

Alternative Opportunities for Small Farms: Woody Plant Liner Production Review¹

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Liners are propagated plants ready for transplanting into larger containers or the field. Most wholesale producers propagate the majority of the plants which they produce, but many purchase some liners to supplement their propagation production. Some nurseries in Florida specialize in liner production and sell these prefinished plants to other wholesale growers.

The most common means of propagating woody ornamental plants is by cuttings. This vegetative propagation technique involves taking a stem or stem tip cutting and providing the proper environment for root development and successful liner production. The proper moisture, light, temperature, hormone treatment and aeration differ with plant genera, species and even cultivars.

Some plants are difficult or impossible to propagate vegetatively and are propagated from seed. Some seed require specific preconditioning treatments before they will germinate. A disadvantage to seed propagation is seedling variation which results in a lack of uniformity in the crop.

The potential for liner production is dependent on the grower's market area. As long as the market stays good, i.e., high demand by the building industry and short supply of plants in Florida and other states, business can be profitable. The main disadvantages of liner production include the requirement of intensive management and the susceptibility of plants to environmental stresses that affect quality of the final product. High quality control in liner production is essential for a successful business.

MARKETING SITUATION

The market has been good in recent years since the freezes in the 1980's, growth of the building construction industry, and expansion of the nursery industry. The building industry at the present time is fair to strong in Florida and in the South. However, there appears to be a glut of some of the more common plants on the market today. The demand for liners of the more unusual or difficult to propagate plants should not diminish appreciably within the next few years.

New producers of liners will probably have to prove that they can produce quality liners before

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contract sales to other wholesale growers are possible. Finding or creating a niche in the market for provision of specialty items currently offers greatest potential. Remember that the burden of marketing lies with the grower as there is little cooperative assistance.

LABOR AND CAPITAL

The labor requirement for liner production is intensive with peak periods of high labor demand during the initial phase of each liner crop. Three to four crops of woody plant liners can be produced annually if the proper environment and production management are provided.

Initial investment requirements vary widely with such items as the type of operation, the location of the operation (i.e., north Florida will require cold protection) and the specific variety of plants grown. Also, the investment dollars would vary due to crop failures which may occur if the propagator is inexperienced. An initial investment for a 30 x 70 feet quonset greenhouse for liner production of \$6,000 to \$7,000 with direct production costs of \$8,000 to \$10,000 per crop is required. The return on investment would depend upon number of crops per year and the percentage of saleable liners. Production of 2 crops per year with 90% salability (40,500 liners per crop), marketed at \$.35 per liner would yield gross sales of \$28,350.

SUITABILITY

North and central Florida liner production nurseries differ in the variety of plants grown and the requirement for winter protection (north Florida requiring minimal heat). Field-grown liners function ideally under a low volume irrigation system and liners grown under mist require eight to twelve weeks of mist using good quality water.

PLANTING SITUATION

Liners may be produced bare root although most are marketed in 2.25" x 2.25" plastic pots or in plastic trays with several cells. Sixteen to 30 liners can be produced per square foot, depending upon container size. Some are also being raised in four inch pots although the cost per unit may be prohibitive. Stock

plant blocks are often maintained by the liner producers from which cuttings are taken. Cuttings can be taken from plants in the landscape outside the control of the propagator, but precautions must be made to insure quality cuttings are taken. Cuttings from larger production plants in wholesale nurseries may also be purchased.

CULTURAL PROGRAM

A critical element in plant propagation is maintaining a relative humidity approaching 100% at the leaf surface of the cuttings. This reduces water loss until adequate root development for supporting transpiration. A mist system is the most common means of providing this environment and must have the flexibility to provide the proper mist interval and duration for selected crops under various stages of development and environmental conditions.

Accurate pest identification is of paramount importance to a liner producer--especially diseases which affect the stem and root system. Also, the correct identification of plants grown is very important, not only for using the correct propagation technique but also when marketing the product. Any stress factor, such as a mist system failing to operate correctly, can cause serious problems to the plants being grown even when it occurs for a short period of time.

A diagram of a possible liner production facility follows (Figure 1)

Figure 1.

