

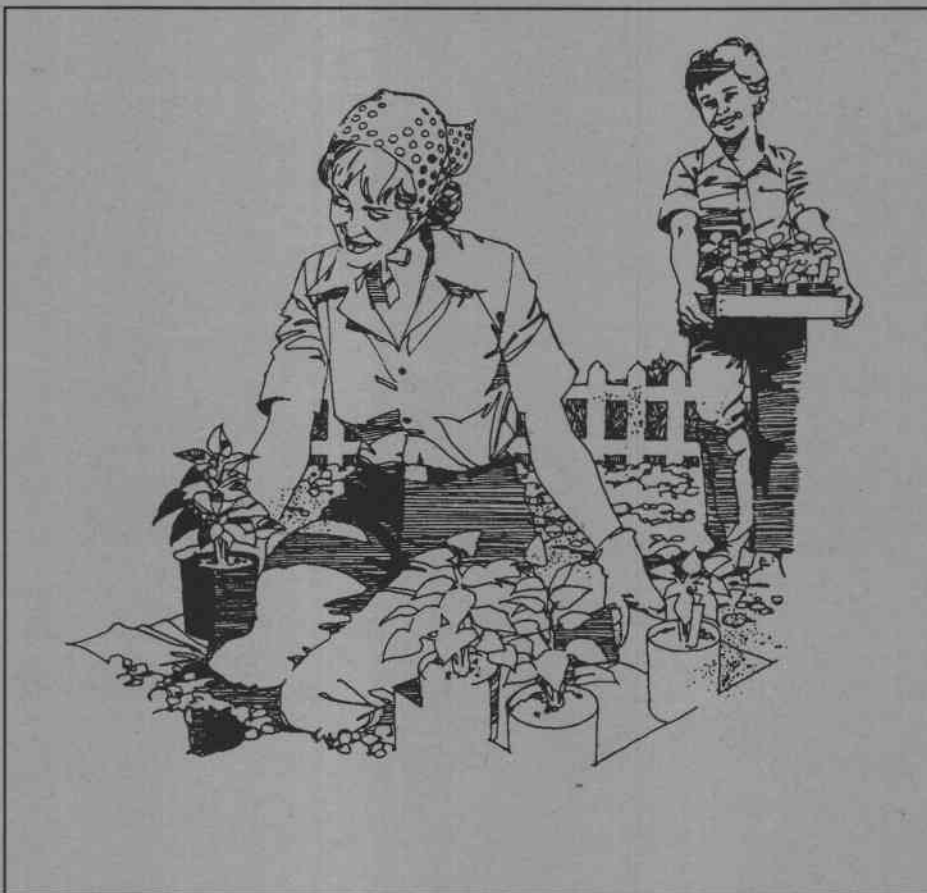
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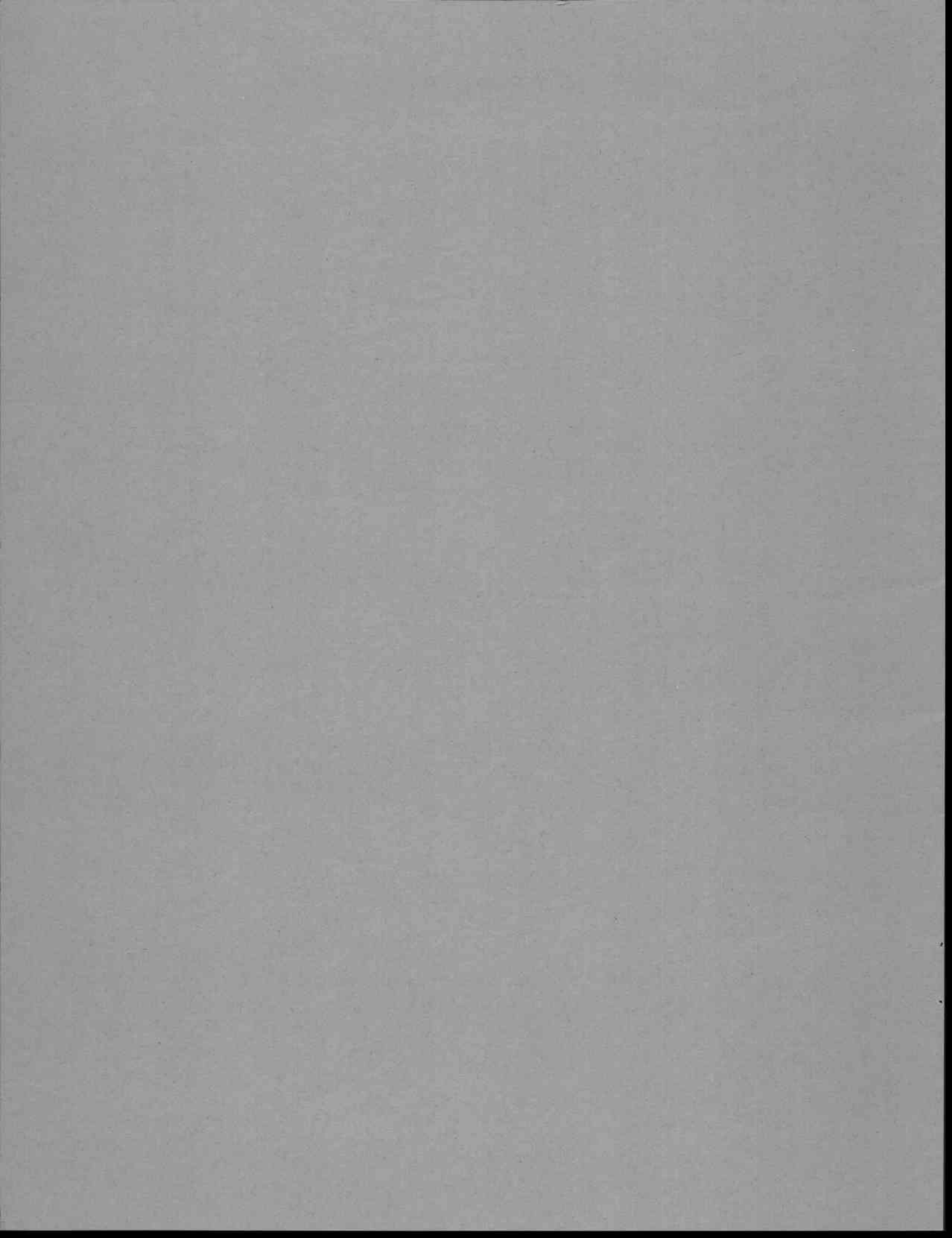
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**Oregon's Nursery and  
Greenhouse Industry in 1990**



