

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

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## FOREWORD

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## ABSTRACT

A mail survey was conducted in 23 states to collect data regarding trade flows and marketing practices within the nursery industry. A total of 1,500 respondents provided information on product flows, sales methods, price determination, transportation, and advertising. Among the 23 states, the average percentage of sales at the printed price value ranged from 66 percent in Arizona to 94 percent in Delaware. Sales to repeat customers ranged from 63 percent in Arkansas to 86 percent in Florida, indicating stable and established trading patterns as well as the need for careful consideration of entry problems for potential new suppliers.

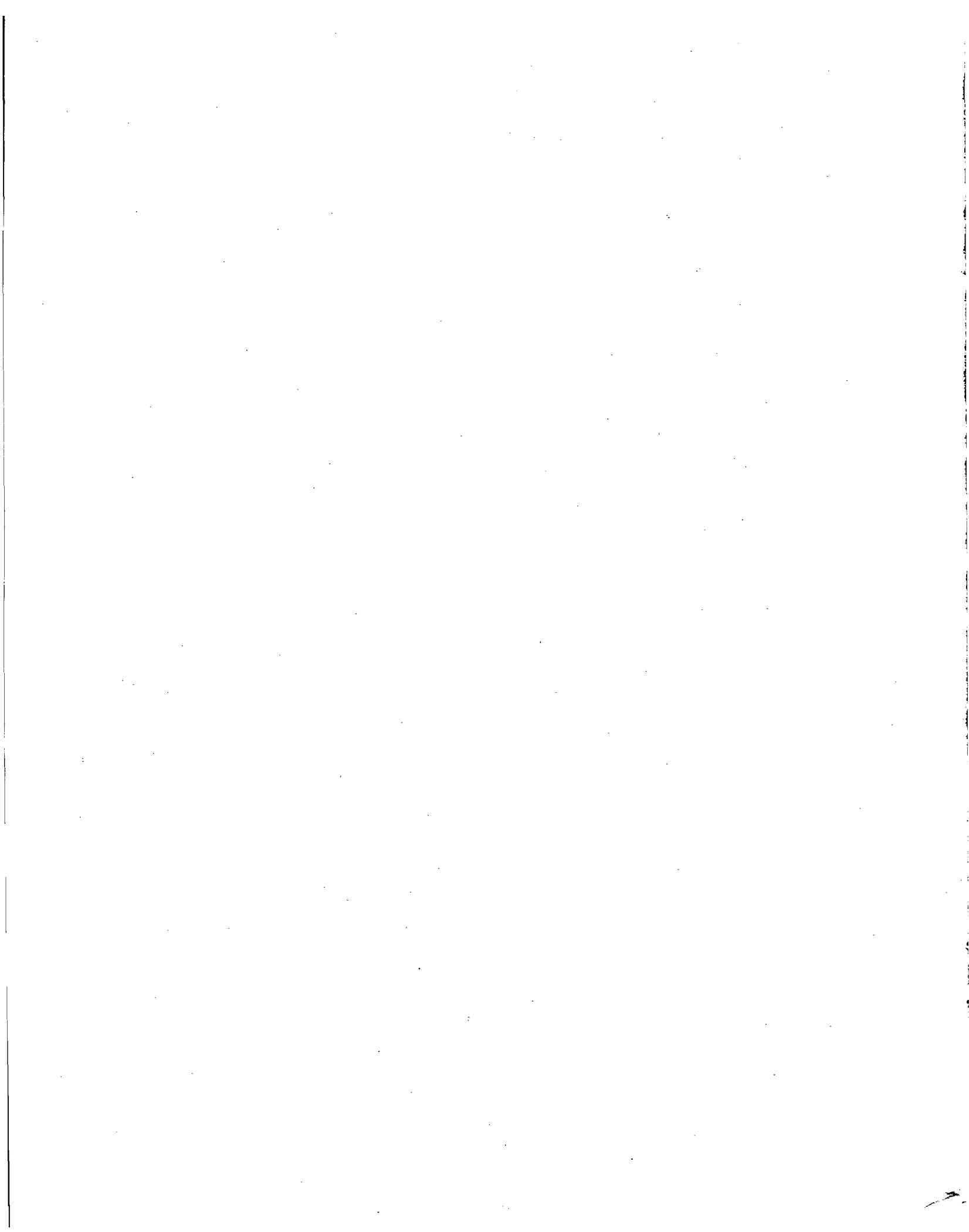
The percentage of total sales shipped to in-state destinations ranged from 6 percent in Alabama to 84 percent in California. While in-state sales were important to the majority of respondents, there was a wide range in the number of different states identified as one of the top six delivery destinations. For example, Delaware nursery product shipments were relatively concentrated in that, of the combined "top six" destination states identified by one or more growers, only eight states were named. At the other end of the spectrum, the top six delivery states of Tennessee growers included 28 states. States that tended toward high percentages of sales out-of-state included Alabama, Oregon, Connecticut, Delaware, Pennsylvania, and Tennessee. States tending toward high percentages of sales within state included California, Florida, Georgia, and Illinois.

## ACKNOWLEDGMENTS

The data collection phase of this study involved the support of numerous individuals. In most states, the mail questionnaires were distributed by the S-103 Regional Research Committee members representing that state. Several of the S-103 representatives collaborated with their state's nursery association to secure a mailing list. In Michigan and California the nursery associations handled the distribution of the questionnaires. Coding of the data was done at Tennessee. Partial funding for printing the questionnaire and data coding was provided by a grant from the Horticultural Research Institute, the research division of the American Association of Nurserymen, Washington D.C.

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# Trade Flows and Marketing Practices

## Within the United States Nursery Industry

John R. Brooker and Steven C. Turner

### INTRODUCTION

The United States nursery industry experienced considerable growth during the 1980s. Since 1982, the greenhouse/nursery industry has grown at an average annual rate of 10% and in 1988 accounted for 9.6 percent of all farm crop cash receipts (U.S. Department of Agriculture, 1989). Aggregate greenhouse/nursery cash receipts for the United States totaled \$6.9 billion in 1988. This is double the cash receipts of \$3.4 billion in 1980. In 1988, nursery crops accounted for 63 percent and floriculture 27 percent of the greenhouse/nursery industry's total cash receipts. The 1983 and 1989 cash receipts for nursery crops (landscape plants) in the 23 states that participated in this study are presented in Table 1. Nursery crop cash receipts in the U.S. were \$4.93 billion in 1989, which is a 14.4 percent increase over 1983.

Information on trade flows and marketing practices within the U.S. nursery industry is limited. Census and U.S. Department of Agriculture publications provide aggregate information on the nursery industry, but provide little information on product flows, sales methods, price determination, transportation, and advertising. This type of marketing information can support the decision-making activities of nurserymen, other industry participants, and government and academic researchers.

### OBJECTIVES

The overall objective of this study was to examine trade flows and selected marketing practices in the U.S. nursery industry. Specific objectives were to determine the following for each state:

1. primary plant and root/media holding categories,
2. transaction methods used,
3. trade flows of nursery products and origin of inputs,
4. price determination practices,
5. transportation methods used, and
6. resources allocated to advertising media.

Table 1. Grower cash receipts for landscape plants in 23 states and the U.S., 1983 and 1989.

State <sup>a</sup>	1983	1989	Percentage Change	Share of U.S. Total
	--1,000,000 dollars--		-----percent-----	
Alabama	90.0	140.0	+ 55.5	2.8
Arizona	13.9	64.4	+363.3	1.3
Arkansas	12.0	13.3	15.6	0.3
California	1,017.5	937.4	- 7.9	19.0
Connecticut	55.4	105.0	89.5	2.1
Delaware	13.0	32.0	146.2	0.6
Florida	650.3	455.0	- 30.0	9.2
Georgia	118.5	194.1	+ 63.8	3.9
Illinois	77.0	NA	NA	NA
Kentucky	18.5	44.9	142.7	0.9
Louisiana	24.2	53.8	122.3	1.1
Maine	7.8	17.0	117.9	0.3
Michigan	113.0	142.0	25.7	2.9
Mississippi	15.0	21.0	40.0	0.4
New Jersey	102.5	178.9	74.9	3.6
New York	137.2	135.7	- 1.1	2.8
North Carolina	109.0	150.0	37.6	3.0
Ohio	68.0	88.6	30.3	1.8
Oklahoma	50.0	224.0	348.0	4.5
Oregon	145.4	235.2	61.8	4.8
Pennsylvania	216.1	200.0	- 7.4	4.0
South Carolina	16.4	74.0	350.8	1.5
Tennessee	145.0	145.0	0.0	2.9
United States	4,310.4	4,931.3	14.4	--
23 State Share of U.S. Total	74.6%	75.6% <sup>b</sup>	--	--

Source: USDA, 1990

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

<sup>b</sup>Illinois included with 1983 value.

## PROCEDURE

Members of the S-103 Regional Research Committee developed a questionnaire to provide data to accomplish the objectives (Appendix A). Participants in 23 states distributed the questionnaire by mail. In addition to the states represented on the S-103 regional research project, other states were contacted in an effort to include more of the major production states. Of the top 10 states, only Texas is missing. The survey was conducted during the first half of 1989, with initial questionnaires being sent out in February, 1989. A total of 1,500 usable questionnaires were returned. It should be noted that some respondents did not answer all questions, resulting in less than 1,500 observations for some questions. The participating states represented 75.6 percent of the nursery crop cash receipts in 1989 (Table 1).

The states participating, the selection criteria, and the number of survey respondents are presented in Table 2. The selection criteria varied between states. Some states, such as Arkansas and Delaware, sent questionnaires to all of the licensed nurseries, while other states, such as Alabama, Georgia, and Tennessee, used a minimum acreage requirement to select potential respondents. Several states, such as Arizona, California, Michigan, Pennsylvania, and South Carolina, used membership in state nurseryman associations as a requirement for selection. Other states, such as Ohio, used a combination of some of these requirements. New Jersey, on the other hand, used a random sample of 40 percent of all nurseries in the state. Florida and Oregon sampled nurseries that made up 90 percent of total production in a state.

Several questions in the survey asked nurserymen 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. Nurserymen were asked to report the actual amount of annual sales or to indicate one of eight categories that included their annual sales for 1988, or the most recently completed fiscal year. For the firms that checked a category rather than report the actual dollar value, the midpoints of the first seven sales categories were used to represent the annual sales value. The eighth category was open ended, so firms indicating this level were assigned a sales value of \$5.5 million dollars. The number of respondents varied from question to question because of variation in the responses to certain questions.

The format of this report will be to discuss the overall characteristics of the sampled nurseries, followed by sections on plant categories, transaction methods, price determination practices, transportation, advertising, and trade flows. Concluding comments will focus on the current marketing situation of the U.S. landscape plant industry.

## GENERAL CHARACTERISTICS

In 19 of the 23 states surveyed, more than 50 percent of responding nurseries had been established since 1970 (Table 3). The four states where this did not apply were Connecticut, Ohio, Pennsylvania, and Illinois. These states, along with Alabama, Kentucky, Michigan, New Jersey, New York, and Oregon, had at least 15 percent of their sampled nurseries in existence before 1950. The states

Table 2. Survey size and selection process in each state.

State	Survey Respondents <sup>a</sup>	Criteria for selecting survey sample
Alabama	29	100% of nurseries with 3 or more acres
Arizona	38	100% of AZ Nursery Assoc. wholesale nursery members
Arkansas	20	100% of nurseries
California	137	100% of CA Nursery Assoc. grower members
Connecticut	26	100% of nurseries
Delaware	28	100% of licensed nurseries
Florida	104	Larger growers that account for 90% of production
Georgia	150	100% of licensed growers with 3 or more acres
Illinois	32	100% of nurseries identified as wholesalers
Kentucky	21	100% of wholesale nurseries
Louisiana	52	Five largest growers, random sample of certified nurseries
Maine	25	100% of wholesale nurseries
Michigan	85	100% of MI Nursery Assoc. grower members
Mississippi	12	100% of large nurseries and 25% of small nurseries
New Jersey	106	Random sample of 40% of all nurseries
New York	100	100% of licensed nurseries (non-greenhouse) with 3 or more acres
North Carolina	106	100% of wholesale nurseries with 5 or more acres
Ohio	108	100% of nurseries with 20 or more acres that are also members of O.N.A.
Oklahoma	38	100% of wholesale nurseries with more than 1 acre
Oregon	64	Larger growers that account for 90% of total sales
Pennsylvania	91	100% of PA Nursery Assoc. grower members
South Carolina	31	100% of SC Nursery Assoc. grower members
Tennessee	<u>97</u>	100% of nurseries with 20 or more acres
Total	1,500	

<sup>a</sup>Total number of survey respondents.

Table 3. Distribution of surveyed nurseries by year established.

