

Agriculture the "Second Industry" of the "Gem" State



WHEN THE GRAIN IS IN THE SHOCK.

AGRICULTURE in Idaho antedates the period of organization either as state or territory. As far back as 1852, shortly after the discovery of placer gold in Idaho, at which time a great migration of adventurous gold seekers flocked into the state, settlements were made in the valleys along the streams nearest the gold diggings. The land was cleared and plowed, and the agricultural industry of Idaho received its birth. From this small beginning it has grown to its present proportions and ranks second in importance of the industries of the state. These first farmers grew vegetables and grains of various kinds, with which they supplied the mining camps and for which they commanded such prices as would make the business nearly as profitable to them as the diggings to the miners. Year after year the industry grew, as did the population of the territory, until it has reached the broad proportions which it now occupies.

Flourishes showing the different cereal products, potatoes and hay produced in the state in the year 1904, as compiled by the agricultural bureau of Washington, D. C., is set forth in the following schedule:

Farmers Number 21,000.

According to the agricultural statistics of last year, the number of farmers of the state was put at 21,000, covering an area of 5,000,000 acres of land, valued at \$200,000,000. These figures will be materially increased by the great colonizing schemes of the many irrigation projects recently inaugurated in the

state. Figures showing the different cereal products, potatoes and hay produced in the state in the year 1904, as compiled by the agricultural bureau of Washington, D. C., is set forth in the following schedule:

Products.	No. Acres Grown.	Total Product.	Total Value.	Average Yield per acre per acre in Idaho in U. S.	Bushels Shipped out of State.	
Wheat	298,054	6,822,727	\$5,466,181	23.2	12.5	4,304,518
Oats	92,778	3,546,175	1,823,688	39.3	32.1	1,640,779
Barley	45,659	1,707,316	1,075,865	37.4	27.2	
Rye	1,236	25,472	13,194	19.7	15.2	
Corn	5,346	158,028	109,765	29.8		2,130
Flax	23,729	253,996	215,815	19.7		
Potatoes	11,429	1,580,021	1,001,713	129.0	119.4	
Hay	374,968	1,151,152	8,999,004	3.7	1.52	

To anyone interested in agriculture, a careful study of these figures will reveal a condition that cannot fail to interest him. The yield of cereals to the acre in Idaho is shown to be no more than double the average yield of the United States, and accordingly, the value of the crop grown on one acre in Idaho is nearly double the value of the crop grown on the average acre in the United States.

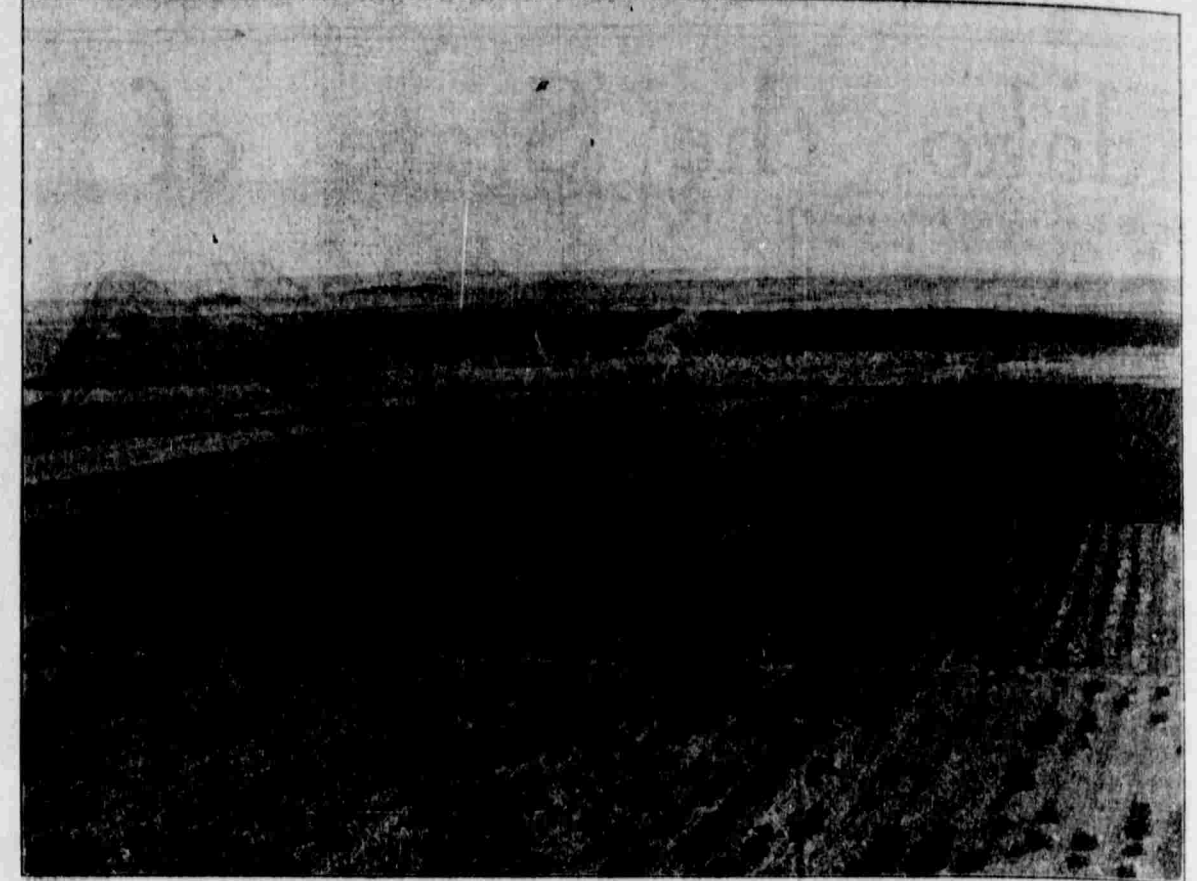
The future for the agricultural industry in this state is very promising. The farmers as a class are very intelligent and employ modern methods in carrying on their work. They are generally prosperous and contented and are surrounding themselves with all the conveniences and comforts which go to make home life happy and pleasant.