**OREGON STATE UNIVERSITY EXTENSION SERVICE**



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# Oregon's Nursery and Greenhouse Industry in 1990

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## Introduction

The nursery and greenhouse industry in Oregon produces and sells a wide variety of items. This industry has grown dramatically in the last 10 to 15 years. Nursery crops now rank second in agricultural sales behind cattle and calves in the people are spending relatively more on nursery plants than 10 years ago and Oregon has the ideal environment for producing many of these items. Oregon's nursery products are sold all over the United States and in foreign countries.

There isn't a history of production estimates and market information for this industry (except floriculture) like that for cattle, wheat, vegetables, tree fruit, etc. One of the reasons is the complexity of items produced. There is a wide variety of landscape plants, fruit and nut trees, forest nursery products, bedding plants, cut flowers, foliage and flowering plants, bulbs, etc. Plants are sold at different stages of development and in different conditions (bare root, balled and burlapped, or in containers) and are grown in the greenhouse or outdoors. Furthermore, acreage estimates, a good measure of industry size for most crops, can be deceptive in nursery because of the great variation of plant types and density on a given acre. So it has been (and will continue to be) difficult to get detailed estimates of production and sales value of this complex industry.

## The survey

Oregon State University has a responsibility for county and state agricultural statistics. A survey of nursery and greenhouse firms was developed to obtain a range of data: wholesale value of plant materials sold, shipping destination, acreage in production, and square footage of greenhouse space. The nursery industry, through the Oregon Association of Nurserymen, helped develop and fund the survey. Questionnaires were sent out in the summer of 1991 to obtain data on 1990 production and values.

As indicated in Table I, the operations were separated into three different sizes. There were 1,070 firms with sales of \$100,000 or less and these were classified as small. Ten percent were sampled and 64% returned usable survey forms. Medium-size operations were those with sales of \$100,000 to \$500,000. There were 176 medium-size firms. Fifty % were sent surveys with a return of 71%. There were 99 large growers, with sales of \$500,000 or more. Surveys were sent to all large growers with a 77% return.

The Survey Research Center at Oregon State University conducted the mail survey and entered the returned data into a computer file. The first mailing of the survey form was in July 1991. There was a follow-up postcard, and then another form was mailed to those who did not respond.

Table I.

Size	Sales of	Number of Growers in Sample		Usable Returns
Small growers	\$100,000 or less	1,070	107	64%
Medium growers	\$100,000-\$500,000	176	88	71%
Large Growers	\$500,000 or more	99	99	77%
<b>Totals</b>		1,345	294	71%

Telephone calls were then made to obtain critical, missing data. The data were tabulated and then reviewed by university and industry people in an effort to identify omissions. The data were expanded to account for nonrespondents.

