
Oregon
GREAT NORTHERN
RAILWAY


Good Hunting

Oregon's Opportunities

Oregon farmers today concentrate on crops of high value per acre that are in strong demand throughout the nation. Over eighty varieties of valuable specialty crops boost the Oregon farmers' income, already high from intensive dairying, general farming and livestock production.

To the state's favorable climate, naturally fertile soils, and ample water supplies are added the forward-looking researches for agricultural improvement and the extension of these latest findings to every part of the state. All these coupled with intelligent planning and a high degree of personal initiative, have helped to make farming in Oregon progressive, permanent and profitable.

It is highly probable that your successful farming future lies in one of the new farming areas of Oregon. As this booklet portrays the state's accomplishments to date, so too, it issues a challenge to all energetic, thinking farmers to accept the many opportunities available to you in Oregon today! Somewhere within the boundaries of the state there is certain to be an opportunity specially made to fit your desires. Your courage and determination will convert it to an early success.

The Great Northern Railway's Department of Agricultural and Mineral Development has specially trained men available to assist those interested to find the type of farm or other enterprise desired and to assist you in working out your problems.

Our interest is to see you permanently and profitably located adjacent to our lines. When you have studied the following material and find you desire further information or local contacts, write to:

E. B. DUNCAN, Director
Department of Agricultural and Mineral Development
Great Northern Railway Company
St. Paul 1, Minnesota

State Resources

SINCE the days of the Oregon Trail this state has progressed steadily towards its present high state of agricultural productivity. Often called, "Oregon, the Land of Opportunity," the state combines productive soil, a wide diversity of crop and livestock production, and long growing seasons with short, mild winters and cool summers. These factors coupled with some necessary irrigation make crop failures practically unknown. Thus, the state's highly stable and profitable agriculture attracts the most progressive type of farmers.

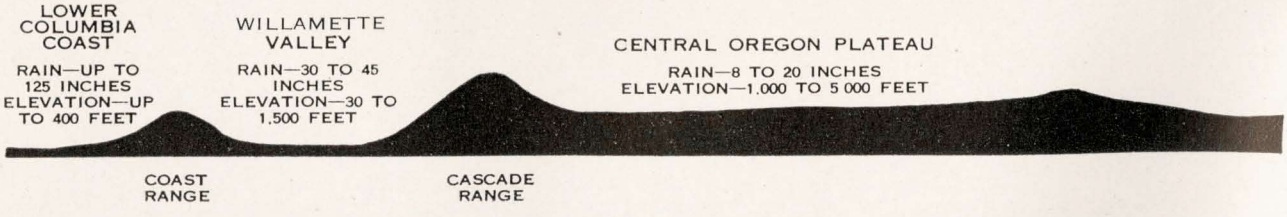
The Cascade mountain range paralleling the Coast divides the state both climatically and agriculturally. East of the Cascades, the wide plateau extending to the eastern border of the state is low in rainfall and devoted principally to wheat farms and range lands for cattle and sheep, except in the irrigated valleys. West of the Cascades is found higher rainfall and mild temperatures with diversified farming, dairying, fruit growing, poultry raising, seed production and specialty crops all giving high returns per acre. The Coastal area is characterized by high rainfall and the Valleys by intensive farming.

Almost any type of climate can be found within the state. The rainfall at Portland is actually less than the rainfall in New York City, although Portland rains occur over a longer period of time. Due to the predominating ocean breezes, the climate is relatively mild. The average July temperature at Portland is the same as at such far northern points as Winnipeg, Canada, and Escanaba, Michigan. On the other hand, the average January temperature is the same as that at such southern points as Roswell, New Mexico, and Knoxville, Tennessee. At Astoria, Oregon, the range in temperature between January and July is only 21 degrees, and the average difference between the warmest hour of the day and the coolest hour of the night is but 13 degrees. While there is sufficient fluctuation in temperature from day to day to avoid monotony, extreme and sudden changes seldom occur. Warm weather is modified by breezes from mountain or ocean, so the weather is generally quite comfortable. The Willamette Valley has the same annual rainfall as central Indiana and other midwestern areas. Over practically the entire state the heaviest rainfall occurs during the winter. West of the Cascades, the winters are mild enough to permit considerable growth of winter vegetables and pasture.

Oregon's natural resources are and will continue to be the basis for large industrial development. There is enough virgin timber now standing in the state to rebuild and put a fence around every home in the United States. In addition, there are eight million acres of growing forest. Cheap power is available in almost unlimited amounts: 1,300,000 kilowatts are now being generated from the Columbia River and 13,000,000 kilowatts are planned for full development. This gives a basis for such cheap electric power that it is encouraging the widest possible use on the farms of the state, as well as attracting many large industries from over the nation. The state's rivers and the adjoining ocean furnish about 60,000,000 pounds of fish annually. There is also a large diversity of minerals available in varying amounts.

The soil, from which springs the products of agriculture, is the foundation for Oregon's immense and varied agricultural production. A survey made by Oregon State College shows that horticultural crops rank first, furnishing 28 percent of the state's annual farm income; farm crops produce 24 percent; livestock 23 percent; dairy 15 percent; and eggs and poultry 10 percent. This even distribution makes for a stable as well as a prosperous agriculture.

On the basis of total cash income for the state, potatoes rank first among the horticultural crops. Potato yields are high and quality is unsurpassed. The principal potato producing areas served by the Great Northern are in the Klamath Basin, the Deschutes area and in the Willamette Valley. Peas are one of the most important vegetable crops produced



Cross section of Oregon showing comparative elevations and approximate rainfall.

in Oregon, yielding high returns per acre. Small seed crops such as the vetches, clover, grasses and vegetables are important crops. Hops, filberts, and English walnuts are also a high income per acre crop. Hops is a most important specialty crop, producing high returns per acre. Nursery crops, including flower bulbs, greenhouse products, flower seeds and holly give specialty growers large cash incomes.

Pears are the principal tree fruit in the state with apples, cherries and prunes tying for second place and placing peaches fifth. Strawberries are the most important berry crop, bringing more cash income to the growers than all the other berries. Large amounts of boysenberries, youngberries, red raspberries, black raspberries and loganberries are also produced. Packing, canning, freezing, and other processing of these fruits offer a great many opportunities for employment.

These orchards in the shadow of Mount Hood are part of the State's important fruit industry.

Agricultural Resources

The products of Oregon agriculture are the state's greatest natural resource. Farm crops marketed from the state's 62,000 farms containing 18 million acres returned farmers 220 million dollars in a recent year. One-half of this income was from cash crops and one-half from animal products. Hay and grain yielded 14 percent of this income, potatoes and truck crops 8 percent, tree fruits and nuts 8 percent, forage seeds 5 percent, and small fruits, special horticultural crops, specialty crops and farm timber furnished 15 percent of the total farm income.

Dairy products returned Oregon farmers over 40 million dollars annually in recent years, cattle and calves over 31 million dollars, hogs over 14 million, turkeys 11 million, and sheep for meat 7½ million. Thus we see why over half of the state's 1,049,176 acres of irrigated lands are in pasture, and realize the excellent returns being received from livestock operations.

Oregon soil, climate and water resources form an outstanding combination for profitable production of a great many specialty crops. During a recent year seed crops sold by farmers brought 12½ million dollars, hops returned 9 million dollars, pota-

Thousands of acres of virgin Douglas fir grow in the area west of the Cascades.

toes 9 million, pears 7 2/3 million, filberts over 3 million and special horticultural crops such as nursery and bulb stock over 3 million dollars. Crops returning over 2 million dollars each, the same year, were: Apples, prunes, cherries, strawberries, cane-type berries, and walnuts. Many other crops were in the high income group such as cranberries, peas, flax, fur, grapes, holly, mohair, peaches, and peppermint.

By judicious choice most of these crops and a host of others form a basis for additional profitable farming ventures in Oregon in future years.

Other Natural Resources

As always natural resources are the basis for all large industrial development. Progressive Oregonians have been quick to take advantage of the wealth of opportunities afforded by the state's tremendous resources. Oregon's many fine cities and towns are the direct result of an ideal combination of labor and management uniting to utilize the abundance of these resources.