Two Kinds of Climate.

Climatologically, the state divides itself into two sections: The arid and the humid. The humid portion embraces the whole northern section, including Idaho, Nez Perce, Latah, Shoshone and Kootenai counties. The remainder of the state is arid and requires irrigation to develop and mature crops. Two million one hundred and eighty thousand ninety-five acres in this region are now covered by irrigation canals, which land is nearly all owned and cultivated by the people who occupy it. The irrigation projects that are now under construction (the construction of some of which is fast nearing completion) by the government and private parties in this section of the state, will add nearly one million additional acres to the irrigated area of the state, and will provide homes for 25,000 additional families.

Small Farms Pay Best.

It is the experience of those who have made a practical test of the question, that in the irrigated region the greatest profits accrue from small farms well worked. In such cases forty acres can be made to produce more profit to the owner than 160 acres will now produce in the old settled states of the east. For this reason the government, in opening up the lands of the Mindoka tract, which is located along the Snake River



A NEWLY MADE FARM IN BINGHAM COUNTY.

mer, and in the fall after the harvest is gathered, they are put onto the stubble fields and fattened for market.

A Ready Market.

In the northern or humid part of the state natural conditions are different, yet vegetables, grains and fruits are grown in the same variety as in the southern portion. Here grain raising, wheat, oats and barley, being the principal crops, is carried on somewhat more extensively than in the arid region—and the Idaho product finds a ready market anywhere. Her supply of agricultural products is never equal to the demand. The miner and the lumberman are just beginning to awaken to a realization of the unbounded resources