#### Nursery Acreage and Greenhouse Square Footage

Total acreage in nursery crop production in Oregon in 1990 was 24,294 acres (Table II): bare root production (12,146 acres), balled and burlapped production (8,964 acres), and container production (3,184 acres). Of the total 24,294 acres, 22,745, or 94%, were in the Willamette Valley, with the highest concentration of production in the northern part of the Valley.

In addition to the nursery acreage, there were 19,779,600 square feet of greenhouse area. Again, the lion's share (95%) was in the Willamette Valley.

Table II. Nursery and Greenhouse Acreage and Sq. Footage

District *	Bare Root Acres	B & B Acres	Container Acres	Total Acres	Greenhouse Sq. Footage
District 1	10,789	8,884	3,072	22,745	18,772,620
District 2	158	0	50	208	419,170
District 3	410	0	46	456	516,050
District 4	519	80	0	599	3,120
District 5	0	0	16	16	68,640
District 6	270	0	0	270	0
<b>State total</b>	12,146	8,964	3,184	24,294	19,779,600

\* See map in appendix for an outline of the counties in each district

The large growers (those with gross sales of \$500,000 or more) dominate the industry with 73% of the nursery acreage and 79% of the greenhouse square footage (Table III.). However, small and medium operations have over half the acreage of balled and burlapped production.

Table III.

	Small	Medium	Large	Total
	-----Acres-----			
Bare Root	189	1,080	10,877	12,146
Balled and Burlap	2,281	2,581	4,103	8,965
Container	190	211	2,782	3,183
<b>Totals</b>	<b>2,660</b>	<b>3,872</b>	<b>17,762</b>	<b>24,294</b>
	-----square footage-----			
Greenhouse	1,818,800	2,378,800	15,582,000	19,779,600

### Sales of Nursery and Greenhouse Products

Results, as reported in Table IV, show that total sales amounted to \$319.5 million (\$60.0 million from greenhouse sales and \$259.5 million from nursery sales). The survey was targeted at Oregon nursery and greenhouse production and didn't include retail sales of items produced in the state or brought in from elsewhere. Nor did the survey include returns to landscape operations.

Table IV.

### Nursery and Greenhouse Sales, 1990 in Dollars

District *	Bare Root	B & B	Container	Greenhouse	Total
District 1	92,685,325	53,995,692	97,687,706	53,559,714	297,928,437
District 2	1,209,101	0	2,628,831	2,823,060	6,660,992
District 3	5,536,965	0	2,986,053	3,389,832	11,912,850
District 4	1,401,589	937,097	4,056	12,090	2,354,832
District 5	0	0	0	249,610	249,610
District 6	377,634	0	0	0	377,634
<b>State total</b>	<b>101,210,614</b>	<b>54,932,789</b>	<b>103,306,646</b>	<b>60,034,306</b>	<b>319,484,355</b>

\* See map in appendix for an outline of the counties in each district.

While bare root production represented the most acreage at 12,146, container operations generated four times the sales per acre at \$32,456 (Table V.). This high per acre value comes from very intensive operations with high density plant spacing. Total sales from greenhouses in Oregon are smaller than bare root and container operations. However, sales per acre are the highest. Greenhouses grossed an average of \$3,035 per 1,000 square feet, or over \$120,000 per acre. This figure varies greatly from one type of greenhouse operation to another. Some of Oregon's greenhouse space is used for propagating plants to be replanted outside in nursery operations and doesn't generate direct sales.

Table V.

	Bare Root	B & B	Container	Total
Acres	12,146	8,965	3,183	24,294
\$ Sales	101,210,614	54,932,789	103,306,646	259,450,049
\$/acre	8,333	6,127	32,456	10,680

### Comparing 1989 to 1990 Sales

We also asked for sales for 1989 to see what kind of changes there were from 1989 to 1990. Table VI reflects the sales from the small, medium, and large operations, their relative importance, and the change from 1989 to 1990.

The increase in sales from 1989 to 1990 was almost \$33 million or over 11% in just that year. What will happen to sales in the 1990's? While there seems to be some pessimism in the industry now, the 1980's showed some dramatic gains. Past OSU Extension Service estimates and nursery license figures show that in 1980 nursery and greenhouse sales were about \$100 million. With \$320 million reported in 1990, this shows an annual average increase of over 12%. Even after adjusting for inflation in prices received during these 10 years, the average increase was over 10%.

As with acreage and square footage, the large operations dominate with 80% of the sales. While the dollars aren't nearly as significant, the small and medium-size growers appear to be growing in sales a little faster at 21.7% and 12.8% respectively.