State	Respondents <sup>a</sup>		Year Established				
			Before 1950s	1950s	1960s	1970s	1980s
	No.	Percent	Percent				
Alabama	29	100.0	31.0	3.4	3.4	44.8	17.2
Arizona	34	89.5	2.8	.3	2.8	33.3	52.8
Arkansas	20	100.0	10.0	5.0	5.0	20.0	60.0
California	134	97.8	13.4	12.7	11.9	24.6	37.3
Connecticut	25	96.2	20.0	24.0	24.0	12.0	20.0
Delaware	26	92.9	11.5	11.5	23.1	26.9	26.9
Florida	104	100.0	13.5	.8	13.5	33.7	33.7
Georgia	148	98.7	8.1	10.8	8.8	31.8	40.5
Illinois	32	100.0	34.4	15.6	9.4	28.1	12.5
Kentucky	21	100.0	19.0	4.8	19.0	23.8	33.3
Louisiana	53	96.4	9.4	7.5	13.2	32.1	37.7
Maine	24	96.0	8.3	---	12.5	33.3	45.8
Michigan	81	95.3	21.0	11.1	13.6	25.9	28.4
Mississippi	11	91.7	---	---	9.1	36.4	54.5
New Jersey	104	98.1	17.3	6.7	12.5	29.8	33.7
New York	99	99.0	17.2	12.1	18.2	24.2	28.3
North Carolina	101	95.3	7.9	7.9	11.9	34.7	37.6
Ohio	104	96.3	23.1	15.4	12.5	24.0	25.0
Oklahoma	21	55.3	8.1	18.9	2.7	13.5	56.8
Oregon	63	98.4	22.2	7.9	19.0	30.2	20.6
Pennsylvania	85	93.4	28.2	15.3	9.4	21.2	25.9
South Carolina	30	96.8	13.3	13.3	13.3	30.0	30.0
Tennessee	95	96.9	13.7	12.6	16.8	44.2	12.6

<sup>a</sup>Nurseries in the sample responding to this question.

with the youngest nursery industries were Arizona, Arkansas, Mississippi, Maine, Georgia, North Carolina, and Oklahoma.

Proprietorship and corporation were the dominant types of business organization utilized by nurseries (Table 4). No discernable pattern appeared to exist with respect to organizational structure of nurseries, although incorporation in the nursery industry is prevalent.

#### Types of Plants Sold and Root Media

Nurseries produce and sell a variety of plant material. Eleven plant categories were used to segment distribution of sales by landscape plant nurseries (Table 5). The respondents from Illinois, Kentucky, New Jersey, New York, Ohio, Oregon, South Carolina, and Tennessee indicated that at least a quarter of their sales in 1988 were deciduous trees. In Alabama and Maine, on the other hand, deciduous trees accounted for less than 10 percent of sales in 1988. Deciduous shrubs appear to be important components in Illinois, Ohio, and Oklahoma sales.

The southern states appear to be predominant in growing and marketing evergreen shrubs. Alabama, Connecticut, Georgia, Louisiana, Mississippi, Oklahoma, Pennsylvania, and South Carolina respondents reported evergreen shrubs contribute 50 percent or more to total sales. Other major growers and marketers of evergreen shrubs in 1988 were Arkansas, Florida, Michigan, New Jersey, North Carolina, Ohio, and Oregon. In addition, southern states market more broadleaf evergreen shrubs, while northern states market more narrowleaf evergreen shrubs. Evergreen trees account for large percentages of sales in Arizona, Kentucky, Maine, New Jersey, New York, and North Carolina.

The states reporting the highest percentage of vine and ground cover sales were California, Florida, and Louisiana. Roses accounted for a large percentage of sales in California and Arizona. California is the major grower and marketer of herbaceous perennials, with Illinois and Ohio also reporting percentages higher than 6 percent.

Based on total cash receipts in the states surveyed, Tennessee and Florida appear to be the major sellers of fruit trees. Delaware respondents indicated that 22.3 percent of their sales in 1988 were from small fruit plant sales. Considering that this category generated no more than 2 percent of sales in any other state, Delaware's percentage is notable.

States with the highest percentages of sales generated by propagating material were Alabama, Oregon, Pennsylvania, and Tennessee. Georgia and Florida also generate relatively large percentages of sales in this category.

Several inferences can be made from Table 5. California, the state with the largest cash receipts from landscape plants, evidently has a fairly diversified industry because no plant category generated more than 20 percent of sales. An interesting note for California is that the category with the highest percent is "other." Arizona and New York also had rather high percentages for this category. This should be investigated in further detail in future surveys. Tennessee, New York, Kentucky, New Jersey, North Carolina, and Oregon appear to be large producers of nursery-grown trees.

Table 4. Distribution of surveyed nurseries by form of business organization.

State	Respondents <sup>a</sup>		Business Organization			
			Proprietorship	Partnership	Corporation	Other
	No.	Percent	-----Percent-----			
Alabama	29	100.0	20.7	3.4	72.4	3.4
Arizona	38	100.0	26.3	21.1	47.4	5.3
Arkansas	20	100.0	60.0	15.0	25.0	---
California	137	100.0	43.1	16.8	39.4	0.7
Connecticut	25	96.2	48.0	4.0	48.0	---
Delaware	28	100.0	60.7	7.1	25.0	7.1
Florida	104	100.0	20.2	5.8	73.1	1.0
Georgia	149	99.3	55.7	13.4	26.8	4.0
Illinois	32	100.0	31.3	9.4	59.4	---
Kentucky	21	100.0	47.6	14.3	38.1	---
Louisiana	52	94.6	55.8	9.6	28.8	5.8
Maine	25	100.0	36.0	8.0	52.0	4.0
Michigan	85	100.0	32.9	14.1	52.9	---
Mississippi	11	91.7	63.6	9.1	9.1	18.2
New Jersey	105	99.1	51.4	14.3	34.3	---
New York	100	100.0	43.0	16.0	39.0	2.0
North Carolina	105	99.1	45.7	18.1	34.3	1.9
Ohio	108	100.0	41.7	8.3	49.1	0.9
Oklahoma	38	100.0	50.0	23.7	26.3	---
Oregon	64	100.0	28.1	14.1	57.8	---
Pennsylvania	90	98.9	50.0	11.1	38.9	---
South Carolina	31	100.0	35.5	16.1	48.4	---
Tennessee	96	98.0	47.9	22.9	26.0	3.1

<sup>a</sup>Nurseries in the sample responding to this question.

Table 5. Distribution of sales by plant categories.

State	Respondents <sup>a</sup>		Deciduous		Evergreen Shrubs		Evergreen Trees	Vine & Ground Cover	Roses	Herbaceous Perennials	Tree Fruit	Small Fruit	Propagating Material	Other
	No.	Percent	Trees	Shrubs	Broad-l	Narrow-l								
-----Percent-----														
Alabama	28	96.5	9.4	9.5	40.6	19.3	3.6	7.0	0.9	0.4	1.7	0.6	7.1	---
Arizona	35	92.1	20.6	4.9	7.4	7.0	19.4	6.1	10.9	1.5	3.1	0.4	2.4	16.3
Arkansas	17	85.0	17.3	9.3	30.6	9.9	8.0	5.2	4.4	2.9	4.6	1.6	1.5	4.7
California	127	92.7	10.5	3.3	15.9	7.5	11.3	9.4	6.9	7.3	7.1	0.4	2.5	17.8
Connecticut	20	76.9	11.8	8.7	28.4	33.8	13.5	1.7	0.2	0.7	0.1	0.2	0.5	0.2
Delaware	24	85.7	10.9	10.0	9.0	15.2	12.7	4.0	4.4	5.6	3.9	22.3	1.9	---
Florida	93	89.4	12.4	6.3	24.7	13.5	15.0	8.9	2.9	1.1	6.1	0.3	4.2	4.6
Georgia	131	87.3	11.8	5.3	33.4	20.4	7.9	6.6	2.4	4.9	0.8	1.4	4.6	0.4
Illinois	30	93.8	30.3	23.5	5.4	12.2	9.9	7.9	1.1	7.1	0.7	0.3	1.4	---
Kentucky	19	90.5	40.9	12.0	8.8	14.4	18.7	1.0	0.3	1.1	0.2	---	0.9	1.5
Louisiana	47	85.4	19.7	3.3	51.4	6.4	7.1	8.3	0.3	1.4	0.3	0.2	1.2	0.3
Maine	22	88.0	9.8	9.8	10.2	12.8	37.9	1.8	3.3	5.8	4.3	1.8	a	2.4
Michigan	78	91.8	12.9	13.5	8.5	28.4	16.6	5.3	2.2	3.5	1.6	1.7	2.2	3.4
Mississippi	9	75.0	13.3	2.3	49.4	22.2	3.5	2.1	2.4	2.4	0.7	1.6	---	---
New Jersey	97	91.5	27.5	9.9	13.6	15.6	19.9	2.0	2.4	2.8	0.6	0.2	0.5	4.8
New York	92	92.0	34.2	5.9	2.5	4.9	25.6	6.8	0.2	0.9	3.4	0.8	0.3	14.4
North Carolina	88	83.0	20.4	2.9	31.5	9.0	27.0	3.3	0.5	2.2	0.3	0.7	2.0	0.1
Ohio	105	97.2	24.3	17.6	15.3	19.1	11.8	3.3	1.0	6.0	0.2	0.2	1.2	<.1
Oklahoma	35	92.1	22.1	16.8	26.7	25.0	4.0	2.3	1.2	0.4	1.0	0.1	---	0.1
Oregon	58	90.6	40.5	8.0	21.3	10.4	6.2	1.4	0.5	0.6	2.3	0.8	6.1	1.8
Pennsylvania	87	95.6	11.9	5.2	9.7	45.1	12.9	2.2	2.2	1.0	1.6	0.1	8.3	---
South Carolina	30	96.8	34.4	2.9	32.9	18.1	5.1	3.9	1.0	0.9	0.2	0.1	0.6	---
Tennessee	93	94.7	45.7	10.3	9.6	3.9	10.4	4.8	<.1	0.1	7.1	1.2	6.2	0.6

<sup>a</sup>Nurseries in the sample responding to this question.

Table 6 presents the distribution of sales by root/media packaging. Six categories were specified: bare root, balling and burlap, container, balled and potted, processed ball, and field grow bags. Nine of the states surveyed indicated that about 75 percent or more of their sales were plants in containers. Eleven states indicated that less than 50 percent of 1988 sales were in containers, including the major producing states of Pennsylvania, Oregon, New York, North Carolina, and New Jersey.

California, Delaware, Maine, New York, Oregon, Pennsylvania, and Tennessee had substantial percentages of bare root plant sales. The balled and burlap method is the dominant method used in Illinois, Kentucky, Maine, New Jersey, New York, Ohio, Pennsylvania, and Tennessee. The balled and potted, and processed balled methods are used infrequently. Thirteen states reported usage of field grow bags.

#### Transaction Methods

Of the transaction methods reported, only the following four were examined in detail: trade shows, telephone, person-to-person, and mail order. The first three methods were investigated in both a negotiation and nonnegotiation context.

Telephone and in-person trading were the dominant transaction methods, with most states reporting 80 percent of their sales transactions in these two categories (Table 7). Also, the nurseries in the southern states are more likely to make transactions at trade shows. Delaware nurseries indicated that almost 50% of their sales in 1988 were made by mail order. Pennsylvania also reported substantial mail order sales.

There appears to be considerable negotiation occurring in the U.S. nursery industry. California, Connecticut, Georgia, and Oklahoma had high percentages of negotiated sales over the telephone or in person, while Illinois, Oregon, Pennsylvania, and South Carolina had little negotiation occurring.

Representation at trade shows appears to vary by state, with the average nursery participation ranging from 1 for Delaware to 6.8 for Connecticut (Table 8). States with higher average participation rates were California, Connecticut, Michigan, Oklahoma, Oregon, Pennsylvania, South Carolina, and Tennessee.

The percentage of "sales-made-to-repeat-customers" is presented in Table 9. In general, more than 75 percent of sales were to repeat customers. In Arizona and Florida, this percentage rose to 85 percent, while in Arkansas the percentage decreased to 63 percent.

An examination of sales reported by month revealed large percentages in the spring followed by a decrease in July and August, and limited sales in December, January, and February (Table 10). The monthly pattern of sales appears to be quite dependent on location. Northern states had heavy sales in April and May and then another smaller surge in September and October. Western states had less seasonality. Southern states tended to have the same seasonal sales patterns as northern states, though not as pronounced.

Table 6. Distribution of sales by root/media holding categories.

State	Respondents <sup>a</sup>		Bare Root	Balling and Burlap	Container	Balled and Potted	Processed Balled	Field Grow Bag	Other
	No.	Percent							
Alabama	29	100.0	0.9	6.0	87.3	2.7	2.7	0.4	---
Arizona	35	92.1	11.1	6.7	77.3	4.6	0.4	---	---
Arkansas	18	90.0	2.4	15.6	78.6	3.2	---	0.2	---
California	126	92.0	14.6	1.6	81.8	0.2	---	<.1	1.8
Connecticut	23	88.5	0.3	38.7	50.5	3.5	0.9	5.4	0.7
Delaware	19	67.9	49.0	31.8	18.0	0.3	<.1	---	0.9
Florida	95	91.4	6.1	11.4	78.5	3.0	0.9	0.1	---
Georgia	139	92.7	9.7	11.9	74.5	2.4	0.8	0.7	---
Illinois	31	96.9	2.5	59.1	38.0	0.3	0.1	<.1	---
Kentucky	20	95.2	4.2	66.0	27.4	2.4	0.1	---	---
Louisiana	46	83.6	1.0	30.3	67.6	0.4	---	0.7	---
Maine	22	88.0	20.0	41.0	36.1	1.7	0.3	0.8	---
Michigan	81	95.3	11.1	24.6	58.7	4.7	0.9	<.1	---
Mississippi	9	75.0	0.2	12.4	84.7	0.2	---	2.4	---
New Jersey	97	91.5	4.1	54.5	33.6	3.7	0.1	0.8	3.1
New York	84	84.0	14.4	70.5	9.9	2.7	0.9	0.1	1.4
North Carolina	89	84.0	6.6	40.4	46.8	1.0	<.1	<.1	5.2
Ohio	106	98.2	2.7	47.9	45.0	4.0	0.2	0.1	0.1
Oklahoma	34	89.5	0.2	11.4	85.9	0.4	0.2	1.5	0.3
Oregon	60	93.8	41.0	9.4	43.2	6.2	<.1	<.1	---
Pennsylvania	85	93.4	13.4	67.6	14.6	1.8	0.3	0.9	1.4
South Carolina	29	93.6	1.1	16.8	82.1	---	---	---	---
Tennessee	94	95.9	20.9	58.9	16.4	1.5	1.7	---	0.6

<sup>a</sup>Nurseries in the sample responding to this question.

