Graphic Summary of Agriculture and Land Use in Oregon

Preliminary Issue of Selected Maps and Graphs

Topography and varying elevations divide the state into six distinct physiographic and agricultural regions—Coast Region, Willamette Valley, Southern Oregon, Columbia Basin, and Blue Mountain Region.

Agricultural Experiment Station
Oregon State Agricultural College
Corvallis

and

Bureau of Agricultural Economics
United States Department of Agriculture
Cooperating
Graphic Summary of Agriculture and Land Use in Oregon

Preliminary Issue of Selected Maps and Graphs

Prepared by

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Agricultural Experiment Station
Oregon State Agricultural College
Corvallis

and

Bureau of Agricultural Economics
United States Department of Agriculture
Cooperating.
FARM MANAGEMENT RESEARCH

Dealing with Agricultural Enterprise Costs and Types of Farming

Department of Farm Management

Oregon Agricultural Experiment Station

Stump Land Reclamation (Oregon 195)
Winter Wheat in Sherman County (U. S. D. A. 1446)
Horse and Tractor Power on Sherman County Wheat Farms
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FOREWORD

This issue of graphs and maps is a selection from two manuscripts on "Types of Farming and Land Use in Oregon," being prepared for publication later in more complete form.

Tabulations, by counties and regions, of the data shown graphically on the maps and figures herein may be obtained from the Department of Farm Management, Oregon Agricultural Experiment Station.

Large scale copies of all of the maps published herein may be obtained from the Department of Farm Management, Oregon Agricultural Experiment Station, at cost of blue printing.

In addition, large scale colored maps showing land use and types of farming for the State of Oregon and for each of the Eastern Oregon counties are available. Funds for publishing these land use maps were not available when this publication was authorized.

Note. The 1930 census data have been used in preference to 1935 data, where available, because 1930 conditions are believed to be more nearly normal.

ACKNOWLEDGMENTS

The authors wish to express their thanks and appreciation for services and data supplied by the following: The United States Weather Bureau, Portland; Northwest Forest Experiment Station, Portland; Regional Office, United States Forest Service, Portland; United States Bureau of the Census; United States Reclamation Service; Charles E. Stricklin, State Engineer; F. B. Wire, State Game Commissioner; M. N. Nelson, R. E. Dimick, and F. E. Price, Oregon Agricultural Experiment Station; A. S. Burrier and Carl Merryman, Resettlement Administration, the Supervisors of the National Forests in Oregon; the county assessors and the county agricultural agents of the Eastern Oregon counties; and finally to many individuals who supplied information in the field. Specific credit is given directly on all maps and graphs presented.
Oregon's six differing agricultural regions—Coast Region, Willamette Valley, Southern Oregon, Columbia Basin, Blue Mountain Region, Central Oregon—are due to different physical conditions.

Location and extent of the areas of different elevations. Elevation exerts decisive influence on precipitation, growing season, land use and types of farming.

Oregon's position in the region of the prevailing westerly winds and the Japan current gives a long frost-free season at the low elevations of the Coast, Willamette and Umpqua valleys, and Columbia Basin, and permits many different types of farming. The reverse is true in Eastern Oregon at the higher elevations.
A striking characteristic of Oregon's climate is its uniformity from year to year. Complete crop-destroying droughts have never occurred except on marginal or submarginal non-irrigated lands of very low rainfall in Eastern Oregon.
A second striking characteristic of Oregon's climate is the low rainfall during summer months, June to September inclusive, and the proportionately heavy rainfall during the winter months, November to February, inclusive.
MARCH OF TEMPERATURES BY MONTHS
SELECTED OREGON STATIONS
MADE JUNE 1935

TEMPERATURE DEGREES F

NEWPORT COAST REGION

ALBANY WILLAMETTE VALLEY

ROSEBURG UMPQUA VALLEY

ASHLAND ROGUE RIVER VALLEY

MORO COLUMBIA BASIN

WESTON COLUMBIA BASIN

LA GRANDE BLUE MOUNTAIN

VALE CENTRAL OREGON

NORMAL, MAXIMUM AND MINIMUM TEMPERATURES
--- HIGHEST AND LOWEST TEMPERATURES EVER OBSERVED

PREPARED BY H.D. SCUDDER, OREGON EXR STATION, & E.B. HUD, BUREAU AGRIL. ECONOMICS, U.S.D.A.
DATA, U.S.WEATHER BUREAU

For each typical regional weather station, the top and bottom curving lines show the highest and lowest temperatures ever observed in any month for all years of record. The inner heavy curving lines show the normal. Note the mild climate of Western Oregon and the great range of temperature in Central Oregon.
The infrequent frosty days in winter or hot days in summer attest the long growing season and mild climate of the Coast, Willamette and Umpqua valleys. The higher elevations in some regions of Eastern Oregon show marked contrast in frosty or cold weather and short season.