Table VI. Nursery and Greenhouse Total

	1989 Sales	1990 Sales	1990 % Sales by Size	1990/1989 % Change
Small	\$15,808,378	\$19,242,589	6.0%	+ 21.7%
Medium	38,685,405	43,628,804	13.7%	+ 12.8%
Large	232,288,143	256,612,962	80.3%	+ 10.5%
<b>Total</b>	<b>\$286,781,926</b>	<b>\$319,484,355</b>	<b>100.0%</b>	<b>+ 11.4%</b>

### Where Oregon's Nursery and Greenhouse Products Go

Industry leadership requested that we include a question asking where Oregon's nursery and greenhouse products are being sold. As shown in Table VII, a large portion of the sales from the small and medium producers were within Oregon (65% and 50% respectively). However, some of these sales may have been to larger firms that marketed them outside the state. Sales within Oregon were somewhat surprising at 24%. Since we asked that resale items not be reported to avoid double counting, only the original sale was reported. Thus, some of the 24% may also have left the state, having been first purchased by a larger firm, the materials put together with others to make up large orders and then shipped out. Also, it is quite likely that part of the 24% sold in Oregon is for propagation material that is eventually sold out of state.

Table VII.

**Nursery and Greenhouse Sales  
by Geographic Area, 1990 in Dollars**

<b>Geographic Area *</b>	<b>Small</b>	<b>Medium</b>	<b>Large</b>	<b>Area Total</b>	<b>% Total</b>
Oregon	12,387,415	21,811,390	43,516,470	77,715,276	24.3%
Washington	2,482,009	5,294,673	27,328,660	35,105,342	11.0%
California	843,718	1,481,911	12,712,170	15,037,799	4.7%
Other West. St.	180,817	1,845,099	18,209,714	20,235,630	6.3%
Upper Midwest	497,785	3,539,255	59,024,781	63,061,821	19.8%
Gulf States	95,949	682,408	14,806,998	15,585,355	4.9%
Atlantic States	655,907	3,287,454	26,314,153	30,257,515	9.5%
North East	1,173,259	4,809,642	35,590,054	41,572,955	13.0%
Western Canada	530,334	800,502	8,227,003	9,557,839	3.0%
Eastern Canada	255,297	379,779	10,005,084	10,640,160	3.3%
Foreign	0	23,314	691,349	714,663	0.2%
<b>Total Sales</b>	<b>19,102,491</b>	<b>43,955,428</b>	<b>256,426,436</b>	<b>319,484,355</b>	<b>100.0%</b>

\* See appendix for outline of States in each geographic area.

Most of Oregon's nursery and greenhouse products are sold in the northern United States. Eleven percent of Oregon's nursery and greenhouse sales went to Washington state, about 20% to the upper midwest, and 13% to the northeastern United States. Growers reported sales of over 6% in Canada. Sales to California were surprisingly low at only about 5%. Exports (excluding Canada) are still only a small part of industry sales at less than \$1 million, or .2% in 1990.

#### **Truck Loads Shipped by Geographic Area**

Data on truck loads shipped to various geographic areas correspond fairly closely with those on sales by area. The data on truck loads is not as reliable as the data in the other tables. The questionnaire did not define the size of the truck, therefore there wasn't a standard-sized load. In addition, a few operations didn't report truckloads.

Table VIII.

**N\G Truckloads Shipped by Sales Area, 1990**

<b>Geographic Area</b>	<b>Loads</b>	<b>% Total</b>
Oregon	3,815	21.0%
Washington	2,839	15.6%
California	1,362	7.5%
Other West. St.	1,480	8.1%
Upper Midwest	2,658	14.6%
Gulf States	1,033	5.7%
Atlantic States	1,640	9.0%
North East	2,067	11.4%
Western Canada	664	3.7%
Eastern Canada	590	3.2%
Foreign	28	0.2%
<b>Total Sales</b>	<b>18,176</b>	<b>100.0%</b>

**Summary**

There has been a lack of information on the size and economic importance of the nursery and greenhouse industry in Oregon. To help fill this information gap, Oregon State University Extension Service and the Oregon Association of Nurserymen (OAN) collaborated on a survey of the industry. A survey was made in the summer of 1991 covering the 1990 calendar year.

Survey results show that sales from industry operations in 1990 totaled \$320 million (nursery at \$260 million, and greenhouse at \$60 million). Nursery production and sales were from 24,294 acres and 19.8 million square feet of greenhouse space. The survey was directed at the value of original production, i.e. farm gate value, and does not include resale (retail) receipts or returns to landscapers. Close to 95% of the nursery acreage and greenhouse square footage is in the Willamette Valley, primarily in the counties from Salem north to the Columbia River. The large operations, those selling \$500,000 or more, dominate the industry with 80% of all sales.

