

UK COOPERATIVE EXTENSION SERVICE

UNIVERSITY OF KENTUCKY — COLLEGE OF AGRICULTURE

Starting a Nursery Business

Introduction

The nursery business involves the production and marketing of ornamental trees and shrubs, fruit trees, and perennial flowers. A landscaping service, garden center or sod farm may be associated with the enterprise. The successful nursery operator must be knowledgeable about all phases of plant production and be willing to work long, hard hours. Good marketing and management skills are essential. A passion for ornamental plants and an entrepreneurial spirit add greatly to the chances for success.

A prospective grower who already owns property will need to first evaluate whether the land is suitable for the nursery business and then select crops that are appropriate for that growing site. An alternative approach is to decide on the crops first and then purchase a site where those crops will grow well. Regardless of which approach is used, it is vital to the success of the nursery to match the crops with the land.

Marketing

Nursery crops may be marketed in a number of ways. RETAILERS produce and market directly to the homeowner. This type of



business requires a retail outlet along with the on-site growing area and must be conveniently located for consumer access, generally near large urban areas. WHOLESALERS produce plants that are sold to other nurserymen, landscapers or retailers. LANDSCAPE NURSERIES produce plants for their own in-house landscaping service, but may have a retail outlet. Plants can be

sold locally to a FARMERS' MARKET at retail prices. MAIL ORDER and INTERNET MARKETS involve nationwide sales and shipping and can extend the market area to include international markets.

Market outlook

Nationwide, the nursery business has experienced steady growth in the past two decades. In Kentucky, the nursery industry was a \$30 million dollar business in 2002 and continues to expand at a rate of 3 to 6 percent annually. An increase in housing starts and the growing number of hobby gardeners has helped fuel consumer demand.

Production considerations

Production methods

Growers may utilize one or more of the following production systems: field, container and pot-in-pot. FIELD PRODUCTION involves planting woody trees and shrubs in the ground and harvesting them either as bare root or ball-and-burlap material. Perennial plants can be field-grown, then dug and sold as bareroot



material or moved to containers. CONTAINER PRODUCTION entails growing plants in above-ground containers, using soilless growing media. POT-IN-POT production is an intermediate form of production that combines in-ground production with the marketing flexibility of container production. In this case, the plant is grown in a container that sits within a permanent in-ground socket pot.

Site selection

Site selection will depend on many factors, including production method and crops grown. In general, a well-drained, sunny site with good air circulation and a slightly sloping topography is best. Potential growing sites should be tested for soybean cyst nematode infestation as the presence of this pest in the soil could severely limit out-of-state export. An adequate, clean, pest-free water source must be available for the size and type of nursery being planned. The history of pesticide use should be known.

Crop selection

Nursery operators may choose to either produce their own planting stock or purchase seedlings and cuttings from other growers. Most nurserymen grow a variety of plants with known high market demand; others may specialize. Some specialty nurseries grow native plants or uncommon cultivated plants. This type of specialized production can serve niche markets and is especially well suited for the small grower.

Maintenance

Pruning trees and shrubs in the production system is both an art and a science. Shade trees are often pruned in both winter and summer to ensure that a central leader is maintained and the shape of the head of the tree is in proportion to the trunk. Shrubs are pruned regularly to establish a height and density for the planned market. Plants grown for the landscape trade tend to require specialized pruning. Inexpensive plants for the discount trade may be allowed to grow looser and taller before pruning, thus enabling them to get to size quickly. Trees may need to be staked

to maintain a straight trunk. Winter protection for above-ground container-grown plants is needed in Kentucky.

Pest management

Weed control in nurseries requires efficient and effective management. Methods of control can include a combination of hand weeding, mowing, mechanical cultivation, mulching, ground cloth, planting covercrops, and chemical methods. Insect and disease management requires IPM strategies, such as planting resistant cultivars, scouting, and practicing best management practices.