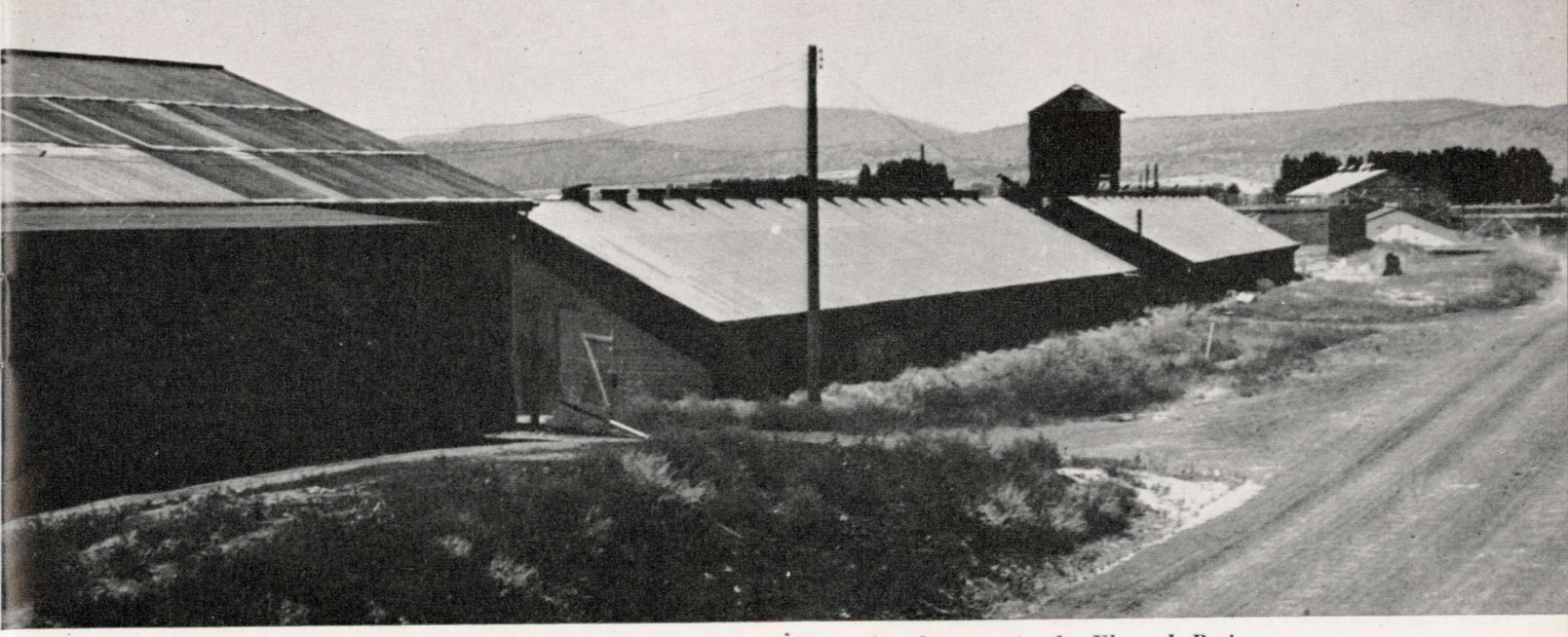
Timber Resources

Oregon has the nation's largest stand of virgin timber and is the largest lumber producing state. Douglas fir predominates in the area west of the Cascades and Ponderosa pine on the eastern side. The fir is tributary to Portland and Willamette Valley cities while the pine is processed in the Dalles, Redmond, Bend, Prineville, and Klamath Falls.

Opportunities for both small and large processing plants as well as additional employment are excellent in utilization of the tremendous amounts of wood wastes resulting from Oregon's lumber production. The most promising possibilities for using this waste are in pulp, paper, paper bags, building board, corrugated cardboard, charcoal, wood tar, wood alcohol, protein stock feeds, yeast, plastics, chemicals, ash-free fuels, pharmaceuticals, insulat-

Left: Lumber manufacturing, wood waste utilization and new and improved treatments and uses of wood make the future of the vast Douglas fir areas most important.

Below: These logs are waiting for processing in one of the State's many modern plants.



Extensive trackside potato storages at Malin help service this crop in the Klamath Basin.

ing materials, and fertilizers. Several of these are certain to become important uses in coming years. Woodworking plants are making plywood, box shook, handles, and doors and sashes. All will furnish employment for additional workers and bring added revenue to the state and the nation.

Oregon is first in standing saw-timber, first in lumber production, and first in the perpetuation of the state's forest resources. The immense amounts of lumber produced during the war amounted to only 2 percent of the state's mature supply.

Tree farms and reforestation are perpetuating the lumber supply. All government timber and many of the larger timber companies are on the sustained yield basis, cutting only as fast as the timber grows. At present there are 8 million acres of growing forest still too small for saw-timber. Various government agencies have estimated the unreserved saw-timber volume for Oregon in millions of board feet, as follows:

Douglas Fir Region	Douglas Fir	Western Red Cedar	Spruce Hemlock Balsam Firs	Other Conifers	Hard Wood	Total
	210,891.9	3,307.7	35,533.9	14,475.4	2,388.2	266,597.1
Ponderosa Pine Region	**Pines Except Lodge Pole**	**Douglas Fir and Western Larch**	**Pulp Species**	**Cedar**	**Lodge Pole Pine**	**Total**
	56,419.0	10,748.1	8,528.1	224.1	626.2	76,545.5
Total	267,310.9	14,055.8	44,062.0	14,699.5	3,014.4	343,142.6

Considering these figures, it is quite evident that there are immense opportunities for development of the lumber industry and the utilization of by-products of Oregon timber. The remanufacturing of lumber into finished wood products is an important industry and one that will be more fully developed.

Mineral Resources

Oregon produced $12,300,000 of minerals including coal, oil, and gas in a recent year. Some of the many minerals available in commercial amounts in Oregon are as follows: Asbestos, Barite, Bauxite, Bentonite, Chromium, Coal, Diatomite, Gold, Iron, Limestone, Manganese, Mercury, Molydbenum, Nickel, Platinum, Pumice, Salines, Silica, Silver and Zircon.

An ore called Laterite found in northwestern Oregon is being processed in Washington and Columbia counties. This ore contains iron and aluminum and small amounts of titanium. The waste material of the process yields a large amount of lime which is suitable for cement. These and many other developments offer challenges to industrialists and will provide considerable amounts of labor.

Great Northern Geological Development Agents are available to give detailed information on the location of these minerals to all who are interested in mining or processing the minerals located in Great Northern territory.

Electric Power Resources

The rivers of Oregon are the source of an almost unlimited amount of electric power. The Bonneville Dam on the Columbia River has a full generator capacity of 590,000 kilowatts. Power from this plant is distributed by the Bonneville Power Administration which sells it to various municipal and cooperative organizations as well as to private companies.

Both certified and table stock produced under proper irrigation make tremendous yields of high quality potatoes.

This luxurious home garden contains many types of vegetables which help to balance the diet that makes for a low cost of living.

Connected to the power from Bonneville is that from Grand Coulee in Washington. Electric companies serving Portland and the other cities of the state quote very attractive rates for large blocks of power. Ariel Dam, of the Northwestern Electric Company, the River Mill Dam of the Portland General Electric Company, as well as the Portland General Electric Company's steam plant all serve to add up to a 4 million kilowatt pool of available electrical power from federal, private, and municipal facilities in the Northwest. Plans are now afoot which will still further greatly enlarge these power facilities by additional dams and power plants. This tremendous amount of power at exceedingly low rates already has brought industries and is proving very attractive to a great many other industries considering moving to the Northwest.

Farming in Oregon is highly electrified with 49,400 out of 62,000 Oregon farms being served by electricity. In the intensively farmed areas such as the Willamette Valley, at least 90 percent of the farms make substantial use of electricity in their operations. Thus, dairymen have their milkers, separators, sterilizers and refrigerators all run by electricity, in addition to irrigating their pastures with electric pumps. Poultrymen use electric lights to get the highest possible production from their hens and for heat in the automatically controlled brooders. Feed, ensilage, hay and other farm crops are processed by electricity, and it is no longer necessary to do farm chores in the dark.

Fishing Industry

People outside of Oregon little realize the tremendous amount of fish taken from Oregon rivers. The annual catch includes as high as 11 million pounds of Royal Chinook salmon; 1⅔ million pounds of steel-head salmon; 23 million pounds of Tuna; 5 million pounds of Silversides, a type of mullet; and several million pounds of other fish, including smelts, sturgeon, striped bass, and shad. In addition to this tremendous catch, the ocean fisherman doubles the haul by adding millions of pounds more brought in from the Pacific. Astoria is the leading fish receiving and processing center. The processing and canning of these fish is a big industry in itself and such by-products as Vitamin A concentrate are now being shipped in tank carloads. Excellent fishing streams are within a short drive of practically every farm in Oregon.

Fuels

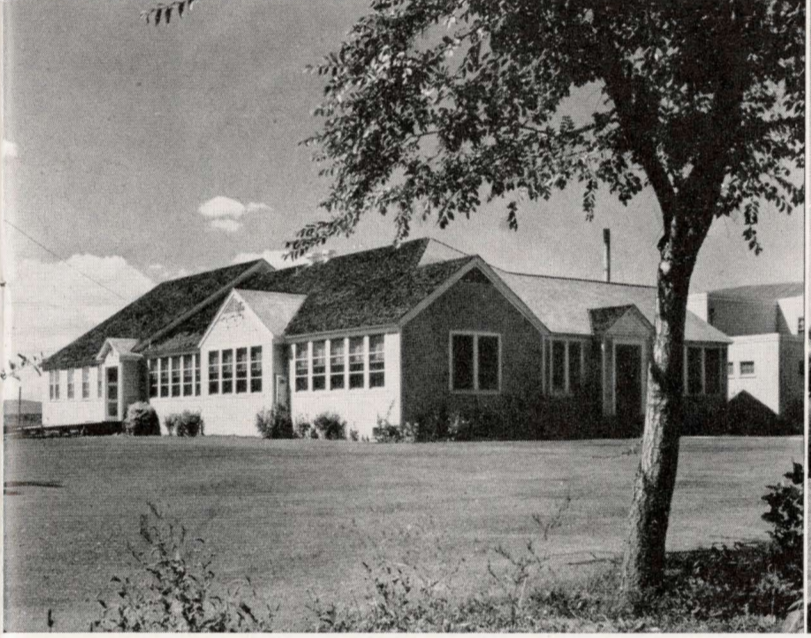
The principal fuel in Oregon is, of course, wood. As a result very little fuel cost is necessary for farms in much of the state. Industries and homes in larger cities are supplied by gas made from petroleum. Fuel oils and Diesel oil are brought in by rail and ocean-going tankers. Coal is supplied from a large modern mine at Coos Bay, as well as from a number of mines just outside the borders of the state.

Transportation

The Great Northern Railway serves most of the important agricultural areas of Oregon with adequate, rapid transportation to the primary markets of the state and the entire West Coast. Our Great Northern transcontinental service assures equal access to midwestern and eastern markets as well. Subsidiaries of the Great Northern include the Spo-

Modern farmsteads with electricity for power and light makes for efficiency and pleasure.

This ideal farm home through thrift and capable management is definitely within your reach.



Oregon's two thousand grade and high schools are readily accessible.

Modern educational facilities such as this fine school are important considerations in choosing your Oregon farm.

kane, Portland and Seattle Railway from Portland to Astoria and Spokane; the Oregon Trunk Railway from Bend to Wishram; and the Oregon Electric Railway through the Willamette Valley from Portland to Eugene. All provide through service as though a part of the parent system.

The Oregon highway system covers 52,738 miles of which over 7,000 miles are all-weather state highways, amply serving motorists traveling the state.