Table 7. Distribution of sales transactions by selected methods, negotiated versus nonnegotiated.

State	Respondents <sup>a</sup>		Trade Shows		Telephone		In-Person		Mail Order
	No.	Percent	nego.	non.	nego.	non.	nego.	non.	
		-----Percent-----							
Alabama	29	100.0	11.7	6.6	19.6	26.7	19.3	11.0	5.1
Arizona	33	86.1	1.0	0.4	21.8	15.3	23.4	37.8	0.2
Arkansas	17	85.0	3.1	3.9	12.8	18.0	16.3	36.1	9.8
California	128	93.4	0.4	0.8	17.9	20.7	32.0	26.2	1.9
Connecticut	22	84.6	2.2	0.9	16.7	7.4	52.6	11.5	8.6
Delaware	24	85.7	---	---	1.9	14.8	2.8	30.8	49.7
Florida	97	93.3	4.2	3.9	18.5	28.8	18.9	24.4	1.4
Georgia	134	89.3	4.6	1.0	22.9	27.2	28.9	13.7	1.6
Illinois	30	93.8	<.1	3.6	2.6	44.3	4.5	43.1	1.9
Kentucky	19	90.5	1.5	2.3	12.7	24.2	28.5	29.8	1.0
Louisiana	47	85.4	8.2	3.4	26.7	20.5	20.4	17.9	2.9
Maine	21	75.0	0.4	3.6	16.4	21.6	21.8	28.1	8.1
Michigan	77	90.6	1.5	1.6	7.5	16.1	55.5	13.3	4.5
Mississippi	9	75.0	1.3	6.5	7.0	41.0	27.6	15.3	1.2
New Jersey	93	87.7	4.3	7.0	11.1	16.9	28.8	26.5	5.3
New York	91	91.0	2.5	3.7	17.1	30.3	22.0	16.1	8.3
North Carolina	86	81.1	7.2	3.9	28.5	19.8	18.9	14.6	7.0
Ohio	100	92.6	1.4	5.4	9.5	29.2	25.4	20.2	9.0
Oklahoma	34	89.5	0.2	11.4	85.9	0.4	0.2	1.5	0.3
Oregon	49	91.2	0.5	5.3	5.6	16.3	4.2	62.7	5.4
Pennsylvania	83	91.2	1.0	3.4	4.8	33.9	6.5	18.4	32.0
South Carolina	30	96.8	4.5	6.4	10.4	50.4	4.7	22.7	0.9
Tennessee	91	92.9	11.6	8.7	18.4	12.0	30.6	8.0	10.6

<sup>a</sup>Nurseries in the sample responding to this question.

Table 8. Representation of nursery at trade shows in 1988.

State	Respondents <sup>a</sup>		Trade Show Participation	
	No.	Percent	Maximum	Average
			-----Number-----	
Alabama	0	0	--	---
Arizona	23	65.5	10	1.7
Arkansas	9	45.5	4	1.7
California	51	37.2	45	4.1
Connecticut	10	38.5	28	6.8
Delaware	4	14.3	4	1.0
Florida	71	68.3	15	2.8
Georgia	44	29.3	15	3.5
Illinois	15	46.9	10	3.1
Kentucky	8	38.1	3	1.6
Louisiana	24	43.6	13	2.8
Maine	13	52.0	20	3.2
Michigan	32	37.6	12	3.9
Mississippi	6	50.0	5	2.5
New Jersey	27	25.5	8	2.8
New York	24	24.0	10	2.9
North Carolina	63	59.4	10	3.1
Ohio	43	39.8	20	3.7
Oklahoma	14	36.8	18	4.1
Oregon	48	75.0	43	4.6
Pennsylvania	29	31.9	23	5.6
South Carolina	14	45.2	20	4.8
Tennessee	52	53.1	12	4.3

<sup>a</sup>Excludes nurseries with zero or no response.

Table 9. Percentage of sales made to repeat customers.

State	Respondents <sup>a</sup>		Repeat Customers	
	No.	Percent	Range	Average
			-----Percent-----	
Alabama	27	93.1	50- 95	79.2
Arizona	35	92.1	10-100	85.3
Arkansas	19	95.0	10- 90	63.3
California	131	95.6	10-100	82.2
Connecticut	25	96.2	25-100	80.4
Delaware	26	92.9	20-100	74.6
Florida	102	98.1	40-100	85.6
Georgia	138	92.0	15-100	74.7
Illinois	30	93.8	20-100	78.7
Kentucky	20	95.2	40- 95	80.2
Louisiana	54	98.2	10-100	73.6
Maine	24	96.0	35- 95	67.9
Michigan	78	91.8	10-100	68.9
Mississippi	11	91.7	20-100	76.9
New Jersey	96	90.6	10-100	76.8
New York	90	90.0	15-100	76.0
North Carolina	103	97.2	10-100	80.8
Ohio	107	99.1	10-100	78.3
Oklahoma	35	92.1	0-100	71.8
Oregon	60	80.0	50-100	84.2
Pennsylvania	87	95.6	15-100	72.8
South Carolina	31	100.0	40-100	82.8
Tennessee	94	95.9	15-100	82.0

<sup>a</sup>Nurseries in the sample responding to this question.

Table 10. Distribution of sales by month.

State	Respondents <sup>a</sup>		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	No.	Percent												
			-----Percent-----											
Alabama	28	96.5	3.2	9.9	20.6	16.6	10.7	6.0	2.3	5.5	6.6	9.2	5.8	3.4
Arizona	34	89.5	6.9	6.8	9.4	10.4	11.9	9.6	5.6	5.3	8.4	9.3	6.9	9.5
Arkansas	18	90.0	3.1	4.5	10.2	18.8	17.7	9.1	5.0	3.8	4.8	6.9	7.5	8.7
California	109	79.6	7.6	6.3	10.0	11.8	11.4	10.5	9.0	7.1	7.2	6.6	6.4	6.0
Connecticut	23	88.5	0.7	2.5	11.4	25.2	24.6	9.3	1.4	3.5	8.9	6.3	3.4	2.8
Delaware	25	89.3	9.7	8.4	12.9	11.9	9.6	8.6	11.9	7.7	4.2	4.4	3.2	7.4
Florida	86	82.7	7.8	9.5	12.7	11.9	10.1	7.5	6.2	5.8	6.6	7.3	7.4	7.1
Georgia	132	88.0	5.5	8.5	15.1	17.0	11.9	5.8	4.0	4.8	6.4	8.1	6.4	6.6
Illinois	28	87.5	1.1	1.0	7.6	22.5	21.1	9.5	5.8	5.1	8.3	9.8	6.0	2.0
Kentucky	20	95.2	1.2	1.3	16.0	19.3	14.3	7.3	2.2	1.9	7.6	12.5	10.8	5.6
Louisiana	45	81.8	5.9	13.3	18.9	14.7	8.2	5.0	3.0	4.0	7.4	8.0	6.6	4.9
Maine	21	84.0	3.2	1.7	4.5	12.8	18.7	11.9	6.9	17.0	7.9	6.9	4.4	4.2
Michigan	76	89.4	0.9	0.9	5.4	13.2	14.5	19.8	14.4	6.8	8.6	8.4	4.2	3.0
Mississippi	10	83.3	3.8	14.8	16.5	14.5	7.5	2.9	1.8	1.7	9.9	11.5	10.5	4.4
New Jersey	96	90.6	0.7	1.1	8.3	19.3	17.6	10.2	4.1	4.5	8.4	11.0	8.7	5.9
New York	91	91.0	0.9	1.4	3.5	19.3	22.3	14.0	2.5	3.0	8.3	10.6	9.8	4.4
North Carolina	84	79.2	3.0	5.2	17.9	17.3	7.7	3.6	2.8	4.2	8.4	9.3	12.7	7.9
Ohio	102	94.4	0.8	1.8	10.1	21.2	20.3	9.2	5.1	4.3	7.5	8.8	7.4	3.4
Oklahoma	34	89.5	1.2	7.0	22.4	29.7	11.7	4.4	1.6	4.5	8.3	4.5	2.4	2.2
Oregon	59	92.2	4.0	8.8	15.6	17.1	16.3	9.4	5.2	4.2	4.5	6.5	4.1	4.3
Pennsylvania	84	92.3	0.8	1.3	8.1	27.9	24.1	7.8	2.7	3.4	10.6	7.8	2.7	2.7
South Carolina	26	83.9	3.5	8.2	15.1	12.5	9.4	8.6	6.1	8.0	9.3	10.5	6.0	2.8
Tennessee	91	92.9	7.8	11.4	21.3	16.6	5.7	2.8	1.5	2.4	5.1	6.3	10.0	9.1

<sup>a</sup>Nurseries in the sample responding to this question.

Information on the percentage of sales made at a printed price is presented in Table 11. In general, this information is consistent with data on negotiation. In other words, the states reporting little negotiation had a high percentage of sales at a printed price and vice versa. Two notable exceptions are Georgia and Oregon. Georgia reported considerable negotiation, but more than 85 percent of sales were at printed prices, while Oregon reported little negotiation yet only 71 percent of sales were at printed price values.

### Transportation

The dominant mode of transportation used in the nursery industry is trucking (Table 12). In 21 of the 23 states surveyed, respondents indicated that about 90 percent or more of sales were shipped by truck. The exceptions were Maine and Delaware. Maine shipped almost 20 percent of its sales by parcel post and UPS, while Delaware respondents indicated that almost 60 percent of sales were shipped by parcel post and UPS. The size of the nurseries and the distances shipped might indicate the reason for the relatively large percentage of sales shipped by parcel post and UPS in these states.

Because trucking was the dominant shipping method, truck ownership was investigated to give an indication of control and capital investment in transportation equipment. The three trucking categories were: commercial carrier, nursery owned, and buyer owned. No particular pattern existed with respect to truck ownership (Table 13). Respondents in Alabama, Connecticut, Oklahoma, Oregon, Pennsylvania, and Tennessee indicated that 50 percent or more of their truck shipment sales were through commercial carriers. Arizona, Arkansas, California, Delaware, Florida, Kentucky, New York, and South Carolina had about 50 percent or more of their truck shipment sales through nursery owned vehicles. The states with the highest percentage of truck shipment sales through buyer owned trucks were Illinois and Maine. In Louisiana, Michigan, New Jersey, and North Carolina, the percentages of truck shipment sales are evenly divided among the three categories.

The amount of empty backhauls incurred was related to the nursery owned trucks used for shipping product (Table 14). Overall, empty backhauls appear to occur at least 90 percent of the time. The average percent of empty backhauls ranged from 98.8 percent in Mississippi to 64.3 percent in Maine.

The maximum delivery radius was another area of investigation pertaining to nursery owned trucking. For the total sample, the average maximum delivery radius was 162.08 miles (Table 15). Alabama had the highest average (427.8 miles), and Kentucky had the lowest average (86.2 miles). States with averages over 200 miles included Arizona, Illinois, Louisiana, and South Carolina. States with averages of less than 120 miles included Arkansas, Delaware, Maine, Mississippi, New Jersey, and New York.

### Advertising

The advertising function of nurseries was examined in two ways. The first focused on advertising as a percentage of sales, and the second on utilization of different outlets. Table 16 illustrates the average percentage of sales

Table 11. Percentage of sales at printed price value.

State	Respondents <sup>a</sup>		Percentage of Sales	
	No.	Percent	Range	Average
Alabama	25	86.2	10-100	74.7
Arizona	32	84.2	0-100	65.5
Arkansas	16	80.0	15-100	86.2
California	115	83.9	0-100	73.4
Connecticut	18	89.2	0-100	81.3
Delaware	19	67.9	75-100	94.4
Florida	92	88.5	10-100	80.3
Georgia	113	75.3	5-100	86.6
Illinois	29	90.6	50-100	88.9
Kentucky	18	85.7	50-100	85.0
Louisiana	44	80.0	15-100	81.7
Maine	23	92.0	0-100	85.1
Michigan	77	90.6	5-100	84.4
Mississippi	10	83.3	50-100	85.5
New Jersey	78	73.6	10-100	87.8
New York	74	74.0	0-200	85.6
North Carolina	91	85.8	10-100	88.3
Ohio	101	93.5	0-100	88.5
Oklahoma	28	73.4	10-100	81.8
Oregon	47	73.4	5-100	71.0
Pennsylvania	80	87.9	15-100	91.3
South Carolina	26	83.9	50-100	89.2
Tennessee	79	80.6	0-100	76.0

<sup>a</sup>Nurseries in the sample responding to this question.

Table 12. Distribution of sales by mode of transportation.