More than half the 64,825 farms of Oregon are in the Willamette Valley. Since pioneer days there has been an average increase in number of farms varying from 500 to 1000 each year. Part-time farming has increased greatly from 1930 to 1935.
During the period of prosperity, 1900 to 1920, land values in the United States rose rapidly, especially in the corn belt states, and since 1920 have rapidly declined. A decisive factor in the value of the land is the type of farming and use that the land will sustain.

The availability of rural electric power is a factor of considerable importance in certain of the more intensive types of farming. Existing and proposed rural power lines follow closely the more intensive farming areas.
Density of population is of profound importance to farming. Except for the Lower Willamette Valley, Oregon is thinly populated (953,786 in 1929) and the local markets are unable to consume the farm products grown in the state. Disposal of the surplus is a major economic problem in every type of farming.

More than 51 per cent of the state's population is found in its cities, Portland alone having 31 per cent. These cities are the chief local markets for farm goods, leaving large surpluses to ship out of the state and abroad.
Nearly half (43 per cent) of the land of Oregon is privately owned. Of this private land, 43 per cent is timber land, 38 per cent is grazing land, and 16 per cent is crop land.

More than one-quarter (25.8 per cent) of the state's area is public domain and revested grant lands. Most of this is range grazing land in Central Oregon.
Nearly one quarter (22 per cent) of Oregon land is in National Forests and 3 per cent more is in other federal reservations.

About 4 per cent of the state's area is owned by the state, and counties. These taxing bodies also have a prior lien for delinquent taxes on many thousands of acres of additional land.
This little bird’s-eye view is the first accurate picture ever made of the state’s major land uses. It is a reduction and generalization of a large-scale map of the state (30 x 36 inches) made by the authors, showing land use and types of farming in much greater detail.

This irrigation picture is a bird’s-eye view and generalization of a much more detailed map (60 x 72 inches) prepared by the authors, on a scale 6 miles per inch. Dots on this map, each indicating 100 acres, are over-scale. Almost two million acres of water rights are recorded in Oregon.
The Columbia Basin (25.8 per cent) and the Willamette Valley (12.7 per cent) have the highest percentage of their total land areas in crops as compared with all other regions of the state. Of all Oregon crop land 51 per cent is in grain and 38 per cent in hay.

Nearly one million acres of potential crop land lies in plowable pastures, the Willamette Valley having the highest percentage of any region.
The grain belt of Oregon is clearly concentrated on the dry farms of the Columbia Basin. Grain is still the major gross income producer for Oregon farms, and uses 51 percent of the state's crop land.

Next to grain, hay of all kinds uses the largest acreage (38 percent) of Oregon crop lands. In Eastern Oregon hay is grown chiefly in the irrigated and winter flooded lands. The annual hay crop totals about 2,000,000 tons.
### Classification of Eastern Oregon Wheat Lands by Yields*

Based on 4-year average yield 1929-1932.

#### Percentage of Total Wheat Acreage in Each Group in Each County

<table>
<thead>
<tr>
<th>Four-year average yield per acre</th>
<th>Wasco</th>
<th>Jefferson</th>
<th>Sherman</th>
<th>Gilliam</th>
<th>Morrow</th>
<th>Umatilla</th>
<th>Union</th>
<th>Wallowa</th>
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<tbody>
<tr>
<td>0-5</td>
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<td>3.9</td>
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<td>.3</td>
<td>.1</td>
<td>.8</td>
<td>2.1</td>
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<td>60.4</td>
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<td>17.3</td>
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<td>13.3</td>
<td>27.7</td>
<td>27.2</td>
<td>11.6</td>
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<tr>
<td>20-25</td>
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<td>15.8</td>
<td>1.1</td>
<td>4.4</td>
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</table>

Average Yield: 19.6 10.6 15.2 12.4 14.1 27.6 24.3 20.9 19.1

Total Acreage Planted: 68,317 48,556 132,285 120,875 124,275 240,384 47,975 25,979 908,644

Total Wheat Produced: 1,340 516 2,010 1,495 1,751 6,624 1,164 543 15,443

*Detailed summary for each county is available.
†Data from Agricultural Adjustment Administration Wheat Contracts.