Ports

The principal port in Oregon is Portland. Even though it is over 100 miles inland, indications are that it will be served by a total of 43 steamship lines, handling ocean-borne cargo. There are a number of other important seaports including Astoria, St. Helens, The Dalles, and Coos Bay. Portland has space for 18 vessels at its municipal docks and trackage for 1,000 freight cars adjoining, plus docks for 15 more ocean-going vessels. There are also large storage facilities for minerals, liquids, grain, and canned products. Thus, Portland will continue to be the focal point of inland and ocean navigation on the Columbia and its tributaries.

Educational Facilities

The best of educational institutions are available to boys and girls raised in Oregon. The state has over 2,000 grade and high schools, of which 256 are standard high schools and the balance are rural and small town schools. This system provides school services readily accessible to farms throughout the state. School buses have added to the convenience. Consolidation has broadened the scope and strengthened the teaching service.

Oregon State College at Corvallis is a leading agricultural institution of higher learning. It is well staffed and equipped with everything necessary to carry on instruction and research. The campus and adjoining area includes 1,156 acres, and 10 branch experiment stations conduct research in crop and livestock problems on an additional 22,626 acres. The Extension Service at Oregon State College in cooperation with the Bureau of Agricultural Economics of the United States Department of Agriculture and their county agents stationed in each county work with the college authorities and pass on to the farmers of the state the latest, most up-to-date information on improvements in crops and farming methods. Farmers are encouraged to visit the county agents and college representatives to get all the information necessary to make their farming venture a success.

The University of Oregon is at Eugene with the University of Oregon Medicial School and the University of Oregon Dental School are both located in Portland. All are separate institutions supervised by a Board of Higher Education. These are also a number of excellent smaller universities, such as the State Normal Schools, Willamette University, Pacific University, Pacific College, Linnfield College, Reed College, Portland University, and Lewis & Clark College scattered throughout the state and affording the best in higher education.

Recreational Opportunities

Oregon abounds with a myriad of recreational opportunities. Countless lakes and streams as well as the Pacific Ocean offer fishing sufficient for all sportsmen. Beaches and resorts beg for bathers. Mountains and forests contain both big and small game in great numbers. Opportunities for winter sports on the mountain sides equal those found anywhere. Vacationists in Oregon forget their work and care and revel in the wealth of sun and fun.

Agricultural Sections

For detailed description, we have divided the principal agricultural sections of Oregon served by the Great Northern and its subsidiaries into four distinctive areas. These are:

1. Klamath Basin.
2. Central Oregon.
3. Willamette Valley.
4. Lower Columbia Valley.

The small map in the center of this booklet shows the approximate outlines of these four areas.

Klamath Basin

THE Klamath Basin is located in the southern part of central Oregon, about 100 miles from the Coast. It lies along the eastern slope of the Cascade range and extends into northern California. The general area includes Klamath and Lake counties in Oregon and parts of Modoc and Siskiyou counties in California. The general area is outlined on the small map in the center of this booklet.

1,000,000 Acre Feet of Water

The Klamath Basin is well known for its 300,000 acres of irrigable land, of which over 170,000 acres is contained in the Klamath Project of the U. S. Bureau of Reclamation. More than a million acre feet of water are available in the normal annual run-off which is held in lakes and reservoirs for use in irrigation. This supply is so much in excess of the amount required that there is no likelihood of any shortage of water. The elevation is about 4,100 feet above sea level and rainfall varies from 10 to 12 inches annually, of which about 3½ inches comes during the growing season. Irrigation provides an adequate and stable supply of water to secure the full productivity of the fertile valley lands. While the maximum summer temperature occasionally reaches 105 degrees, the summers are comparatively cool. Frosts occur as late as June and as early as September. Winter temperatures however seldom drop below 25 degrees.

Principal Crops

There is a larger acreage of alfalfa in the Basin than of any other single crop. There are also large acreages of pastures, potatoes, barley and oats.

Klamath Irrigation Project is the foundation for a thriving livestock and feeding industry.

Irrigation in the Klamath Basin offers many opportunities for development of diversified farming.

Taken in the order of their importance for market value, potatoes rank first; followed by cattle and calves; sheep, lambs and wool; hay; alsike clover; and milk production. These principal farm crops make up 75 percent of the total income produced in the area. A large number of other products make up the remaining 25 percent. These include hogs, wheat, turkeys, rye, bentgrass seed, oats, fur and game, horses, greehouse products, truck crops, Kentucky bluegrass seed, red clover seed, sugar beets for seed, common alfalfa seed, honey, Grimm alfalfa seed, strawberry clover seed, farm forest products, sweet clover seed, Dutch white clover seed, flaxseed, Ladino clover seed, mules, crested wheat grass seed, timothy seed, Ladak alfalfa seed, smooth brome grass seed, Lemon's alkali grass seed, Austrian winter pea seed, corn, and cut flowers. Such wide diversification of cash crops gives every farmer an opportunity to grow the ones he understands and feels will bring the highest net returns.

Irrigation Projects

The Klamath Project when completed will include 170,000 acres. This project is divided into the Main Division containing 41,000 acres; the Tule Lake Division of 33,000 acres; and the Modoc Division, 30,000 acres. There are also several smaller districts totaling 16,600 acres; plus the Horsefly Irrigation District, 8,000 acres; Langell Valley District, 14,400 acres; and the Lower Klamath Lake Drainage District, 27,000 acres.

Under the Tule Lake Division, there is a considerable amount of public land which will be available when irrigation is completed, to those who can meet the various governmental requirements. Lands in the other divisions are under private ownership so the lands may be purchased outright. The cost of these lands depends upon the type of soil, location, amount of improvements, and the payments already made on irrigation construction charges.

Completion of a modern up-to-date sales yard at Klamath Falls has opened a ready market to livestock producers. Cattle, sheep, and hogs raised in the area or brought in from surrounding ranges and fattened on grain raised in the Valley are a major source of income to farmers in the Klamath Basin.

North of Klamath Falls near Fort Klamath is a natural pasture area where thousands of head of high quality beef cattle are fattened on grass each year. This area is mostly bluegrass-clover pasture traversed by many streams of clear, cool, mountain water. These pastures can carry one steer per acre for five months and put on a gain of around 300 pounds. A large number of cattle pastured in the Klamath Falls area are shipped to California for the winter and returned for summer pasture.

Potatoes yield profusely under irrigation in the rich lake bottom soils of the Klamath Basin.

The border-dike method of irrigation is used successfully to secure maximum production for small grains and hay.

Potatoes Rank First

Commercial potatoes were first shipped from the Klamath Basin in 1922 when only a few carloads left this section. The normal shipment from the Klamath Basin yearly is now between 10,000 and 12,000 carloads, produced by 600 to 700 growers on irrigated land. While many of the smaller growers have only 4 or 5 acres of potatoes, the majority have from 100 to 300 acres. All the large growers have storage facilities and do their own sorting, grading, and sacking. There are a great many commercial potato warehouses along the railroad right-of-way. In fact, it looks like the surrounding area must produce nothing but potatoes. The principal variety is the Netted Gem or Russet Burbank raised for the winter markets. Probably 90 percent of the Klamath commercial potato crop goes to California markets which are anxious to receive them.

Modern machinery makes land leveling in small units economical.

The yields from the Klamath area are high, and quality is unsurpassed. Shape, size, smoothness and skin netting are excellent and the starch value is high.

The latest and most modern equipment is used on potato production, including mechanical planters, diggers, and graders. Potatoes are irrigated generally around July 1 and throughout the season as water is needed. About 4,000 acres of the 25,000 acres of potatoes in the basin ordinarily raise certified seed which brings premium prices.

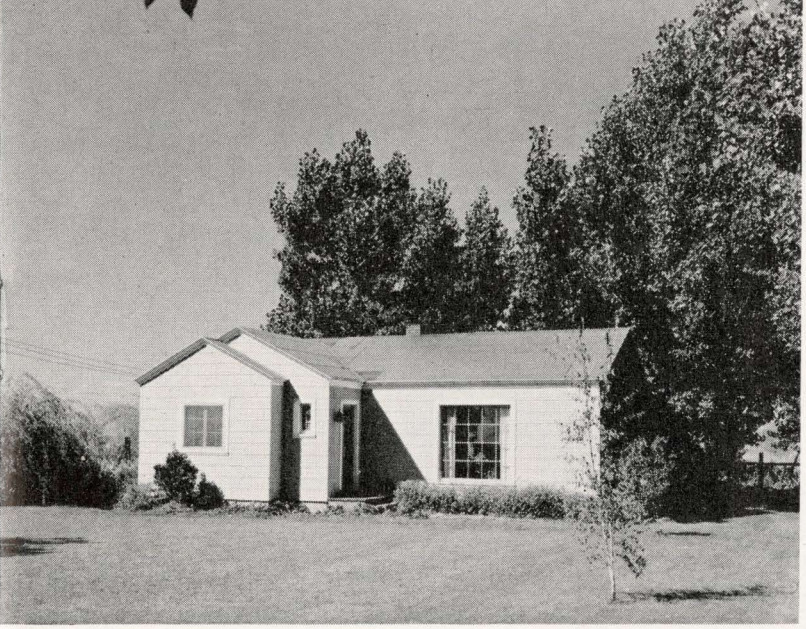
Potato yields in the highly fertile soil reclaimed from the lake bed averaged in a recent five year period, 342, 312, 420, 360 and 357 bushels per acre. This average, of course, means that the better growers had far larger yields. Most of the growers harvested as high as 90 percent #1 potatoes.

Barley Yields High

Another important crop that ranks as a specialty crop is malting barley. Extraordinarily high yields of premium priced barley are grown under irrigation. Demand for malting due to its special qualities gives this crop a special standing and stable price and market. Yields from wheat and oats are also large, wheat running as high as 60 bushels and oats 100 bushels and more per acre. Many other high income, high producing crops are gradually coming into the Basin. Among them are onions, table beets, sugar beet seed, alsike clover seed and a large number of other grass and legume seeds.

Shipping Points

Klamath Falls, the largest city in the Basin, has a population of approximately 25,000. Smaller towns



Compact and inexpensive, yet modern and beautiful homes make farming a genuine pleasure.