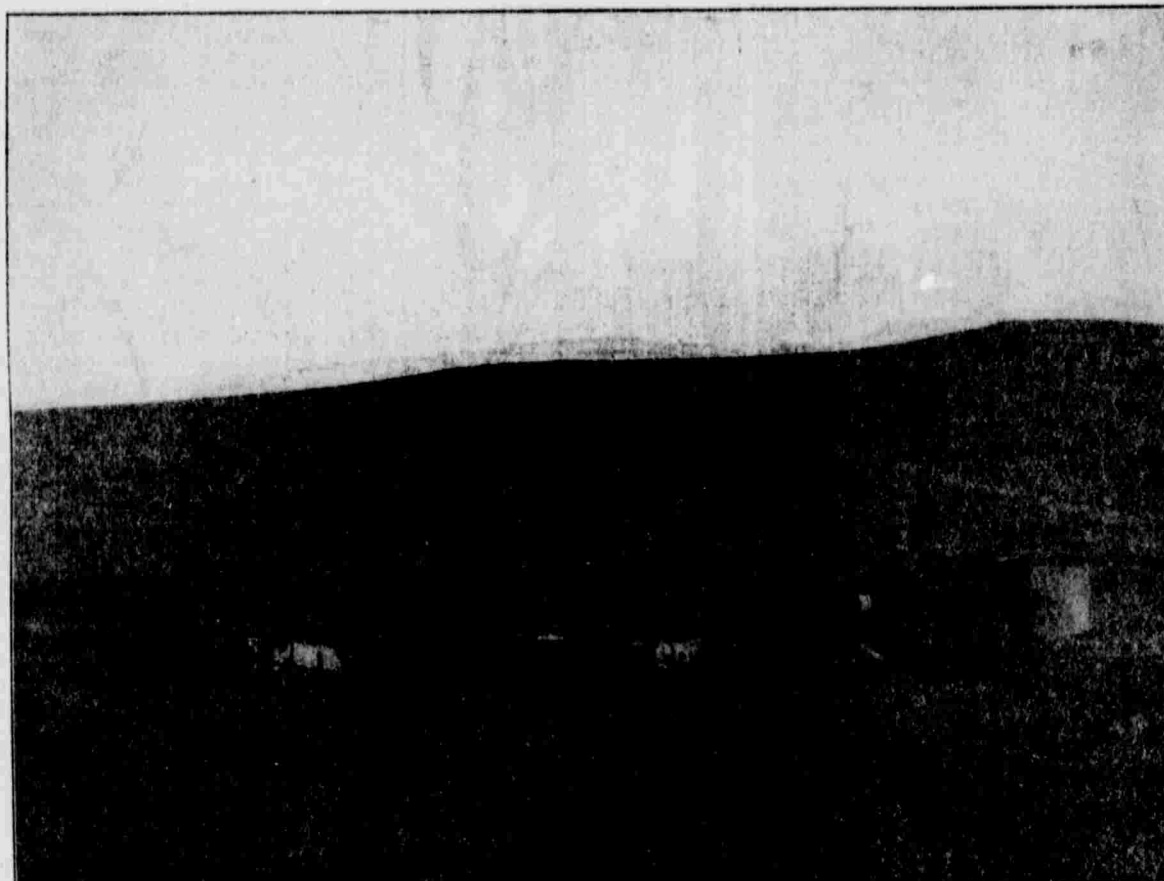
that lie before them, and the farmers of Idaho will be kept busy for many years in supplying their demands. Alaska, China, Japan and the Philippine Islands are developing rapidly and all are looking to the Idaho farmer for his product; and it may be safely said that the present prosperous condition of the agricultural industry throughout the state, will be indefinitely maintained.

The Sugar Industry.

One other industry that is gaining a firm footing in the state is that of sugar manufacture from the sugar beet. Factories are being established in many parts of the southern portion of the state, and the farmers are devoting a good portion of their farms to the grow-

ing of beets, from which they are reaping handsome profits. All in all, the future of the "Gem State" is a very bright one, and no state in the Union offers better advantages to a man who wants to "get on in the world."

Acetylyth is calcium carbide surrounded with an envelope of sugar. It is claimed to be of advantage in acetylene lighting on a small scale, as, unlike the pure carbide, it stops generating gas when the water is turned off and begins again when more water is supplied. This avoids the generation of an excess of gas, which is wasted if no gasometer is at hand for storage.



A SCENE IN THE GOLDEN HARVEST TIME.

In Cassia and Lincoln counties, limited homestead entry to 40 acres when made within two miles of a town site, and to 80 acres when made beyond this two-mile limit. This is a wise provision on the part of the government and is an equally profitable one for the settler. With proper care given to the land, it will produce double the amount of otherwise would do and support double the population and become twice as valuable per acre as it would if the larger filings of 160 acres were permitted. While this might be the more advisable condition, it is by no means closely adhered to throughout the state. The average farm in Idaho would contain at least eighty acres. Many large farms, or ranches, consisting of hundreds of acres, are devoted exclusively to the production of hay, both wild grasses and timothy and alfalfa. The irrigated districts of southern Idaho constitute the great alfalfa region, while the principal hay crop in the northern section is timothy. Hay is grown by the hundreds of tons, and fed out to stock and sheep during the winter season.

Dry Farm Wheat.

Farmers in the arid region have been quite successful in late years in producing wheat on dry farms; still a crop under such conditions is not to be depended upon. But when water is supplied to the land, a miracle is wrought. The land brings forth in mighty abundance. Under such conditions an acre in wheat will produce from 40 to 60 bushels; oats and barley will yield from 60 to 100 bushels, and alfalfa from 5 to 9 tons per acre. Hay is a ready seller in Idaho, bringing from \$4 to \$6 per ton for alfalfa and from \$2 to \$3 for timothy in stack. A profitable addition to the farming industry is hog raising. Many of the Idaho farmers raise hogs in grass and alfalfa pastures during the summer



HOW THE PROSPEROUS FARMER FLOWS HIS LAND.