State	Respondents <sup>a</sup>		Shipments by											
			Truck		Rail		PP & UPS		Air					
			Respondents	Share	Respondents	Share	Respondents	Share	Respondents	Share				
No.	Percent	No.	Percent	No.	Percent	No.	Percent	No.	Percent					
Alabama	28	96.5	28	100.0	96.4	---	---	---	8	28.6	3.6	1	3.6	<.1
Arizona	35	92.1	35	100.0	99.9	---	---	---	1	2.9	<.1	2	5.7	<.1
Arkansas	12	60.0	11	91.7	93.8	---	---	---	6	50.0	5.9	2	16.7	0.3
California	126	92.0	121	96.0	96.9	---	---	---	20	15.9	1.4	14	11.1	1.7
Connecticut	19	73.1	19	100.0	99.9	---	---	---	1	5.3	<.1	---	---	---
Delaware	15	53.6	14	93.3	42.5	---	---	---	5	33.3	57.5	1	6.7	<.1
Florida	88	84.6	88	100.0	98.9	---	---	---	12	13.6	0.6	9	10.2	0.5
Georgia	106	70.7	100	94.3	96.0	---	---	---	26	24.6	3.9	2	1.9	0.1
Illinois	31	96.9	31	100.0	99.8	---	---	---	5	16.1	0.2	1	3.2	<.1
Kentucky	19	90.5	19	100.0	99.5	---	---	---	1	5.3	0.5	---	---	---
Louisiana	39	70.9	37	94.9	99.3	---	---	---	4	10.3	0.7	---	---	---
Maine	20	80.0	18	90.0	80.1	1	5.0	0.6	6	30.0	19.3	---	---	---
Michigan	68	80.0	67	98.5	89.4	---	---	---	19	27.9	10.4	4	5.9	0.2
Mississippi	10	83.3	10	100.0	100.0	---	---	---	---	---	---	---	---	---
New Jersey	83	78.3	83	100.0	98.4	---	---	---	7	1.2	1.6	1	1.2	<.1
New York	83	83.0	83	100.0	98.0	---	---	---	13	15.7	1.8	3	3.6	0.2
North Carolina	81	76.4	77	95.1	95.6	---	---	---	20	24.7	4.3	4	4.9	<.1
Ohio	95	88.0	92	96.8	95.6	---	---	---	26	27.4	4.3	4	4.2	0.1
Oklahoma	28	73.7	27	96.4	99.9	---	---	---	2	7.1	a	---	---	---
Oregon	57	89.1	54	94.7	97.1	2	3.5	0.1	20	35.1	2.1	7	12.3	0.7
Pennsylvania	70	76.9	69	98.6	92.5	1	1.4	0.5	19	27.1	6.7	3	4.3	0.3
South Carolina	26	83.9	26	100.0	100.0	---	---	---	---	---	---	---	---	---
Tennessee	85	86.7	83	97.6	89.8	---	---	---	34	40.0	9.4	9	10.6	0.8

<sup>a</sup>Nurseries in the sample responding to this question.

Table 13. Distribution of truck shipments.

State	Respondents <sup>a</sup>		Commercial								
			Common Carrier		Nursery Owned		Buyer Owned				
	No.	Percent	Respondents	Share	Respondents	Share	Respondents	Share			
Alabama	28	96.5	23	82.1	67.6	15	53.6	16.0	25	89.3	16.4
Arizona	34	89.5	12	35.3	18.0	29	82.9	75.6	14	40.0	6.4
Arkansas	11	55.0	3	27.3	8.7	10	90.9	76.0	6	54.6	15.3
California	119	86.9	33	27.7	9.3	110	92.4	76.7	52	43.7	14.0
Connecticut	18	69.2	5	27.8	67.4	12	66.7	14.1	11	61.1	18.5
Delaware	13	46.4	4	30.8	16.3	10	76.9	51.5	9	69.2	32.2
Florida	88	84.6	38	43.2	21.8	77	87.5	58.6	60	68.2	19.5
Georgia	98	65.3	26	26.5	45.8	77	78.6	34.3	67	68.4	19.9
Illinois	31	96.9	18	58.1	10.5	24	77.4	41.5	24	77.4	47.9
Kentucky	18	85.7	10	55.6	26.7	15	83.3	49.9	15	83.3	23.3
Louisiana	37	67.3	15	40.5	32.8	24	88.9	31.8	27	73.0	35.4
Maine	18	72.0	8	44.4	21.3	11	61.1	29.4	13	72.2	49.3
Michigan	66	77.6	17	25.8	33.9	53	80.3	39.0	51	77.3	27.1
Mississippi	10	83.3	3	30.0	13.3	10	100.0	44.1	6	60.0	42.6
New Jersey	82	77.4	29	35.4	35.4	55	67.1	38.0	60	73.2	26.6
New York	83	83.0	36	43.4	17.0	55	66.3	58.8	59	71.1	24.2
North Carolina	76	71.7	37	48.7	28.4	61	80.3	46.2	48	63.2	25.4
Ohio	91	84.3	47	51.7	44.6	66	72.5	37.4	69	75.8	18.0
Oklahoma	26	68.4	9	34.6	70.2	19	73.1	17.2	17	65.4	12.6
Oregon	52	82.8	48	92.3	76.5	30	57.7	14.6	37	71.2	8.9
Pennsylvania	68	74.7	30	44.1	51.2	50	73.5	23.3	45	66.2	25.5
South Carolina	25	80.6	10	40.0	28.8	22	88.0	54.0	16	72.7	17.2
Tennessee	82	83.7	49	59.8	50.0	50	61.0	32.5	60	73.2	17.5

<sup>a</sup>Nurseries in the sample responding to this question.

Table 14. Percentage of nursery owned delivery trucks returning with empty backhauls.

State	Respondents <sup>a</sup>		Empty Backhauls	
	No.	Percent	Range	Average
Alabama	15	38.4	70-100	96.0
Arizona	32	84.2	50-100	94.5
Arkansas	10	50.0	50-100	89.5
California	118	86.1	0-100	91.0
Connecticut	17	65.4	30-100	94.3
Delaware	11	39.3	40-100	88.6
Florida	87	83.6	20-100	92.1
Georgia	95	63.3	5-100	94.0
Illinois	24	75.0	50-100	94.4
Kentucky	15	71.4	80-100	97.9
Louisiana	31	56.4	10-100	94.0
Maine	14	56.0	0-100	64.3
Michigan	58	68.2	60-100	95.1
Mississippi	9	75.0	90-100	98.8
New Jersey	60	56.6	0-100	91.4
New York	62	62.0	0-100	87.1
North Carolina	79	74.5	2-100	91.0
Ohio	69	63.9	0-200	91.9
Oklahoma	22	57.9	0-100	92.1
Oregon	31	48.4	50-100	93.4
Pennsylvania	58	63.7	0-100	91.7
South Carolina	26	83.9	0-100	88.4
Tennessee	56	57.1	0-100	84.6

<sup>a</sup>Nurseries in the sample responding to this question.

Table 15. Maximum radius of delivery for nursery owned trucks.

State	Respondents		Maximum Delivery	
	No.	Percent <sup>a</sup>	Range	Average
-----miles-----				
Alabama	9	60.0	100-1,500	427.8
Arizona	17	58.6	25-1,000	201.5
Arkansas	4	40.0	15- 250	108.8
California	90	81.8	2-1,000	179.1
Connecticut	6	23.1	25- 100	137.5
Delaware	10	100.0	10- 500	103.2
Florida	66	85.7	15- 800	199.3
Georgia	63	81.8	10-1,000	152.5
Illinois	19	79.2	20-1,000	206.6
Kentucky	8	53.3	25- 125	86.2
Louisiana	22	91.7	20- 600	218.0
Maine	8	72.7	20- 250	90.0
Michigan	41	77.4	1- 500	130.9
Mississippi	3	30.0	100- 150	116.7
New Jersey	43	78.2	10-1,000	113.5
New York	42	76.4	10- 650	102.7
North Carolina	29	47.5	2- 600	190.4
Ohio	43	65.2	10- 500	131.5
Oklahoma	12	63.2	35- 300	121.7
Oregon	29	96.7	25- 800	162.1
Pennsylvania	38	76.0	10-1,000	133.2
South Carolina	16	50.0	30- 600	230.0
Tennessee	21	42.0	20- 800	184.8
Total	639	72.2	1-1,500	162.1

<sup>a</sup>Percentage based on number using nursery owned trucks for delivery.

allocated to advertising in each state. The overall average for the states was 2.8 percent. The range was from 1.1 percent in Oregon to 4.8 percent in Georgia. No discernable patterns appear to exist, except perhaps with the age of the state's industry. States with older, established nurseries, such as Alabama, Illinois, Ohio, and Oregon, tended to have lower advertising percentages, while states with newer industries, such as Arkansas, Arizona, Georgia, Maine, and Oklahoma, tended to have higher percentages. Exceptions to this pattern were Mississippi and Pennsylvania. In 17 of the 23 states, at least 1 nursery reported spending more than 10 percent of annual sales on advertising. These nurseries were usually newer and relatively small.

To examine the allocation of advertising budget, eight specific outlets were investigated. These outlets included the yellow pages, billboards, radio, trade shows, newspapers, trade journals, catalogs, and newsletters. Overall, a large percentage of advertising dollars was allocated to catalogs and trade shows (Table 17). Trade journals, newspapers, and newsletters also received a considerable percentage of advertising expenditures. Radio and billboards received a lower percentage of advertising expenditures.

In states with newer and smaller industries, the yellow pages and the newspapers were utilized more, while states with older and larger industries used catalogs and trade journals to a greater extent. Trade shows appear to be utilized more by firms in the southern states.

Catalogs were allocated a high percentage of advertising budgets in California, Kentucky, New Jersey, Oklahoma, Pennsylvania, and Tennessee. Advertising in trade journals accounted for more than 20 percent of the advertising budget in California, Connecticut, and Pennsylvania. Newsletters received a high percentage (30%) of advertising budgets in Illinois.

A notable category was "other," to which more than 25 percent of the advertising budget was reported to have been allocated in Arizona, Connecticut, Georgia, and Oregon. More specific information on the "other" category (i.e., specific media utilized) would be helpful to future research.

#### Market Level Sales

The responding nurseries reported that the majority of their gross sales were wholesale (Table 18). A few states, most notably Arkansas, Delaware, and Kentucky, reported large percentages of retail sales. Nurseries reported the percentage of wholesale sales to re-wholesalers, retailers, and landscapers (Table 19). In Connecticut, Maine, and Oregon, large percentages were to re-wholesalers, while in Delaware, Illinois, and Oklahoma, smaller percentages went to re-wholesalers.

Sales to retailers accounted for more than half of the wholesale sales in Alabama, Arkansas, Connecticut, Delaware, and Oklahoma. In Arizona, Maine, New Jersey, and New York, this category accounted for less than 25 percent. Wholesale sales to landscapers was 40 percent or greater in Arizona, Florida, Georgia, Illinois, Kentucky, New Jersey, New York, Ohio, and South Carolina. Most of the states included in this study indicated a dominant outlet (more than 40%) for wholesale sales. Some states, including North Carolina, Pennsylvania,

Table 16. Percentage of sales annually allocated to advertising.

State	Respondents <sup>a</sup>		Percent of Sales	
	No.	Percent	Range	Average
Alabama	25	86.2	.01-10	1.9
Arizona	32	84.2	0-25	3.5
Arkansas	16	80.0	0-18	4.6
California	108	78.8	0-20	2.0
Connecticut	19	73.1	0-10	2.6
Delaware	18	64.3	0- 5	1.7
Florida	72	69.2	0-20	2.7
Georgia	104	69.3	0-60	4.8
Illinois	28	87.5	0- 6	1.8
Kentucky	15	71.4	.02-10	2.1
Louisiana	41	78.8	0-20	2.0
Maine	20	80.0	0-20	3.2
Michigan	72	84.7	0-30	2.9
Mississippi	8	66.7	.01- 5	2.1
New Jersey	90	84.9	0-12	2.0
New York	76	76.0	0-30	2.9
North Carolina	67	63.2	0-50	3.8
Ohio	85	78.7	0-25	2.4
Oklahoma	26	68.4	0-20	3.3
Oregon	49	76.6	0-12	1.1
Pennsylvania	76	83.5	0-25	3.1
South Carolina	23	74.2	0-10	2.4
Tennessee	68	69.4	0-25	3.7
Total	1,138	70.1	0-60	2.8

<sup>a</sup>Nurseries in the sample responding to this question.

Table 17. Distribution of advertising budget by outlet category.

State	Yellow Pages	Bill-Boards	Radio	Trade Show	News Paper	Trade Journal	Catalog	News-Letter	Other
-----Percent-----									
Alabama	1.1	<.1	---	65.2	1.6	10.3	19.6	0.1	2.0
Arizona	23.5	0.3	2.0	10.1	6.8	8.9	5.7	16.2	26.4
Arkansas	15.8	0.7	12.2	23.7	32.3	1.5	3.6	10.0	0.1
California	7.8	---	0.1	8.1	2.1	30.0	32.9	2.9	16.1
Connecticut	0.6	---	0.8	13.4	1.5	24.6	22.7	3.4	32.9
Delaware	12.1	0.4	6.5	0.3	55.7	1.1	6.3	17.4	0.1
Florida	11.5	---	---	40.4	10.0	14.9	9.9	9.4	3.7
Georgia	26.0	0.7	0.4	6.6	5.4	4.9	9.2	14.6	32.3
Illinois	6.0	0.2	0.6	20.3	8.6	9.4	22.9	30.6	1.3
Kentucky	21.1	8.5	<.1	5.6	5.4	5.4	32.6	15.0	6.5
Louisiana	4.6	<.1	0.4	42.9	0.8	11.1	17.0	18.4	4.7
Maine	11.1	---	6.6	22.6	17.9	8.3	19.6	12.4	1.4
Michigan	8.7	3.8	4.9	10.4	24.8	7.9	21.2	16.4	1.9
Mississippi	30.3	---	---	11.4	45.4	4.0	8.9	---	<.1
New Jersey	10.2	<.1	1.6	19.5	9.7	9.8	30.4	14.2	4.6
New York	6.1	4.8	1.2	35.6	17.2	4.6	7.8	17.4	5.2
North Carolina	13.2	---	0.7	41.5	4.0	5.2	18.6	6.8	10.0
Ohio	5.9	0.2	6.3	13.7	23.0	10.2	23.3	7.7	9.6
Oklahoma	1.0	0.1	0.2	32.4	1.8	15.8	47.1	1.6	---
Oregon	0.3	---	<.1	24.0	0.2	2.3	28.9	13.7	30.5
Pennsylvania	6.1	2.4	1.6	9.5	12.8	28.8	29.9	3.7	5.2
South Carolina	3.7	---	0.7	45.9	3.0	18.2	26.7	1.6	0.4
Tennessee	3.9	0.3	<.1	44.1	1.4	12.2	30.8	2.0	5.3

Table 18. Distribution of gross sales in 1988 as either wholesale or retail.