Malting barley bring a premium and produces exceedingly high yields in the Klamath Basin.

on the Oregon side are Merrill, Malin and Bonanza, with Tule Lake, California, just over the line. There are 23 grade schools and 6 high schools on the project. There are ample east and west, north and south highways. Rail transportation is provided by the Great Northern which traverses the entire Klamath Basin, providing transportation north, south and east.

Recreation

The principal recreational area is nearby Crater Lake National Park, along with a large number of other attractive lakes within a few hours drive.

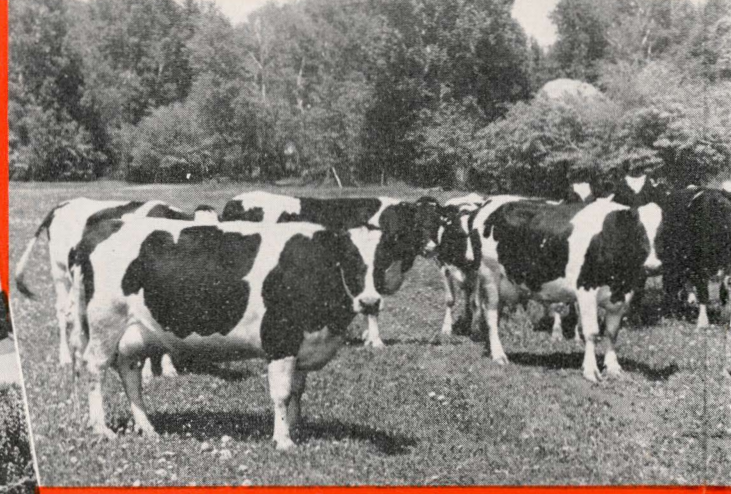
Tule Lake and Lower Klamath Lake are feeding grounds in the fall and winter for immense numbers of ducks and geese. Many deer are to be found in nearby mountains.

Detailed Information

The Superintendent of the Klamath Project of the Bureau of Reclamation located at Klamath Falls, Oregon, can furnish details concerning availability of lands for settlement. A visit to the Klamath Basin will show clearly the many opportunities for profitable farming, employment, and small business.

Onions and other vegetable crops are bringing high returns per acre to Klamath growers.

Clover is one of the highly important small seed crops and, in addition, affords excellent pasture for livestock.



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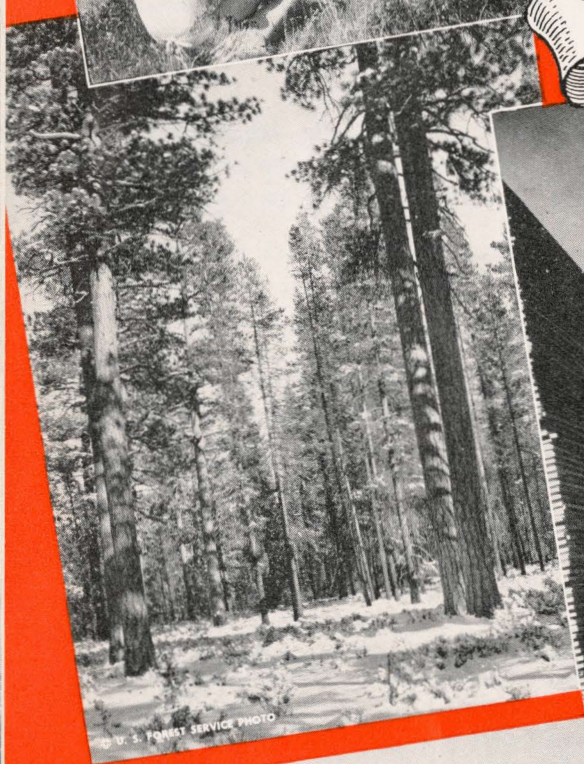
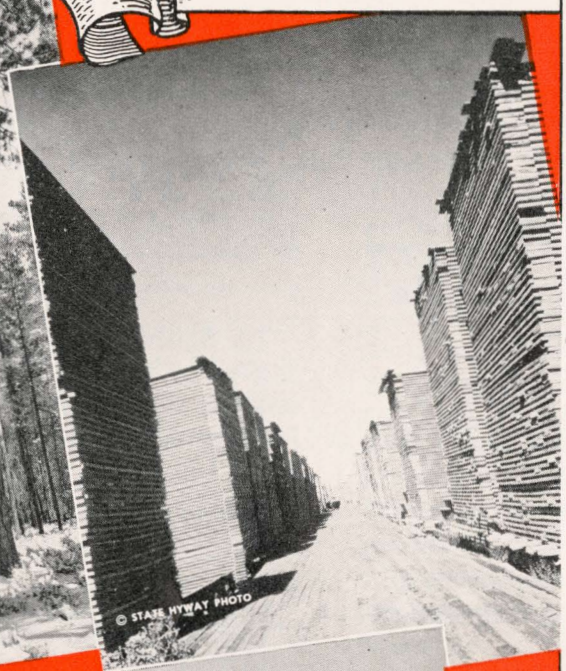


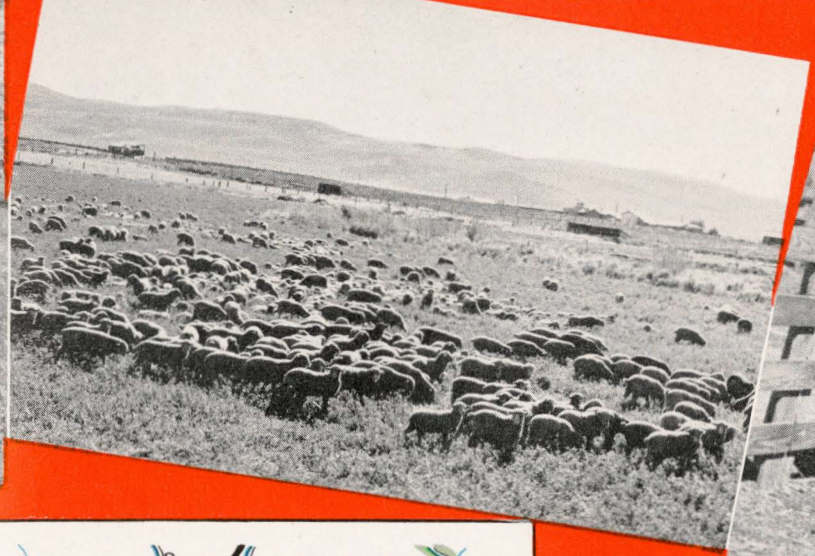


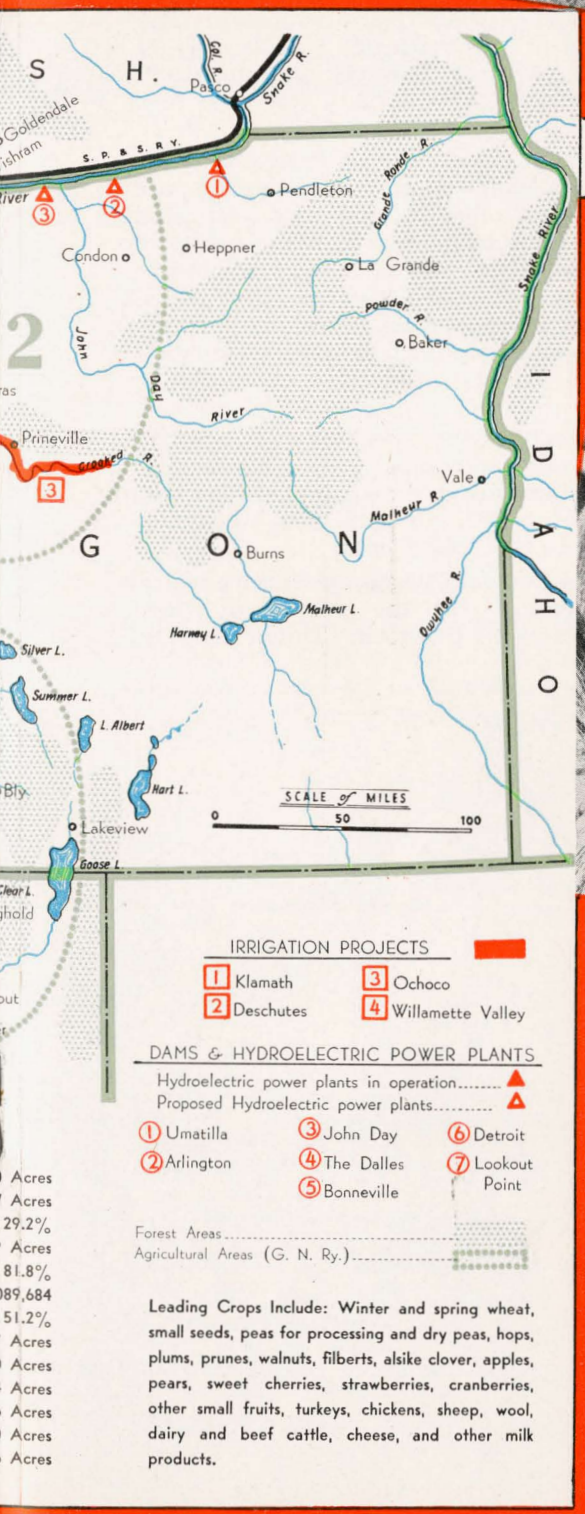
AGRICULTURAL OREGON

Total Land Area	61,664,000
Total Farm Area	17,988,307
Percent Land In Farms	
Average Farm Size	290.9
Percent Farms owner operated	
State Population (1940 census)	1,0
Percent Population Rural	
Total Range Land	19,802,027
Total Forest or Woodland	28,100,000
Total Indian Lands	1,736,794
Total Irrigated Lands	1,049,176
Additional Irrigable Lands	1,760,000
Average Irrigated Farm Size	86

DEPARTMENT OF AGRICULTURA

GREAT NORTH





Acres
Acres
29.2%
Acres
81.8%
089,684
51.2%
Acres
Acres
Acres
Acres
Acres

Leading Crops Include: Winter and spring wheat, small seeds, peas for processing and dry peas, hops, plums, prunes, walnuts, filberts, alsike clover, apples, pears, sweet cherries, strawberries, cranberries, other small fruits, turkeys, chickens, sheep, wool, dairy and beef cattle, cheese, and other milk products.

