

# Trade Flows and Marketing Practices within the United States Nursery Industry: 1998

by  
John R. Brooker  
Roger A. Hinson  
Steve C. Turner



Southern Cooperative Series Bulletin 397  
2000

# **Trade Flows and Marketing Practices within the United States Nursery Industry: 1998**

John R. Brooker  
Department of Agricultural Economics  
The University of Tennessee

Roger A. Hinson  
Department of Agricultural Economics  
Louisiana State University

Steve C. Turner  
Department of Agricultural and Applied Economics  
University of Georgia

Plus the following survey coordinators in each participating state:

Alabama, John Adrian  
California, Dennis Pittenger  
Delaware, Susan S. Barton  
Florida, Alan Hodges  
Idaho, Robert Tripepi  
Iowa, Jeff Iles  
Kentucky, Robert McNiel  
Maine, Lois Stack  
Massachusetts, Kathy Carroll  
Michigan, Bridget Behe  
Minnesota, John Gillman  
Mississippi, Richard Harkess  
New Jersey, Robin Brumfield  
North Carolina, Charles Safley  
Oklahoma, Janet Cole  
Rhode Island, Brian Maynard  
South Carolina, Larry Bauer  
Texas, Charles Hall  
Virginia, Bonnie Appleton

**Southern Cooperative Series Bulletin 397**  
**Southern Regional Research Project S-290 (formerly S-103)**

**2000  
Forewords**

This report is one in a series of Southern Cooperative bulletins. Under the cooperative publication procedure, it becomes, in effect, a separate publication for each of the cooperating stations. The lead station for this study was the Tennessee Agricultural Experiment Station, P.O. Box 1071, Knoxville, TN 37901-1071. The World Wide Web address is:  
<http://web.utk.edu/~brooke00/RESEARCH/SCB397.pdf>.

---

**Administrative Advisor:** Everett R. Emino, University of Florida  
**CSREES Representative:** David Holder

<b><u>Participating States</u></b>	<b><u>Experiment Station Directors</u></b>	<b><u>S-290 Regional Committee Members</u></b>
Alabama	Luther Waters	John Adrian Joe Eakes Ken Tilt
Delaware	Johnny C. Nye	Susan S. Barton
Florida	Richard L. Jones	John Haydu Alan Hodges P.J. vanBrokland
Georgia	Gale A. Buchanan	Forrest Stegelin Steve Turner
Illinois	Steven Pueppke	Daniel Warnock David Williams
Indiana	William R. Woodson	Bruno Moser
Kentucky	C. Oran Little	Robert McNeil
Louisiana	R. Larry Rogers	Roger A. Hinson Jeff Kuehny
Michigan	J. Ian Gray	Bridget Behe Tom Fernandez
Mississippi	Vance H. Watson	Richard Harkess Patricia Knight Ben Posadas
New Jersey	Adesoji Adelaja	Robin Brumfield
North Carolina	Johnny C. Wynne	Charles Safley
Ohio	Steven Slack	Tim Rhodus
Oregon	Thayne R. Dutson	Larry Burt
Pennsylvania	Paul Blackman	David Beattie
Rhode Island	Patrick A. Logan	Brian Maynard
Tennessee	C. A. Spear	John Brooker
Texas	Edward A. Hiler	Mike Arnold Charles Hall

## **Abstract**

The pace of change inside and outside the green industry has quickened. To capture critical information related to some marketing aspects of the industry, this is the third in a series of surveys that tracked the changes in selected variables. In 1989, under the auspices of the Regional Research Project titled "Technical and Economical Efficiencies of Producing and Marketing Landscape Plants", researchers at land grant universities participating in the project conducted a survey of nursery professionals in 23 states. Five years later, a second survey of nursery professionals was conducted to provide another cross sectional data set regarding their marketing practices and trade flows. This current study follows the general format of the 1989 and 1994 studies. The 22 states surveyed in 1999 represented 69% of the 1998 U.S. grower cash receipts. The most prominent omissions were Oregon, Ohio, Pennsylvania, and Washington (top ten states in 1998).

A total of 1,756 usable questionnaires were returned. Among participating states, the method of reaching the relevant population varied. Generally, the list of firms included in the survey came from state nursery associations, licensed nurseries in the state, or lists developed and maintained by Extension Specialists.

Regarding transactions methods, results showed that frequency of participation in the traditional trade show declined, but the estimated share of sales at trade shows changed little. Sales to repeat customers declined from 1993 to 1998. Among the 17 states in both surveys, the average value declined in 12. The importance of mass merchandisers as an outlet increased from 18.8 percent in 1993 to 22.1 percent in 1998. Sales to garden centers dropped from 26 percent in 1993 to 18.6 percent in 1998, and the 'other retailer' category declined. This confirms that growers face a significant change in the competitive infrastructure, as these large retailers may choose to exert their power as buyers in the marketplace. For shares of production in specified plant categories, there were minor changes in the leading categories between 1993 and 1998. Deciduous trees and the combination of the broad-leaved evergreen shrub/azalea categories each amounted to a little more than 13 percent of production.

## **Acknowledgments**

Research scientists associated with the S-290 (formerly S-103) Regional Research Committee supervised the sample selection process and mailing of the questionnaires in their own states. In several states without as S-290 participant, other university researchers volunteered to coordinate the survey in their state, for which we are grateful. Printing of the questionnaires, return-mail postage, data coding, and initial data analyses were handled at Tennessee with special support from the Tennessee Agricultural Experiment Station. Cover photos furnished by Robert McNiel.

# Table of Contents

Introduction . . . . .	1
Objectives . . . . .	2
Procedure . . . . .	<a href="#">2</a>
Year Established . . . . .	<a href="#">6</a>
Types of Plants Sold . . . . .	<a href="#">6</a>
Root Media . . . . .	<a href="#">9</a>
Transaction Methods . . . . .	<a href="#">9</a>
Trade Shows . . . . .	<a href="#">9</a>
Sales to Repeat Customers . . . . .	<a href="#">12</a>
Sales Transaction Method . . . . .	<a href="#">12</a>
Trade Shows . . . . .	<a href="#">15</a>
Telephone Orders . . . . .	<a href="#">15</a>
In Person . . . . .	<a href="#">15</a>
Mail Order . . . . .	<a href="#">15</a>
Discounts Published . . . . .	<a href="#">16</a>
Distribution of Sales by Month . . . . .	<a href="#">16</a>
Export Sales . . . . .	<a href="#">18</a>
Contract Production . . . . .	<a href="#">19</a>
Wholesale Versus Retail . . . . .	<a href="#">20</a>
Distribution of Wholesale Sales . . . . .	<a href="#">21</a>
Mass Merchandisers . . . . .	<a href="#">22</a>
Garden Centers . . . . .	<a href="#">22</a>
Other Retailers . . . . .	<a href="#">24</a>
Landscapers . . . . .	<a href="#">24</a>
Re-Wholesalers . . . . .	<a href="#">24</a>
Advertising Expenditures . . . . .	<a href="#">25</a>
Source of Seedlings and Liners . . . . .	<a href="#">26</a>
Distribution of Wholesale Sales by State . . . . .	<a href="#">29</a>
Mass Merchandisers . . . . .	<a href="#">29</a>
Garden Centers . . . . .	<a href="#">29</a>
Other Retail Outlets . . . . .	<a href="#">29</a>
Landscapers . . . . .	<a href="#">29</a>
Remarks . . . . .	<a href="#">35</a>
Re-Wholesalers . . . . .	<a href="#">35</a>
Concluding Remarks . . . . .	35
References . . . . .	<a href="#">39</a>
Appendix . . . . .	<a href="#">40</a>

# **Trade Flows and Marketing Practices within the United States Nursery Industry: 1998**

## **Introduction**

The greenhouse/nursery industry in the United States has grown dramatically in the last 40 years. Grower cash receipts for greenhouse and nursery crops, which include floriculture and environmental crops, have grown an average 8 percent from 1960 to 1998. This growth has varied considerably between decades. For instance, the 1960's averaged 3.8 percent annual growth, while the 1970's averaged 13.6 percent, the 1980's averaged 9.8 percent, and the 1990's have averaged 4.2 percent. This sector of agricultural has grown from \$661 million in 1960 grower cash receipts to \$12.11 billion in 1998 [3, 4, and 5].

Prior to 1989, little information was available on marketing practices and trade flows in the U.S. greenhouse/nursery industry. In 1989, under the auspices of the Regional Research Project titled "Technical and Economical Efficiencies of Producing and Marketing Landscape Plants", researchers at land grant universities participating in the project conducted a survey of nursery professionals in 23 states [1]. The overall purpose of that survey was to collect information on product flows, sales methods, price determination, transportation, and advertising. Five years later, a second survey of nursery professionals was conducted to provide another cross sectional data set regarding their marketing practices and trade flows [2]. This current study follows the general format of the 1989 and 1994 studies. The updated information provides a valuable resource to the decision making of nurseryman, other industry participants, and government and academic researchers.

## **Objectives**

The general objective was to examine the trade flows and selected marketing practices of U.S. nurseries in 1998. Specific objectives were to determine the following for each state:

1. Distribution of sales by plant category and root media;
2. Transaction methods used;
3. Distribution of sales by outlet;
4. Distribution of resources allocated to advertising, and;
5. Trade flows of origin of inputs and nursery products.

## **Procedure**

The 1994 survey instrument was used as the basic document for the 1999 survey, because the intent was to assure that a key set of information including sales and trade flow questions would be collected. The instrument was modified to clarify and strengthen selected sections of its predecessor, and questions that resulted in unusable information were eliminated. Committee member participants were offered the opportunity to modify and comment on the questionnaire (see Appendix).

The committee sought to include every state in the continental U.S. in the survey. To that end, researchers in most states were contacted regarding participation in the survey. In particular, the committee wanted the participation of the 10 largest states measured by the value of grower cash receipts from environmental horticulture farms. Of 22 participating states in 1999, the most prominent omissions were Oregon, Ohio, Pennsylvania, and Washington (top ten states in 1998). The 22 states surveyed in 1999 represented 69% of the 1998 U.S. grower cash receipts (Table 1). Of the 24 participating states in 1994, the most prominent omissions were New York and

**Table 1. Grower Cash Receipts for Greenhouse and Nursery Crops in the 22 Surveyed States and for the entire U. S., in 1993 and 1998**

State <sup>a</sup>	Grower Cash Receipts		Share of Total U. S.	
	1993	1998	1993	1998
	----- \$1,000,000s -----		-----percent-----	
Alabama	201.0	210.3	2.1	1.7
California	1,902.6	2,468.5	20.3	20.4
Delaware	23.9	28.7	0.3	0.2
Florida	1,017.7	1,278.7	10.8	10.6
Georgia	144.9	241.4	1.5	2.0
Idaho	69.5	61.7	0.5	0.5
Iowa	71.4	62.2	0.5	0.5
Kentucky	50.2	67.2	0.5	0.6
Louisiana	29.2	35.4	0.3	0.3
Maine	21.0	29.0	0.2	0.2
Massachusetts	123.4	151.0	1.3	1.2
Michigan	369.6	475.3	3.9	3.9
Minnesota	110.0	151.5	1.2	1.3
Mississippi	32.3	44.8	0.3	0.4
New Jersey	209.5	299.4	2.2	2.5
North Carolina	795.1	957.6	8.5	7.9
Oklahoma	170.4	168.3	1.8	1.4
Rhode Island	41.5	43.0	0.4	0.4
South Carolina	127.7	183.1	1.4	1.5
Tennessee	154.2	192.3	1.6	1.6
Texas	707.0	1,119.7	7.5	9.2
Virginia	123.6	146.3	1.3	1.2
United States	9,382.2	12,114.9	---	---
22 State Share of the U. S. Total			68.4 %	69.5 %

<sup>a</sup> States providing survey data for this study.