State	Respondents <sup>a</sup>		Wholesale		Retail	
	No.	Percent	Firms	Sales	Firms	Sales
			-----Percent-----			
Alabama	28	96.5	100.0	98.2	25.0	1.8
Arizona	36	94.7	100.0	86.6	50.0	13.4
Arkansas	18	90.0	83.3	46.8	100.0	53.2
California	129	94.2	96.1	89.9	50.4	10.1
Connecticut	22	84.6	90.9	96.5	40.9	3.5
Delaware	27	96.4	66.7	67.0	77.8	33.0
Florida	97	93.7	97.9	90.8	23.7	9.2
Georgia	137	91.3	88.3	79.2	65.0	20.8
Illinois	30	93.7	100.0	89.2	60.0	10.8
Kentucky	20	95.2	100.0	58.2	60.0	41.8
Louisiana	48	87.3	91.7	96.6	41.7	3.4
Maine	20	80.0	100.0	71.2	65.0	28.8
Michigan	78	91.8	85.9	75.0	69.2	25.0
Mississippi	10	83.3	100.0	87.5	30.0	12.5
New Jersey	96	90.6	87.5	76.2	63.5	23.8
New York	81	81.0	92.2	81.8	67.8	18.2
North Carolina	90	84.9	97.8	91.4	50.0	8.6
Ohio	104	96.3	97.1	72.1	58.6	27.9
Oklahoma	35	92.1	91.4	91.8	65.7	8.2
Oregon	58	90.6	98.3	98.0	15.5	2.0
Pennsylvania	86	94.5	94.5	86.6	72.1	13.4
South Carolina	29	93.6	100.0	96.6	58.6	3.4
Tennessee	91	92.9	96.7	88.8	27.5	11.2

<sup>a</sup>Nurseries in the sample responding to this question.

Table 19. Distribution of wholesale sales by outlet.

State	Respondents <sup>a</sup>		Re-Wholesalers		Retailers		Landscapers			
	No.	Percent	Firms	Sales	Firms	Sales	Firms	Sales		
			-----Percent-----							
Alabama	27	93.1	100.0	28.6	100.0	52.1	88.9	19.3		
Arizona	36	94.7	86.1	26.4	77.8	24.8	86.1	48.9		
Arkansas	15	75.0	46.7	17.7	80.0	50.9	73.3	31.3		
California	123	89.8	73.2	22.4	79.7	46.0	78.9	31.9		
Connecticut	19	73.1	68.4	40.4	84.2	51.1	84.2	8.5		
Delaware	16	57.1	37.5	14.9	84.5	71.4	87.5	13.7		
Florida	94	90.4	81.9	27.2	83.0	26.4	89.4	46.4		
Georgia	118	78.7	73.7	22.2	73.7	34.6	86.4	43.2		
Illinois	30	93.7	76.7	12.7	90.0	27.1	100.0	60.2		
Kentucky	20	95.2	70.0	17.1	75.0	30.6	100.0	52.3		
Louisiana	41	74.6	65.8	20.4	80.4	45.7	87.8	33.9		
Maine	20	80.0	45.0	41.1	80.0	22.1	90.0	36.8		
Michigan	63	74.1	63.5	17.6	74.6	48.0	95.2	34.4		
Mississippi	10	83.3	80.0	33.6	90.0	44.3	100.0	22.0		
New Jersey	82	77.4	53.7	20.1	76.8	24.9	86.6	55.0		
New York	81	81.0	71.6	34.8	81.5	18.7	84.0	46.5		
North Carolina	88	83.0	84.1	32.5	77.3	34.0	88.6	33.5		
Ohio	101	93.5	73.3	24.5	81.2	33.6	97.0	41.9		
Oklahoma	31	81.6	54.8	8.7	83.9	76.3	93.6	15.0		
Oregon	54	84.4	98.2	57.8	70.3	35.7	60.9	6.5		
Pennsylvania	78	85.7	59.0	30.0	78.2	32.7	93.6	37.3		
South Carolina	28	90.3	75.0	19.9	89.3	34.3	100.0	45.8		
Tennessee	84	85.7	89.3	34.6	66.7	32.2	75.0	33.2		

<sup>a</sup>Nurseries in the sample responding to this question.

and Tennessee, had a fairly even distribution of wholesale sales to the three outlets of re-wholesalers, retailers, and landscapers.

### Trade Flows

An examination of the trade flows of the nurseries in the 23 participating states included source material and sales. The wholesale trade flow information was separated into sales to re-wholesalers, retailers, and landscape firms. Respondents were asked to provide information regarding the top six states. Hence, the list of identified states may not be exhaustive and the identified destination states may vary between tables.

Plant source material for a nursery includes seedlings, liners, whips, and other propagating material. A striking result is the importance of Oregon, Tennessee, and California as a source of plant material (Table 20). The percentages reported in Table 20 are unweighted simple averages. Without insight regarding the share of total source material each firm purchased, weighting by annual sales would not be appropriate. Of the 23 reporting states only 2, Arkansas and Louisiana, reported no source purchases from Oregon. Only one, Arizona, reported no Tennessee purchases, while two, Louisiana and Maine, reported no California purchases. Connecticut, Illinois, Kentucky, Michigan, New York, Ohio, and Pennsylvania reported that almost a quarter of their source plant materials came from Oregon in 1988. Oregon, on the other hand, supplied about 75 percent of its own source needs in 1988, while receiving 17.5 percent from Washington and California.

States reporting more than 20 percent of their plant source purchases from Tennessee included Alabama, Arkansas, Georgia, Kentucky, Mississippi, and North Carolina. Tennessee, on the other hand, imported more than 20 percent of its source plants from Oregon and Washington, while supplying 56 percent of its own needs.

As the leading state in cash receipts and production, California supplied 80 percent of its own plant source material, and 42 percent of Arizona's needs. It would be logical to assume that California supplies other western and midwestern states not included in the survey.

The percentages of weighted nursery sales from each of the 23 participating states to the other states and Washington D.C. are presented in Table 21. It is interesting to investigate what percentage of each of the participating states' sales stayed within the state. This percentage ranged from a low of 6.2 percent in Alabama to a high of 83.5 percent in California. Other states with relatively low within-state percentages included Oregon (12.8%), Connecticut (27.7%), Delaware (27.1%), Pennsylvania (29.6%), and Tennessee (27.1%). States with higher within-state percentages included Florida (77.2%), Georgia (70.9%), and Illinois (82.3%). Of the remaining 13 states, only 5 had within-state percentages of less than 50 percent. These included Louisiana (36.9%), Mississippi (43.6%), North Carolina (47.1%), Oklahoma (36.3%), and South Carolina (42.6%).

Table 20. Source of seedlings, liners, whips, or propagating material.

Origin <sup>a</sup>	Receiving State							
	AL	AZ	AR	CA	CT	DE	FL	GA
----- percent <sup>b</sup> -----								
AL	48.1		10.8	<.1		0.5	2.4	12.4
AK								
AZ		36.5		0.2			0.1	
AR			15.0					
CA	3.3	41.9	8.4	79.7	1.0	0.9	2.1	3.3
CO		6.2		0.2				
CT					24.7			0.3
DE						11.3		
DC								
FL		2.8	0.8	4.4	0.6	1.5	87.4	8.6
GA	4.1		0.7	0.2	2.9	0.6	1.2	38.1
HI				1.2				
ID								
IL				<.1			0.2	
IN								
IA	0.7							<.1
KS				<.1				
KY				<.1				0.1
LA			21.5		7.0		0.7	0.8
ME								
MD						11.6		
MA								
MI	3.3	<.1	0.4	<.1		4.6	0.1	0.3
MN					0.3			
MS	2.0						0.1	0.9
MO			5.0					1.5
MT			1.5	<.1				
NE								
NV								
NH					0.1			
NJ					3.3	14.2		0.3
NM		3.1						
NY				<.1	1.1			0.1
NC				<.1		1.5		0.6
ND								
OH	0.6		0.5	0.3	3.0		0.1	0.2
OK	1.0		5.4					
OR	9.2	4.6		6.6	25.8	1.5	0.1	4.7
PA			0.4		12.3	40.6	0.9	1.1
RI					2.1			
SC						2.4		2.5
SD								
TN	27.0		23.9	0.1	13.0	7.1	2.9	21.4
TX		4.9	3.8	1.4			0.5	2.2
UT								
VM						1.8		
VA								
WA			1.9	3.2	0.7		0.4	0.4
WV								
WI				<.1	2.0			
WY								
Import	0.6			2.3			0.8	<.1
-----								
Total Number of States <sup>c</sup>	10	8	15	20	16	14	15	21

<sup>a</sup>Nurserymen asked to report percentage of purchases from top six states.

<sup>b</sup>Unweighted, simple averages.

<sup>c</sup>Washington D.C. counted as a state.

Table 20. Source of seedlings, liners, whips, or propagating material (continued).

Origin <sup>a</sup>	Receiving State							
	IL	KY	LA	ME	MI	MS	NJ	NY
	----- percent <sup>b</sup> -----							
AL	0.2		14.3			31.6	0.5	<.1
AK								
AZ					0.3			
AR			1.8			3.9		
CA	2.0	0.8			2.9	0.6	3.6	0.4
CO					0.3		0.1	
CT	0.9			3.3	1.8			1.3
DE							1.2	<.1
DC								
FL	2.9		8.5	3.0	0.2		0.8	1.7
GA	0.5		0.6		<.1	6.2	2.0	
HI								
ID	0.2							0.4
IL	14.2	0.6		2.3	1.7			
IN	1.1	0.3			0.9		0.3	
IA	1.4	1.7		8.6	5.5		1.8	1.2
KS								
KY		15.1						
LA			56.5			1.9		
ME				24.1			2.5	6.8
MD	0.2				0.4		1.3	0.1
MA				6.0			0.6	1.5
MI	9.1	0.8		0.7	32.2		3.2	4.5
MN	3.4	0.3		9.1	2.8		0.2	0.9
MS			1.1			15.4		
MO	0.4	0.6		0.5	<.1		0.2	
MT	0.4				1.3			0.2
NE				3.5	0.1			
NV								
NH	0.1			2.0				
NJ	1.6	0.8	0.3	1.4	0.8		43.6	1.6
NM								
NY				7.8	0.8		0.7	25.1
NC		0.6					0.5	0.2
ND								
OH	1.1	3.6			4.8	1.3	0.5	0.5
OK	0.7	0.2	0.6	1.5			0.1	
OR	39.2	42.0		5.5	30.9	6.3	17.4	25.5
PA	3.1	9.0		6.8	4.5		10.0	21.0
RI	0.4			7.1	0.5		0.2	
SC							0.1	0.1
SD								
TN	10.4	23.3	11.4	0.5	4.9	21.6	4.3	1.5
TX			4.0			11.2	0.6	
UT								
VM								
VA					0.1		0.1	
WA	0.5			3.0	0.6		1.6	4.3
WV		0.3						
WI	4.8				1.0		0.7	0.5
WY								
Import	1.1		0.8	3.1	0.4		1.1	0.5
Total Number of States <sup>c</sup>	24	16	9	19	25	10	24	23

<sup>a</sup>Nurserymen asked to report percentage of purchases from top six states.

<sup>b</sup>Unweighted, simple averages.

<sup>c</sup>Washington D.C. counted as a state.

Table 20. Source of seedlings, liners, whips, or propagating material (continued).