OPPORTUNITIES

L AND MINERAL DEVELOPMENT

ERN RAILWAY

Central Oregon

THE area comprising Central Oregon is in general the same as the Deschutes river valley extending from The Dalles where the Deschutes river flows into the Columbia south of Chemult. It includes the counties of Wasco, Sherman, Gilliam, Morrow, Jefferson, Wheeler, Deschutes and Crook. The principal cities in the Valley area are Madras, Redmond, Prineville and Bend, and in the wheat area at the eastern edge, Moro, Shaniko, Condon and Heppner.

While the valley lands are well developed in several major irrigation projects, probably only about 10 percent of the land in Crook and Deschutes counties is being farmed, and of this possibly only one-third is what might be called improved. The soil is a volcanic ash loam, which is especially adapted to the production of legumes and root crops under irrigation.

This immense area lying just east of the Cascades in the north half of the state varies greatly in elevation. The upper part of the Deschutes Valley ranges in elevation from 2,000 to 3,600 feet above sea level. The annual rainfall is around 10 to 13 inches. The summers are short with from 110 to 130 days of growing season. Winters, however, are open and mild with snow staying only a very few days at a time.

Farmers of the Central Oregon irrigated lands are probably as a whole more successful than are the farmers of most other intermountain irrigated districts. This is due to the fact that a majority of the crops produced here are of a less competitive nature than those produced elsewhere. The principal cash crops are potatoes, small seeds, and turkeys; the principal major agricultural industry is dairying, which is certain to see considerable expansion in coming years.

For the experienced farmer seeking a change, this area offers a wonderful opportunity. Land, both undeveloped and improved, is available at moderate prices depending upon the distance from towns and upon the amount of improvements.

A large part of Central Oregon agriculture is predominantly concerned with the growing of wheat and production of range livestock. The growth and

An irrigated potato field on the Klamath Irrigation Project.

The climate in central Oregon is ideal for poultry production.

Turkey production has become an important industry for central Oregon. Many growers raise from 5,000 to 10,000 birds each year.

expansion of the area as a whole has improved steadily due to the increasing establishment of irrigation which brought a more diversified and stable system of farming. Livestock which is ranged in the mountains and surrounding hills is fattened on the feed and hay produced in the irrigated valleys. Coupled with this in the future will be the high returns from the many specialized cash crops, making what would seem to be an ideal combination for future development and expansion.

Deschutes Project

The North Unit of the Deschutes Project, lies north of the Crooked River, east of the Deschutes and south and east of Madras, towards Prineville. It contains about 50,000 acres which will start receiving water in 1946 and come fully under water in 1948. Class I and II land has in the past been largely devoted to raising dry land wheat with summer fallow. This land has been appraised at from $20 to $23 per acre plus improvements. Water cost, including construction, operation, and maintenance costs should not exceed $4.00 per acre per year. Under irrigation, lands in the project are expected to be devoted principally to producing potatoes, vegetable seeds, clover, alfalfa, and other small seeds, as well as irrigated pastures, dairy products, poultry and small farm sheep flocks. All these have proven highly successful on older established irrigation projects around Redmond and Bend. Much of this pasture and grain feed will be used to fatten the livestock produced on surrounding mountain ranges.

Ochoco-Crooked River Project

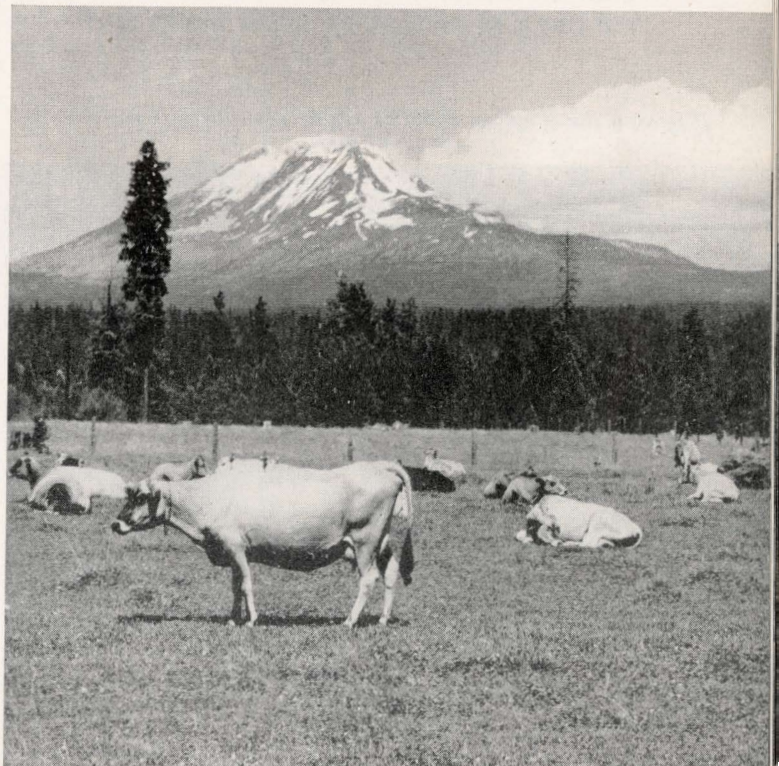
The Ochoco Project at Prineville, east of Redmond, was originally laid out to irrigate some 20,000 acres; however, the annual storage water has not proven sufficient to irrigate that many acres, and approximately half of the original acreage is now intensively cultivated under irrigation. The Bureau of Reclamation has completed a report for additional storage on the Crooked River and its tributaries, and is on the Bureau's program for immediate development.

The storage of these flood waters on the Crooked River will be used first to irrigate the Ochoco lands not now having water, giving a total of new lands to be watered approximating 40,000 acres.

This is all good productive land suitable for seed crops, potatoes, barley, and other crops used in rotation on irrigable lands. There will also be considerable forage raised which can be used to fatten the thousands of head of range livestock now shipped out of that area for fattening.

Farmers have started production of hops on the Ochoco Project, which are proving very successful, giving good yields of excellent quality, with less trouble from pests and diseases than in many other sections.

Dairying is the most profitable means of marketing central Oregon's extensive pasture and hay crops.



Large numbers of sheep and cattle find excellent grazing in the area's numerous mountain valley pastures.

Small Seeds

This is also an outstanding area for the production of small seeds, particularly alsike clover seed. Alsike growers of the region consistently produce from 7 to 10 bushels of seed per acre which is of exceptionally pure quality and splendid color. Consequently, it sells at a premium. The yield in small seeds is about four times the average for the United States. The high quality and the favorable combination of conditions have caused small seeds to become one of the major cash crops in Central Oregon.

Next to alsike seed, the greatest production is probably winter field peas which are sold to southern cotton growers to use in soil building. Production of Austrian winter pea seed has expanded phenomenally in recent years and since it is an annual legume, the acreage can be controlled to meet the demand.

Turkey production is rapidly becoming one of the principal enterprises along with commercial turkey egg production. Both cooperative and private marketing outlets assure full returns to the growers.

Clearing the Wickiup Dam Reservoir site means logs, lumber and fuel.

Potatoes Profitable

Due to the type of soil in the Deschutes area, potatoes produced a very high percentage of U. S. Grade No. 1 seed. A good grower year after year should market 90 percent of his crop as No. 1 potatoes. The Netted Gem, sometimes called Russet Burbank, which moved to ready markets along the west coast, is the principal variety raised. Potato growers consistently average 25 cents per hundred premium for their commercial potatoes on account of the superior quality. A fair percentage of the seed is certified and brings a still higher premium.

Dairying Big Industry

The irrigated pastures for dairy cows and farm flocks of sheep have an advantage in that the cool summers result in steady growth throughout the hottest months. Dairy products and sheep as well as other farm products of Central Oregon have a direct route south over the Great Northern Railway, making this district closer to the California market than most of the western irrigated sections. Farm commodities also move north over the Great Northern

and SP&S to Vancouver, Portland, Longview, Tacoma, Seattle, and Spokane.

Dairy production in Central Oregon is carried on much more economically than is possible in competing regions. Availability of an abundance of alfalfa hay produced cheaply, together with the more recent emphasis on improved pastures, is tending to make dairy production a major enterprise in the region. Farmers have become fully aware of the advantages of using irrigated pastures as a means of providing low cost feed. Other advantages include a dry climate with sunshine most of the year, making the use of inexpensive buildings possible. Marketing conditions are ideal with both strong cooperatives and private concerns competing for the business.

The advantages of Central Oregon as a dairy section were strikingly proven when a survey conducted by the Oregon State College showed that the cost of producing butterfat in this area was materially less than in other parts of the state. Sound diversification has built a very stable type of agriculture which is certain to be the basis for all future development in the area. The close integration of the irrigated lands with the important range livestock areas of the adjacent regions has resulted in using the feed produced in the irrigated areas to give maximum returns in the finishing of cattle and sheep for the heavy consuming markets along the West Coast. As Oregon will always be a major livestock state, so Central Oregon is in a position to take a more profitable share of this great industry.

Success Assured

One of the agricultural authorities of Oregon State College says, "Throughout Central Oregon territory wherever there is adequate water supply, the farmers are doing very well indeed . . . hundreds of them have come into that section with no money, bought farms on a shoestring and have paid for them from the receipts from the farms and are now reasonably well-to-do. This has been brought about by low water charges, both for construction and for maintenance, and the peculiar advantages of climate and soil which allow the production of quality products."

Rushing mountain streams abound in central Oregon.

