

Reclamation of Arid Lands in Oregon Is Great Stimulus to Intensive Development

Immense Areas Reclaimed by Private Enterprises, Irrigation Districts and Government Projects. State Blessed With Abundance of Water and Rich Soil.



Alfalfa Field in Klamath County



Oats in Butte Country, Central Oregon



Cattle Thrive in Irrigated Districts



New Dam on Umatilla Project near Hermiston



Stacking Hay Umatilla Project

IRRIGATION has been the means of adding materially to Oregon's wealth. Many thousands of acres of otherwise arid and non-productive lands are now producing excellent crops through direct result of reclamation by irrigation. In Oregon, where with an abundance of water and with its hundreds of thousands of acres of semi-arid land to be reclaimed, the farmer who is unable to make a garden where there is a desert. Then, too, there are a number of districts following dry farming methods with but indifferent success. In sections where the average rainfall is from 7 to 15 inches, with excellent soil and climatic conditions, the only need to make the farmers prosperous is irrigation. Notable among these districts are the Paradise and Teal projects in Umatilla County, the first containing over 42,000 acres of which about 28,000 are now under cultivation, and the latter containing about 20,000 acres; also the Agency Flats district in Jefferson County, containing approximately 108,000 acres, with nearly 90,000 acres under cultivation. The farmers in the Paradise section have already voted an irrigation district, and as soon as they are able to sell bonds will reclaim practically all of this immense area. The Teal district has voted \$300,000 to buy water rights for the entire area, and has already secured water rights on the main river. This project will offer excellent opportunities when under water, as the general location, climatic conditions and soil are so favorable. Jefferson County farmers are now in the midst of a campaign for the formation of an irrigation district, which, if realized, will make one of the richest sections in Oregon. All three of these projects have been investigated by competent engineers who have reported favorably as to their feasibility and their irrigable water when placed under irrigation. Under dry-farming methods an average yield of wheat will run from six to 12 bushels per acre in many cases not paying for the cost of production. Government Projects Built. There are 190 Government projects in the state—the Klamath project in Klamath County, and the Umatilla project in Umatilla County. The Klamath project contains nearly

10,000 acres of which is now land developed during 1915. Under this reclamation there are about 70,000 acres of irrigable land, of which about 35,000 acres have been reclaimed by water and 35,000 acres sold. Alfalfa and potatoes are the standard crops raised, closely followed by clover, root crops and grains. The approximate value of crops raised in 1915 on this project is \$25,000, an increase of nearly \$45,000 over 1914. Dairying and hog raising are very important industries in this district.

State Project a Success.
The state Tumalo project, in Crook County, containing 22,000 acres, was completed a year ago and the lands placed on the market. This is the one instance where the state has entered directly into the reclamation of arid lands. This project cost \$40,000, being a direct appropriation by the Oregon Legislature. Little advertising has been done, and this, coupled with the fact that about 90% of the acreage in West has been very light during the past three years, has resulted in the disposal of a comparatively small acreage. However, a number of settlers have taken up land on the project and much has been done in the way of general development. About 10,000 acres are under cultivation, of which 2000 acres is new land reclaimed during the last year. The general climatic and soil conditions are very similar to those on the Central Oregon-Carey act reclamation. Alfalfa, clover and root crops are successfully raised and many farmers on the project are now engaging in dairying and hog business extensively.

The Paisley project, at Paisley, in Lake County, has been tied up on account of litigation over water rights, and development greatly retarded, but final settlement is in sight, and it is probable work will begin in the early spring. There are 12,000 acres in this project, about one-sixth of which is now being furnished with water and under cultivation. It is estimated it will cost approximately \$225,000 to complete the project. The money is available to do this work, and as soon as the legal obstacles are cleared up it will be pushed to completion.

Private Projects Make Gains.
There are a large number of private irrigation projects in the state, some of which have been very successful. Many of these, on account of the cost in financial care of small acreages, yet taken as a whole, have reclaimed many thousands of acres. The same difficulty in financing is experienced by the private enterprises, as by Carey act or other company.