Source: [5] Johnson, Doyle C., *Floriculture and Environmental Horticulture: Situation and Outlook Yearbook*, FLO-1999, U.S. Department of Agriculture, Economic Research Service: Washington D.C., 1999.



Pennsylvania (top ten states in 1994). The 24 states surveyed in 1994 represented 81% of the 1993 U.S. grower cash receipts [2]. In 1989, the 23 surveyed states represented 79% of the 1988 U.S. grower cash receipts [1].

The survey was conducted during the first half of 1999. Initial mailing of questionnaires was in February. A total of 1,756 usable questionnaires were returned representing about 24 percent of the total number of questionnaires mailed. Among participating states, the method of reaching the relevant population varied (Table 2). Generally, the list of firms included in the survey came from state nursery associations, licensed nurseries in the state, or lists developed and maintained by Extension Specialists. After a source was identified, the list of sampling approaches included (1) mailing to all firms on the list, (2) mailing to a random subset of firms on the list, or (3) mailing to a list that had been edited on the basis of a minimum acreage (or other similar criteria) to eliminate non-commercial firms. Some states used a combination of these conditions. In most states, a second mailing was used to try and increase the number of respondents.

Several questions in the survey asked nursery professionals to use percentages to report the appropriate distribution of annual sales. In order to weight responses by annual sales, these percentages were multiplied by the appropriate sales value. Nursery professionals were asked to indicate 1 of 14 categories that included their annual sales for 1998, or the most recently completed fiscal year. The midpoints of the first 13 sales categories were used to represent the annual sales value. The 14th category was open ended, so firms indicating this level were assigned a sales value of \$12.5 million dollars. An obvious weakness here is that for states with very large firms responding to the survey the aggregate sales values will be underestimated.

The format of this report will be to present the overall characteristics of the sampled nurseries, followed by sections on plant categories, transaction methods, price determination

**Table 2. Survey Size and Selection Process Used in Each State, 1999**

State	List	Sample	Survey Respondent	Criteria for Selecting Survey Sample
AL	450	194	40	100% of certified nurseries with 5 or more acres and a random sample of smaller nurseries
CA	4,680	806	169	100% of large nurseries and random sample of the others
DE	430	430	51	100% of certified nurseries
FL	6,781	931	259	100% of nurseries with at least 50,000 plants or with eight or more employees
GA	1,344	352	112	100% of licensed growers with more than one acre
ID	127	127	52	100% of Class A and Class B licensed businesses that reported growing nursery stock
IA	157	157	77	100% of IA Nursery and Landscape Association growers
KY	250	160	14	Random sample of licensed nurseries
LA <sup>a</sup>	500	500	294	100% of Class 1 certified nurseries (more than 2,500 sq. ft. of greenhouse or more than ¾-acre in field production)
ME	131	131	51	100% of licensed nurseries
MA	375	375	42	100% of MA nurseries in UM data base
MI	233	233	62	100% of MI Nursery and Landscape Association members
MN	135	138	35	100% of MN Nursery and Landscape Association growers
MS	125	75	40	Random sample of full-time growers
NJ	260	260	83	100% of NJ Nursery and Landscape Association growers
NC	1,453	1,258	80	100% of wholesale nurseries (241) and all wholesale/retail nurseries (1,017)
OK	86	86	18	100% of licensed nurseries with 1 acre or more
RI	190	190	19	100% of RI Nursery and Landscape Association growers
SC	184	184	28	100% of SC Nursery and Landscape Association growers
TN	815	300	96	100% of nurseries with 100 or more acres and random sample of the remaining nurseries
TX	602	247	96	100% of TX Nursery Association growers with sales greater than \$200,000
VA	293	293	38	100% of VA Nursery and Landscape Association growers
Total	19,601	7,427	1,756	

<sup>a</sup> In addition to double mailing of questionnaires, also used telephone follow-up with nonrespondents.

practices, advertising, and trade flows. Concluding comments will focus on the current marketing situation of the U.S. environmental (landscape) plant industry.

### **Year Established**

Entry of new firms into the nursery industry appears to be a continuing trend in most states. In the 1989 nursery survey, the average proportion of nurseries established in the 1980s was 33.5 percent [1]. For half (11) of the states in this current survey, 25 percent or more of the respondents were established between 1990 and 1998 (Table 3). In Louisiana, 40.5 percent or more of the responding managers reported that their nurseries were established in the 1990s, followed closely by 39.3 percent in Delaware, 38.5 percent in Idaho, and 37.5 percent in Mississippi. These percentages may be influenced by response bias, but they suggest that the phenomenal growth in green-industry sales during the 1980s and 1990s has been matched by a steady stream of new firms entering the nursery business.

### **Types of Plants Sold**

Five additional plant categories were added to the 12 categories included in the 1994 survey questionnaire [2]. Azaleas, bedding plants-annuals, bedding plants-vegetables, fruit trees, herbs, flowering potted plants, and Christmas trees were added because of the high percentage of sales attributed to the “other” category in California (33%), Delaware (61%), Louisiana (44%), and Texas (43%) in 1993. While the original focus of the trade flows and marketing practices survey was on landscape material, the distinction between landscape, greenhouse, and floriculture commodities seems to be fading.

**Table 3. Distribution of Nurseries by Year Established**

State	Before 1950	1950's	1960's	1970's	1980's	1990's
AL	22.5	0.0	2.5	20.0	30.0	25.0
CA	9.5	5.9	7.1	13.6	36.1	27.8
DE	9.8	3.9	5.9	17.6	23.5	39.3
FL	10.1	5.0	5.4	26.4	37.2	15.9
GA	8.8	4.5	6.3	15.2	42.0	23.2
ID	3.8	0.0	5.8	23.1	28.8	38.5
IA	18.2	2.6	11.7	22.1	26.0	19.4
KY	7.1	14.3	7.2	21.4	21.4	28.6
LA	4.4	2.7	6.5	16.6	29.3	40.5
ME	9.8	2.0	7.8	15.7	39.2	25.5
MA	16.7	4.8	14.3	23.8	33.3	7.1
MI	22.6	6.5	11.3	12.8	38.7	8.1
MN	20.0	11.4	5.7	20.0	31.4	11.5
MS	2.5	2.5	2.5	27.5	27.5	37.5
NJ	19.3	16.9	7.2	27.7	20.5	8.4
NC	7.5	5.0	7.5	21.3	33.7	25.0
OK	27.7	5.6	11.1	16.7	27.8	11.1
RI	31.5	21.1	5.3	5.3	21.1	15.7
SC	3.5	14.3	3.6	14.3	39.3	25.0
TN	10.4	7.3	9.4	29.2	29.2	14.5
TX	11.5	6.3	8.3	22.8	32.3	18.8
VA	15.8	2.6	5.3	15.8	34.2	26.3

Source: Mail survey conducted in 1999.

Deciduous trees was the leading category for the combined average percentage of 1998 nursery sales (13.2%) for respondents in the 22 surveyed states (Table 4). The deciduous trees category was largest in six states, was the second ranking category in five more states, and third in another four states. The highest percentage was reported in Tennessee, where 39.5 percent of total sales was accounted for by the deciduous tree category. This average value is slightly lower than the 15.1 percent value reported from respondents in the 24 states covered in 1993 [2]. Second overall

**Table 4. Weighted Average Percentage Distribution of Nursery Sales by Plant Category, 1998**

State	Respon- dents <sup>a</sup>	Deciduous		Evergreen shrubs		Ever- green trees	Azaleas	Vines & ground cover	Roses	Herba- cious peren- nials	Bedding plants - annuals	Bedding plants - veg., fruit, herbs	Flower- ing potted plants	Christ- mas trees	Tree fruit	Foliage	Propa- gating material	Other
		Trees	Shrubs	Broad	Narrow													
	-----percent-----																	
AL	97.5	9.6	8.5	18.4	9.3	2.6	16.0	2.0	2.1	3.3	16.2	1.0	5.3	0.0	0.8	0.3	3.0	1.5
CA	89.9	6.7	2.7	7.8	3.9	6.2	2.5	3.7	2.5	9.8	2.5	6.2	8.6	6.0	8.8	7.5	5.0	9.9
DE	92.2	8.2	2.4	1.3	0.3	3.9	1.0	0.3	0.5	2.9	6.3	8.7	3.5	40.5	6.6	0.6	8.2	4.8
FL	92.7	8.6	2.2	9.9	2.5	3.2	1.8	2.2	2.4	1.6	4.3	0.8	9.0	0.0	1.0	30.3	11.5	8.6
GA	94.6	7.7	3.8	10.4	5.0	9.2	1.7	6.1	0.2	7.2	11.6	1.6	3.8	0.9	0.3	1.2	10.0	19.3
ID	90.4	30.3	3.4	0.7	0.3	44.8	0.3	0.7	0.4	1.1	1.7	0.4	0.2	1.6	0.2	0.0	0.2	13.9
IA	89.6	23.6	21.4	3.2	5.7	6.8	0.8	2.8	4.9	9.7	4.1	3.3	1.4	0.8	7.4	3.3	0.4	0.4
KY	92.9	11.1	10.9	7.6	8.0	8.2	0.1	1.3	0.0	1.0	0.8	0.1	0.1	0.6	0.1	0.0	48.1	2.1
LA	76.5	9.6	6.8	11.6	3.1	7.6	9.0	5.8	0.6	3.6	16.7	5.2	5.8	0.0	1.2	4.9	7.3	1.2
ME	90.2	12.5	12.1	3.9	4.5	15.3	1.0	2.0	3.6	11.5	15.8	2.6	2.6	5.1	1.0	2.0	1.5	3.0
MA	76.2	9.3	11.3	4.8	4.2	7.1	1.5	1.4	8.5	12.7	14.2	4.6	11.6	2.2	2.0	1.6	0.9	2.2
MI	91.9	10.5	12.5	6.2	8.8	12.9	3.2	2.5	1.6	10.0	5.2	0.3	1.8	8.7	7.0	0.5	2.5	5.7
MN	85.7	18.3	10.7	2.1	1.9	19.0	0.6	1.5	1.5	14.0	10.3	1.5	1.1	2.7	0.6	0.3	0.2	14.0
MS	92.5	5.0	2.4	9.3	1.8	2.1	4.4	1.5	0.4	11.7	20.0	23.5	15.4	0.3	0.1	0.6	1.4	0.1
NJ	94.0	24.9	8.8	7.1	4.1	20.5	3.9	0.9	6.5	10.2	3.7	1.4	0.4	1.5	0.0	0.2	0.9	5.0
NC	88.8	11.7	5.1	5.7	2.1	9.0	12.6	0.4	0.9	5.5	13.0	0.2	8.7	18.1	0.2	5.2	0.2	1.4
OK	88.9	19.9	19.0	19.4	16.1	5.5	4.5	3.2	1.8	2.2	3.1	0.5	1.1	0.2	0.9	1.4	0.5	0.8
RI	89.5	24.9	13.3	10.4	12.1	24.8	2.4	1.5	0.6	0.5	1.7	0.9	0.9	1.4	0.1	0.1	4.6	0.1
SC	92.9	23.0	5.8	25.5	5.5	13.0	5.8	1.1	1.4	2.5	5.9	1.6	0.9	0.8	0.2	1.4	0.1	5.6
TN	86.5	39.5	12.8	7.3	2.8	4.9	2.0	1.3	0.4	3.3	1.7	0.6	5.5	0.4	11.5	0.1	1.9	4.1
TX	94.8	15.1	2.6	15.1	2.3	3.8	1.2	2.5	10.9	1.8	17.9	1.3	4.7	0.3	0.5	5.1	3.2	11.6
VA	100.0	22.9	5.7	13.9	3.4	14.4	6.8	4.6	1.3	10.6	8.5	0.0	0.4	0.4	1.2	0.0	0.7	5.3
Avg.	86.6	13.2	5.7	10.0	4.1	8.1	3.3	2.8	3.2	5.4	8.0	2.5	5.7	2.4	2.8	9.4	5.5	7.9