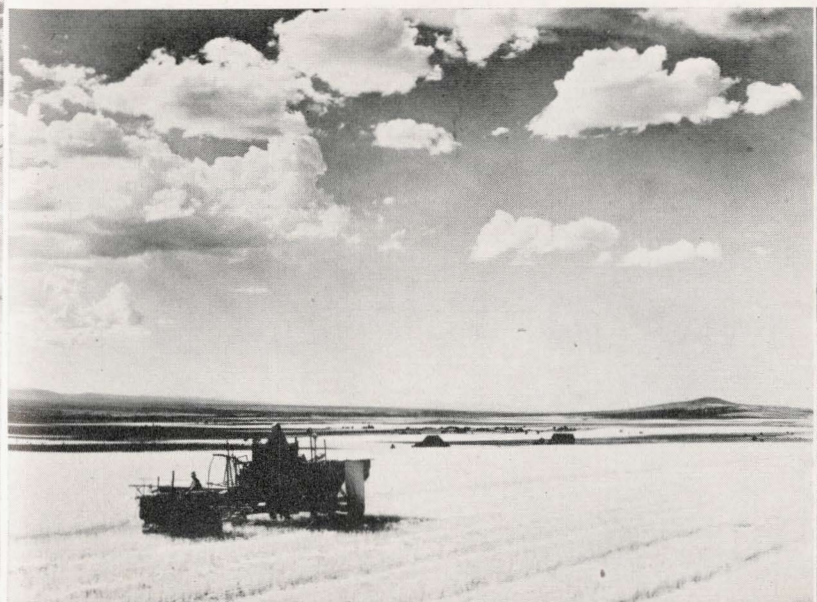
All Facilities

Modern schools are available in all of the principal towns and cities throughout the area. The area has ample paved arterial highways in all directions. The Great Northern Railway and its subsidiary, the Oregon Trunk Line, running north and south, traverse the entire area giving rapid through service to Portland, Seattle, Tacoma, Vancouver, and Spokane and to San Francisco and other California points.

Business Opportunities

With the growth of this area there will be many opportunities for new businesses and professions on the newly irrigated Deschutes Project. These include, for example, furniture stores, clothing stores, jewelry stores, bakeries, machinery supply houses, and the professions.

Fertile wheat lands in the North Unit of the Deschutes Project will soon have ample water for irrigation.



50,000 acres in the North Unit of the Deschutes Project will be under irrigation by 1948.

Willamette Valley

THIS valley through which flows the Willamette River is well known throughout the country for its extensive fertility and high productivity. From Portland, where the Willamette flows into the Columbia, the Valley extends southward about 150 miles, and is from 20 to 40 miles wide. There are 3,500 square miles of valley floor on which lives half of the state's population. The Valley is located at the northwest corner of the state between the Cascade mountains on the east and the Coast Range on the west. Numerous tributaries of the Willamette River drain the slopes and traverse small, rich valleys on the way to the Willamette and the Columbia.

Portland is the metropolis of the state and the principal Willamette Valley city. The tides affect the water level at Portland 100 miles inland from the sea. Ocean-going vessels visiting Portland have a channel 35 feet deep and 500 feet wide.

The Willamette Valley area is outlined as area "3" on the small map in the center of this booklet. In general it includes the counties of Multnomah, where Portland is located; Washington; Yamhill; Clackamas; Polk; Marion, where Salem and the State Capitol is located; Benton, with Corvallis and the State Agricultural College; Linn; and Lane, which is a large county with Eugene and the State University.

The bottom land soils are of sandy loam while the benches are silty clay loams and the hill land soils are red or brown clay loams. The growing season varies from 165 days in the higher southern parts of the valley to 263 days at Portland. The elevation varies from 422 at Eugene in the south part of the valley to 160 at Salem and 75 at Portland.

Irrigation

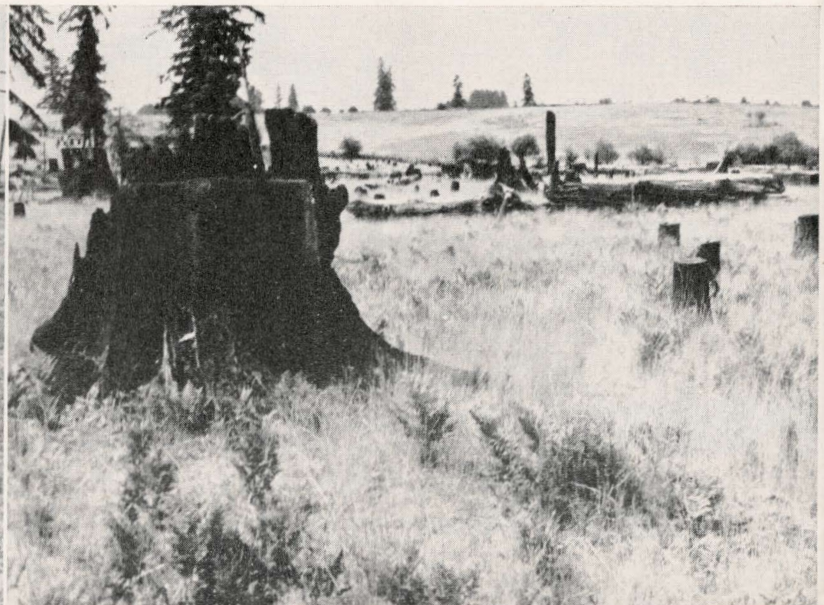
There are now over 50,000 acres of irrigated land in the valley but of this only 10,000 acres are in organized irrigation districts, the balance being watered principally by individual farm diversion and sprinkler systems. Surveys indicate that seven present and proposed dams would store sufficient water to irrigate 355,000 acres in the valley. As these plans materialize there will be added opportunities for settlers in the valley. Fernridge dam has already been built and two more have the money appropriated.

A visit to the valley and a drive along the arterial highways will show this to be a thickly settled, intensively cultivated area. These same opportunities will present themselves up and down the valley as more irrigation water becomes available in coming years.

Diversified Farms

The many types of farms that are found in the Willamette Valley range from general farms consisting of several hundred acres with clover, clover seed, vetch seed, grass seed and garden seed, grain, dairy cattle and sheep as major enterprises to the small, highly specialized berry, fruit, poultry and bulb farms.

Subterranean clover is one of the newest and most profitable of the Willamette Valley's extensive small seed and pasture crops.



Reseeding of cut-over lands in the Willamette Valley to perennial grasses makes excellent pastures.

Snap green beans and a large number of other vegetables are canned and frozen each year.

Bulbs are one of many profitable specialty crops raised in Willamette Valley.

Probably the first thing a newcomer to the valley would notice is the wide diversity of agricultural crops which go to make up the highly stable farm income. Outstanding among these are the tree fruits, principally cherries, pears, apples, prunes, and peaches, with English walnuts and filberts recently being increased considerably. There are large numbers of dairy cattle, sheep, goats, and hogs produced in the valley with poultry, both turkeys and chickens probably being the leading money makers. Hatcheries for both turkeys and chickens are important businesses.

Leading Berry Area

In recent years big incomes have been returned from extensive acreages of strawberries, raspberries, blackberries, boysenberries, youngberries, loganberries and gooseberries.

Oregon's berry industry is largely concentrated in the Willamette Valley where about 80 percent of the state's total crop is produced. Canneries and freezing plants throughout the valley have taken the major part of the crop at favorable prices for many years.

Millions of pounds of fresh strawberries are produced and processed by canning or freezing.

Top Filbert Producer

The state's newest orchard crop to become of commercial importance is the filbert. Oregon leads the nation in filbert production and is second in English walnuts. The principal filbert acreages are in Washington, Lane, Marion, Oackamas and Yamhill counties, all in the Willamette Valley, where they seem to thrive best. Plantings have increased rapidly in recent years because these nuts have proven highly profitable. Filberts bear some nuts the third year but do not come into full production until ten years old, with average yields around 1000 pounds per acre. There also are several thousand acres of English walnuts which start to bear about the fifth year and yield around 1000 pounds per acre after the tenth year. There are several packing plants for handling the walnuts and filberts, operated by both commercial and cooperative buying organizations. English walnut plantings are now mostly on a replacement basis, with the principal interest being in filberts. Large acreages of land suitable for filbert production still are available for planting.

Tree Fruits Important

Pears are the principal tree fruit with Bartletts in strong demand by canners. There are apple orchards throughout the valley, while cherry orchards of Royal Ann, Bing, and Lamberts for processing and fresh shipment have a national reputation. Oregon prunes are widely produced in the valley, being a popular breakfast and dessert fruit. While a large part of the prunes are still dried, increasingly large numbers are being canned and frozen.

Small seed crops as clover, ryegrass, hairy vetch, Willamette vetch and Austrian winter field peas are major cash crops on most of the general farms in the valley. Since these seed crops are of high quality and high value, they have become very popular with farmers in the valley.

90% of the nation's fiber flax is produced and processed in the Willamette Valley.

Hops are a dependable source of farm income.

All Counties Diversified

In Washington county the principal agricultural enterprise that brings the biggest and steadiest return to farmers is dairying. The milk is mostly shipped to Portland for immediate consumption. The vegetable seed business is increasing in the county, these seeds being produced under contract at profitable prices to the growers. Production of cannery crops, particularly peas and beans for freezing, has proved profitable in recent years. The principal cover crop seed is Willamette vetch.

Multnomah county lists as its outstanding specialty crop nursery and ornamental plants and bulbs together with small fruits such as strawberries, raspberries and vineberries. Vegetables such as cauliflower, cabbage, and potatoes bring large returns with a high percentage being sold on the local Portland market. Dairying, principally milk production to meet the local demand, has given and will continue to give excellent returns to the majority of the producers. There are many other important specialty crops in Multnomah county such as nuts, bulbs, sauerkraut and cucumber pickles.

A considerable portion of the wartime increase in population of the Portland area has become permanent in new industries and must be fed.

Yamhill county is one of the widely diversified counties of the state. The biggest percentage of the farmers' income is from such seed crops as Willamette vetch and chewing fescue. There is a large acreage of Italian prunes, English walnuts, filberts, and peaches. Yamhill county ranks seventh in the nation in prune production, leads the state in the production of walnuts and peaches, and is second in filberts. The county has over 12,000 dairy cows, principally Jersey and Guernsey. Poultry also is important, with 200,000 or more turkeys in the county.

In Linn county, field crops such as ryegrass, vetch and clovers are the leading farm crops. Dairying, beef, sheep and other livestock production rank second. There is also a tremendous income from small fruits, tree fruits, and nuts, with practically every farmer diversifying into one or more of these crops to stabilize his income. Canneries are available and cold pack plants are expanding rapidly.