Probably the largest of the private projects is the Goose Lake, in the southern part of Lake County, with 35,000 acres for about \$9,000 acres. Much of this land has been more or less successfully farmed under dry-farming methods for many years, but when water is available, the yield will be materially increased. While much grain and hay have been produced, livestock

1910.	\$1,142,500	1912.	\$3,030,800
1911.	1,712,750	1913.	2,822,250
1912.	1,768,000	1914.	2,922,250

raising is the principal industry. With water will come general diversified farming and growing of alfalfa, and the stimulation of the dairying industry. The water rights are selling for \$30 an acre, with long time for payment. The prices of land with water ranges from \$15 to \$25 an acre, and the principal project is needed in the Goose Lake Valley in order to reach broader markets.

The Wescott project is located in the southern part of Wasco County and contains over 16,000 acres, of which more than 12,000 acres are under cultivation. A good portion of this project is being farmed under dry-farming methods. The principal crops at the present time are wheat, oats and barley. It is conservatively estimated that this district produced about \$30,000 worth of grain during the last year. Much new construction is contemplated, and some of this work will be done during 1916.

The Western Land & Irrigation Company's project in Umatilla County joins the Government project and contains approximately 15,000 acres, of which 7000 acres are in cultivation. About 2000 acres of new lands were reclaimed during the past year. Alfalfa, grains and fruits are principal products, and about \$250,000 worth were produced during the last year. While water is ample for early irrigation, storage reservoirs are needed in order to take care of the late crops. The yields on the project would be increased about 40 per cent by the storage of flood waters.

Progress in Malheur County.
Malheur County has made rapid progress during the last year. The soil conditions are such that hay, grain and fruit are raised with marked success. For several years past many experiments in corn farming have been made. As a result there are a number of recorded yields of over 100 bushels per acre of shelled corn. With the exception of the Willamette Valley project all irrigation in this county has been by private enterprises. There is an immense area in the district susceptible of irrigation and for which water is available, but an extensive in character to be taken care of by private capital.

In order to reclaim this land it will be necessary for the irrigation districts and adopt some plan whereby an investment of outside capital can be made attractive. Many of the existing private projects in this county have made great progress during the last year. The Kingman Colony project, though containing but 2500 acres, has made extensive progress, and raised during the last year about \$30,000 worth of hay, besides livestock and grain. The history of this little project is the history of successful irrigation in Northern Malheur County irrigated lands.

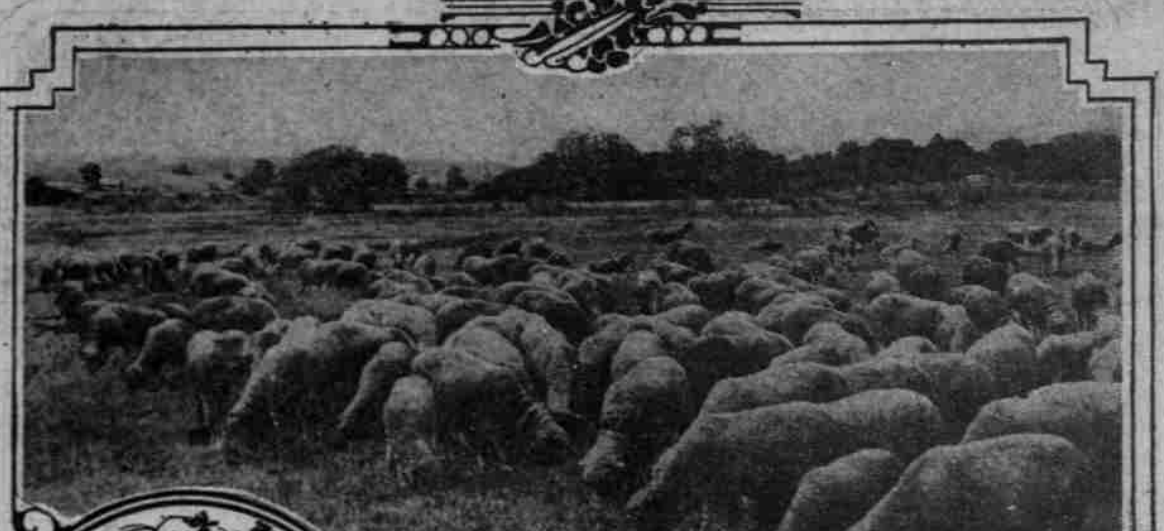
Irrigation on West Side.
It has been thought for many years that irrigation west of the Cascade Mountains was not necessary, but during the past few years it has been thoroughly demonstrated that water rightly applied will greatly increase production in this section. One of the most important has been found in the Rogue River Valley. The largest scheme west of the mountains is the Rogue River Canal Company, in the vicinity of Medford. This company is now increasing the size of its reservoir to a capacity of 25,000 acres in this project susceptible of irrigation and which will ultimately be put under water.