<sup>a</sup> Percentage of survey respondents who provided information for this question.

Source: Mail survey conducted in 1999.

for the 22 states covered in 1998 was the evergreen broad-leaf shrub category, accounting for an average 10 percent of sales. This was the leading category for nursery professionals in Alabama (18.4%) and South Carolina (25.5%).

The addition of Christmas trees to the list of plant categories was most notable for Delaware, where this category accounted for 40.5 percent of total annual sales among the responding nursery professionals. As in the previous surveys, the Florida industry continues to be dominated by the tropical foliage category, but its average proportion declined from 39.4 percent in 1993 to 30.3 in 1998.

### **Root Media**

The shift toward container production observed in the 1993 data continued in the 1998 data ([2] and Table 5). Sales of container-grown products was the dominant root packaging category in 17 of the 22 states included in the 1998 survey. In 1993, the 24-state overall average was reported at 61.5 percent of sales. This value increased to 66.5 percent in 1998. Among the 17 states that participated in the survey in both 1993 and 1998, the percentage of sales in containers increased in 12 states. The only other state with more than one-third of sales as bare-root was Iowa at 34.7 percent. Balled and burlapped still accounted for large percentages of sales in Idaho (66.3 %), New Jersey (45.1 %), Rhode Island (72.1%), and Virginia (58.2%).

The “other” category in Delaware, North Carolina, and Texas accounted for 37.2 percent, 23.2 percent, and 14.9 percent of sales, respectively. In Delaware, North Carolina, and Texas, the dominant added category was cut Christmas trees. In Florida, a broader assortment of categories was added, such as, tissue culture, cut foliage, and liners.

**Table 5. Weighted Average Percentage Distribution of Nursery Sales by Root Packaging, 1998**

State	Respon- dents <sup>a</sup>	Bare root	Balled & potted	Balled & burlapped	Processed balled	Container	Field grow bags	In-ground containers	Other
	-----percent-----								
AL	92.5	0.1	1.1	4.4	0.0	94.5	0.0	0.0	0.0
CA	91.1	5.8	0.2	0.1	0.0	85.0	1.3	0.4	7.2
DE	90.2	12.1	5.7	12.9	0.0	31.8	0.2	0.1	37.2
FL	91.5	0.9	0.3	5.4	0.0	77.9	0.4	0.9	14.1
GA	88.4	13.1	1.0	7.4	0.0	68.5	0.0	0.3	9.7
ID	92.3	1.3	0.4	66.3	0.3	27.1	0.0	0.8	3.8
IA	94.8	34.7	3.5	16.0	0.2	42.1	0.9	0.5	2.1
KY	85.7	50.5	7.3	28.0	8.5	5.7	0.0	0.0	0.1
LA	76.5	4.9	2.3	10.9	0.0	72.4	0.0	0.1	9.4
ME	88.2	12.4	1.7	28.2	2.1	46.4	5.4	0.7	3.1
MA	78.6	2.0	2.8	23.2	3.1	62.4	3.7	0.5	2.3
MI	88.7	13.9	3.2	23.8	0.2	50.1	0.1	0.1	8.7
MN	88.6	4.1	9.7	27.4	0.0	56.2	0.1	0.4	2.0
MS	85.0	0.2	0.0	5.6	0.0	87.0	0.0	1.2	6.0
NJ	95.2	0.9	1.2	45.1	0.3	47.7	0.1	0.2	4.6
NC	88.8	0.9	0.5	15.9	1.9	57.5	0.0	0.1	23.2
OK	88.9	0.9	1.2	11.1	0.1	85.2	1.3	0.1	0.2
RI	94.7	0.9	0.3	72.1	0.0	23.9	0.0	0.0	2.9
SC	92.9	2.3	10.9	27.1	0.0	57.4	0.3	1.0	1.1
TN	87.5	11.3	1.3	33.9	8.1	40.5	0.1	2.3	2.6
TX	91.7	2.6	3.1	10.6	0.0	64.4	1.8	2.5	14.9
VA	97.4	1.3	0.2	58.2	0.0	30.6	0.0	9.6	0.1
Avg.	85.9	5.1	1.5	15.4	0.5	66.5	0.6	1.0	9.3

a Percentage of survey respondents who provided this information.

Source: Mail survey conducted in 1999.

## Transaction Methods

### Trade Shows

The questionnaire was modified for 1998 to ask nursery professionals about trade shows they attend with and without displays. In most states, the average number of trade shows attended with displays was larger than the number attended without displays (Table 6). Growers in the larger production states, except for Florida and Texas, tended to participate in trade shows less frequently than growers in those states accounting for smaller shares of the total U.S. output.

**Table 6. Number of Trade Shows Attended Annually by Nursery professionals, 1998**

State	Respondents <sup>a</sup> percent	<u>Trade Shows With Displays</u>		<u>Trade Shows Without Displays</u>	
		Average	Maximum	Average	Maximum
		----- number -----			
AL	52.5	1.4	14	0.8	6
CA	35.5	0.7	8	0.3	7
DE	21.6	0.9	40	0.2	3
FL	60.9	1.1	11	0.7	10
GA	58.9	1.6	25	0.7	6
ID	46.2	0.8	6	0.7	10
IA	55.8	0.3	7	1.0	8
KY	42.9	0.2	2	0.8	5
LA	28.9	0.4	12	0.4	23
ME	37.3	0.6	12	0.7	5
MA	31.0	0.4	7	0.7	5
MI	48.4	1.1	12	0.9	8
MN	68.6	2.6	35	0.7	3
MS	32.5	0.4	3	0.4	5
NJ	53.0	1.2	8	0.6	5
NC	37.5	0.5	7	0.5	5
OK	61.1	5.0	36	0.7	3
RI	42.1	0.4	3	0.9	8
SC	75.0	1.3	6	1.0	6
IN	59.4	1.5	10	0.8	8
TX	72.9	1.4	20	0.8	8
VA	81.6	1.3	7	0.9	6



<sup>a</sup> Respondents who indicated they participated in a trade show either with or without a display.  
Source: Mail survey conducted in 1999.

Among states included in both the 1993 and 1998 surveys, participation in trade shows with or without displays declined. The highest participation in trade shows occurred in Oklahoma, with an average of five shows with displays and 0.7 without displays. Minnesota was second with averages of 2.6 and 0.7 for shows with and without displays, respectively. These numbers support the contention based on anecdotal evidence that participation in and the importance of trade shows as a sales outlet is declining.

### **Sales to Repeat Customers**

Sales to repeat customers ranged from 89.2 percent in Florida to 55.2 percent in Iowa (Table 7). In 1993, the highest average percentage of sales to repeat customers was 88.4 percent in Texas [2]. This value declined to 83.6 percent for Texas in 1998. Among the 17 states in both surveys, the average value increased in five states and declined in the other 12 states. This might imply that the level of competition from new nursery professionals and expanding nursery professionals is intensifying competition among nursery firms.

### **Sales Transaction Method**

Over the 22-states, the average sales distribution via trade shows, telephone orders, in-person, and by mail in 1998 is quite similar to the distribution in 1993 (Table 8 and [2]). Non-discounted sales in person and by telephone were most frequently reported and were about 28 percent each. Discounted sales by those same methods were next in importance and were about 18 percent each. The major adjustment was a 3.4 percent reduction in the percentage of in-person discounted sales and a 6.2 percent increase in the percentage of in-person non-discounted sales.

**Table 7. Nursery Sales to Repeat Customers, 1998**

State	Average <sup>a</sup>	Standard Error	Minimum	Maximum
----- percent ----- -----				
AL	79.2	3.6	20	100
CA	76.3	2.1	0	100
DE	70.5	3.1	0	100
FL	89.2	0.8	1	100
GA	92.8	2.1	0	98
ID	80.7	2.7	20	100
IA	55.2	3.3	0	100
KY	63.6	6.7	20	95
LA	78.2	1.5	0	100
ME	73.3	2.5	0	100
MA	74.7	3.4	20	100
MI	60.7	4.0	0	100
MN	67.6	4.6	0	95
MS	77.1	4.7	0	100
NJ	75.9	2.3	0	100
NC	74.5	3.0	0	100
OK	75.8	4.6	30	100
RI	77.5	3.8	40	100
SC	80.8	1.9	50	98
TN	82.8	1.7	0	100
TX	83.6	1.8	0	100
VA	79.8	2.6	25	9

<sup>a</sup> Unweighted average.

Source: Mail survey conducted in 1999.