In all counties milk production leads. Each county also produces large amounts of eggs, beef, turkeys, forest products, greenhouse products, truck crops, hogs, sheep, lambs, wool, chickens, oats, wheat and the small seeds mentioned above.

Oregon has a reputation for high quality pears, apples, cherries and prunes.

Fiber Flax

The Willamette Valley is about the only place in the United States where fiber flax is grown to any considerable extent, with 90 percent of the total being produced in this area. From 15,000 to 20,000 acres are grown each year and processed in 13 flax processing plants, distributed throughout the valley from near Portland, south as far as Eugene and Springfield.

The cool, moist climate of the early growing season especially adapts the Willamette Valley for fiber flax. It is planted about the first of April and harvested in July. Yields range from one to two and

All types of livestock thrive in Willamette Valley pastures.

one-half tons per acre and both seed and straw are saved.

Fiber flax is usually grown in rotation with grain, pasture and meadow. In cultivation, labor requirements, and value, it compares with such crops as oats and wheat in normal times. The fiber is high in quality and is principally used in this country for the manufacture of coarse linen fabric, hand working yarn and strong twine for such uses as shoe and harness thread, fish lines, fish nets, parachute cord and for weaving of Marine canvas and tarpaulins.

Hops

Hops are a most important crop. They are a stable and dependable source of farm revenue in normal times but of very large income during the war years. A hop vineyard once established within two or three years attains full production and continues for several years.

The annual acreage ranges from 15,000 to 18,000 acres, and the production usually ranges from 700 to 800 pounds to the acre. The largest acreages are in Marion, Polk and Clackamas counties.

Part Time Farms

Throughout the valley there are a great many part-time farmers with the operator working in the lumber mills or canneries or one of a great many other processing plants for agricultural commodities produced in the valley. Since many of these industries are seasonal, this has been a relatively satisfactory combination for many of the valley residents.

Cities and Agricultural Industries

Salem is the capital city of Oregon—a city of 30,908 population, second to Portland in size. Eugene at the south end of the valley is third in size with a population of 20,838 and is the seat of the state university.

Both of these cities and many others which dot the length and breadth of the valley, like Oregon City, Hillsboro, Yamhill, McMinnville, Woodburn, Gresham, Albany, Dallas and Corvallis, range in size from a few hundred to several thousand. These are market and industrial centers, with fruit, vegetable, seed, and other agricultural product processing, preserving and freezing plants, creameries, sawmills and woodworking plants, plywood and veneer plants, paper mills, and an endless variety of industries founded on and using the resources of the soil from the farms and forests.

Educational Facilities

Oregon State College at Corvallis is the agricultural headquarters for the state. This institution of higher learning is staffed with highly capable, specially trained men and women in teaching and research. The State University is at Eugene and there are several other colleges throughout the valley including those at Albany, Forest Grove, Salem, Newbury, Mount Angel, and Portland. High schools and grade schools are found in every city and town.

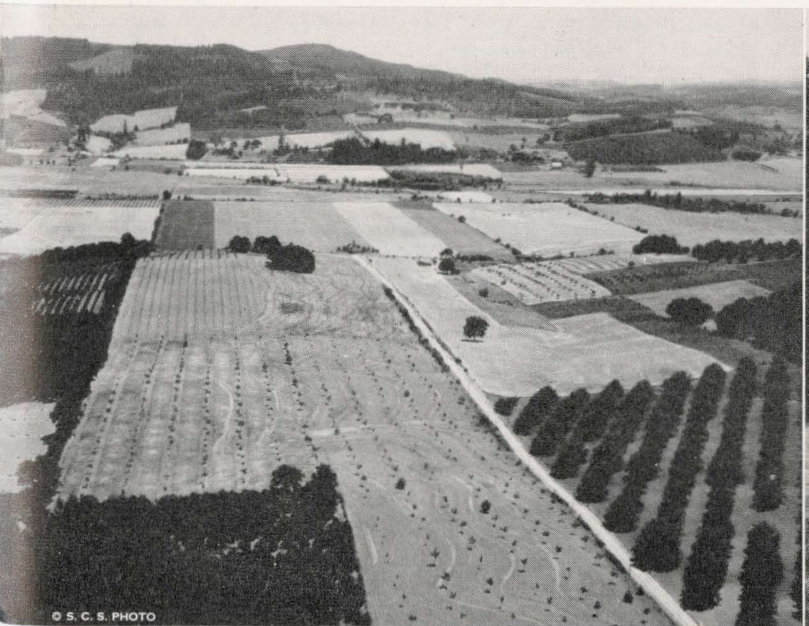
Recreation and Transportation

With the mountains on either side of the valley such recreational activities as the best of fishing and hunting are but a very short drive. Due to the nearness of the ocean, large numbers of the people of western Oregon fish and play there regularly.

The Oregon Electric Railway, a subsidiary of the Spokane, Portland and Seattle Railway and of the Great Northern system, operates throughout the Willamette Valley, with its southern terminus at Eugene. It has several branch lines serving important industries in the region of Albany and Forest Grove, and in Washington county west of Portland.

Paved and gravel roads serve the entire valley.

An aerial view of the Willamette Valley south of Portland illustrates the type of agriculture found west of the Cascades.



Good quality hay is essential in the feeding and wintering of livestock.

Lower Columbia

THE region extending from Portland 100 miles to the Pacific Coast and lying immediately south of the Columbia River is valled the Lower Columbia. It includes the two counties of Columbia and Clatsop. The area varies in elevation from sea level to peaks ranging up to 3,000 feet with the passes at about 600 to 800 feet. The rainfall varies considerably with an average of 48 inches being reported for Columbia county and 70 to 77 inches for Clatsop county. The growing season in Columbia county is 197 days and at Astoria in Clatsop county it is 273 days.

Ample rainfall coupled with cooling breezes from the Pacific in the summer and the warm balmy breezes from the South Seas current in the winter keep the grass, shrubs and forests green the year around.

Back from the fertile valleys, tide lands and diked areas, extend hills which were once covered with a dense growth of Douglas fir. This timber has been largely harvested, and where it once stood there are now thousands of acres of cut-over land, either of a plateau nature or gently sloping, which are available for farm development.

Because dairy production is cheapest on pasture lands, this is one of the lowest cost dairy production areas in the country. The long growing season coupled with the mild climate provides a long season pasture. To fill in the season when pastures are less abundant large yields of hay and forage are harvested for supplemental feeding.

Poultry and egg production have been one of the most profitable farm crops in recent years. The principal factors which make this area particularly adaptable to poultry are its mild climate and evenness of temperature with lack of extremes in summer or winter, along with an abundance of green feed both winter and summer. This ideal combination makes for high egg production per hen at a cost which is below the average.

Clatsop County

The crops in order of importance in Clatsop county are hay and forage crops, bentgrass seed, vegetable production, cranberries, and bulbs. The hay, of course, is fed to dairy and other livestock. Because of ideal moisture conditions, this is the center for raising bentgrass seed which brings high returns per acre. Vegetable production includes principally the root crops, potatoes, table beets, carrots, and peas. On the horticultural specialty crops, bulbs such as tulips, Easter lilies, daffodils and narcissus have yielded outstanding returns. This is because the soil along the river which has been diked off and

Dairying furnishes the principal farm income in the Lower Columbia area.

Cut-over and burned-over lands in the Lower Columbia area are reseeded to native grasses and furnish excellent livestock grazing.

Fresh green peas are marketed from this area over a sixty-day period each season.

Truck crops from the fertile river bottom areas bring high returns at the local processing plants.

drained by pumping is very similar to that of Holland. These diked lands, which are one of the greatest assets of the lower Columbia Valley, have been formed from silt washed down from the hills by the regular rains together with a liberal mixture of humus. Land of this type has yielded as high as 115 bushels of wheat per acre while it was being made ready for the production of flower bulbs.

Dairy cattle are the most important livestock in both numbers and income. Beef cattle are next in importance in livestock, sheep are third and hogs fourth. Cattle and sheep numbers are on the increase with the increased development of cut-over lands. Hog production centers around the town areas where garbage is available.

Poultry production ranks second to dairy cattle in income. Mink raising also has a place in the county's economy.

No story of agriculture in Clatsop county would be complete without mention of the cranberry bogs where yields of cranberries have run as high as 750 bushels per acre. Cranberries require a high initial investment and three to five years to come into production. Oregon cranberries have easily made their way into the national markets because of their large size, good color, and high quality.

At Astoria, with its population of over 10,000, the principal industries are salmon packing, lumbering and manufacturing of dairy products. In addition to salmon, crab, tuna, and deep-sea fish are processed, many of which are filleted, frozen, and some creamed and frozen ready to serve.

Columbia County

This highly productive county contains 436,882 acres of land and had a population of more than 20,000 in the 1940 census. Its principal industries are lumber manufacturing and agriculture. Fishing is also an important industry.

The principal crops raised in Columbia county are forage crops including hay, pasture, silage crops, peppermint, green peas for processing, strawberries, cucumbers, other vegetables, and filberts. There are about 3,000 acres of peppermint in the county which makes this the largest peppermint acreage of any county in the West. Altogether there are more than 5,000 acres of peppermint in the state, yielding more than 230,000 pounds of oil that furnishes menthol esters and other medical compounds. The Clatskanie and Rainier districts in Columbia County grow about half the state's acreage.

The production of dairy products is important, followed by beef, sheep, a small number of hogs and poultry, both chickens and turkeys. Dairying has proved quite profitable with large well-managed herds throughout the county. Many other crops such as pickles and sauerkraut are canned from produce raised in the delta area.

The county is also industrialized with cheese factories, creameries, shingle mills, lumber mills, paper mills, bag and handle factories, etc., being located in the cities of Clatskanie, Rainier, and St. Helens.

Logged-Off Land

Outstanding among the many opportunities in the lower Columbia area is the utilization of logged-off and burned-over lands, thousands of acres of which are still available.

A large number of specialty crops such as bulbs are being raised in the Lower Columbia.

Sprinkler irrigation in Clatsop County keeps pastures in high production the year around.