Origin <sup>a</sup>	Receiving State						
	NC	OH	OK	OR	PA	SC	TN
	-----percent <sup>b</sup> -----						
AL	6.2		2.7	<.1		10.3	3.2
AK							
AZ							
AR	0.2		4.7			0.8	
CA	1.5	2.4	5.9	4.0	3.7	7.0	1.5
CO							
CT	1.2				1.5		
DE							
DC							
FL	4.1	0.2			0.3	10.4	0.1
GA	3.5	0.5	0.9	0.1	2.8	17.2	1.6
HI							<.1
ID				0.9			
IL		0.1	0.1	0.1	0.2		0.2
IN		2.4			0.3		0.4
IA		1.1	0.4		2.3		
KS			0.2				0.6
KY	<.1	0.4					0.1
LA	0.4		3.3				0.4
ME	0.9	0.2			2.1		0.5
MD	0.2				1.2		0.4
MA					0.1		
MI	1.1	10.5	0.6	0.3	1.3		2.3
MN		1.4		0.3	0.5		
MS	0.2				0.3		
MO	<.1	0.4	0.5	0.1	0.1		0.3
MT	0.3	0.3		0.6	0.2		1.8
NE	1.0						
NV		0.1	0.4				
NH		<.1		<.1			
NJ	0.4	2.1		0.5	8.3	0.8	1.4
NM							
NY	0.1	0.3		1.0	0.9		0.1
NC	39.5	0.6	0.3	<.1	0.1	6.3	2.0
ND							
OH	0.6	21.5	0.2		3.5		0.3
OK		0.7	28.7		0.2	0.2	0.3
OR	9.0	36.0	13.0	76.3	24.0	7.7	16.6
PA	4.6	10.4	0.7		38.7	0.4	1.6
RI	1.5	0.9					0.1
SC	0.5	0.1				19.6	0.1
SD							0.1
TN	20.6	3.7	23.9	0.3	4.9	18.2	56.9
TX	0.6		13.4			0.9	0.2
UT		0.1					
VM							
VA	0.4				0.6		0.5
WA	1.1	1.3		13.5	1.8		5.8
WV							
WI		0.8					0.2
WY							
Import	0.2	1.4		1.8	0.2		
Total Number of States <sup>c</sup>	27	27	18	16	25	13	30

<sup>a</sup>Nurserymen asked to report percentage of purchases from top six states.

<sup>b</sup>Unweighted, simple averages.

<sup>c</sup>Washington D.C. counted as a state.

Table 21. Distribution of total sales by destination.

Destination <sup>a</sup>	Origin of Nursery Sales							
	AL	AZ	AR	CA	CT	DE	FL	GA
	----- percent <sup>b</sup> -----							
AL	6.2			<.1			1.2	1.3
AK								
AZ		64.2		4.6				
AR			66.4		2.1			<.1
CA		18.4		83.5			0.2	0.1
CO				0.2				
CT					27.7		2.5	2.7
DE						27.1		
DC								<.1
FL	4.9	1.1		<.1			77.2	2.4
GA	27.1			0.4			5.3	70.9
HI								
ID								
IL	0.1	1.0	0.3	1.4	2.1		0.2	
IN	0.2							
IA		0.8						
KS								
KY	0.9						<.1	<.1
LA	0.4		8.1				<.1	
ME					0.1			
MD	0.7			<.1	0.3	6.4		4.8
MA	4.3				16.0		1.1	
MI		0.2		0.4	6.0		0.2	<.1
MN		0.4		1.4				
MS	1.3		1.8				0.5	0.1
MO	0.5	0.5	9.3					<.1
MT					2.3	0.6		
NE								
NV		5.6		1.4				
NH					0.4		<.1	
NJ				0.2	12.1	5.6	2.4	0.2
NM		1.6		<.1				
NY	3.6	0.2		1.0	13.7	15.8	1.2	<.1
NC	5.9			0.3			0.8	6.2
ND								
OH	2.6			0.1	2.8	<.1	<.1	<.1
OK	0.9		8.6			0.6		
OR		0.1		0.5				
PA	2.3	1.3		0.1	12.7	43.6	0.8	<.1
RI					0.2			
SC	0.3						1.5	6.2
SD				0.2				
TN	16.1		0.2				0.3	1.2
TX	12.6	4.5	5.4	2.2			0.4	0.1
UT				0.2				
VM					<.1			
VA	9.0					0.2	<.1	2.7
WA		0.1		0.4				
WV								
WI				0.4	1.2			
WY								
Export				1.3			4.0	1.0
Total Number of States <sup>c</sup>	20	15	8	23	15	8	16	13

<sup>a</sup>Nurserymen asked to report percentage of sales to top six states.

<sup>b</sup>Weighted by total annual sales.

<sup>c</sup>Washington D.C. counted as a state.

Table 21. Distribution of total sales by destination (continued).

Destination <sup>a</sup>	Origin of Nursery Sales							
	IL	KY	LA	ME	MI	MS	NJ	NY
	----- percent <sup>b</sup> -----							
AL			1.3			16.5		
AK								
AZ								
AR			3.5			0.1		
CA				0.1				
CO	1.7	0.2						
CT				3.6			1.8	7.4
DE							2.2	0.4
DC							1.4	<.1
FL			4.6	0.4				
GA			7.4			16.4		
HI								
ID								<.1
IL	82.3	0.9			10.1		0.2	<.1
IN	1.7	5.5			6.5			0.3
IA	2.1				0.3			0.2
KS								
KY	0.1	61.9			0.1	3.4		
LA			36.9			2.9		
ME				66.7				1.5
MD							5.8	<.1
MA				10.9			4.5	5.5
MI	3.0	1.3		0.1	63.8			2.7
MN	1.7	1.8			2.3			<.1
MS			4.9			43.6		0.3
MO					3.7			
MT	2.5	0.7						
NE	0.2				<.1			
NV								
NH				7.7				
NJ		2.9					57.5	16.8
NM								
NY				5.6	0.2		12.2	56.8
NC			5.0	1.3				
ND								
OH		20.9						
OK			0.6			6.2	0.4	2.0
OR		<.1						
PA		0.9		2.4	0.2		12.4	4.3
RI				1.0				0.1
SC			0.6					
SD						0.1	0.2	
TN	0.1	2.8	3.9		0.1	16.9		
TX			29.0					
UT								
VM				0.2				0.6
VA			2.3			0.2	1.3	
WA	<.1							
WV					6.1			
WI	4.5							0.1
WY								
Export					0.4			0.4
Total Number of States <sup>c</sup>	11	11	12	12	12	9	13	16

<sup>a</sup>Nurserymen asked to report percentage of sales to top six states.

<sup>b</sup>Weighted by total annual sales.

<sup>c</sup>Washington D.C. counted as a state.

Table 21. Distribution of total sales by destination (continued).

Destination <sup>a</sup>	Origin of Nursery Sales						
	NC	OH	OK	OR	PA	SC	TN
	----- percent <sup>b</sup> -----						
AL	0.8					1.0	1.2
AK							
AZ			1.7				0.3
AR							0.8
CA	0.2			3.0		1.9	
CO			0.5	0.3			
CT	3.8	0.3		4.0	0.8		1.1
DE	0.1			0.4	0.2		
DC	3.0				1.0		<.1
FL	0.9			<.1	<.1	0.3	
GA	6.5			0.4	<.1	18.3	9.1
HI							
ID				0.2			
IL	0.6	5.0	6.4	7.2	12.0		1.1
IN	<.1	4.7		0.3	0.1		2.2
IA		<.1		0.3			0.2
KS			1.9	0.3			1.2
KY	0.5	1.9		0.6			3.8
LA							0.2
ME	<.1						0.6
MD	5.8	0.3		1.2	2.7	2.7	9.6
MA	1.1		4.5	1.6	0.4		3.3
MI	0.2	13.8	0.1	12.0	14.0		2.5
MN				0.4			
MS	0.1		0.5				1.8
MO		0.1	12.0	0.7	7.0		1.3
MT		0.1					
NE							<.1
NV				0.2			
NH	0.3				<.1		0.4
NJ	3.6	0.2		10.6	4.4		3.2
NM			0.2				
NY	2.8	3.6		8.3	18.7		2.7
NC	47.1			1.4	0.6	20.1	4.5
ND							
OH	0.5	64.6		10.1	6.4		3.8
OK			36.3	<.1			0.4
OR	<.1			12.8			
PA	3.7	3.3	3.3	4.3	29.6	<.1	5.4
RI				0.1			
SC	2.4	0.2				42.6	0.7
SD							
TN	1.0	<.1		1.9		6.0	27.1
TX	1.0		32.4	0.6		0.1	2.5
UT				<.1			
VM					<.1		
VA	12.7	0.1	0.1	1.3	1.6	7.0	9.1
WA				8.5	0.2		
WV	0.9	0.3			<.1		
WI		0.6			<.1		
WY							
Export	0.2	0.8		6.8	0.2		
Total Number of States <sup>c</sup>	27	16	13	28	16	10	28

<sup>a</sup>Nurserymen asked to report percentage of sales to top six states.

<sup>b</sup>Weighted by total annual sales.

<sup>c</sup>Washington D.C. counted as a state.

If the major production states are examined, it is apparent that trade flows vary by state. California appears to ship up the west coast, to its surrounding states, the midwest, Texas, and parts of the east coast. Florida, on the other hand, ships primarily to buyers in the southern region and up the east coast. Pennsylvania sales also appear to be concentrated on the east coast (as far south as North Carolina) and to its western neighboring states. Oregon and Tennessee appear to have the most generalized out-of-state shipping activity of any of the states surveyed. Both Oregon and Tennessee shipped a noticeable percentage of sales to 28 other states. North Carolina reported 1988 sales in 23 other states, California in 23, and Alabama in 20.

Respondents in the participating states reported their percentage of sales to re-wholesalers, retailers, and landscapers in different states. Table 22 shows the percentage of re-wholesaler sales to different states by the responding states. In general, it appears that the percentage of re-wholesale sales in-state were smaller than the percentage of total sales in-state. This would imply that sales to re-wholesalers tend to be out-of-state sales.

As concerns each state's distribution of sales to retail outlets, there appears to be considerable in-state sales (Table 23). States with at least 50 percent of their retail sales within state include Arizona, California, Florida, Georgia, Illinois, Kentucky, Maine, New Jersey, New York, North Carolina, Ohio, and South Carolina. States with less than 50 percent of the retail sales in-state include Alabama, Arkansas, Connecticut, Delaware, Louisiana, Michigan, Mississippi, Oklahoma, Oregon, Pennsylvania, and Tennessee. The states with the largest percentages of in-state retail sales were Arizona (88%), California (80%), Florida (81%), Illinois (76%), and New York (76%). The lowest percentages of retail in-state sales were reported by Delaware (4.6%), Connecticut (11%), Alabama (12%), Oregon (13%), Tennessee (14%), and Oklahoma (17%).

Sales to landscape firms are presented in Table 24 by percentage of those sales destined in-state and out-of-state. For landscape firm sales, most states have high percentages of in-state sales. Exceptions are Alabama (38.3%), Delaware (12.9%), Louisiana (12.4%), Oregon (25.9%), and Tennessee (28.3%). Delaware reported a high percentage of landscape firm sales to New York, and Louisiana reported a high percentage of landscape firm sales to Texas. Oregon reported that a third of its landscape firm sales in 1988 were to Washington, and Tennessee reported that more than a third of its landscape firm sales went to Georgia, Maryland, and Virginia combined. In general, the landscape firm sales tend to be in-state sales, re-wholesaler sales tend to be out-of-state sales, and the flow of retail sales varies by state and region.

#### SUMMARY

The marketing practices and trade flows in the United States nursery industry were investigated by surveying producers in 23 states. These states represented approximately 77 percent of the greenhouse/nursery grower cash receipts in 1989.

Telephone and person-to-person transactions appear to be the dominant exchange method utilized. Monthly patterns of sales vary by region, with

Table 22. Distribution of wholesale sales to re-wholesalers.

Destination <sup>a</sup>	Origin of Nursery Sales							
	AL	AZ	AR	CA	CT	DE	FL	GA
	----- percent <sup>b</sup> -----							
AL	5.2						2.2	0.9
AK								
AZ		38.9		4.7				
AR			16.9					<.1
CA		23.9		82.2			1.3	
CO								
CT					30.3		1.4	2.3
DE						4.4		
DC						<.1		0.1
FL	1.2	2.4		<.1			72.2	5.8
GA	44.9			0.5			7.8	54.7
HI				<.1				
ID								
IL	0.3	3.4	0.1	4.2	0.2			0.1
IN	0.5			0.2				1.4
IA		3.1						
KS								
KY	0.6						0.2	1.3
LA	0.3		14.8				0.1	
ME					<.1			
MD	1.5					23.3		4.3
MA					13.6	7.8	0.6	
MI		1.0		0.1	3.1		0.3	0.8
MN		1.7						
MS	4.8						1.3	<.1
MO		2.3	23.1					0.1
MT								
NE								
NV		1.0		2.7				
NH					0.2		0.1	
NJ	1.2			<.1	24.7	13.9	0.1	0.2
NM		1.9		1.8				
NY	1.2				19.4	41.4	0.6	<.1
NC	9.3			0.2			2.4	9.8
ND								
OH	0.2					0.3	0.6	2.3
OK	2.0		0.1	0.2				
OR				0.1				
PA	1.2	5.3		0.1	8.2	8.5		0.3
RI	1.2				0.2			
SC	1.4						1.0	8.7
SD	0.2							
TN	14.2		0.7	0.8			6.8	2.6
TX	8.5	14.1	44.3	0.6			0.6	0.1
UT								
VM					<.1			
VA				0.2		0.3		4.0
WA				0.1				
WV								
WI								
WY								
Export				1.4			0.4	
Total Number of States <sup>c</sup>	20	12	7	19	11	9	18	22

<sup>a</sup>Nurserymen asked to report percentage of wholesale sales to top six states.

<sup>b</sup>Weighted by wholesale sales.

<sup>c</sup>Washington D.C. counted as a state.

Table 22. Distribution of wholesale sales to re-wholesalers (continued).