**Table 8. Weighted Average Percentage Distribution of Nursery Sales by Transaction Method, 1998**

State	Respon dents <sup>a</sup>	Trade Shows		Telephone Orders		In-Person		Mail Order
		Dis. <sup>b</sup>	Non. <sup>c</sup>	Dis. <sup>b</sup>	Non. <sup>c</sup>	Dis. <sup>b</sup>	Non. <sup>c</sup>	
	----- percent ----- -----							
AL	90.0	2.6	7.5	36.2	22.8	18.4	12.2	0.2
CA	90.5	0.6	0.7	21.6	27.6	21.2	27.0	1.3
DE	84.3	0.0	0.0	8.6	13.6	12.1	65.4	0.3
FL	90.3	1.9	2.4	24.1	33.7	16.7	20.0	1.3
GA	87.5	2.8	3.5	18.7	32.0	22.4	19.0	1.5
ID	90.4	7.0	1.0	35.0	14.2	10.3	31.0	1.5
IA	89.6	0.5	1.5	11.0	18.9	21.0	26.6	20.4
KY	92.9	0.0	0.2	2.3	12.6	19.4	21.8	43.6
LA	75.2	0.9	2.0	21.0	33.3	9.1	30.2	3.5
ME	94.1	0.8	1.2	5.8	24.0	9.3	51.2	7.8
MA	76.2	0.3	0.5	8.5	31.1	8.9	42.3	8.4
MI	90.3	3.0	2.0	10.9	16.7	14.1	49.9	3.5
MN	85.7	0.7	2.1	4.8	18.2	10.0	59.9	4.5
MS	90.0	0.9	3.3	6.5	27.6	9.4	52.0	0.2
NJ	85.5	1.3	5.4	9.4	30.0	11.1	42.1	0.6
NC	87.5	2.1	4.6	11.7	22.4	42.6	14.2	2.4
OK	88.9	7.9	8.4	6.9	10.5	26.7	33.4	6.2
RI	89.5	6.2	2.9	54.5	9.5	18.3	8.7	0.0
SC	89.3	0.8	11.0	7.2	43.1	17.0	19.2	1.7
TN	88.5	13.0	4.4	13.4	19.0	25.5	17.3	7.5
TX	89.6	3.2	2.6	16.9	31.5	23.4	21.7	0.6
VA	97.4	3.0	10.3	7.1	43.1	2.8	25.5	8.3
Avg.	84.5	2.5	3.0	18.4	28.4	17.9	27.2	2.6

<sup>a</sup> Percentage of respondents who provided this information.

<sup>b</sup> Discounted.

<sup>c</sup> Non-discounted.

Source: Mail survey conducted in 1999.

### **Trade Shows**

Among the 22 states in the 1998 survey, Tennessee nursery professionals reported the largest percentage of discounted sales at trade shows (13.0 percent) compared to an average of 2.5 percent. South Carolina was the leader in non-discounted sales at trade shows with 11.0 percent.

### **Telephone Orders**

Over one-third of the nursery sales, based on the responses of nursery professionals in the 22 surveyed states, were reported as telephone transactions. The highest 22-state average among all seven transaction methods was in the non-discounted telephone orders category at 28.4 percent. In South Carolina, 43.1 percent of sales were accounted for by non-discounted telephone orders. The lowest percentage of non-discounted telephone orders occurred in Rhode Island, which in contrast had the highest percentage (54.5 percent) of discounted telephone orders.

### **In Person**

On average, 45.1 percent of sales by the responding nursery professionals was made as discounted or non-discounted in-person transactions. As one of the leading transaction methods, non-discounted in-person sales accounted for 65.4, 59.9, 52.0, and 51.2 percent of sales in Delaware, Minnesota, Mississippi, and Maine, respectively. The state with the lowest percentage of non-discounted in-person sales, 8.7 percent, was Rhode Island.

### **Mail Order**

The two states with more than 10 percent of sales classified as mail-order were Iowa (20.4%) and Kentucky (43.6%). Other states with more than 5 percent were Massachusetts (8.4%), Virginia (8.5%), Maine (7.8%), Tennessee (7.5%), and Oklahoma (6.2%). Mail order sales declined in importance from the 1993 survey (4.6 percent) to 1998 (2.6 percent) [2].

## Discounts Published

Close to three-fourths of Maine’s nursery professionals, according to the respondents, published information about discounting for large volume sales (Table 9). Far below this level, roughly one-third of the responding nursery professionals in Idaho, Massachusetts, Minnesota, and Texas published this information. Delaware at 8.2 percent and Rhode Island with 11.1 percent were at the lower end among the surveyed nursery professionals who published discount information.

**Table 9. Publication of Discount Information for Large Volume Purchases, 1998**

State	Respondents <sup>a</sup>		State	Respondents <sup>a</sup>	
	Yes	No		Yes	No
	----- percent -----			----- percent -----	
AL	20.0	80.0	MI	24.6	75.4
CA	19.6	80.4	MN	34.3	65.7
DE	8.2	91.8	MS	25.0	75.0
FL	16.7	83.3	NJ	25.6	74.4
GA	16.8	83.2	NC	18.4	81.6
ID	34.0	66.0	OK	27.8	72.2
IA	17.3	82.7	RI	11.1	88.9
KY	15.4	84.6	SC	29.6	70.4
LA	14.1	85.9	TN	21.9	78.1
ME	27.1	72.9	TX	33.7	66.3
MA	35.7	64.3	VA	47.4	52.6

<sup>a</sup> A missing response to this question was interpreted as an answer of “no” to this question.

Source: Mail survey conducted in 1999.

## Distribution of Sales by Month

Nursery professionals were asked to distribute their total annual sales by month. Results for 1998 paralleled the overall average distribution obtained in 1993 (Table 10 and [2]). As expected, most of the sales occurred in March, April, and May. More interesting points can be observed for individual states. California, Florida, Georgia, and Texas had more evenly distributed sales, with

**Table 10. Weighted Average Percentage Distribution of Nursery Sales by Month, 1998**

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	----- percent -----											
	-----											
AL	3.0	7.5	15.8	21.3	19.3	6.7	3.3	3.4	4.5	7.6	4.3	3.4
CA	5.2	7.5	11.9	12.6	12.1	9.0	6.6	5.7	6.1	7.0	10.3	6.0
DE	1.4	0.9	2.3	6.4	12.0	10.2	3.6	3.2	4.4	3.8	10.7	41.3
FL	7.2	8.4	11.6	12.8	12.2	8.3	6.1	6.1	6.5	7.3	7.0	6.6
GA	5.4	7.3	11.2	14.6	13.6	7.2	5.5	6.7	7.2	7.2	6.5	7.6
ID	4.2	2.8	15.7	21.1	10.9	20.0	3.4	3.5	10.1	4.7	2.8	1.0
IA	5.8	7.1	9.3	12.8	15.2	10.5	7.2	6.6	8.0	7.6	5.9	4.1
KY	8.3	9.9	9.1	6.9	6.4	5.4	5.3	7.4	9.0	12.0	11.7	8.5
LA	6.1	8.5	17.7	21.0	11.9	6.3	3.1	3.0	4.0	6.3	5.7	6.4
ME	1.4	1.4	2.4	7.5	27.1	23.3	10.1	7.4	7.1	3.6	4.2	4.7
MA	0.7	1.0	2.8	14.9	31.1	16.9	7.3	4.4	8.0	5.1	2.9	5.1
MI	1.4	2.2	5.0	18.0	24.2	9.8	6.7	6.0	6.7	6.2	9.7	4.1
MN	1.3	1.0	1.3	11.4	29.0	16.5	7.6	8.9	9.4	6.8	3.1	3.8
MS	1.5	3.9	7.5	53.6	10.7	2.1	1.0	0.9	2.7	9.5	2.8	3.8
NJ	0.4	1.2	9.4	18.0	21.0	9.4	4.7	4.6	9.6	10.0	7.1	4.7
NC	0.8	3.6	15.5	16.2	11.3	2.0	1.0	0.9	3.7	6.5	26.9	11.6
OK	1.5	8.1	14.7	26.1	24.2	1.6	0.7	4.5	4.9	10.9	1.2	1.5
RI	0.0	0.2	1.7	24.0	40.8	8.3	2.1	2.2	6.7	8.0	4.8	1.1
SC	5.3	6.4	10.8	16.4	12.8	5.5	3.7	4.0	8.4	11.2	9.8	5.8
TN	6.2	12.3	28.8	12.3	6.7	2.5	2.0	3.4	5.6	5.7	9.8	4.8
TX	6.1	9.5	15.1	18.5	12.3	6.6	4.1	4.0	5.3	6.8	6.0	5.9
VA	1.3	3.8	15.8	20.6	14.3	7.1	3.3	4.6	7.9	10.8	7.5	3.1
Avg.	4.7	6.8	12.3	16.5	14.9	8.1	5.0	5.0	6.4	7.3	7.3	5.8

Source: Mail survey conducted in 1999.

no month having a share of total sales below 5.0 percent. In Mississippi, 53.6 percent of total sales occurred in April.

## Export Sales

Nursery professionals who reported export sales to foreign countries were mostly on the Canadian or Mexican borders, or are, like Florida, on major trade routes. Florida had the largest share of nursery professionals, 32 percent, making sales to the export market (Table 11), for an average percentage of total sales of 6.5. The largest percentage of export sales was reported in North Carolina at 23.3 percent, but this involved only 5 percent of the surveyed nursery professionals. In Idaho, 11.5 percent of the surveyed nursery professionals reported that they sold, on average, 13.5 percent of their 1998 sales in the export market. Less than 10 percent of the respondents in the other states reported making any export sales.

**Table 11. Percentage of Nursery Sales to Export Market, 1998**

State	Respondents <sup>a</sup>	Share of Total Sales		State	Respondents <sup>a</sup>	Share of Total Sales	
		Average <sup>b</sup>	Standard Error			Average <sup>b</sup>	Standard Error
	-----	percent	-----		-----	percent	-----
AL	2.5	5.0	0.0	MI	9.8	4.6	1.7
CA	8.3	3.6	1.4	MN	8.6	2.7	1.2
DE	2.0	2.0	0.0	MS	2.5	2.0	0.0
FL	32.0	6.5	0.8	NJ	1.2	1.0	0.0
GA	9.9	3.6	1.7	NC	5.0	23.3	16.2
ID	11.5	13.5	5.7	OK	11.1	3.5	1.5
IA	1.3	5.0	0.0	RI	0.0	0.0	0.0
KY	0.0	0.0	0.0	SC	0.0	0.0	0.0
LA	1.7	1.8	0.6	TN	4.2	2.3	1.0
ME	3.9	4.3	2.9	TX	9.4	3.1	1.1
MA	4.8	1.5	0.5	VA	5.3	1.5	0.5

<sup>a</sup> Percentage of survey respondents who reported exporting activity.

<sup>b</sup> Unweighted average.

Source: Mail survey conducted in 1999.

## Contract Production

The percent of growers participating in contract production ranged from a low of 11 percent in Oklahoma to 51 percent in Florida (Table 12). Perhaps the most notable observation is that the larger-volume states in the survey had the highest percent of growers engaged in contract production: California, Florida, and Texas. While only 23 percent of the surveyed growers in Louisiana reported contract production, the share of total annual sales attributed to contract production was the highest of all states, 32 percent.