Harvest

The time it takes for plants to reach a saleable size will vary depending on the type of plant, production system, and growing conditions. In general, field-grown finished trees can take 3 to 5 years to produce. Container-grown plants are generally in production for 30 to 36 months.

Harvest is determined by the stage of development to be marketed. Plants may be sold as liners, whips or finished plants. The term LINERS once referred to plants after one year of production from seed, cuttings or tissue culture. Today this term refers to any plant placed ('lined out') into a production system so it can be grown to a larger finished plant. WHIPS are plants consisting of a straight stem with little branching. FINISHED PLANTS, the final stage of production, have all the characteristics expected in the market place: form, size, branching, and trunk size.

Easiest to harvest are container-grown and pot-in-pot plants. Harvesting field-grown nursery crops, on the other hand, requires considerable skilled labor, whether plants are hand-dug or mechanically harvested. Root balls are covered in burlap and may be further supported by wire baskets. Smaller trees can be harvested bare-root. Nursery crops grown in containers can be harvested any day of the year. Field-grown crops are generally dug when plants are dormant in the fall or spring, with digging continuing through winter as long as the weather stays relatively mild.

Labor requirements

The level of management for container-grown plants is significantly higher than in field production, while pot-in-pot requires an intermediate level of management. A common rule of thumb is to employ one worker per actual acre of container production or one employee per 7 to 8 acres of field production.

Economic considerations

Beginning a nursery business requires a large capital investment, even if land does not need to be purchased. Expenses include equipment, buildings, cold storage, supplies, plant material, grading for drainage, and the installation of an irrigation system. A greenhouse or overwintering structure will be needed. Additional costs include labor, utilities, insurance, licenses and inspections.

A grower must be prepared to make substantial investments for several years before realizing any positive returns. It can take 2 to 4 years of operation before significant returns can be expected, and an additional 3 years before showing a profit. In addition, the nursery operator will need to be able to handle the cash flow ups and downs associated with seasonal sales.

Below are 1996 University of Kentucky budget estimates comparing different production systems.

More information

Production

- Getting Started in the Nursery/Landscape Industry (UK)
<http://www.ca.uky.edu/HLA/Dunwell/Nlgetstart.html>
- Soybean Cyst Nematode: A Potential Problem for Nurseries (UK, 1992)
<http://www.ca.uky.edu/agc/pubs/id/id110/id110.pdf>
- Trees, Shrubs, Ground Covers and Vines Suitable for Kentucky Landscapes HO-61 (UK, 1997)
<http://www.ca.uky.edu/agc/pubs/ho/ho61/ho61.pdf>
- Site Selection and Layout for Plant Nurseries (North Carolina State)
http://www.ces.ncsu.edu/depts/hort/nursery/pdf/cultural_practices/site_selection_layout/site_selection.pdf
- Sustainable Small-scale Nursery Production (ATTRA, 2001)
<http://www.attra.org/attra-pub/nursery.html>

Nursery crops websites

- Nursery Crops Development Center (UK)
<http://www.ca.uky.edu/HLA/Dunwell/win1.html>
- Nursery Crops Science Website (NC State)
<http://www.ces.ncsu.edu/depts/hort/nursery/>
- NurseryWeb (Maryland)
<http://www.nursery.umd.edu/>

ITEM	FIELD	ABOVE GROUND CONTAINER	POT IN POT
Capital requirement	\$210,840.00	\$223,170.00	\$224,260.00
Machinery/equipment operation	\$26,370.00	\$15,650.00	\$18,700.00
Fixed cost	\$352,880.00	\$350,450.00	\$374,525.00
Fixed cost per plant	\$18.58	\$16.35	\$16.05
Variable cost	\$97,790.00	\$157,650.00	\$127,680.00
Variable cost per plant	\$5.15	\$7.36	\$5.47
Total cost	\$450,670.00	\$508,100.00	\$502,205.00
Total cost per plant	\$23.73	\$23.71	\$21.52