SOMETHING OF IDAHO'S GREAT PUBLIC AND PRIVATE IRRIGATION PROJECTS

IDAHO, in its present form, embraces an area of 84,000 square miles, of which 510 square miles are covered by the waters of inland lakes; and it ranks twelfth in size of the political divisions of the United States.

To better understand the topographical character of the state and the sources of irrigation within its borders, it will be divided into two sections: One comprising all of that part of the state

lying a total of 11,000,000 acres of agricultural land for the whole state. The grazing lands of the state are conservatively estimated at 20,000,000 acres.

Irrigation Statistics.

The statistics on irrigation as collected by the state bureau of immigration, labor and statistics at the close of 1904, are set forth in the following schedule, which shows by counties the amount of land under irrigation in the southern district of the state, where irrigation is required to mature crops.

County.	Length of Canals.	Cost of Construction.	Acres Covered by Canals.	Acres now Under Cultivation.
Ada	213	\$1,297,699	202,500	67,290
Bannock	282	224,031	104,630	25,265
Bear Lake	185	264,038	55,017	28,294
Bingham	503	1,686,049	488,720	179,440
Blaine	232	151,975	55,945	32,269
Boise	144	32,650	28,820	10,332
Canyon	339	1,292,000	295,760	85,275
Cassia	190	3,077,890	304,175	18,239
Custer	236	49,310	47,474	13,420
Elmore	125	232,230	38,430	10,200
Fremont	523	861,709	332,149	209,975
Idaho	169	49,825	27,105	18,262
Latrobe	78	84,730	29,445	13,240
Quincy	251	402,580	98,930	65,028
Owyhee	81	502,350	53,422	5,614
Washington	84	153,225	47,210	28,760
Total	3,577	49,432,923	2,108,985	825,115

that is drained by the Snake river and its tributaries in its course westward to the Oregon border line, which embraces all of southern Idaho, except that portion of the extreme southeast drained by the Bear river; the other comprising all that part drained by the Salmon, Clearwater, Spokane and Kootenai rivers and their tributaries—embracing all of that portion of the state north of the Snake river valley. The geology, character and resources of these two sections are distinctly different. While the southern portion depends chiefly upon its water supply for irrigation and power for the development of its resources, the northern division lies wholly within the humid belt, where precipitation is sufficient for the development of crops.

Threatened by Canals.

Lying within the irrigation belt in southern Idaho are about 5,000,000 acres of land, of which 2,100,000 acres are now covered by irrigation canals, and 835,115 acres are in a high state of cultivation. (The difference between these figures will be appreciated when it is understood that the many thousands acres of land coming under these new irrigation projects, where the land has not yet been brought under cultivation, is included in these 5,000,000 acres.) In the humid portion of the state are about 8,000,000 acres of agricultural land, lying along streams and in great stretches of open prairie country, mak-

ing a total of 11,000,000 acres of agricultural land for the whole state. The grazing lands of the state are conservatively estimated at 20,000,000 acres.

Big Scheme Launched.

Since the above statistics were collected, some gigantic irrigation schemes have been inaugurated in several of the counties, both by private corporations and the United States government. Then, to bring it to date, there should be added to "Acres covered by Canals" in Bingham county, 51,000; Canyon county, 25,000; Owyhee county, 31,000; and Owyhee county, 42,000, making a total of 2,257,000 acres covered by irrigation canals, which also increase the total cost of construction to \$10,612,923, and the total length of canals for the state to 3,580 miles.

The wonderful work of the reclamation service by the United States government will, doubtless, mean more to Idaho than to any other state in the Union. The hundreds of thousands of acres of land lying in the rich valleys of the southern half of the state, which heretofore brought forth in the spring time a scanty growth of grass and brush to be scorched and shriveled by the piercing rays of the summer sun, are now being made to bloom with vegetation of every kind. What before was the haunt of the wolf and the rabbit, now is the habitation of thrifty husbandmen.

Reclamation Work.

In a statement recently published,

Hon. George C. Pardee, president of the National Irrigation congress, said: "The national reclamation act might very well be called the home building act for not since it passed the house and senate has Congress done anything else which tends to directly put people on the land and put roof trees over their heads. In fact the reclamation act has been the greatest thing left off, because the latter merely helped the settler to land which nature had made ready for his occupancy; the reclamation act takes land which in its natural state is uncultivable and renders it cultivable, giving the pioneer the same chance that his father had in the valley of the Mississippi. It is an act to turn the desert into oases, to populate the wastes and to turn aridity into fertility. It will enrich the nation and be the making of the west."