**Table 12. Growers Engaged in Contract Production, 1998**

State	Respondents	Share of Total Sales		State	Respondents	Share of Total Sales	
		Average <sup>a</sup>	Standard Error			Average <sup>a</sup>	Standard Error
AL	25.0	9.8	4.0	MI	32.3	14.2	3.7
CA	49.1	15.5	2.2	MN	37.1	12.0	4.3
DE	21.6	12.3	4.3	MS	35.0	12.2	4.1
FL	51.2	22.4	2.0	NJ	25.3	10.4	2.8
GA	41.1	17.1	2.7	NC	26.2	17.9	3.8
ID	40.4	19.8	4.9	OK	11.1	5.6	4.5
IA	33.8	17.1	3.7	RI	31.6	14.7	6.2
KY	28.6	19.4	10.3	SC	32.1	5.2	2.5
LA	22.8	32.5	1.2	TN	28.1	11.4	2.7
ME	45.1	15.7	3.9	TX	53.1	17.8	2.9
MA	40.5	7.3	2.4	VA	39.5	14.9	4.6

<sup>a</sup> Unweighted average.

Source: Mail survey conducted in 1999.

Handling nursery material for other nursery professionals accounted for substantial shares of total annual sales for many firms. In Iowa, 83 percent of the respondents handled material for other growers and these sales accounted for 55 percent of total sales (Table 13). Among the 22 states in this survey, 14 states had 50 percent or more of the respondents handling nursery material for other growers and except



for Florida and Virginia the share of total sales was 25 percent or more. The share of total annual sales from handling nursery sales for other growers was lowest in Virginia at 15 percent for 60 percent of the respondents.

**Table 13. Percentage of Nursery Sales Handled for Other Growers, 1998**

State	Respondents <sup>a</sup>	Share of Total Sales		State	Respondents <sup>a</sup>	Share of Total Sales	
		Average <sup>b</sup>	Standard Error			Average <sup>b</sup>	Standard Error
AL	35.0	31.4	8.4	MI	70.5	38.4	4.7
CA	53.0	25.5	3.1	MN	71.4	24.9	4.9
DE	40.0	47.8	8.9	MS	47.5	22.9	7.0
FL	43.9	19.1	2.1	NJ	62.7	53.8	5.8
GA	50.5	31.4	4.0	NC	40.0	32.2	5.0
ID	42.3	32.6	8.3	OK	50.0	42.3	11.2
IA	82.7	55.1	4.7	RI	57.9	40.2	8.7
KY	50.0	45.7	10.6	SC	53.6	28.6	6.7
LA	34.6	26.2	2.6	TN	58.5	25.7	3.1
ME	54.9	42.8	6.1	TX	41.1	27.2	4.5
MA	73.2	43.5	5.5	VA	60.5	15.0	4.4

<sup>a</sup> Respondents who indicated they handled products from other growers.

<sup>b</sup> Unweighted average.

Source: Mail survey conducted in 1999.

### Wholesale Versus Retail

Among survey respondents, the weighted average percentage of total sales as wholesale was 85 percent, almost identical to the 86 percent in 1993 (Table 14 and [2]). Two states, Delaware and Iowa, had remarkably low percentages designated as wholesale, 29.5 percent and 19.7 percent, respectively. Delaware respondents indicated 90 percent as wholesale in 1993 [2]. Because of the small number of Delaware respondents, perhaps the weighted average is or was, dominated by a few large firms. Further

analysis within individual states may reveal factors, such as the loss of access to key mass merchandisers or a planned shift to capture more of the retail dollars by directly engaging in this marketing activity, that help to explain these changes.

**Table 14. Weighted Average Percentage Distribution of Wholesale and Retail Nursery Sales in 1998**

State	Respondents <sup>a</sup>	Firms		Sales	
		Wholesale	Retail	Wholesale	Retail
-----percent -----					
-					
AL	97.5	97.5	25.0	97.2	2.8
CA	92.3	81.7	55.6	92.6	7.4
DE	92.2	41.2	80.4	29.5	70.5
FL	92.7	91.5	17.0	96.9	3.1
GA	92.9	86.6	55.4	82.2	17.8
ID	92.3	86.5	48.1	87.8	12.2
IA	96.1	63.6	92.2	19.7	80.3
KY	92.9	78.6	57.1	74.8	25.2
LA	79.2	92.3	39.5	77.3	22.7
ME	94.1	86.3	78.4	44.2	55.8
MA	81.0	69.0	66.7	49.5	50.5
MI	93.5	82.3	74.2	66.5	33.5
MN	91.4	74.3	62.9	67.1	32.9
MS	92.5	80.0	55.0	83.4	16.6
NJ	96.4	85.5	56.6	76.9	23.1
NC	88.8	70.0	58.8	91.7	8.3
OK	88.9	72.2	44.4	88.4	11.6
RI	94.7	89.5	73.7	83.1	16.9
SC	92.9	82.1	57.1	73.9	26.1
TN	88.5	85.4	22.9	87.7	12.3
TX	96.9	91.7	39.6	88.6	11.4
VA	100.0	97.4	47.4	97.0	3.0
Average	---	---	---	84.6	15.4

<sup>a</sup> Percentage of survey respondents who provided this information.

Source: Mail survey conducted in 1999.

## **Distribution of Wholesale Sales**

After nursery professionals had reported the distribution of sales between wholesale and retail, they were asked to distribute the wholesale sales among five outlets: mass merchandisers, garden centers, other retailers, landscapers, and re-wholesalers (Table 15). The percentage of sales by outlet were weighted averages; therefore, the distribution of sales among five outlets will sum to 100. The percentage of firms selling within each outlet will sum to more than 100 because firms often sell to more than one type of outlet. The differences in overall weighted averages reported below could be attributed to differences in the group of states included in 1993 versus 1998 or to a response bias associated with voluntary participation to mail-back surveys.

### **Mass Merchandisers**

The importance of mass merchandisers as an outlet continues to increase. In 1993, this outlet category accounted for 18.8 percent of the responding nursery professionals's wholesale sales (SCB 384), and had increased to 22.1 percent in 1998. This shifting among sales categories was found in all top five production states that participated in both surveys, California, Florida, Michigan, North Carolina, and Texas. The most dramatic increase occurred for North Carolina, where sales to mass merchandisers increased from 8.8 percent in 1993 to 42.1 percent in 1998. Conversely, dramatic reductions occurred in Delaware (42% to less than 1%) and Oklahoma (41% to 13%).

### **Garden Centers**

Sales to garden centers dropped from 26 percent in 1993 to 18.6 percent in 1998 (Table 15 and [2]). The percent of respondents that reported sales to garden centers ranged from 27.3 percent in Kentucky to 86.1 percent in Virginia (Table 15). In North Carolina, the reported 1998 percent remained close to that reported for 1993. In California, Florida, Texas, the share of sales via garden centers dropped substantially in 1998 versus 1993 levels. Sales in Michigan increased from 19.2 percent to 26.4 percent.

**Table 15. Weighted Average Percentage Distribution of Nursery Sales by Market Channel, 1998**

State	Respondents <sup>a</sup>	Retailers						Landscapers		Re-wholesalers	
		Mass merchandiser		Garden centers		Other retailers					
		firms	sales	firms	sales	firms	sales	firms	sales	firms	sales
-----percent-----											
AL	95.0	28.9	24.9	78.9	33.9	23.7	3.7	65.8	9.3	50.0	28.2
CA	81.1	24.1	41.0	59.9	14.5	26.3	4.8	69.3	21.8	59.9	17.9
DE	37.3	5.3	0.8	63.2	18.4	15.8	1.3	42.1	33.5	42.1	46.1
FL	88.0	35.5	20.5	53.5	8.6	23.2	7.9	55.7	23.7	88.6	39.3
GA	84.8	16.8	13.4	56.8	15.7	25.3	8.9	83.2	29.3	61.1	32.8
ID	80.8	11.9	2.2	54.8	43.9	16.7	2.8	73.8	42.5	47.6	8.5
IA	59.7	4.3	7.4	28.3	18.7	10.9	4.9	91.3	36.7	28.3	32.3
KY	78.6	0.0	0.0	27.3	4.0	18.2	1.8	72.7	17.6	36.4	76.5
LA	71.4	15.2	10.4	61.9	29.8	23.8	8.8	72.8	30.4	50.9	20.6
ME	84.3	7.0	0.1	53.5	21.7	27.9	3.3	79.1	53.5	30.2	21.4
MA	64.3	7.4	4.9	66.7	49.1	40.7	9.6	92.6	30.3	40.7	6.1
MI	80.6	14.0	26.4	56.0	26.4	18.0	6.1	88.0	24.2	34.0	16.9
MN	62.9	0.0	0.0	59.1	16.7	27.3	2.1	90.9	5.7	54.5	23.9
MS	80.0	15.6	12.7	87.5	52.9	21.9	13.9	53.1	9.6	28.1	10.8
NJ	85.5	1.4	0.1	66.2	36.2	9.9	0.4	94.4	52.3	57.7	11.0
NC	68.8	10.9	42.1	65.5	28.2	29.1	3.1	61.8	7.8	40.0	18.8
OK	72.2	15.4	13.2	76.9	46.7	15.4	2.4	92.3	16.8	53.8	20.9
RI	89.5	5.9	3.4	58.8	11.3	29.4	3.6	64.7	70.0	29.4	11.7
SC	78.6	13.6	4.0	68.2	16.9	22.7	0.8	95.5	63.1	63.6	15.2
TN	83.3	16.3	31.8	65.0	19.2	11.3	2.3	65.0	19.2	77.5	27.5
TX	90.6	29.9	31.5	83.9	15.9	32.2	5.4	78.2	24.1	72.4	23.1
VA	94.7	13.9	1.6	86.1	29.2	16.7	0.6	88.9	46.3	72.2	22.3
Average			22.1		18.6		5.8		26.7		25.9

<sup>a</sup> Percentage of survey respondents who provided this information.

Source: Mail survey conducted in 1999.

### **Other Retailers**

This outlet category was intended to cover all retailers not considered to be mass merchandisers or garden centers. While the overall weighted average percentage of sales was only 5.8 percent it is an important outlet category in Massachusetts and Mississippi (Table 15). In Massachusetts, 41 percent of the nursery professionals reported selling to a retailer in this category, and the share of total sales was reported at 9.6 percent. A smaller share of Mississippi nursery professionals, 21.9 percent, reported sales in this category, but sales amounted to 13.9 percent.

### **Landscapers**

The overall average weighted sales to landscapers, 26.7 percent, was almost identical to the percentage obtained in 1993 (Table 15 and [2]). The three states with the lowest percentage of firms using this outlet were Delaware (42.1 %), Florida (55.7 %), and Mississippi (53.1 %). At the other end, Iowa (91.3 %), Massachusetts (92.6 %), Minnesota (90.9 %), New Jersey (94.4 %), Oklahoma (92.3%), and South Carolina (95.5 %), had the most respondents selling to landscapers. With respect to sales, the landscaper category was the leading outlet category for seven states, Iowa, Louisiana, Maine, New Jersey, Rhode Island, South Carolina, and Virginia.