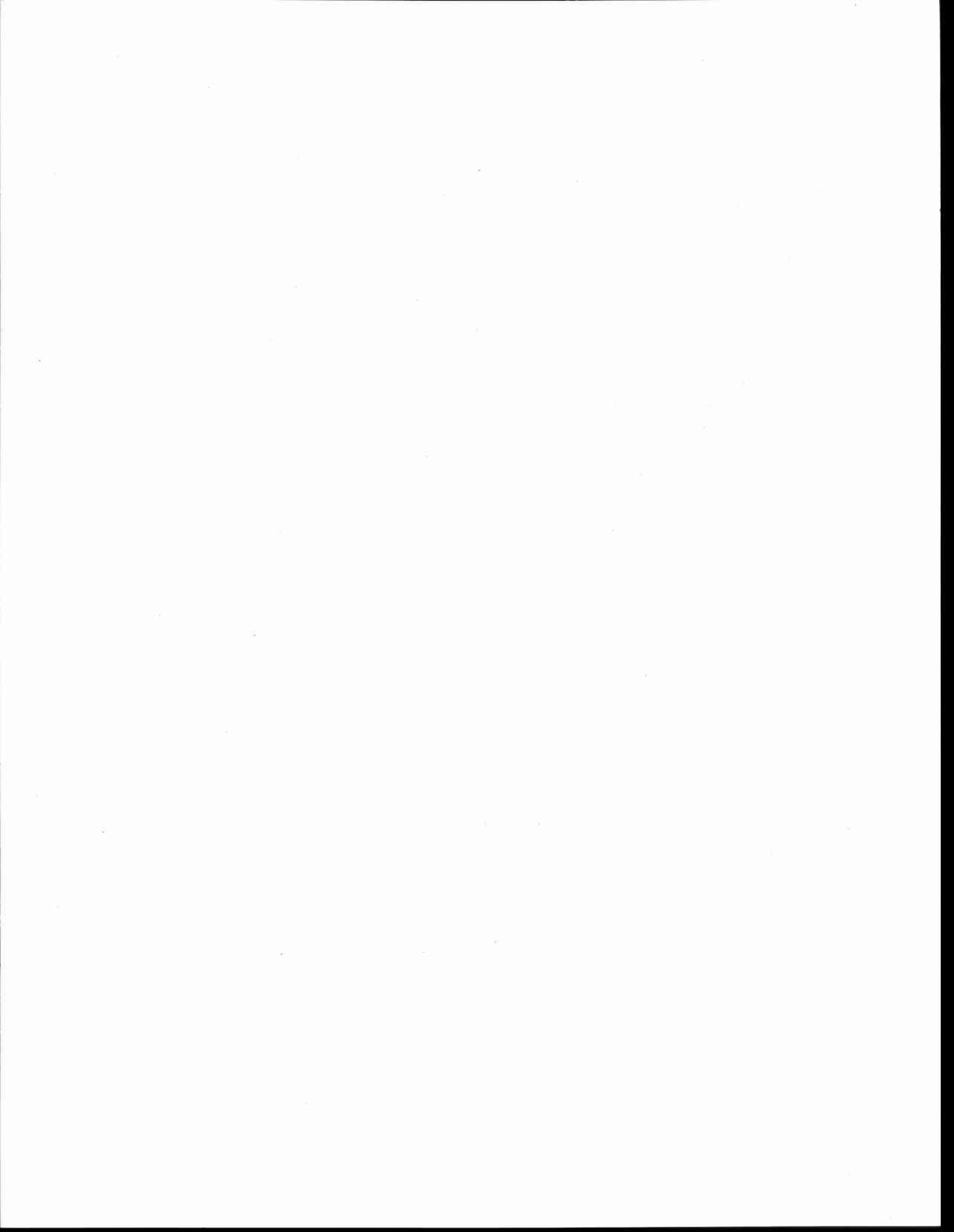
The industry has grown rapidly in the 1980's. In the years surveyed, from 1989 to 1990, sales increased over 11%. Production is shipped all over the United States, some 6% into Canada, and only a relatively small amount (less than 1%) to other foreign countries. The bulk of shipments go to the northern United States.

Because of resource constraints, we were not able to make a more detailed survey including different types of plant materials. An example might be floriculture, which was included in the survey but didn't have a specific category. For a more thorough study of the industry, the primary components need to be addressed separately, i.e., herbaceous perennials and woody nursery plants (or more specific groupings). This, of course, would require a more complex questionnaire, which may meet resistance from those filling out the form.



## Appendices

1. The survey form that was mailed to the nursery and greenhouse operators.
2. Oregon map outlining counties in different agricultural districts.
3. U.S. Map outlining states and provinces in the geographic sales areas.