The low yielding and high yielding areas (counties) are clearly indicated in the table. The base period 1929-1932 is generally conceded to be a period of unfavorable conditions and lower than average yields.
The low and high yielding wheat areas are clearly shown, as are also the major land uses for the crop. A few farms or fields having yields above or below the average yield of the area. The 4-year period, 19
Oregon:
Columbia Basin Wheat Lands
Graded According to Yield
Four Year Average Yield per Acre, 1929-1932
Data from the A.A.A. Wheat Contracts

Four Year Average Yield per Acre, in Bushels
- 5 to 10
- 10 to 15
- 15 to 20
- 20 to 25

Other Major Types of Farming and Use
- Forest
- Grazing
- Irrigated or Water Right

Interspersed in the wheat land areas there is more or less grazing land, and in each yield area there are noted to have been a period of less than average wheat yields. See table, page 19.
Wheat uses about 2 million acres of our crop land, produces 20 to 25 million bushels annually, brings a gross income of about 20 to 25 million dollars in normal times, or about 13 per cent of the gross annual value of all agricultural products. It ranks second only to dairy products in the state. About 75 per cent of this wheat is shipped out of Oregon.

Oats use about 1/4 million acres of crop land; produce 7 to 8 million bushels annually; gross value about $4,000,000; grown chiefly in the Willamette Valley, largely for feed.
Oregon uses only a small acreage for barley, producing about 2½ million bushels, chiefly for feed, some for the brewing barley market.

Growing of corn has increased markedly in the past 25 years, but it is still a minor crop, grown chiefly (about ⅔ of it) for silage and forage purposes, and the grain for feed.
Grain hay is still the largest hay acreage in the state, producing (1929) 481,000 tons. Grown more or less of necessity on the dryer lands of Eastern Oregon, a considerable amount is still grown in Western Oregon, in place of needed legumes.

Wild hay uses a surprisingly large acreage of the total hay land, producing (1929) 236,000 tons. Grown chiefly in the Central Oregon region on winter floodwater lands, it is fed to range stock.
Alfalfa is easily the most valuable hay produced in the state, and yields the largest tonnage (1929) 636,000 tons. Its beneficial effect on the soil and fine feeding value commend it.

Clover hay ranks third in tonnage, 218,000 tons (1929) but first in soil building value. In the Willamette Valley and on Eastern Oregon irrigated lands it produces also a valuable cash crop of seed.
The clover seed cash crop is important in the Willamette Valley, and in Deschutes and Malheur counties. This source of income might well be increased with resultant soil benefits.

Grass seed growing is in its infancy in Oregon. Linn county uses the largest acreage, chiefly of domestic rye grass. Half a dozen varieties of grass seed offer good cash crop possibilities.
Oregon has 18 per cent of the world's hop acreage, a larger acreage (22,000 acres) than all other states combined. Most of the hop land is in the Willamette Valley and a considerable surplus is produced.

Potatoes use 3,300 acres (1929) of crop land and produce 4 to 5 million bushels. They are an important cash crop on Eastern Oregon irrigated land and a good rotation crop in the Willamette Valley.
Greatest density for commercial apple production is found in the famous Hood River Valley. Much of the acreage in the Willamette Valley is not commercial. The enterprise is complex and requires great skill for profitable production. Over 70 per cent of the commercial crop is shipped out of the state.

The world's finest commercial pears are produced in the Rogue River and Hood River valleys. The pear enterprise requires a high degree of skill and heavy investment, but with good management has proved profitable.
The great dried prune growing areas are the Willamette and Umpqua valleys. Fresh prunes are produced largely in Eastern Oregon. The prune crop has been in normal times the heaviest income producer of any of the fruit crops. It is a stable long-time enterprise, where 1500 pounds (dried) per acre or more can be produced.

Greatest density for cherry production is in The Dalles area but greatest acreage (10,000 acres) in the Willamette Valley. This enterprise under normal conditions is profitable.
English or Persian walnuts are a successful enterprise on properly selected lands in Western Oregon, particularly in the Willamette Valley. Over-production and competition are dangerous to the inferior groves. The Oregon walnut has superior quality.