Destination <sup>a</sup>	Origin of Nursery Sales							
	IL	KY	LA	ME	MI	MS	NJ	NY
	----- percent <sup>b</sup> -----							
AL			1.3			5.0		
AK								
AZ								
AR			4.6					
CA					0.9			
CO	2.9							
CT			2.6	24.2			1.8	14.3
DE							0.1	0.8
DC								0.4
FL			4.7				0.9	
GA			16.6			63.4		
HI								
ID								
IL	82.1	6.4			4.3			0.8
IN	<.1	1.8			3.9			0.2
IA	1.1				6.5			0.6
KS					0.3			
KY	<.1	21.6						
LA			22.9					
ME				56.9			1.3	0.6
MD		3.8	1.3				6.2	1.0
MA	1.2			7.7			2.0	9.3
MI	1.9	13.8			70.0		<.1	0.3
MN	6.8	16.7			1.3			
MS			5.1			8.7		
MO	3.2				4.8		0.4	0.2
MT								
NE					<.1			
NV								
NH				4.7				0.5
NJ		2.5					52.7	17.2
NM								0.5
NY				6.5	2.3		19.1	45.1
NC			1.1					
ND								
OH		33.4						0.4
OK			2.3			2.2		
OR							3.0	
PA			2.6		0.4		5.5	6.4
RI								0.3
SC	<.1		0.7					
SD								
TN			0.7		0.1	22.8	3.5	
TX			32.3				0.6	
UT								
VM								<.1
VA			1.3				2.7	
WA								0.1
WV								
WI	0.7				1.9			0.3
WY								
Export					0.9			0.8
Total Number of States <sup>c</sup>	11	8	15	5	14	3	15	21

<sup>a</sup>Nurserymen asked to report percentage of wholesale sales to top six states.

<sup>b</sup>Weighted by wholesale sales.

<sup>c</sup>Washington D.C. counted as a state.

Table 22. Distribution of wholesale sales to re-wholesalers (continued).

Destination <sup>a</sup>	Origin of Nursery Sales						
	NC	OH	OK	OR	PA	SC	TN
	----- percent <sup>b</sup> -----						
AL	0.2						1.5
AK							
AZ							0.1
AR			0.6				1.0
CA				5.2		3.6	2.1
CO			0.7	0.1			
CT	7.0	1.2	15.2	3.9	0.2		0.9
DE	2.2				0.3		
DC	4.4				3.1		<.1
FL	2.0						
GA	1.3			0.2		31.9	9.3
HI							
ID							1.9
IL	1.0	13.9	15.0	8.9	0.6		1.8
IN	0.1	3.9	4.6	1.4	2.1		1.8
IA		<.1		1.2			
KS			6.5				0.6
KY	0.1	0.9		1.8			2.2
LA	0.5						
ME	<.1						0.4
MD	4.1	0.5		3.9	6.4		12.2
MA	2.1			1.7	0.1		4.7
MI	1.0	33.1	0.8	12.2	1.7		0.8
MN		0.8	0.3	0.4			
MS	0.2						<.1
MO		0.2	0.9	0.3			0.4
MT							
NE							
NV							
NH	<.1						0.7
NJ	6.4	1.0		4.0	16.5		2.2
NM			0.7				
NY	3.1	9.3		6.8	13.4		3.1
NC	40.5			0.1	3.1	17.5	6.2
ND							
OH	0.6	28.4		12.8	7.7		2.9
OK			31.4	<.1			
OR	0.1			10.2			
PA	4.5	3.2		5.8	40.7	<.1	2.4
RI				0.1			
SC	2.9				1.0	35.7	2.8
SD							
TN	2.6	<.1		2.4		3.8	29.4
TX	2.1		23.4	2.5		0.3	1.7
UT							
VM					0.2		
VA	9.5	0.1		0.1	2.9	7.1	6.7
WA				6.0	<.1		
WV	1.3	0.1					
WI		0.5					<.1
WY							
Export		2.9		7.8			
Total Number of States <sup>c</sup>	27	17	12	26	17	8	29

<sup>a</sup>Nurserymen asked to report percentage of wholesale sales to top six states.

<sup>b</sup>Weighted by wholesale sales.

<sup>c</sup>Washington D.C. counted as a state.

Table 23. Distribution of wholesale sales to retail outlets, including mass marketers and garden centers.

Destination <sup>a</sup>	Origin of Nursery Sales							
	AL	AZ	AR	CA	CT	DE	FL	GA
	----- percent <sup>b</sup> -----							
AL	12.8						3.1	7.2
AK								
AZ		88.8		7.9				
AR	<.1		49.7					
CA		2.8		80.4				
CO				0.4				
CT					11.1		0.4	
DE						4.6		
DC								
FL	0.3	0.1		<.1			81.9	1.6
GA	27.1			0.5			6.1	64.0
HI								
ID								
IL			0.3	0.4			0.2	
IN	0.2							
IA								
KS								
KY	0.2							0.1
LA	0.1		14.9				1.7	0.2
ME					0.2			
MD	0.9			<.1	12.4	6.8		4.2
MA	5.5			0.1	6.6	2.8	0.4	
MI				0.7	39.1		0.1	
MN								
MS	1.9		3.7				2.3	0.1
MO	0.2		12.4					
MT								
NE								
NV		4.3		1.4				
NH					0.4		0.1	
NJ				0.4	10.9	0.5	0.2	<.1
NM		1.7						
NY	1.5			0.4	13.5	14.0	0.7	<.1
NC	3.1						0.3	5.8
ND								
OH	5.8			0.3		<.1	<.1	<.1
OK	1.5		15.3	0.2				
OR				1.1		2.8		
PA	4.1				4.9	68.3	0.1	<.1
RI					0.8			
SC							1.3	9.0
SD				<.1				<.1
TN	10.7		3.7				<.1	7.2
TX	9.4	2.2		4.5			1.0	
UT				0.2				
VM					<.1			
VA						0.1	<.1	0.4
WA				0.9				
WV	14.8							
WI								
WY								
Export				<.1			0.1	
Total Number of States <sup>c</sup>	19	6	7	19	11	9	19	16

<sup>a</sup>Nurserymen asked to report percentage of wholesale sales to top six states.

<sup>b</sup>Weighted by wholesale sales.

<sup>c</sup>Washington D.C. counted as a state.

Table 23. Distribution of wholesale sales to retail outlets, including mass marketers and garden centers (continued).

Destination <sup>a</sup>	Origin of Nursery Sales							
	IL	KY	LA	ME	MI	MS	NJ	NY
	----- percent <sup>b</sup> -----							
AL			4.0			19.3		
AK								
AZ								
AR			7.2					
CA								
CO	0.7							
CT				0.9			1.0	5.6
DE							2.2	0.5
DC								
FL			1.0					
GA			6.6			4.0		
HI								
ID								
IL	76.5	1.0			12.3			0.2
IN	4.6	7.4			6.9			
IA	4.1				0.1			0.2
KS								
KY	0.1	60.1			0.2			
LA			41.4			7.1		
ME				66.1				0.3
MD							3.7	0.2
MA				9.4			2.1	1.0
MI	1.3	2.9			46.7		<.1	
MN	0.8	1.0			0.6			
MS			9.4			49.9		
MO	2.3	0.8			6.6			<.1
MT	1.2							
NE	0.4				0.1			
NV								
NH				13.9			1.0	<.1
NJ		4.8					55.1	13.9
NM								
NY				9.6	0.1		12.9	75.7
NC			1.7					
ND								
OH		13.5			11.8			0.5
OK			2.0					
OR		4.8			0.2		20.7	0.5
PA								0.1
RI								
SC						1.2		
SD								<.1
TN	0.2	3.5	3.0		0.1	18.5		
TX			22.0					
UT								
VM								1.0
VA			1.7				1.2	
WA								
WV								
WI	7.6				13.4			0.1
WY								
Export					1.0			<.1
Total Number of States <sup>c</sup>	12	10	11	5	13	6	10	17

<sup>a</sup>Nurserymen asked to report percentage of wholesale sales to top six states.

<sup>b</sup>Weighted by wholesale sales.

<sup>c</sup>Washington D.C. counted as a state.

Table 23. Distribution of wholesale sales to retail outlets, including mass marketers and garden centers (continued).

Destination <sup>a</sup>	Origin of Nursery Sales						TN
	NC	OH	OK	OR	PA	SC	
	----- percent <sup>b</sup> -----						
AL	<.1					1.1	2.6
AK							
AZ							0.1
AR			0.3				0.1
CA				5.6		1.1	0.8
CO			0.1	1.6			
CT	0.6	0.1			2.0		2.0
DE	0.2				4.6		
DC	1.4				5.9		0.1
FL	0.1					1.1	
GA	4.4			1.6		10.3	7.8
HI						2.2	
ID				2.0			
IL		4.8	8.5	3.5	0.1		5.7
IN		5.8		0.5	0.3		1.0
IA		0.4		2.7			0.6
KS			1.1				0.9
KY	1.2	1.8		0.4			4.8
LA							0.4
ME							<.1
MD	7.6	0.3		1.4	9.5	0.3	12.9
MA	0.2		6.8	0.7			6.1
MI		18.8		4.0			2.7
MN		0.1					<.1
MS							0.6
MO		0.1	16.0	1.1			1.3
MT							
NE				2.7			
NV							
NH					<.1		0.6
NJ	1.8	0.2		12.0	10.8		2.7
NM			0.2				
NY	0.7	4.9		3.4	16.9		2.1
NC	50.0			4.7	0.1	21.9	2.8
ND							
OH	1.3	54.5		5.1	6.1		1.8
OK			17.3				1.0
OR				13.7			
PA	3.8	5.8	5.1	5.8	40.9		5.6
RI				<.1			
SC	4.8	0.7				56.0	2.1
SD							
TN	1.7		0.1	3.2		2.4	14.8
TX			44.6				1.2
UT				2.1			
VM							
VA	19.5	<.1		7.4	2.1	3.7	13.5
WA				10.7	0.6		
WV	0.6	0.4			<.1		
WI		1.4					1.1
WY							
Export				3.9			
Total Number of States <sup>c</sup>	18	17	11	24	15	10	31

<sup>a</sup>Nurserymen asked to report percentage of wholesale sales to top six states.

<sup>b</sup>Weighted by wholesale sales.

<sup>c</sup>Washington D.C. counted as a state.

Table 24. Distribution of wholesale sales to landscape firms.

Destination <sup>a</sup>	Origin of Nursery Sales							
	AL	AZ	AR	CA	CT	DE	FL	GA
	----- percent <sup>b</sup> -----							
AL	38.3						0.2	1.5
AK								
AZ		63.8		2.5				
AR			83.7					
CA		23.2		96.7				
CO								
CT							0.1	
DE						12.9		
DC					43.1			0.1
FL	0.4	2.1					93.2	0.7
GA	21.1						3.0	83.2
HI								
ID								
IL							0.3	
IN	0.5							
IA								
KS								
KY	3.5							0.1
LA	0.5		8.0					<.1
ME								
MD	0.7				8.1	19.4		1.8
MA					6.9	7.8	0.1	
MI							0.2	
MN								
MS	1.8		2.0					<.1
MO	0.3		0.1	<.1				
MT								
NE								
NV		7.3		0.8				
NH					0.7		<.1	
NJ					0.7	6.4	0.2	1.3
NM		3.2						
NY	0.7				3.0	39.0	0.3	<.1
NC	0.7						0.3	2.4
ND								
OH	0.6				9.2	<.1		<.1
OK			0.1					
OR								
PA	0.6				15.5	6.6	<.1	<.1
RI					0.7			
SC	2.5						0.7	5.0
SD								
TN	16.1							1.5
TX	8.0	0.4	6.0	<.1			0.3	0.1
UT					0.2			
VM					11.7			
VA	3.7							2.0
WA						7.9		0.1
WV								
WI								
WY								
Export							1.0	
Total Number of States <sup>c</sup>	16	5	5	4	11	8	13	17

<sup>a</sup>Nurserymen asked to report percentage of wholesale sales to top six states.

<sup>b</sup>Weighted by wholesale sales.

<sup>c</sup>Washington D.C. counted as a state.

Table 24. Distribution of wholesale sales to landscape firms (continued).

Destination <sup>a</sup>	Origin of Nursery Sales							
	IL	KY	LA	ME	MI	MS	NJ	NY
	----- percent <sup>b</sup> -----							
AL			8.1			20.1		
AK								
AZ								
AR			0.9					
CA								
CO	2.5							
CT				0.6			3.1	8.5
DE							3.5	
DC							2.9	
FL			5.8					
GA			16.7			17.1		
HI								
ID								
IL	86.6	0.8			6.2			
IN	1.2	8.6			5.1			
IA	0.5				<.1			
KS								
KY	0.1	66.6			0.2			
LA			21.4			0.2		
ME				87.1				
MD	<.1						2.6	0.5
MA				0.6	78.6		5.8	1.7
MI	2.7	2.2			0.1		<.1	
MN	2.3	1.2						0.5
MS			7.4			56.5		
MO	1.2				2.3			
MT								
NE					<.1			
NV								
NH				10.9				
NJ		4.8					62.7	25.1
NM								
NY					0.1		11.4	62.4
NC								
ND								
OH	0.1	6.9			4.1			
OK			0.4					
OR		0.1						
PA		3.9						
RI							7.2	1.1
SC								
SD						0.4	<.1	
TN		4.7	8.2			5.6		
TX			31.0					
UT								
VM				0.7				0.2
VA							0.7	
WA								
WV								
WI	2.8				3.1			
WY								
Export					0.1			
Total Number of States <sup>c</sup>	11	10	9	5	11	6	11	8

<sup>a</sup>Nurserymen asked to report percentage of wholesale sales to top six states.

<sup>b</sup>Weighted by wholesale sales.

<sup>c</sup>Washington D.C. counted as a state.

Table 24. Distribution of wholesale sales to landscape firms (continued).