Carey Act Lands Reclaimed.
While much land has been reclaimed under the Carey act reclamation, yet the Carey act itself has not proved a success. Little blame can be placed upon the Carey act, but the fact that under the Carey act contracts. Most of the Carey act contracts in Oregon were entered into shortly after the passage of the bill and the parties who had the administration were not familiar with the provisions, nor had the contractors sufficient experience in reclamation work to gauge properly the cost of construction and operation. Had the authorities been more thoroughly conversant with the provisions of the act there is little doubt that many of the obstacles that were presented might have been overcome and the final result would have been different.

The Central Oregon Irrigation Company, in Crook County, has been able to reclaim more land than any other Carey act reclamation. At the outset the cost of reclamation was very much underestimated, the result being a rise in the bid prices from \$17.75 to \$40 an acre. In spite of this rise about 17,000 acres are now under cultivation.

Sheep-Raising Industry Is Made Profitable With Improved Methods and Better Breeds

With Passing of Ranges, New Conditions Change Methods in Industry—More Sheep Raised on Small Farms—Marketing Facilities Satisfactory.



Sheep Grazing on the Umatilla Project, Near the Umatilla River.



There are few industries which are decidedly the most profitable and to my mind unquestionably produce the hardest and best shipping lamb. Breeders Deserve Credit.

There are certain sections in Oregon that are so remote from the railroad as to make it impractical to attempt to bring the lambs to market for mutton purposes, and it is probably to these breeders that we will owe the permanency of the sheep industry in our state. These breeders must depend upon some one else to produce the ewes which they must have to refill their bands as their ewes grow old or to make up their natural losses.

What is known as the cross-bred ewe has become very popular among the breeders. This sheep is produced by crossing the Merino ewe with a coarse-wooled ram, the most popular of which is what is known as the Lincoln or Cottowold cross. This cross brings a large, smooth ewe which produces a long and fairly heavy fleece of wool.

It seems that with the shortage of breeding ewes, the breeder who is producing this kind of sheep is receiving his reward for almost the first time in the history of the sheep industry these range lambs have sold for as great a price as the lambs that were fit for mutton use.

Oregon has long been the breeding ground for her sister states of Idaho and Montana. However, with the decrease in production of breeding sheep and in the increased production of mutton lambs, it seems that Oregon will do well in the future to produce enough for his herds, and in many instances he should be very effective way of enforcing his desires, and many were the battles that were fought between those interested in these two branches of the livestock industry. When these large areas passed under the control of the Federal Government, and became Forest Reserves, the right was held to prescribe and enforce rules and regulations for the use of these ranges. The Federal authorities contend that the right to use the range should be based upon that of priority usage, and thus at one fell swoop was destroyed the opportunity for the launching of new men in the sheep industry. That is to say that they made it impossible, by that rule, for any sudden increase in the



Sheep on Range in Baker County.

number of sheep that might be grazed in Forest Reserves. They contended, and quite properly, too, that the forests were already overstocked and that instead of an increase in the grazing in the forests, it was necessary to bring about a reduction. This they proceeded to do by making cuts of certain percentage of the number of sheep that come to a great extent to practice the greatest economy and develop the most efficient. By economy and efficiency, he has been able to increase the cost of production and besides the market prices have advanced as this cost of production increased. At the present time the sheepman is experiencing the greatest prosperity that he has ever known.