# Appendix 1

## 1990 OREGON NURSERY AND GREENHOUSE SURVEY

1. Please indicate the number of acres you had under production in 1990 for each of the following. If you operated a greenhouse in 1990, please give the square footage. (If none please write 0)

### ACRES

- a. Bare root . . . \_\_\_\_\_  
b. B & B . . . . . \_\_\_\_\_  
c. Container . . . \_\_\_\_\_

### SQ. FEET

- d. Greenhouse. . . \_\_\_\_\_

2. And, what was the percentage of sales from your nursery operation in 1990 for each category of plant material?

### PERCENT

- a. Bare root . . . \_\_\_\_\_  
b. B & B . . . . . \_\_\_\_\_  
c. Container . . . \_\_\_\_\_  
d. Greenhouse. . . \_\_\_\_\_

**TOTAL . 100%**

3. About how many truck loads of plant materials did you ship in 1990? (For example 4-1/2, 6-1/4).

\_\_\_\_\_ TRUCK LOADS SHIPPED

4. What was your gross nursery plant material sales for the calendar years 1989 and 1990? Report only production from your operation, not resale items.

### GROSS SALES

- a. 1989 \$ \_\_\_\_\_  
b. 1990 \$ \_\_\_\_\_

(PLEASE CONTINUE ON THE BACK)

5. And, what is your best estimate of the percentage of 1990 gross sales sent to each of the following geographical areas? (See attached map)

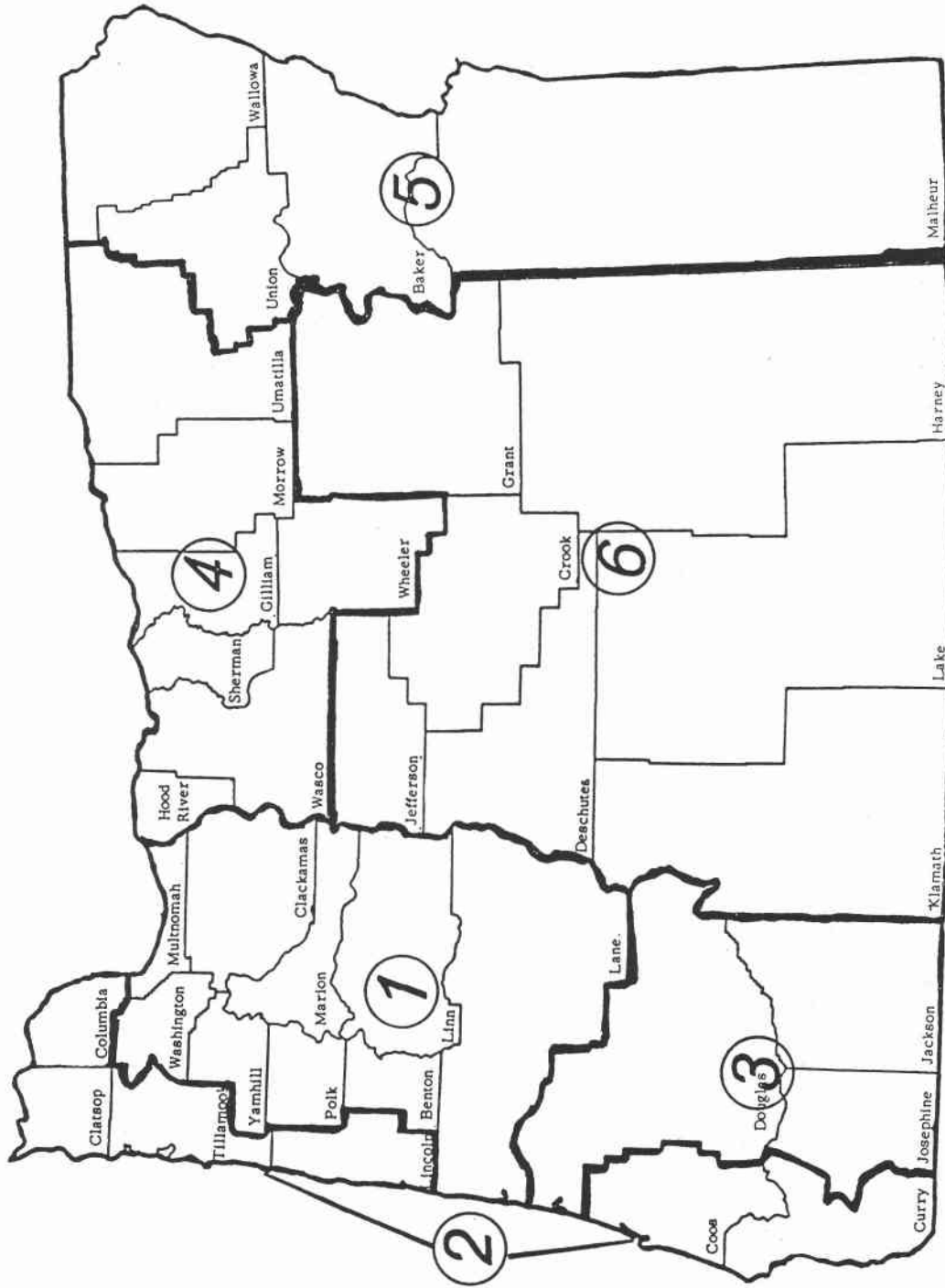
	<u>PERCENT</u>
a. Oregon . . . . .	_____
b. Washington . . . . .	_____
c. California . . . . .	_____
d. Other Western States. .	_____
e. Upper Midwest . . . . .	_____
f. Gulf States . . . . .	_____
g. Atlantic States . . . . .	_____
h. North East . . . . .	_____
i. Western Canada. . . . .	_____
j. Eastern Canada. . . . .	_____
<b>FOREIGN COUNTRIES: (Please list)</b>	
k. _____ . . . . .	_____
l. _____ . . . . .	_____
m. _____ . . . . .	_____
<b>TOTAL . . . . .</b>	<b>100%</b>