The Willamette Valley has something of a monopoly in filbert production and the enterprise is growing rapidly. Good yields and finest quality are possible.
The Willamette Valley has superior conditions for heavy yields and fine quality in all sorts of small fruits, and facilities for frozen pack and canning. This is one of the best of intensive enterprises, with 22,000 acres in production.

Oregon, with 12,000 acres, chiefly in the Willamette Valley, leads all states in strawberry production. Heavy yields, good quality and the frozen pack have made this enterprise a valuable source of income.
Dairying with 225,000 milk cows (1929) is Oregon's biggest income-producer. About 30 million dollars gross, or 16 per cent, of the state's gross agricultural income comes from milk products alone. Probably the most valuable all-around enterprise in the state.

Oregon does not meet its own needs in hog production, chiefly because of the lack of cheap feeds. Swine are closely associated with dairying. Wallowa, Marion, and Clackamas counties are the largest producers.
Beef cattle production is a range grazing enterprise in Oregon. General location of the range is indicated by the cattle distribution. Central Oregon and the Blue Mountain regions are the heaviest producers. See maps, pages 35 and 36.

In Western Oregon farm sheep, in Eastern Oregon range sheep, a total of more than 2 million, produce 8 per cent of the gross agricultural income of the state. One of the most profitable livestock enterprises on farm and range. See maps, pages 35 and 37.
Commercial egg production in Oregon is highly successful. Constitutes about 8 per cent of the state's gross agricultural income. One of the best intensive enterprises, especially in Western Oregon. Surplus marketed profitably on the Atlantic seaboard.

Bee keeping is widely dispersed over the state wherever bee pasture is available. About 65,000 colonies, producing $200,000 gross, marketed at home.
Range cattle are concentrated in winter on the irrigated areas with a scattering of herds in the Columbia Basin. (See Page 16). The range land is limited to Eastern and Southern Oregon.

Range sheep in winter are associated with irrigated meadows or with dry farm land too low yielding for cash grain. Greatest concentration of sheep in the state is in the Columbia Basin between the 10-bushel wheat belt and the forest line. (See Page 20).
Twenty-one per cent of the beef cattle of the range regions are moved to the national forests for summer range. This movement is mostly limited to a distance of 50 miles. Over half of the cattle ranches using the national forests have less than 100 head. Cattle that do not move to the national forest are mostly of the feeder type.
Thirty-five percent of the sheep in the range regions are moved to the national forests. The average distance traveled by range sheep is several times that of cattle. Sheep ranches are several times larger than cattle ranches. Ranchers moving sheep to summer range on national forest are producing market lambs while sheepmen not having choice summer range are producing more of the breeding stock type.
The domestic production of fur is a new enterprise for Oregon farms. Approximate location of many farms having some sort of fur enterprise is shown on this map.
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<td>2</td>
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<td>Three Arch Rocks*</td>
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<td>4</td>
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<td>Whistling Deer</td>
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<td>18</td>
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<td>Mule Deer</td>
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<td>Warner</td>
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<td>Myrtle Park</td>
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<td>23</td>
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<td>Canyon Creek</td>
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<td>24</td>
<td></td>
<td>Burnt River</td>
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<td>25</td>
<td></td>
<td>Only area open to Elk hunting</td>
</tr>
<tr>
<td>26</td>
<td></td>
<td>Wallowa Mountain Sheep</td>
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<tr>
<td>27</td>
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<td>Closed to Elk Hunting only</td>
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<td>Mt. Emily</td>
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<td>Cold Spring Bird Reservation*</td>
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<tr>
<td>31</td>
<td></td>
<td>Umatilla County</td>
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<tr>
<td>32</td>
<td></td>
<td>Columbia River</td>
</tr>
<tr>
<td>33</td>
<td></td>
<td>John Day River</td>
</tr>
<tr>
<td>34</td>
<td></td>
<td>Deschutes River</td>
</tr>
<tr>
<td>35</td>
<td></td>
<td>Bull Run Watershed</td>
</tr>
<tr>
<td>36</td>
<td></td>
<td>Clackamas County</td>
</tr>
<tr>
<td>37</td>
<td></td>
<td>Sturgeon Lake</td>
</tr>
</tbody>
</table>

*Federal. Stock grazing regulated.
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