Sheepraising Is Profitable

The strong prices that sheep are bringing today have induced the farmers to engage in the sheep business where the sheep are run upon the farm the whole year round, and it is to these farmers rather than the range man that the markets must look for their future adequate supplies. The natural conditions in Oregon are ideal for farm-raising of sheep. The whole state is practically free of disease, and the most ideal climatic conditions exist for the breeding and raising of sheep.

I know of one large flock that the gross return in the last year were more than \$5 a head for each ewe, this being the amount received for the lamb and wool, and there were more than 3000 head of ewes in this outfit that showed this remarkable yield. I know of another band of 2700 sheep that were leased to a man who paid the owner two-fifths of the gross receipts for the use of the land of 2700 ewes and the gross receipts from the 2700 ewes amounted to \$18,600. Of course, these are exceptional cases, but they tend to show what can be done by employing the right system and proper methods of breeding and handling of sheep.

Illustrative of the possibilities of the sheep industry, I wish to cite a case of a certain now prominent sheepman in Eastern Oregon, who, with his two brothers, in 1905 were employed as section hands on a railroad, where they conceived the desire to engage in the sheep business. They secured positions as sheep herders, saving their wages until 1911 when they purchased about 600 old ewes. One of the brothers took them to herd while the others continued to work for wages until they were able to increase this flock, by added purchases and natural increase, until 1914 they were running more than 2000 ewes, and their holdings had so increased that it required all of the time and attention of the three brothers. I understand at the present time that they are running more than 4000 good young ewes, and through sufficient money to carry them through until they will have marketed another crop from their sheep. I also understand that they have done all of this without taking advantage of any line of credit. Of course, this is an exceptional case, but it shows what can be done in Oregon in the sheep industry by exercising proper judgment and thrift.

By R. N. Stanfield, of Stanfield, Oregon.

There ever has been a constant change of method in the raising of sheep in Oregon due to the changing conditions: not that this is an exception, because the same has been true in all parts of the world.

Early in the 18th century Merino sheep were introduced into America. These sheep were crossed upon the common mutton sheep and from them were bred a better type, and shearing greater quantities of finer wool; and so it was in Oregon in the early '60s when the principal sheep-raising district was in Western Oregon. At that time those hardy pioneers and flock-masters began to bring their small flocks of sheep across the Cascade Mountains into Eastern Oregon. They imported the fine-blood Merino sheep and crossed them upon the long-legged, thin-wooled sheep that were first common to the country. This course of breeding was followed by the principal sheep of Oregon had become what was known as high-grade, or pure-blood Merino sheep. Oregon became famous as the producer of some of the best types of this sheep, and this fame extended to foreign countries. These fine-wooled, heavy shearing sheep were never popular in Western Oregon as they did not seem to endure the rainy season as well as the coarser breeds and long-wooled sheep.

Change in Industry Noted.

In the past ten years we have seen the passing of the breeding of these high-grade Merino sheep from a large industry; now only a few far-sighted breeders continue to raise them. This change has been due to the passing of the large range holdings and the changing of the sheep industry from that of a strictly range production to a dual-farm business. Also the great demand of the consuming public for the mutton lamb and the unfavorable prices which the woolgrower received for his wool, due to being thrown in open competition with the whole world with the removal of the tariff, have affected the industry.

Today the question of most importance to the breeder is what cross or what method of breeding will produce the largest sheep. Formerly it was which would produce the best and greatest amount of wool. It does not mean to say that the breeder gives no consideration to the wool, but rather, it is a secondary consideration which he receives for almost without exception the breeder has first in mind the lamb that he expects to offer on the market, and this has resulted in a different method of handling sheep on the ranges. Where they formerly had the lambs born in April and May, and from 70 to 80 pounds when between their ewes so as to drop their lambs in February* when the ewes are kept under cover. The ewes with their lambs must be fed until the grass has come fresh and green on the ranges, and they are given every attention possible to hasten an early maturity. This must be done properly fattened and grown so as to be placed in the market when it is from 160 to 170 days old, and in order to obtain a carcass of the best possible condition as nearly perfect as possible and not experience even a single day of neglect. A good lamb, properly produced, should weigh from 70 to 80 pounds when between three and four months old.

Most breeders favor the Hampshire, Shropshire, Lincoln and Cotswold crosses, and I would say that among these particular breeds that the black-