

**SECTION 6
ENGINEERING, ECONOMICS,
STRUCTURES AND
INNOVATIONS**

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Kentucky Horticulture Survey and Database

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Nature of Work: A survey was mailed in November 1995 to horticultural businesses in Kentucky who were members of a horticultural association or were certified nurseries. Of the businesses surveyed, 979 were associated with the green industry, from which we received 543 useable responses (55% return rate). A directory of Horticultural Products and Services has been published and distributed within the diverse horticultural industries in Kentucky and to Cooperative Extension Agents and Administrators and state leaders. Information from the survey was entered into a database for analysis, summary, presentation, and rapid search/retrieval.

Results and Discussion: Of the 543 firms responding, 29% of these firms classified themselves as combination wholesale/retail, 28% were retail but not wholesale, 13% were wholesale but not retail, 22% were service only, and 8% were suppliers for the green industry. Of the 71 wholesale (no retail) nursery and greenhouse firms, 30% also offered some type of landscape service. All of these firms provided landscape installation services while 80% also rendered design services and 62% provided landscape maintenance. No greenhouse wholesale operation with at least 10,000 square feet of growing space provided landscape services.

Forty-four percent of retail firms with no wholesale production also provided landscape services. Ninety-two percent of those providing landscape services indicated that installation was at least one of the services offered. Seventy-seven percent provided design services. In fact, 13 of 81 retail firms indicated that service was the most important phase of their business.

Service was an important component of Kentucky's green industry. Sixty-one percent of all green industry firms responding provided some type of landscape service. Twenty-two percent of the green industry firms responding indicated that they only furnished landscape services. Of the "service only" firms, 75% provided design or installation services, 66% rendered landscape maintenance, and 7% provided only design services.

The directory/database will be used to retrieve names and addresses of horticultural firms, by geographic location, to connect an interested clientele with services desired. Such information will also be useful in designing industry educational and development programs and in efforts to attract related support companies.

Horticulturalists Rate Problems of Expanding Facilities and Production Capacities

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Nature of Work: "If I had only anticipated this problem, I could have saved hundreds of dollars and numerous headaches!" This comment summarizes the sentiment of many horticulturalists who have undergone major production expansion during the past decade. As producers of shade and flowering trees and other woody ornamental plant materials expanded their individual operations to keep abreast of the marketing surge of the 1980s and 1990s, potential expansion problems and production problems influenced potential stress-causing concerns [1].

In the fall of 1995, 200 landscape plants producers from the Southeastern states of Alabama, Florida, Georgia, South Carolina, North Carolina, and Tennessee were phone-fax surveyed (127 completed and returned the surveys) as to the types of problems encountered and the amount of stress involved in expanding their respective production capacity and facilities. The initial list of horticulturalists to be surveyed was a compilation from the respective States' industry associations of those businesses believed to have expanded their operations (not sales dollars) by at least one-third during the past ten years. Survey respondents rated the severity of their problems (1 = very serious; 2 = moderate problem; 3 = minor problem; 4 = issue, but no problem; 5 = not encountered) while planning and implementing the expansion [2].

Results and Discussion: *Question 1:* "During your firm's expansion of nursery production and facilities in the past decade, how would you rate each of the following potential expansion problems, as they pertained to your own business activity?"

<i>Potential Problem</i>	<i>Average Rating (1-5)</i>
Building construction delays	3.34
Developing cash flow projections	3.39
Cost overruns	3.48
Finding adequately trained laborers to operate new or expanded operations	3.48
Arranging financing	3.69
Securing contractors for expansion	3.70
Managing inputs prices fluctuations	3.71
Obtaining necessary plant stock	3.87
Finding suitable plans or designs for the expansion	3.91
Obtaining necessary building, zoning, and environmental permits	3.91
Gaining access to markets	4.23
Objections from community, neighbors, etc.	4.29

Question 2: "Upon completion of your firm's expansion of nursery production and facilities, how would you rate each of the potential production problems cited below, as they pertained to your own business activity?"

<i>Potential Problem</i>	<i>Average Rating (1-5)</i>
Lower sales prices than budgeted for in expansion plan	2.91
Increased indirect (overhead, fixed) cost per marketable plant	3.25
Increased disease occurrence	3.41
Water management problems	3.54
Increased direct (variable) cost per marketable plant	3.55
Increased equipment failures and maintenance	3.64
Coordinating multiple site production	3.64
Increased labor cost per saleable plant	3.73
Increased cull rate or death loss	3.79
Increased problems in meeting environmental standards and regulations.	4.02

Question 3: "As you carried out the plans for your firm's expansion of nursery production and facilities, how would you rate each of the following potential stress-causing problems you may have encountered, as they pertained to your own business activity?"

<i>Potential Stress</i>	<i>Average Rating (1-5)</i>
Market prices below expectations	2.50
Increased time commitment or time management	2.95
Inputs prices above expectations	3.19
Increased management time away from plant production	3.50
Managing laborers	3.52
Budgeting and financial management	3.53
Working with other owners/managers, including family.	3.59
Knowledge of and adherence to environmental regulations	3.60
Record keeping	3.67
Revising plant marketing and sales strategies	3.76
Lender-financing relationship	3.83
Supplier relationships	4.04

Significance to Industry: "Building delays" headed the list of serious problems encountered whereas "objections from neighbors or community" rated the highest score (least concern). As to potential production problems encountered after the expansion, "lower sales prices than budgeted for in expansion plan" topped the list, whereas "increased problems in meeting environmental standards or regulations" was of least concern. In rating the stress-causing problems encountered in the expansion, growers indicated "market prices below expectations" as the most serious cause of stress, but "supplier relationships" were least stressful. The findings of the survey should identify issues for consideration among those horticulturalists and nurserymen contemplating major expansions.

Literature Cited

1. Brooker, John R., Steve C. Turner and Roger A. Hinson. 1995. Trade Flows and Marketing Practices Within the United States Nursery Industry: 1993, Southern Cooperative Series Bulletin 384.
2. O'Dell, William F. 1991. Effective Business Decision Making...and the Educated Guess NTC Business Books.