Cranberries are another high income specialty crop in the Lower Columbia.

With the advent of modern, heavy-duty equipment and improved knowledge concerning its operation, land clearing can be done at a fraction of former costs. This factor alone permits the opening up of thousands of acres for crop production that previously were not so accessible because of clearing difficulties.

This land can also be used for grazing dairy herds, beef cattle and sheep after it has been reseeded to a variety of grasses that do well in this area. As the accompanying photograph shows, it furnishes wonderful grazing.

Acknowledgments

We especially want to thank the Bureau of Reclamation who furnished many of the photographs used in this booklet. We also want to express our appreciation for photographs and information furnished us by: the U. S. Forest Service, the Oregon State Highway Commission, the Soil Conservation Service, the State Department of Agriculture, the Oregon State College Extension Service, and the Farm Credit Administration, as well as to the many individuals who were most helpful.

Logged-off or burned-over forest lands for grazing and farming purposes offer many opportunities.

Units composed of this type of land, partly cleared for crop production, and partly reseeded for grazing, assure successful diversified farming operations.

General Facilities

In all the lower Columbia Valley towns and cities there are fine educational, recreational and religious facilities. Schools are modern and well equipped.

Among the recreational facilities are hunting and fishing in the hills and on the streams; and many beautiful coastal resort towns furnish everything for vacation time or weekend trips.

Paved highways and a good system of roads serve the area and rail service is provided by the Spokane, Portland and Seattle Railway, a subsidiary of the Great Northern from Portland to Astoria and Seaside.

For Further Information

In this booklet we have given you a broad picture of Oregon agricultural opportunities. For more details on openings for enterprising veterans, farmers, industrialists, and professional men, you may write:

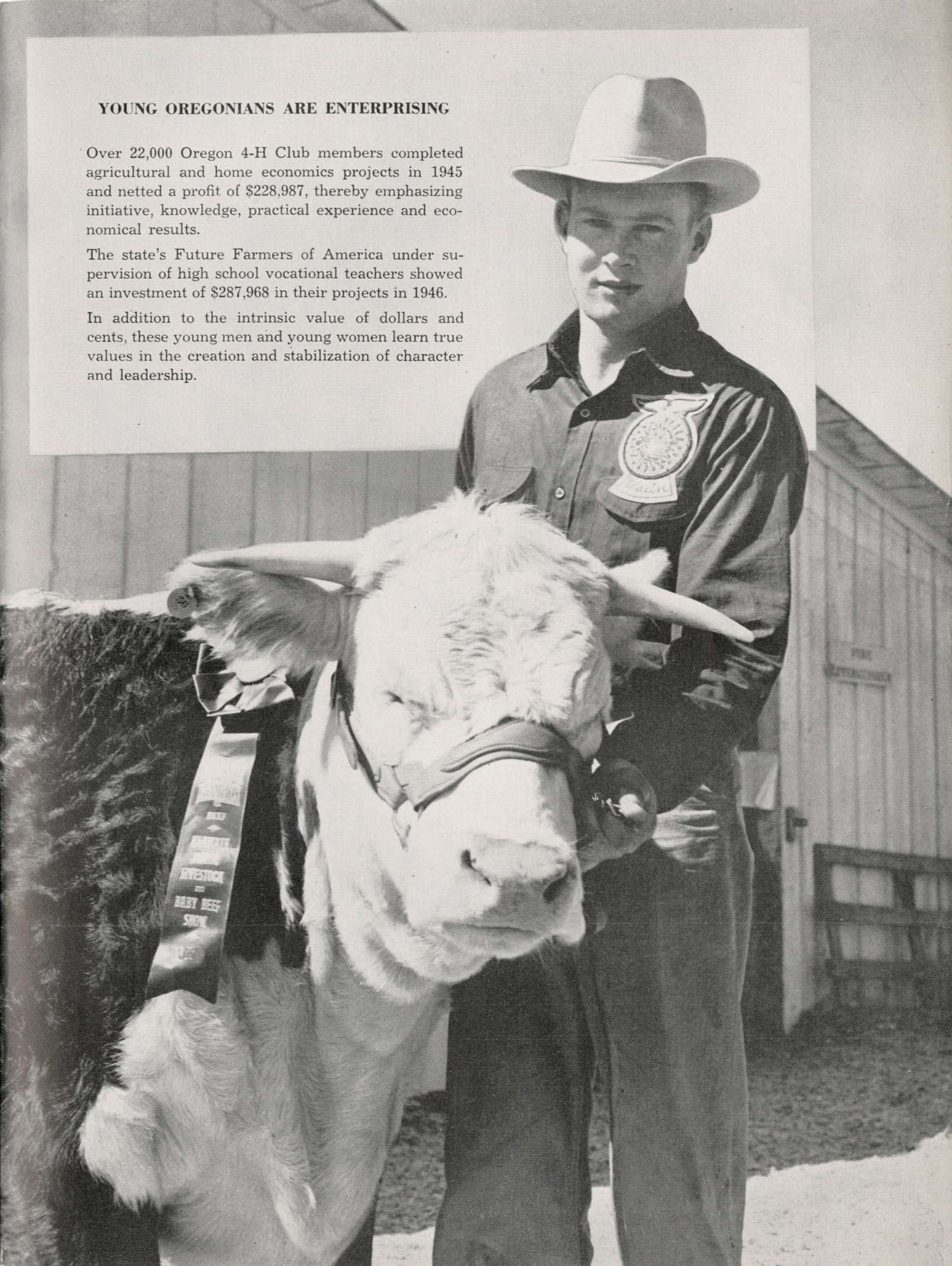
E. B. DUNCAN, *Director*
Department of Agricultural and
Mineral Development,
GREAT NORTHERN RAILWAY COMPANY
St. Paul 1, Minnesota

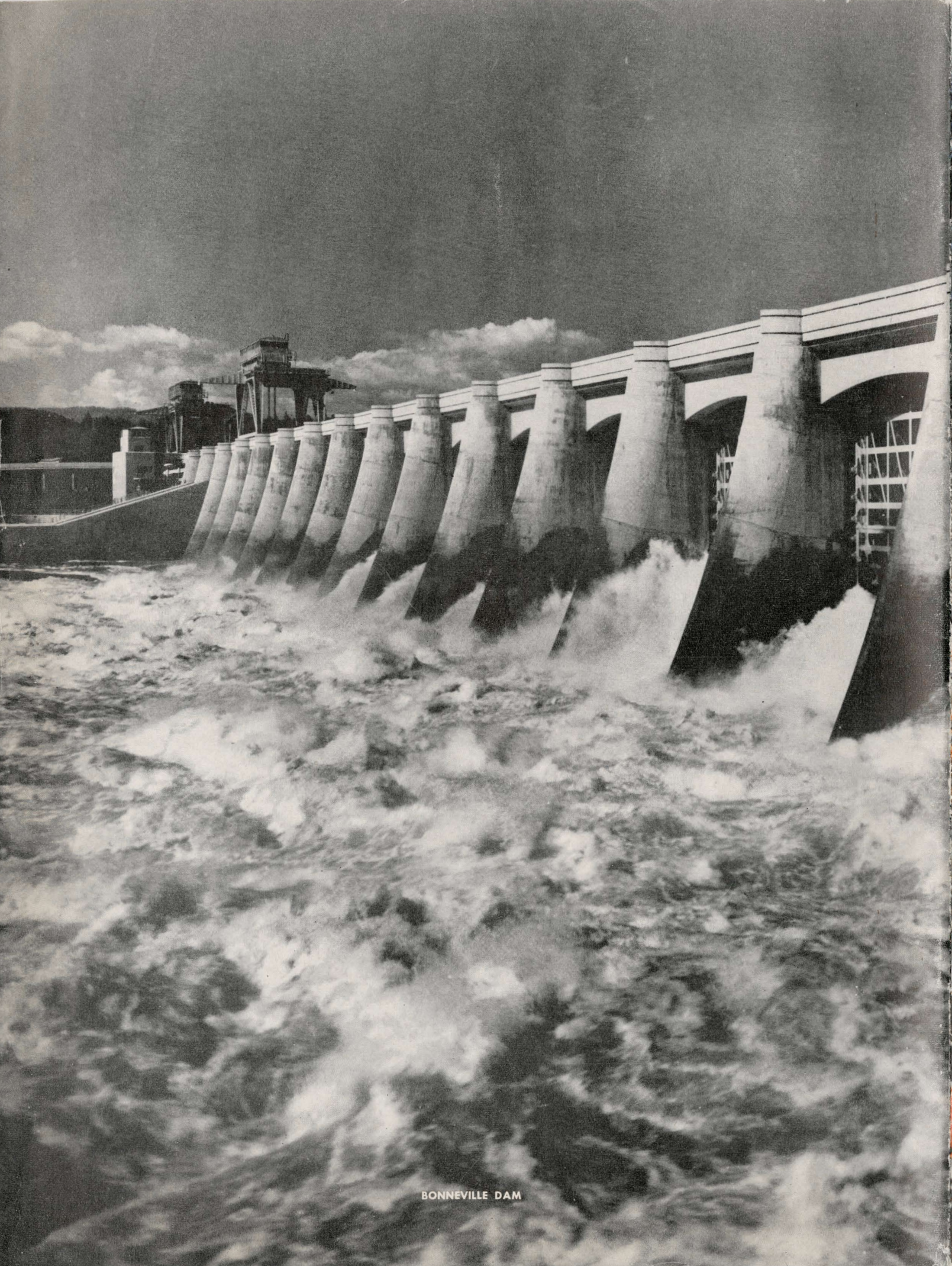
YOUNG OREGONIANS ARE ENTERPRISING

Over 22,000 Oregon 4-H Club members completed agricultural and home economics projects in 1945 and netted a profit of $228,987, thereby emphasizing initiative, knowledge, practical experience and economical results.

The state's Future Farmers of America under supervision of high school vocational teachers showed an investment of $287,968 in their projects in 1946.

In addition to the intrinsic value of dollars and cents, these young men and young women learn true values in the creation and stabilization of character and leadership.





BONNEVILLE DAM