6. In what Oregon county is most of your production located?  
 \_\_\_\_\_ COUNTY

7. Finally, please list any concerns or problems facing nursery and greenhouse operators in Oregon.

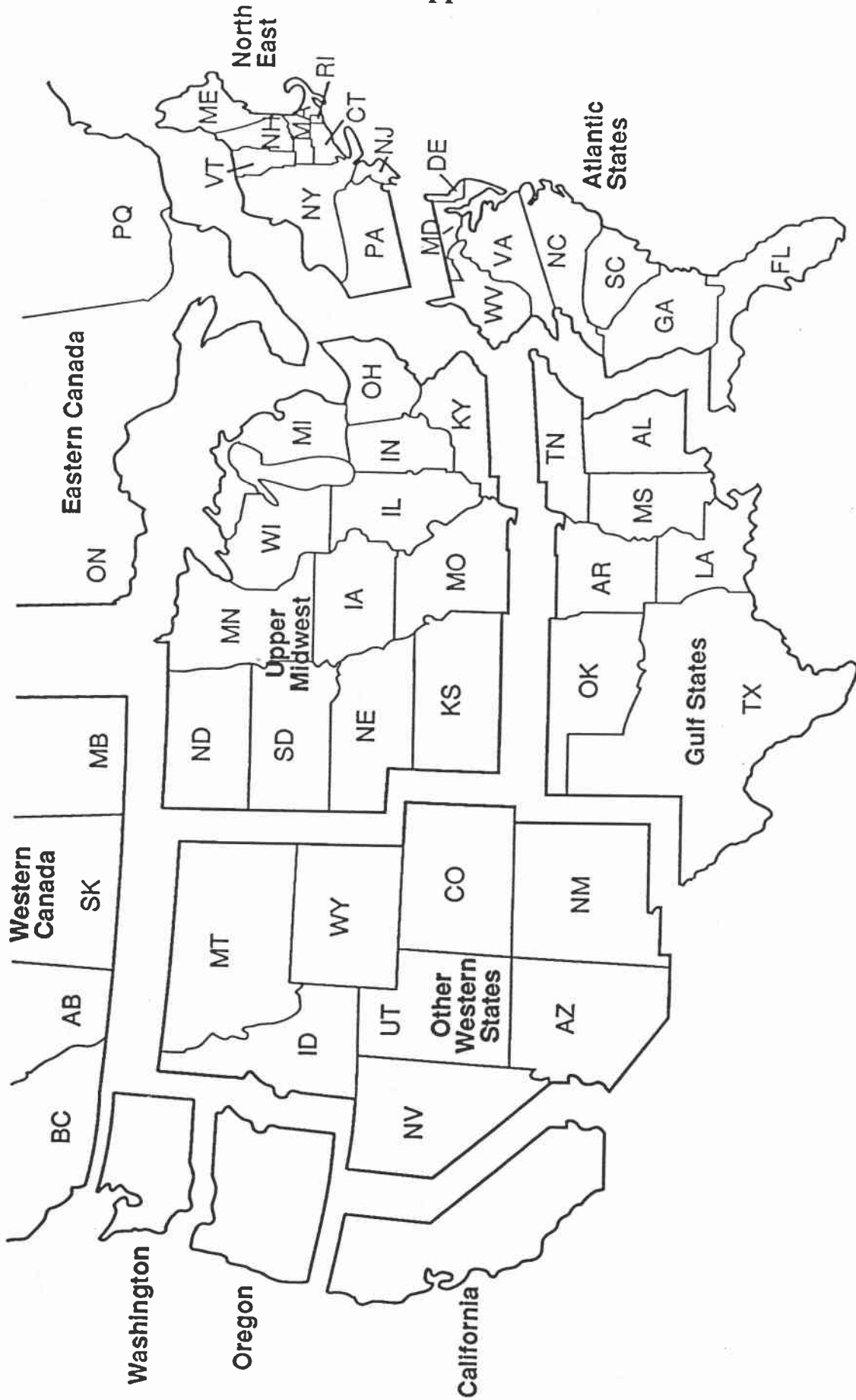
(THANK YOU FOR YOUR COOPERATION)