Destination <sup>a</sup>	Origin of Nursery Sales						
	NC	OH	OK	OR	PA	SC	TN
	----- percent <sup>b</sup> -----						
AL	0.2					1.7	1.8
AK							
AZ							
AR			3.2				0.4
CA						2.7	0.4
CO			0.1	0.1			
CT	0.4			0.5	<.1		0.1
DE	0.1				0.2		
DC	4.5				0.7		
FL	<.1					0.4	
GA	3.3			0.2		16.9	11.3
HI							
ID				1.3			
IL		4.0	1.8	2.9	0.8		0.3
IN		5.8		0.3			1.2
IA							
KS		0.1	1.3	1.7			1.7
KY	0.1	1.4		1.1			3.9
LA							
ME							
MD	5.6	0.3		1.8	2.8	1.6	14.6
MA	0.1	<.1	1.2		0.9		3.0
MI		14.9		2.3	1.3		2.5
MN			2.9				<.1
MS							
MO			15.1				0.6
MT							
NE							
NV				7.3			
NH							0.4
NJ	0.8	0.2		5.2	11.5		6.6
NM			0.1				
NY	2.4	4.1		3.5	7.5		1.6
NC	62.4				0.1	19.0	1.0
ND							
OH	1.6	64.7		3.2	2.1		1.1
OK			64.6	0.1			
OR				25.9			
PA	1.4	3.5	0.6	5.0	69.6		6.5
RI				1.0			
SC	2.2					49.4	<.1
SD							
TN	0.7					4.4	28.3
TX			8.9			0.1	
UT			0.1	1.7			
VM					<.1		
VA	14.3	0.1	0.2	0.8	1.9	3.7	12.6
WA				33.8	0.4		
WV		0.2			0.1		
WI		0.7					
WY							
Export		<.1		0.4			
Total Number of States <sup>c</sup>	17	14	13	21	16	10	23

<sup>a</sup>Nurserymen asked to report percentage of wholesale sales to top six states.

<sup>b</sup>Weighted by wholesale sales.

<sup>c</sup>Washington D.C. counted as a state.

western states apparently having less seasonality in sales. In general, a heavy concentration of sales occurs in the spring months. A large decrease in sales occurs in summer with a rebound in sales in the fall and limited sales in the winter. Most landscape plants were shipped by truck. For nurseries operating their own trucks, the average maximum delivery radius was 162 miles.

The percent of annual sales devoted to advertising averaged 2.8 percent for the states surveyed. States with older, established nurseries tended to have lower advertising percentages, while states with newer industries tend to have higher percentages. A large percent of advertising dollars was directed to catalogs and trade shows. Trade journal advertising was found to represent a larger percentage of the advertising budget in California, Connecticut, and Pennsylvania. The states surveyed exhibited differences in the percentages of sales occurring at different marketing levels. Although most nurseries reported that the majority of their sales were at the wholesale level, growers in three states, Arkansas, Delaware, and Kentucky, reported relatively large percentages of retail sales. The percentage of wholesale sales to re-wholesalers, retailers, and landscapers indicated that growers in different states utilize these outlets in different ways. Connecticut, Maine, and Oregon growers reported relatively large percentages of wholesale sales to re-wholesalers. Alabama, Arkansas, Connecticut, Delaware, and Oklahoma reported large percentages of wholesale sales to retailers. Arizona, Florida, Georgia, Illinois, Kentucky, New Jersey, New York, Ohio, and South Carolina reported the largest percentages of wholesale sales to landscapers.

Oregon, Tennessee, and California appeared to be important sources of plant materials for other states. As concerns trade flows of nursery sales, several states apparently send a high percentage of sales out-of-state. These included Alabama, Oregon, Connecticut, Delaware, Pennsylvania, and Tennessee. States with a high percentage of within-state sales included California, Florida, Georgia, and Illinois.

#### CONCLUDING COMMENTS

The structure of the U.S. nursery industry is not as well known as that of other agricultural industries. This is due in part to two factors. First, the nursery industry has not been included in the same data collection efforts by federal and state governments as have the traditional "major" crops, such as soybeans, cotton, corn, and tobacco. Second, the diversity and number of different plants grown by nurseries extends into the thousands. This diversity, and third, the absence of a standardized grading system, certainly makes data collection a complicated task. Because of this lack of available data, little has been published about the competitive position of respective production regions around the country. Analyses of this type could help individuals and firms in making long-run planning decisions. Insight into the economic forces contributing to the expansion and contraction of landscape plant production within various states contributes to the efficient allocation of resources.

The data collection effort reported in this bulletin was an attempt to obtain trade flow and marketing data that would provide an overview of these components of the nursery industry. While this survey was probably the most comprehensive survey conducted of the total U.S. industry, at least with respect to trade-flow data, a few key states did not participate. Also, the sampling procedure varied among the participating states, which complicates any statistical analysis of hypotheses.

Overall, examination of the survey data implies that the U.S. nursery industry is quite integrated, and interstate product flow is heavy. The distribution of product shipments throughout the year is heavily influenced by weather and location. Little export activity outside the United States was detected. Terms-of-trade negotiation appears to occur within the industry. This research is a part of the ongoing attempt to better understand the marketing practices and competitive relationships of the U.S. nursery growers.

#### REFERENCES

- U.S. Department of Agriculture, Economic Indicators of the Farm Sector: State Financial Summary, 1988, Economics Resource Service, ECIFS 8-2, Washington, D.C., October 1989.
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## NURSERY INDUSTRY SURVEY

**GENERAL INFORMATION**

1. In what year was your firm established? \_\_\_\_\_
2. What form of business organization describes your nursery?  
 \_\_\_\_\_ Proprietorship  
 \_\_\_\_\_ Partnership  
 \_\_\_\_\_ Corporation (type of corporation) \_\_\_\_\_  
 \_\_\_\_\_ Other (please specify) \_\_\_\_\_
3. Does your business operate a nursery in another state? \_\_\_ Yes \_\_\_ No  
 If yes, what percentage of total sales in from each location?

State	Percent	State	Percent
_____	_____ %	_____	_____ %
_____	_____ %	_____	_____ %

4. What functions of your firm are computerized?

Function	Computerized (check, if yes)	Planned within next five years
Word processing	_____	_____
Accounting	_____	_____
Inventory	_____	_____
Financial investments	_____	_____
Marketing	_____	_____
Communications	_____	_____
Other	_____	_____

5. How many people does your firm employ at this location?  
 Permanent employees \_\_\_\_\_  
 Temporary employees \_\_\_\_\_ (average number)

**PRODUCTS**

6. 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
_____ %	Vines and grounds covers
_____ %	Roses
_____ %	Herbaceous perennials
_____ %	Trees fruits
_____ %	Small fruits
_____ %	Propagating material (liners, cutting, etc.)
100%	

7. Considering all plants sold by your firm, what percentage of your sales are in these root/media holding categories?

<u>Sales</u>	<u>Method</u>	<u>Sales</u>	<u>Method</u>
____%	Bare root	____%	Balled and potted
____%	Balling and burlapping	____%	Processed balled
____%	Container	____%	Field grow bag

**SALES CONSIDERATIONS**

8. Approximately what percentage of your sales transactions are made using the following methods?

_____ %	<u>Method</u>
_____ %	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%

9. At how many trade shows was your firm represented in 1988? \_\_\_\_\_

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

11. Identify the five factors that most limit the expansion potential of your firm. Rank in order of 1 through 5, with 1 begin the most important.

_____ Water supply	_____ Land
_____ Market demand	_____ Labor
_____ Competition	_____ Capital
_____ Weather uncertainty	_____ Ability to hire/develop
_____ Environmental regulations	_____ competent management
_____ Own management	_____ Other (specify) _____

**PRODUCT FLOW**

12. For purchases of seedlings, liners, whips, or grafted material, what are the top six origins by state or country?

<u>State or</u>	<u>Percentage of</u>	<u>State or</u>	<u>Percentage of</u>
<u>country</u>	<u>purchases</u>	<u>country</u>	<u>purchases</u>
_____	_____ %	_____	_____ %
_____	_____ %	_____	_____ %
_____	_____ %	_____	_____ %

13. What percentage of total annual sales occur during each month?

Jan	Feb	Mar	Apr	May	Jun	
____%	____%	____%	____%	____%	____%	
July	Aug	Sep	Oct	Nov	Dec	Total=
____%	____%	____%	____%	____%	____%	100%

14. Do you ship nursery products out of the country? \_\_\_ Yes \_\_\_ No

If yes, what is their percentage of total sales? \_\_\_\_\_%

15. As defined by total dollar sales, what are the top six destinations by state or country?

<u>State or country</u>	<u>Share of all annual sales</u>	<u>State or country</u>	<u>Share of all annual sales</u>
_____	_____ %	_____	_____ %
_____	_____ %	_____	_____ %
_____	_____ %	_____	_____ %

16. What percentage of your total dollar sales are: wholesale \_\_\_\_\_ %  
retail \_\_\_\_\_ %  
total 100%

17. What percentage of your wholesale sales are to:  
\_\_\_\_\_ % Re-wholesale firm (including other growers and brokers)  
\_\_\_\_\_ % Retail firms (including mass marketers and garden centers)  
\_\_\_\_\_ % Landscape firms  
100%

18. For dollar sales to re-wholesalers (and other growers), what are the top six destinations by state and percentage of sales?

<u>State</u>	<u>Sales</u>	<u>State</u>	<u>Sales</u>
_____	_____ %	_____	_____ %
_____	_____ %	_____	_____ %
_____	_____ %	_____	_____ %

19. For dollar sales to retail outlets (including mass marketers and garden centers), what are the top six destinations by state (or country) and percentage of sales?

<u>State</u>	<u>Sales</u>	<u>State</u>	<u>Sales</u>
_____	_____ %	_____	_____ %
_____	_____ %	_____	_____ %
_____	_____ %	_____	_____ %

20. For dollar sales to landscape firms, what are the top six destinations by state and percentage of sales?

<u>State</u>	<u>Sales</u>	<u>State</u>	<u>Sales</u>
_____	_____ %	_____	_____ %
_____	_____ %	_____	_____ %
_____	_____ %	_____	_____ %

**PRICE DETERMINATION**

21. Identify by rank the five most important factors you use to determine prices. Rank in order of 1 through 5, with 1 being the most important.

- \_\_\_\_\_ Cost of production
- \_\_\_\_\_ Inflation
- \_\_\_\_\_ Comparison to other growers
- \_\_\_\_\_ By grade of plants
- \_\_\_\_\_ Market demand

- \_\_\_\_\_ Time of year
- \_\_\_\_\_ Based on inventory
- \_\_\_\_\_ Based on last year's price
- \_\_\_\_\_ Other (please specify) \_\_\_\_\_

22. What percentage of your sales are at the printed price value? \_\_\_\_\_%

If you give quantity discounts, please identify quantity and discount amounts.

<u>Minimum volume</u>	<u>Discount available</u>
_____	_____
_____	_____
_____	_____

**TRANSPORTATION**

23. What percentage of your products do you ship by the following modes of transportation?

- \_\_\_\_\_ % Truck
- \_\_\_\_\_ % Rail
- \_\_\_\_\_ % Parcel Post and United Parcel Service
- \_\_\_\_\_ % Air freight
- 100%

24. What percentage of your truck shipments are by the following sources?

- \_\_\_\_\_ % Commercial common carriers
- \_\_\_\_\_ % Nursery owned/rented/leased or consigned
- \_\_\_\_\_ % Buyer owned/rented/leased or consigned
- 100%

25. When making deliveries in your own trucks, what percentage of the return trips are empty backhauls?  
\_\_\_\_\_%

26. Do you have a maximum radius of delivery? \_\_\_ Yes \_\_\_ No

If so, what is it? \_\_\_\_\_ miles

27. What do you see as the greatest limitation in terms of expanding the geographic scope of your trading?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**ADVERTISING**

28. What dollar amount, or percentage of sales, do you annually allocate to advertising? \_\_\_\_\_

- \_\_\_\_\_ % Yellow pages
- \_\_\_\_\_ % Billboards
- \_\_\_\_\_ % Radio
- \_\_\_\_\_ % Trade shows
- \_\_\_\_\_ % Newspaper

- \_\_\_\_\_ % Trade journals
- \_\_\_\_\_ % Catalogs
- \_\_\_\_\_ % Newsletter/flyers
- \_\_\_\_\_ % Other, please specify \_\_\_\_\_

**SALES**

30. Do you have salesmen on your payroll that travel and represent your firm?  Yes  No  
 If yes, how many? \_\_\_\_\_

31. Do you use the services of a sales broker?  Yes  No  
 If yes, where is the broker's headquarters? \_\_\_\_\_  
 Does the broker sell by commission or fee? \_\_\_\_\_  
 Commission margin is \_\_\_\_\_ per \_\_\_\_\_.  
 Fee is \_\_\_\_\_ per \_\_\_\_\_.

32. In round numbers, what was the value of gross sales from your nursery in 1988, or your most recently completed fiscal year? \$\_\_\_\_\_. If you do not wish to give the amount, please check the appropriate category.

- |                                 |                                 |
|---------------------------------|---------------------------------|
| _____ Less than \$100,000       | _____ \$2,000,000 - \$2,999,999 |
| _____ \$100,000 - \$499,999     | _____ \$3,000,000 - \$3,999,999 |
| _____ \$500,000 - \$999,999     | _____ \$4,000,000 - \$4,999,999 |
| _____ \$1,000,000 - \$1,999,999 | _____ Greater than \$5,000,000  |
- Please specify the appropriate amount \_\_\_\_\_