### **Re-Wholesalers**

Overall for the participating states, the average percentage of sales in 1998 (25.9 %) was essentially unchanged from that reported in 1993 (24.3 %). For nursery professionals in Florida, re-wholesalers was the leading market channel (Table 15). Almost 90 percent of Florida's nursery professionals made sales to re-wholesalers and these sales accounted for 39.3 percent of total wholesale sales. Also, approximately three-fourths of the respondents from Tennessee, Texas, and Virginia made sales to re-wholesalers; however, the volume of sales ranged for 22.3 to 27.5 percent.

## Advertising Expenditures

Advertising budgets were reported by as many as 88.9 percent of the survey respondents in Oklahoma to as few as 40.8 percent in Louisiana (Table 16). An average of 61.6 percent of participants provided this information. The assumption was made that “no response” to this question did not mean no money was allocated to advertising.

**Table 16. Percentage of Annual Nursery Sales Allocated to Advertising, 1998**

State	Respondents <sup>a</sup>	Share of Total Sales		State	Respondents <sup>a</sup>	Share of Total Sales	
		Average	Standard Error			Average	Standard Error
	----- percent -----				----- percent -----		
AL	60.0	3.9	0.7	MN	82.9	4.3	0.6
CA	53.8	4.9	1.0	MS	60.0	4.4	1.1
DE	52.9	7.7	2.0	NJ	71.1	4.4	0.8
FL	64.5	4.1	0.6	NC	55.0	6.4	1.6
GA	61.6	5.7	1.3	OK	88.9	8.6	3.1
ID	55.8	4.7	1.1	RI	68.4	7.5	2.4
IA	77.9	6.4	1.3	SC	60.7	4.0	0.8
KY	50.0	4.6	2.6	TN	70.8	5.6	1.6
LA	40.8	5.4	0.7	TX	70.8	4.8	0.6
ME	76.5	4.7	1.0	VA	89.5	5.5	1.7
MA	69.0	3.6	0.6	Avg.   61.6   5.1   0.3			
MI	77.4	5.0	0.8				

<sup>a</sup> Percentage of survey respondents who provided this information.

Source: Mail survey conducted in 1999.

Oklahoma nursery professionals allocated the most, 8.6 percent of total annual sales, to advertising. The 22-state average was 5.1 percent, which was slightly higher than the overall average in 1993 of 4.3 percent [2]. Massachusetts nursery professionals reported the smallest percentage, 3.6 percent, and the associated standard deviation from this average was also the lowest, only 3.0 percent. The greatest variation in advertising budgets as a percent of sales occurred in Tennessee where the average percent was 5.6 with a standard deviation of 13.4.

The two dominant advertising outlets in all 22 states combined, are catalogs and trade shows (Table17). Results from the 24-state survey in 1993 were similar [2]. Even though participation at trade shows trended downward, expenditures have not decreased. Nurseries in Alabama, Idaho, Mississippi, North Carolina, and Virginia devoted between 40 and 65 percent of advertising dollars on trade shows. A new advertising outlet added to the questionnaire for 1998 was web sites. On average, 4.5 percent of all advertising dollars was spent on web sites in 1998, led by California and Florida at 9.6 and 9.7 percent, respectively.

In Rhode Island nearly half, 46.6 percent, of advertising dollars was spent on yellow page advertising. For Delaware growers, bulletin boards received 36 percent of advertising dollars in 1998. Catalogs received the most dollars for nursery professionals in Idaho (40.7 %), Iowa (63.1 %), and Rhode Island (47.6 %). Virginia growers had the highest percentage of advertising spent on trade journals (26.6 %). The three top states regarding expenditures for newsletters were Delaware (14.5 %), Michigan (19.8 %), and New Jersey (18.5 %). Louisiana, Maine, and Massachusetts reported approximately half of all advertising dollars devoted to the “other” category, such as, newspaper, direct-mail, and television.

### **Source of Seedlings and Liners**

Nursery professionals were asked to report the percentage of total purchases of seedlings, whips, grafts, and liners attributable to the top five states. After the top five states, the remainder was grouped into a category termed “other.” The percentages are not weighted by dollars.

Out of the 22 states in this survey, only in Delaware and Virginia did nursery professionals

**Table 17. Weighted Average Percentage Distribution of Advertising Budget by Advertising Outlet, 1998**

State	Respondents <sup>a</sup>	Web Sites	Yellow Pages	Radio	Billboards	Catalogs	Trade Journals	Newsletters	Trade Shows	Other
	----- percent ----- -----									
AL	57.5	2.5	0.9	8.6	0.1	24.4	4.6	4.6	50.6	3.7
CA	52.1	9.6	6.4	2.1	0.5	31.9	12.6	2.4	27.9	6.6
DE	47.1	0.6	3.2	3.1	36.0	4.5	0.1	14.5	2.0	36.0
FL	58.3	9.7	6.7	0.6	0.3	11.6	14.8	2.7	34.2	19.5
GA	54.5	5.4	19.8	1.3	1.1	16.7	13.8	7.5	22.8	11.8
ID	51.9	0.6	5.7	0.8	0.0	40.7	0.1	0.7	42.6	8.7
IA	72.7	3.5	5.0	7.5	0.0	63.1	3.9	2.6	0.6	13.9
KY	42.9	2.2	32.1	0.0	0.0	38.7	5.5	15.3	1.1	5.2
LA	34.0	2.1	4.6	0.8	0.3	9.4	7.9	2.1	18.4	54.4
ME	68.6	1.2	20.8	2.6	0.0	8.5	2.4	5.9	3.1	55.5
MA	66.7	0.5	6.8	7.8	0.0	16.7	7.0	8.6	5.0	47.6
MI	72.6	0.4	19.5	2.9	2.0	10.5	12.8	19.8	9.4	22.6
MN	80.0	0.5	10.1	11.1	12.5	17.4	5.6	3.0	5.4	34.4
MS	57.5	1.1	9.2	1.4	0.0	19.6	6.2	6.3	49.1	7.1
NJ	67.5	1.0	13.6	0.2	0.0	19.4	11.7	18.5	16.6	19.0
NC	48.8	0.2	0.9	2.3	0.7	15.3	2.2	2.3	64.9	11.2
OK	83.3	2.9	12.3	12.6	0.0	31.4	2.4	5.9	26.7	5.7
RI	68.4	0.0	46.6	2.3	0.0	47.6	0.0	0.4	0.2	3.0
SC	57.1	3.3	19.3	0.0	1.5	27.7	10.9	2.2	34.1	1.0
TN	61.5	3.4	11.2	1.1	3.7	26.3	4.6	3.0	31.1	15.7
TX	67.7	4.0	12.2	2.8	0.3	20.7	5.5	1.0	29.1	24.3
VA	89.5	0.6	2.6	0.9	0.0	21.2	26.6	4.0	40.6	3.4
Avg.	56.2	4.5	1.6	2.7	1.0	22.9	9.2	4.8	24.7	18.7

<sup>a</sup> Percentage of survey respondents who provided this information.

Source: Mail survey conducted in 1999.



**Table 18. Source of Seedlings, Whips, Grafts, and Liners for Nursery Firms, by Origin and Destination, 1998**

Source State	Receiving State <sup>a</sup> (Unweighted Simple Percents)																					
	AL	CA	DE	FL	GA	ID	IA	KY	LA	ME	MA	MI	MN	MS	NJ	NC	OK	RI	SC	TN	TX	VA
AL	46.1			1.2	6.7				4.0					17.0		2.7		1.4	3.9	6.7	1.7	1.4
AK									<0.1													
AZ		0.4		0.3								0.1										1.3
AR							0.2		0.4					0.3			0.3			0.2	0.4	
CA	0.3	80.9	0.7	3.0	2.9	0.9	1.4	1.3	2.9	0.8	5.6	1.8	0.5	7.3	2.7	0.4	2.4	2.3	0.5	1.1	4.9	2.8
CO		0.3	0.1		0.3	1.7	0.4		0.6					0.1			0.2					6.6
CT					0.1					4.5	6.7	0.2		0.3	0.4	0.5		4.4	1.1			
DE			15.6								1.1				0.2							0.1
DC																						
FL	6.2	1.4	5.7	86.6	15.0	0.2			11.8	3.1	2.7	0.6		10.7	3.8	2.1	6.2	4.4	1	0.5	13.7	4.3
GA	4.2	0.1		0.9	38.7			1.7	0.7	0.8				3.1	1.2	2.8	0.2	1.1	12.4	0.9	1.8	3.5
HA		0.3	1.7	1.1					0.4					0.9								
ID		0.2				44.8	0.2					0.4										
IL	2.3	0.1		0.2	1.9	2.0	6.8		1.8	0.9	0.8	0.4	1.7	3.0		1.3				0.1	0.2	2.4
IN				0.2			0.1	1.7								1.3						
IA		0.1	1.9			0.3	38.0			0.3	2.3	3.1	1.2	1.3		1.1	0.3	2.2			1.0	
KA																	2.1					
KY								30.3				0.2		0.2								
LA	0.3			0.7	1.1				54.8					5.5		0.3	8.3			0.4	4.5	
ME			5.4		0.5	0.6			0.2	31.4	4.2				0.5	0.2		10.3				0.4
MD			10.1		0.2				<0.1						0.8							3.9
MA					0.6				<0.1	5.5	26.1	0.2				0.4		3.1		0.1		
MI	1.4	0.2	1.0	0.1	1.9		5.2	1.7	0.8	11.4	4.1	45.0	8.5	0.8	2.4	2.0	1.5	5.3		3.7	0.3	1.1
MN						2.0	17.8	1.7	0.2	4.3	0.3	5.2	59.0		0.3	2.0	0.2	1.5	1.3		0.1	0.1
MS	0.8				1.2			0.4	1.8					17.0	0.2				0.6	0.3	0.1	0.1
MO		0.1					2.1	6.3		1.2					0.6		0.3			0.1		1.2
MT		0.9				14.8	0.3		0.2	1.2		0.9	1.0			1.0				0.3	0.1	0.4
NE		0.5					0.3			0.3		0.4		0.6								
NV		0.1																				
NH					0.6					1.2	8.5	2.8						4.4		0.3		
NJ			12.6		1.7					1.8	3.9	0.1			43.6	3.0				0.3		0.3
NM		0.2																				
NY		0.2	0.6	0.1						2.2	3.5	0.8			1.5	0.7		5.9		0.6		1.0
NC	1.9	0.2	0.5		1.1			4.3	0.5	0.3	0.6	0.3		0.3	0.5	54.8	0.6	0.7	3.7	2.2		4.6
ND																						
OH	0.7	0.3		0.2	1.3		1.5	2.1	2.7	0.8	2.1	4.2	0.3	2.0	0.3	0.3	0.3	1.4		0.4	0.9	
OK							1.5	1.7	0.1					0.1	0.7	0.1	34.7	1.4				0.3
OR	5.8	7.6	1.8	0.2	4.2	22.8	14.2	12.9	0.9	3.1	6.7	24.6	16.2	0.9	23.5	4.1	16.2	13.2	7.4	14.2	2.0	24.5
PA	0.8	0.4	37.4	0.2	3.6		1.6	8.3	0.6	3.9	8.3	3.6		3.0	8.7	3.8	0.3	5.1	0.2	0.1	0.2	9.0
RI										2.0	12.8							27.9				
SC	1.1		0.4	2.8	1.5				0.7		0.2			2.4		2.7			42.2			1.3
SD						0.2																
TN	19.4	0.7		1.0	7.1		0.6	19.2	4.9	0.4	1.5	1.2		10.2	3.3	5.9	6.6	0.6	9.2	63.2	3.0	9.7
TX	5.7	0.1	0.1	0.9	1.7				5.3	0.4				5.3	0.2	0.4	16.4		0.9	0.8	52.9	0.1
UT																						
VT											0.1											
VA	0.9		0.2												1.9	2.5		0.3	3.9	0.1		21.5
WA	0.3	2.0	0.6	0.2	1.6	4.5	0.1	4.2	0.2	0.3		2.2	1.0		0.5	0.8				1.0	0.6	1.2
WV																0.6						
WI							4.3			1.3	0.2	0.5	7.5	0.6			0.6					0.3
WY		0.1				0.2																
CN		0.4	1.2			1.3			0.4	2.6		0.2			0.2							
PR				0.1																		
EX		0.4	1.2	1.2																		
Other	1.8	2.0	1.5	1.2	3.2	2.0	3.4	2.5	1.9	7.1	3.6	3.9	3.0	3.6	1.9	2.0	2.5	3.2	2.7	2.4	3.1	4.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