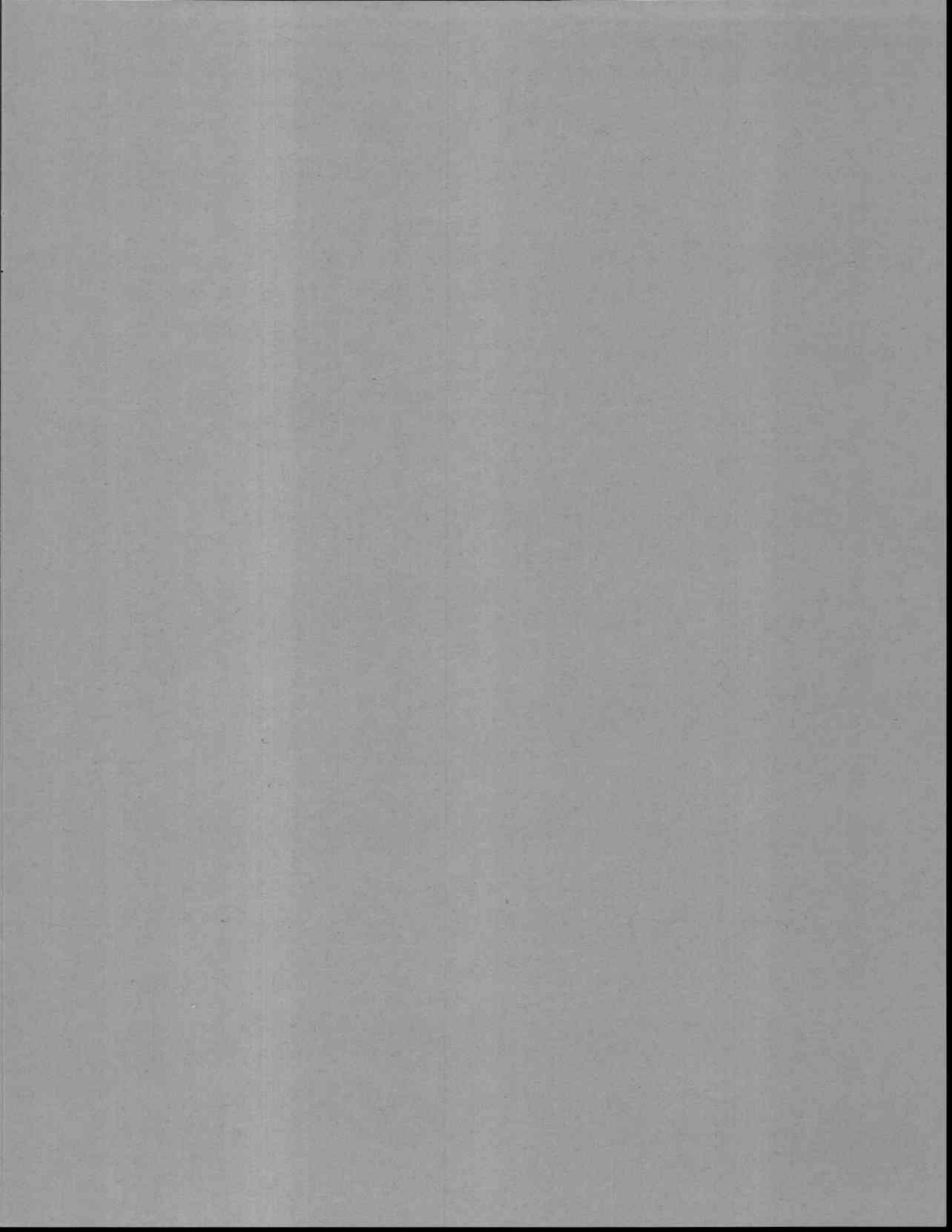
## Appendix 2: Agricultural Districts of Oregon



1. Willamette Valley
2. Coastal
3. South Western
4. North Central
5. Eastern
6. South Central

# Appendix 3





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