There are two reasons for the attraction of eminent irrigation engineers and capitalists toward the Gem state: viz: Idaho contains a larger area of fertile land, and has by far a greater quantity of water that is available for irrigation purposes than any of the states in which irrigation is required.

The big irrigation schemes that the United States government has now under consideration in this state, one of which is already inaugurated, are those of the Mindoka, Boise-Payette, and the Fremont county projects, which embrace a total area of 130,000 acres of land, and contemplate the expenditure of \$12,000,000.

The Mindoka Project.

The Mindoka project, located along the banks of the Snake river in Cassia and Lincoln counties, provides for the reclamation of 130,000 acres of very

fertile agricultural and fruit land. The first announcement of the proposed plans of the government was made in April, 1905, at which time practically all of the land was vacant. Months ago every acre had been entered by a steady filer, which are limited to 40 acres within two miles of a townsite location, and to 80 acres beyond this limit.

Eighty thousand acres of this land will come under the natural gravity system, the remaining 50,000 acres will be supplied with water by the installation of a huge pumping plant.

Damming the River.

Work on the big dam across the river and the canals is being pushed with vigor and the contractors promise to have their part of the work completed by the stipulated time, June, 1906. The water, however, will not be out and

ready for use by the settlers before about August. The immensity of the project cannot be fully appreciated unless seen. The Snake river at the dam site is 650 feet wide with an average depth of about 30 feet. By means of a coffer dam the river will be directed into another channel, through which the stream will flow while the great dam is being completed. The dam will be 600 feet long, 270 feet wide at the bottom and 34 feet high, its crest will be six feet above high water and 30 feet above low water. Two immense pillars on each bank of the river, set 1,000 feet apart, serve to suspend two strong steel cables along which slide two slips or monster buckets. These buckets are capable of holding 25 tons, and are dumped at any required spot in the river. Rock is being dumped into the river at the rate of about 500 tons per day.

The townsite of Mindoka is situated on the Oregon-Snake line railroad, about 60 miles west of Pocatello. While Mindoka is already quite a little town, much cannot be expected until the water is out for the Snake river, grants the settlers a leave of absence until the canals are constructed and water is ready for their use.

Boise-Payette Valley.

This great project contemplates furnishing an all-season water supply to about 75,000 acres of new land, and a part season supply to 100,000 acres, which are already tilled but fail at times to attain full productive capacity because of lack of water during the late summer months.

The project was approved March 27, 1905, by the secretary of the interior, who appropriated from the reclamation fund \$1,300,000 with which to begin constructive operations. The project naturally divides itself into two grand systems: the one deriving its water supply from the Payette river and covering the larger body of arable land on the north side of the Boise valley, the other deriving its supply from the Snake river and covering the lesser body on the south side. All of the 275,000 acres of the new land is subject to the homestead law. This means that any American citizen who has not already exhausted his homestead right, may take up 160 acres of this land, and upon compliance with the law, get a deed for it from the government at no cost other than the payment of a small fee to the land office. The water though must be paid for by the settler. The government constructs the works necessary to securing the water, then pro rata the actual cost among the total number of acres covered, which, in this instance, will amount to about \$20 per acre for a permanent water right, to be paid in 10 annual installments.

On the North Side.

The north side system contemplates diverting the water from the river and storing it in the Payette lakes, thence

through canals to the land to be served. The south side will construct a series of storage reservoirs in the Boise valley where the Snake river enters the state. The first of these reservoirs to be built is the one to be known as the Deer Flat storage reservoir, located in Canyon county, about midway between Nampa and Caldwell. This reservoir will constitute the largest artificial body of water in the world, holding 150,000 acre feet, or in other words, a quantity of water sufficient to cover 170,000 acres a foot deep. The natural supply for these reservoirs is abundant. The preliminary surveys and engineering investigations are practically all completed, there remaining to be adjusted only some details which are in the hands of the people.

Fremont County Project.