purchase a higher percentage of these plant materials from a state other than their own (Table 18). Delaware nursery professionals purchased 37.4

percent of these materials from growers in Pennsylvania. In Virginia, the nursery professionals purchased 24.5 percent from suppliers in Oregon. While Delaware nursery professionals purchased 84 percent of these materials from sources in other states, growers in Florida purchased 86.6 percent of their whips, seedlings, and liners from other growers within Florida. The second most self sufficient state was California, where instate purchases accounted for 80.9 percent of purchases. Five more states, Louisiana, Minnesota, North Carolina, Tennessee, and Texas, purchased more than 50 percent of their material from sources within their own state. California and Oregon nursery professionals were the leading source states for these plant materials because growers surveyed in every state reported making some purchases from these two states. The percentages of purchases from Oregon were much higher than those from California. All but two states reported purchases from Michigan (Idaho and South Carolina) and Pennsylvania (Idaho and Minnesota), followed by Tennessee with every state except three (Delaware, Idaho, and Minnesota).

## **Distribution of Wholesale Sales by State**

### **Mass Merchandisers**

The surveyed nursery professionals in each participating state were asked to report the percentage of wholesale sales to mass merchandisers for their top five sales states. By design, the home state was included as one of the top five. Results indicated that in a few states, the home state was not really one of the top five receiving states for wholesale sales to mass merchandisers. On the other hand, respondents in Maine reported that all of their sales to mass merchandisers were within



state (Table 19). Ninety percent was distributed to mass merchandisers in Rhode Island, 82.4 percent in California, and 80 percent in Florida. In all, 11 of the 22 states in this survey sold more than 50 percent to mass merchandisers within their own state. New Jersey respondents made all of their sales to mass merchandisers in Maryland (70%) and Virginia (30%). North Carolina and Tennessee growers depended heavily on out-of-state mass merchandisers, with only 18.2 and 14.2 percent, respectively, of these sales made in-state.

### **Garden Centers**

At the state level, Florida and Tennessee respondents reported the most states as destination states for sales to garden centers. Each had 26 states among its “top five” list of destination states for sales to garden centers (Table 20). The in-state percentage for Florida was 48.9 percent compared to the 28.1 percent for Tennessee. In-state garden centers received the largest shares in California (89.4 %), Delaware (83.3 %), Kentucky (88.1 %), South Carolina (87%), and Texas (82.4). Growers in Idaho made 58.2 percent of their sales to garden centers in Colorado. Arkansas was the primary receiving state for sales from growers in Mississippi.

### **Other Retail Outlets**

Wholesale sales to “other” retail stores was intended to include sales to retailers who did not fit the classification of mass merchandiser or garden center. Except for Georgia, the home state was the major receiving state (Table 21). Georgia respondents reported the largest percentage of wholesale sales to “other retailers,” 40.5 percent to Florida. In three states, 100 percent of the sales to “other” retailers were within state, Kentucky, Maine, and Oklahoma. Florida respondents identified the most states (20) as being in its top five, with Georgia and Texas as the leading receiving states.







## **Landscapers**

Respondents in Florida, North Carolina, and Tennessee listed 16, 17, and 23 states in their top five landscape destination states, respectively (Table 22). In four states, Delaware, Maine, Michigan, and Texas, growers reported making more than 90 percent of sales to landscapers within their home state, and several other states had proportions greater than 75%. Alabama growers made slightly more than one-third of their wholesale sales to landscapers in Georgia, Mississippi, and Tennessee. Growers in Idaho and Oklahoma made less than one-fourth of their sales to in-state landscapers.

## **Re-Wholesalers**

With respect to wholesale sales to re-wholesalers, nursery professionals in Texas reported that 90.3 percent remained within their own state, followed second by Minnesota at 83.5 percent. (Table 23). Growers in Delaware reported a total of one percent being shipped to re-wholesalers within Delaware. Pennsylvania re-wholesalers received 81 percent of Delaware growers' total wholesale sales. Florida growers reported sales to the most top-five states, 28, followed by Tennessee growers with 26 states. Connecticut was the leading destination state for respondents in Iowa and North Carolina, with 22 and 29.1 percent, respectively.

## **Concluding Remarks**

As in most other business segments, the pace of change inside and outside the green industry has quickened. There have been impacts on the industry, and more will occur. To capture critical information related to some marketing aspects of the industry, this third in a series of surveys tracked the movement of selected variables.





It has been documented that the retail market for green industry products has grown consistently. Supply of these products comes from expansion of existing nurseries and entry of new firms. Survey results indicated that about 1/3 of these firms were established in the 1990s, so they are relatively young. Information from the previous survey (1993) indicated that about 25 percent of respondents had been established in the prior 10 years. These surveys were intended to be representative of plants produced (market share), so larger firms are targeted. The implication is that these relatively young nurseries have matured quickly and are competitors who can influence the market.

For shares of production in specified plant categories, there were minor changes in the leading categories between 1993 and 1998. The deciduous tree and the combination of the broad-leaved evergreen shrub/azalea categories each amounted to a little more than 13 percent of production. The evergreen tree category was about 10 percent of production, as was the foliage category (because of the importance of this category in the Florida industry). The annual bedding plants category was another significant category. The proportion of the market accounted for by the woody ornamental component declined. The reasons behind this change may lie with changing consumer preferences, or might have resulted from the expanded number of categories included in the 1998 survey. Root packaging was dominated by the container category, particularly in the south. The balled-and-burlapped method is the only other significant category, and is more important for woody ornamentals in cooler climatic zones.

Regarding transactions methods, results showed that frequency of participation in the traditional trade show declined, but the estimated share of sales at trade shows changed little. This suggests that the individual transaction at trade shows was larger. Growers in the larger production states, except for Florida and Texas, tended to participate in trade shows less frequently. There is, then, some evidence that

participation in and the importance of trade shows as a sales outlet are declining.

Sales to repeat customers declined from 1993 to 1998. Among the 17 states in both surveys, the average value declined in 12. Given the proportion of young firms, perhaps it should be expected that they search for new customers as they try to retain the existing base. There may be another level of competition from expansion, intensifying competition among nursery firms. Also, there might be some intentional diversification of the customer base. A notable observation is that the larger-volume states in the survey (California, Florida, and Texas) had the highest percent of growers engaged in contract production. This would suggest that the bigger producing states and producers in those states are establishing relationships, presumably with the large mass merchandiser customers. In 14 of the 22 states in this survey, 50 percent or more of the respondents handled nursery material for other growers, and in all states the share of total sales from this source of material was 25 percent or more.

The importance of mass merchandisers as an outlet increased from 18.8 percent in 1993 to 22.1 percent in 1998. Sales to garden centers dropped from 26 percent in 1993 to 18.6 percent in 1998, and the 'other retailer' category declined. This confirms that growers face a significant change in the competitive landscape, as these large retailers may choose to exert their power as buyers in the marketplace.

Shipments from and to states also was an area of interest. In-state markets were important markets across the channels. For the mass merchandiser channel, producers in states with lower populations generally shipped smaller portions of total sales to instate markets, compared to producers in the larger states, although instate markets still usually were the most important destinations. The situation was similar in the garden center channel and the landscaper channel. Instate locations received the largest shares,

reflecting the importance of transportation costs. The proportion shipped to ‘other retailer’ in the producer’s home state was substantially higher than the other channels, and the proportion of sales shipped to instate re-wholesalers was substantially lower. Within the analysis of destination states of shipments, some states appeared to have geographically diversified markets. Florida and Tennessee growers consistently had the highest number of different states listed in their top five destination states. This may reflect healthy industries, good marketing programs and strategies, and/or diverse product lines.

## References

- [1]. Brooker, John R. and Steven C. Turner, *Trade Flows and Marketing Practices within the United States Nursery Industry*, Sou. Coop. Bull. 358, The Univ. of Tenn. Agri. Exp. Sta., Knoxville, 1990.
- [2]. Brooker, John R., Steven C. Turner, and Roger A. Hinson, *Trade Flows and Marketing Practices within the United States Nursery Industry: 1993*, Sou. Coop. Bull. 384, The Univ. of Tenn. Agri. Exp. Sta., Knoxville, 1995.
- [3]. Johnson, Doyle C. and Tarra M. Johnson, *Financial Performance of U.S. Floriculture and Environmental Horticulture Farm Businesses, 1987-91*, Stat. Bull. No. 862, Econ. Res. Ser., U.S. Dept. of Agriculture: Washington DC, 1993.
- [4]. Johnson, Doyle C. *Floriculture and Environmental Horticulture Products: A Production and Marketing Statistical Review, 1960-1988*, Stat. Bull. No. 817, Econ. Res. Ser., U.S. Dept. of Agriculture: Washington DC, 1990.
- [5]. Johnson, Doyle C. *Floriculture and Environmental Horticulture Situation and Outlook Yearbook. FLO-1999*, Econ. Res. Ser., U.S. Dept. of Agriculture: Washington DC, 1999.

# Appendix

**THIRD NATIONAL SURVEY**

**GENERAL INFORMATION**

1. From what state are you reporting? \_\_\_\_\_
2. In what year was your firm established? \_\_\_\_\_  
 Does your business operate a nursery in another state? \_\_\_\_ yes \_\_\_\_ no  
 If yes, please list the state(s) \_\_\_\_\_
3. How many people does your firm employ at this location?  
 Permanent employees \_\_\_\_\_  
 Temporary employees \_\_\_\_\_ (average number during your peak season)
4. What functions of your firm are computerized?

