a quality liner using your propagation facilities without resorting to major financial expenditures.

So, open Pandora's Box — there are many different opportunities when it comes to liner production and sales. Volume in finished material does not necessarily equate to volume in liner sales, and vice versa.

## **SELLING YOUR LINERS**

- Show off your liners at trade shows. Have a separate liner availability and price list.
- When selling liners, whether one flat or 500, it is imperative that each and every liner is consolidated into another flat. That will guarantee that each cell has a well rooted, healthy, and weeded liner. Remember, quality control in selling a .35 cent plant is the same standard as selling a \$100 plant to your customers.
- Develop a box to ship your liners via UPS, FED EX, Air Cargo, or any other method. This is actually not as hard as one would assume. A company making your boxes will design it and know what kind of cardboard to use. The only advise I can give you here is that it is better to be safe than sorry. Package delivery companies can be tough on boxes. You have to beat them at their own game. Your boxes must be strong, water resistant, and ventilated. The most important factor when shipping anything in a box is the content cannot shift. If the content cannot shift, all things being equal, plants will arrive safely. We bought a paper shredder and pack every box with shredded paper to avoid shifting. It's also a good idea to have your boxes printed with such words as "This Side Up", "Live Plants", "Keep Out Of Direct Sunlight", and so on. Usually the box manufacturer already has genetic templates of this type so you do not have to purchase them.

- Customers rely on your company to know the best and most economical way to ship liners. Do not ship Delta Air Cargo if your experience tells you that UPS will work better and cheaper for a particular shipment and be cheaper. Do not use shipping or boxing as a profit center. Finally, take responsibility for the plants until your customer takes possession of them in satisfactory condition.
- Ship out all boxed liners on a Monday. First, it guarantees that your liners will not get stuck over the weekend in a UPS/FED EX truck parked in the sun. Second, it enables you to physically check a major portion of your liner orders shipping out in one glance.
- Try and mail or fax a liner availability list on a regular basis. Having availability on a set schedule makes you more credible.
- Don't take orders on material you cannot deliver. Communicate if you cannot deliver at a preset date. If you do not, you will lose customers.

### **OTHER OBSERVATIONS**

- Smaller nurseries become big customers. Take a two-flat order as seriously as a thousand-flat order.
- Smaller nurseries are more demanding.
- Larger nurseries have a tendency to float accounts payable.
- Set yourself up to accept credit cards.
- Freight companies do not like shipping live goods.
- When pre-booking liners, those liners know they are pre-sold and will rebel by not rooting as readily — just kidding!
- Never ship liners just before or right after a national holiday.

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## **I.P.P.S. International Tours: United Kingdom 2002®**

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### **INTRODUCTION**

The International Board of the IPPS meets annually on a rotational basis in one of the regions at the invitation of the host region. Each region is encouraged to send a director and an alternate director on the pre-tour prior to the International board meeting. Members at large may participate in the pre-tour by contacting the International Secretary at least 6 months in advance of the scheduled tour dates. Information regarding dates for International pre-tours may be found on the IPPS web site at: <[www.ipps.org](http://www.ipps.org)>. For 2003, the pre-tour is scheduled for May in Australia and for the year 2004 the pre-tour is scheduled for August in Japan.

The International Board represents the concerns of the respective regions and oversees the administration of the IPPS. The host region schedules and makes all arrangements for a pre-tour of representative plant propagation and production techniques in nursery and greenhouse facilities. As a bonus of the tour, several stops are made to visit historical locations, public and private gardens, botanical gardens, and other interesting sites helping to give an overall understanding and appreciation of the host region to the participants of the tour. In addition, opportunities are scheduled for discussion with local propagators at dinners during the evening.