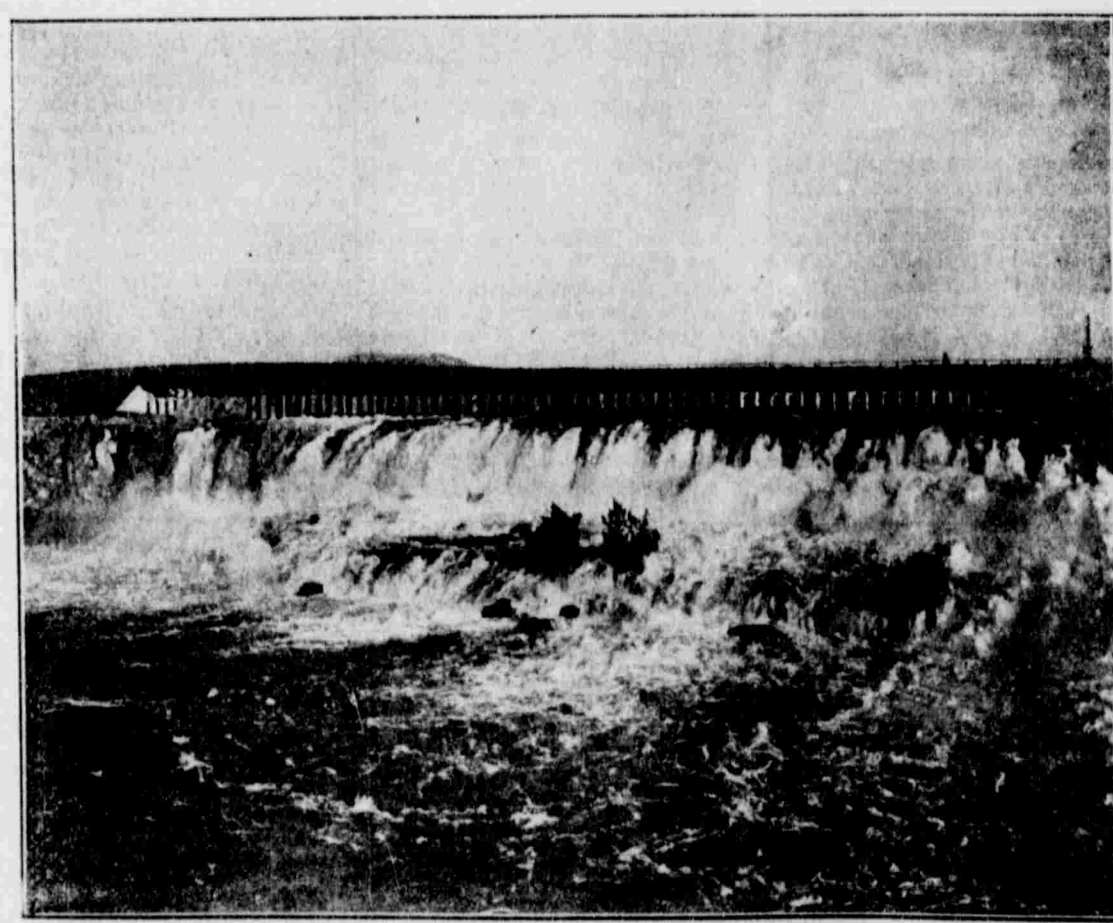
In 1903 the government authorized an examination of a tract of desert land in the western part of Fremont county, and the surveyors showed that it was entirely feasible to conduct the waters of the North Fork of Snake river from a point near St. Anthony on to more than 200,000 acres of land. It was evident that the stream would not furnish enough water for all of the lands tributary to it, without controlling the flow by means of reservoirs. An investigation, which was carried through all of last year, has revealed the fact that satisfactory results can be obtained by this means; that a storage of 600,000 acre feet of water can be effected at a reasonable cost.

Private Enterprises.

The Twin Falls Land & Water company. The most extensive irrigation enterprise promoted by private capital within the United States is undertaken by the Twin Falls Land & Water company. The lands under this canal system were withdrawn under the " Carey act" from the public domain by the state land board of Idaho. By this act the United States government transfers the title to the state and the state conveys it direct to the settler. The irrigation company enters into a contract with the state to construct canals and furnish water for the reclamation of the land, the cost of construction being paid pro rata by the settlers.

This project provides for the reclamation of 270,000 acres of choice land, at a cost of about four and one-half million dollars. The main canal is 65 miles long with thousands of miles of laterals. It is 80 feet wide on the bottom, 120 feet wide at the top and carries 10 feet of water. Through this canal water is conveyed to within a half mile of every quarter section of land covered. (The greater part of this land, together with that of the Mindoka project, is already settled upon.) With the construction of the works

(Continued on page 35.)



IRRIGATION FALLS, MILNER, ON THE SNAKE RIVER.