Function	Using computer for task now	Planned within next five years
(please check if yes)		
Word processing	_____	_____
Accounting	_____	_____
Inventory	_____	_____
Financial investments	_____	_____
Marketing - Web page (Internet)	_____	_____
- CDs	_____	_____
Communications - E-mail	_____	_____
- faxing	_____	_____
Landscape designing	_____	_____
Production scheduling	_____	_____
Greenhouse production controls	_____	_____
Other (please specify)	_____	_____

**PRODUCTS**

5. What percentage of your sales are in these plant categories?  
 \_\_\_\_\_ % Deciduous shade and flowering trees  
 \_\_\_\_\_ % Deciduous shrubs  
 \_\_\_\_\_ % Broad-leaved evergreen shrubs  
 \_\_\_\_\_ % Narrow-leaved evergreen shrubs  
 \_\_\_\_\_ % Evergreen trees  
 \_\_\_\_\_ % Azaleas  
 \_\_\_\_\_ % Vines and grounds covers  
 \_\_\_\_\_ % Roses  
 \_\_\_\_\_ % Herbaceous perennials  
 \_\_\_\_\_ % Bedding plants - annuals  
 \_\_\_\_\_ % Bedding plants - vegetables, fruits, and herbs  
 \_\_\_\_\_ % Flowering potted plants  
 \_\_\_\_\_ % Christmas trees (live or cut)  
 \_\_\_\_\_ % Tree fruits  
 \_\_\_\_\_ % Foliage  
 \_\_\_\_\_ % Propagated material (liners, cuttings, plugs, etc.)  
 \_\_\_\_\_ % Other \_\_\_\_\_  
 100 % Total

6. Considering your landscape/floriculture production area, what acreage (or square feet) is devoted to the following:

Propagation:

\_\_\_\_\_ Acres in open field

In ground field production:

\_\_\_\_\_ Acres in open field

\_\_\_\_\_ Square feet (or acres) in shade - for landscape plants

Container production:

\_\_\_\_\_ Acres in open container production

\_\_\_\_\_ Square feet (or acres) in greenhouse or shade

\_\_\_\_\_ For landscape plants

\_\_\_\_\_ For floriculture crops

7. Considering all plants sold by your firm, what percentage of your sales are in these forms?

Percent of Sales	Method Used
_____ %	Bare root
_____ %	Balled and potted
_____ %	Balled and burlapped
_____ %	Processed balled
_____ %	Container
_____ %	Field grow bag
_____ %	In-ground containers (pot-in-pot)
_____ %	Other (please specify) _____
100 %	Total

**SALES CONSIDERATIONS**

8. At how many trade shows was your firm represented in 1998?

\_\_\_\_\_ With an exhibit

\_\_\_\_\_ Without an exhibit

9. What percentage of your sales are done with repeat customers? \_\_\_\_\_ %

10. Do you publish discount (price) information for large-volume purchases? \_\_\_ yes \_\_\_ no

11. What percentage of your sales transactions are made using the following methods? (Note: negotiated means there was some discussion/debate over price, quality or other terms of sale.)

Percent	Method
_____ %	Trade show orders (negotiated)
_____ %	Trade show orders (nonnegotiated)
_____ %	Telephone orders (negotiated)
_____ %	Telephone orders (nonnegotiated)
_____ %	In-person orders (negotiated)
_____ %	In-person orders (nonnegotiated)
_____ %	Mail orders
100 %	Total sales

12. Please rate each of the factors listed below according to how much they impact your business. Use a 1 to 5 scale, with 1=very minor; 2=minor; 3=neutral; 4=important; 5=very important.

	1	2	3	4	5
Weather uncertainty					
Land					
Market demand					
Labor					
Water supply					
Capital					
Own managerial expertise					
Competition					
Environmental regulations					
Other government regulations					
Ability to hire competent management					
Ability to hire competent hourly employees					

**PRODUCT FLOW**

13. What are the top five states, including your own state, from which you purchase seedlings, liners, whips, or grafted material?

	<u>Percent of Purchases</u>
Top five states:	
1) <u>Home state</u> _____	_____ %
2) _____	_____ %
3) _____	_____ %
4) _____	_____ %
5) _____	_____ %
All other states combined	_____ %
Total =	100 %

14. What percentage of your firm's total annual sales occur during each month?

___% January	___% May	___% September
___% February	___% June	___% October
___% March	___% July	___% November
___% April	___% August	___% December



15. Do you **export** nursery products out of the U.S.? \_\_\_\_ yes \_\_\_\_ no  
 If yes, what percentage of total sales are from **exports**? \_\_\_\_\_ %  
 Do you **import** nursery products? \_\_\_\_ yes \_\_\_\_ no  
 If yes, indicate country(ies) of origin: \_\_\_\_\_

16. What percent of your firm's total annual sales are:  
 \_\_\_\_\_ % Instate (your home state)  
 \_\_\_\_\_ % **Out-of-state** (outside of your home state)  
 100 % Total

If you sell any product **out-of-state**, what are the **top five destinations** by state and the share of your total out-of-state sales?

Distribution of Total **Out-of state** Sales

Top five states:

1) _____	_____ %
2) _____	_____ %
3) _____	_____ %
4) _____	_____ %
5) _____	_____ %
All other out-of-state sales combined	_____ %
Total =	100 %

17. Do you handle/resell items from other growers? \_\_\_\_ yes \_\_\_\_ no  
 If yes, what percent of your total sales does this account for? \_\_\_\_\_ %

18. What percentage of your total sales are on contract, in other words, sold or committed before being planted/potted? \_\_\_\_\_ %

What type of buyer(s) are contracting with your firm?

\_\_\_\_ Other producers                      \_\_\_\_ Retail garden centers  
 \_\_\_\_ Mass merchandisers                \_\_\_\_ Cooperatives  
 \_\_\_\_ Other (please specify) \_\_\_\_\_

19. What percent of your **total annual sales** are:  
 \_\_\_\_\_ % Wholesale  
 \_\_\_\_\_ % Retail  
 100 % Total

20. If you sell wholesale, what percentage of your **wholesale sales** (from question 19) are to:  
 \_\_\_\_\_ % Retail firms - mass merchandisers/home centers  
 \_\_\_\_\_ % Retail firms - garden centers  
 \_\_\_\_\_ % Retail firms - other (grocery, hardware, etc.)  
 \_\_\_\_\_ % Landscape firms (in-house or external)  
 \_\_\_\_\_ % Re-wholesalers (brokers, other growers, etc.)  
 100 % Total

21. For dollar sales to **mass merchandisers/home centers (from question 20)**, what are the top destination states and what percentage of sales to **mass merchandisers** does each state represent? Please begin with your own state first.

	Percent of Total Sales
Top five states:	
1) <u>Home state</u> _____	_____ %
2) _____	_____ %
3) _____	_____ %
4) _____	_____ %
5) _____	_____ %
All other states combined	_____ %
Total =	100 %

22. For dollar sales to **garden centers (from question 20)**, what are the top five destination states and what percentage of **garden centers** sales does each state represent? Please begin with your own state first.

	Percent of Total Sales
Top five states:	
1) <u>Home state</u> _____	_____ %
2) _____	_____ %
3) _____	_____ %
4) _____	_____ %
5) _____	_____ %
All other states combined	_____ %
Total =	100 %

23. For dollar sales to **other retail stores (from question 20)**, what are the top five destination states and what percentage of sales to **other retail firms** does each state represent? Please begin with your own state first.

	Percent of Total Sales
Top five states:	
1) <u>Home state</u> _____	_____ %
2) _____	_____ %
3) _____	_____ %
4) _____	_____ %
5) _____	_____ %
All other states combined	_____ %
Total =	100 %

24. For dollar sales to **landscapers (from question 20)**, what are the top five destination states and what percentage of sales to **landscapers** does each state represent? Please begin with your own state first.

Percent of Total Sales

Top five states:

1) Home state \_\_\_\_\_ %

2) \_\_\_\_\_ %

3) \_\_\_\_\_ %

4) \_\_\_\_\_ %

5) \_\_\_\_\_ %

All other states combined \_\_\_\_\_ %

Total = 100 %

25. For dollar sales to **re-wholesalers (from question 20)**, what are the top five destination states and what percentage of re-wholesaler sales does each state represent? Please begin with your own state first.

Percent of Total Sales

Top five states:

1) Home state \_\_\_\_\_ %

2) \_\_\_\_\_ %

3) \_\_\_\_\_ %

4) \_\_\_\_\_ %

5) \_\_\_\_\_ %

All other states combined \_\_\_\_\_ %

Total = 100 %

**PRICE DETERMINATION**

26. Regarding price determination, please rate the level of importance of each factor by using the 1 to 5 scale, with 1=very minor; 2=minor; 3=neutral; 4=important; 5=very important.

	1	2	3	4	5
Cost of production					
Inflation					
Other growers' prices					
Grade of plants					
Market demand					
Product uniqueness					
Inventory levels					
Last year's price					
Other (please specify) _____					

27. Regarding factors that might limit the expansion of the geographic scope of your trading area, please rate the level of importance of each factor by using the 1 to 5 scale, with 1=very minor; 2=minor; 3=neutral; 4=important; 5=very important.

	1	2	3	4	5
Capital					
Marketing					
Personnel					
Production					
Transportation					
Plant offering					

**ADVERTISING** \_\_\_\_\_

28. What percentage of sales did you allocate in 1998 to advertising? \_\_\_\_\_ %  
 How do you allocate these advertising dollars?
- \_\_\_\_\_ % Web sites
  - \_\_\_\_\_ % Yellow pages
  - \_\_\_\_\_ % Radio
  - \_\_\_\_\_ % Billboards
  - \_\_\_\_\_ % Catalogs (print or CD)
  - \_\_\_\_\_ % Trade journals
  - \_\_\_\_\_ % Newsletters
  - \_\_\_\_\_ % Trade shows
  - \_\_\_ % Other, please specify \_\_\_\_\_
  - 100 % Total

**SALES** \_\_\_\_\_

29. What was the gross value of product sales from your nursery in 1998, or your most recently completed fiscal year? Please check the appropriate category.
- \_\_\_\_\_ Less than \$50,000
  - \_\_\_\_\_ \$ 50,000 - \$ 99,999
  - \_\_\_\_\_ \$ 100,000 - \$ 249,999
  - \_\_\_\_\_ \$ 250,000 - \$ 499,999
  - \_\_\_\_\_ \$ 500,000 - \$ 999,999
  - \_\_\_\_\_ \$ 1,000,000 - \$ 1,999,999
  - \_\_\_\_\_ \$ 2,000,000 - \$ 2,999,999
  - \_\_\_\_\_ \$ 3,000,000 - \$ 3,999,999
  - \_\_\_\_\_ \$ 4,000,000 - \$ 4,999,999
  - \_\_\_\_\_ \$ 5,000,000 - \$ 9,999,999
  - \_\_\_\_\_ \$10,000,000 or above