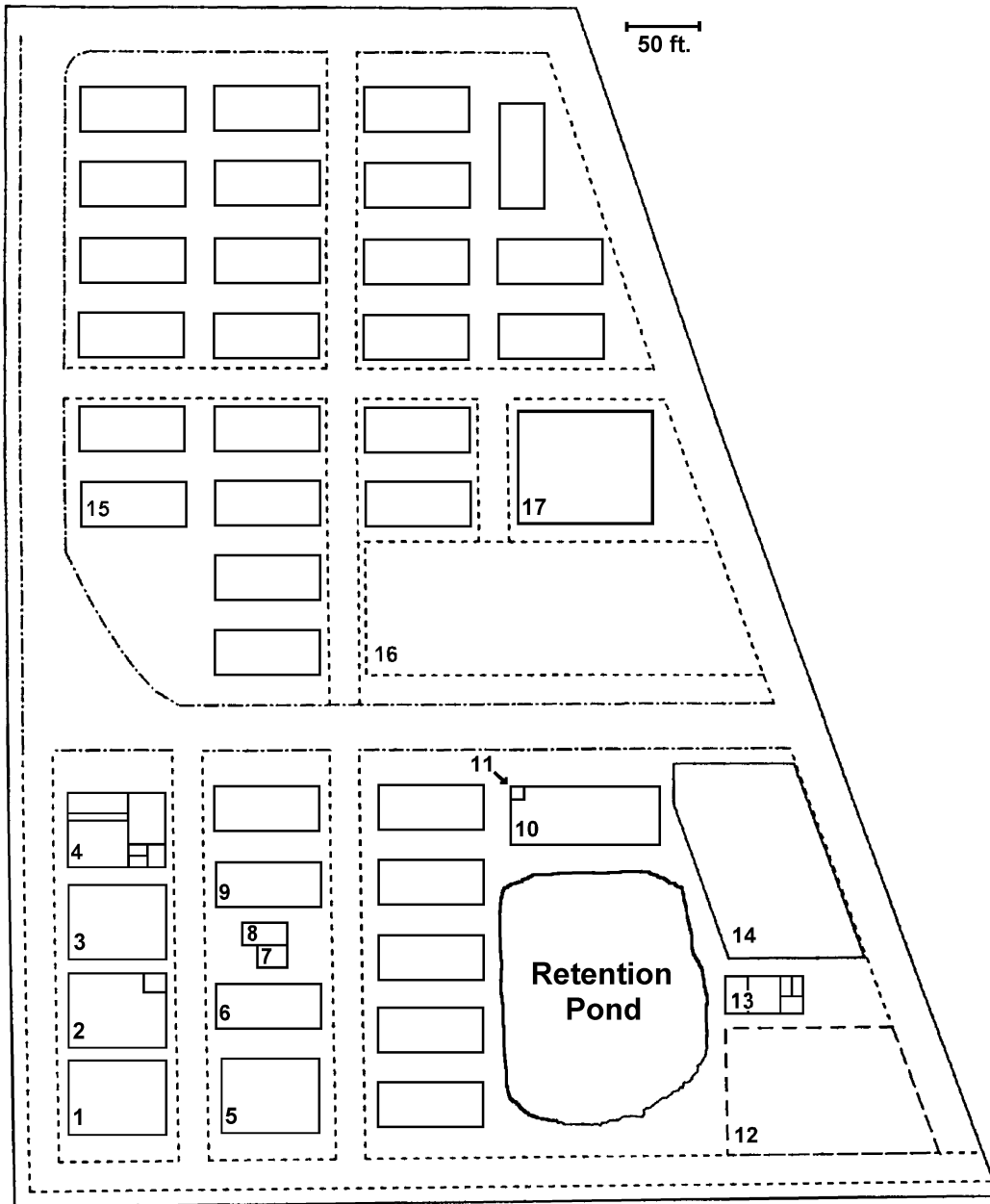


Figure 1.

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| <ul style="list-style-type: none"> 1. Equipment storage (65 X 50) 2. Pot storage (65 X 50) 3. Planting (65 X 50) 4. Media storage (65 X 50) 5. Shop (65 X 50) 6. Vehicle storage (30 X 70) 7. Pot washing area (15 X 20) 8. Chemical storage (15 X 30) 9. Germination houses (30 X 70) 10. Office and Caretaker's (40 X 70) | <ul style="list-style-type: none"> 11. Cold room (9 X 9) 12. Employee parking (85 X 110) 13. Employee facilities (26 X 52) 14. Display 15. Shadehouse (30 X 70) 16. Truck parking 17. Loading area (90 X 70) |
|---|---|
- Truck route (30' wide)
 - - - - In-nursery road (20' wide)