Union Experiment Station Solving Many Farm Problems

HEADS OF OREGON AGRICULTURAL COLLEGE DEPARTMENTS REVIEW WORK BEING DONE ON THE STATE FARM

"In general, the art of agriculture rules the farm and the science of agriculture must restore it," writes J. J. Boettler from his Silverton, Oregon, farm to the Pacific Homestead of April 19.

"Much of the progress in agriculture in the United States in the last 20 years has come from methods and practices worked out by state experiment stations and the United States department of agriculture," says James T. Jardine, director of the Oregon station. "The Babcock test, black-leg vaccine, hog cholera vaccine, the use, most of present day varieties of grains, forages, fruits and vegetables and their protection against an increasing array of insect pests and plant diseases—all these and many more items of our daily agriculture have come by way of the agricultural experiment stations.

"Eastern Oregon along the Old Oregon Trail and especially Union county is fortunate in this respect. The branch station at Union has been in existence long enough to have accumulated seasoned facts. And perhaps better still this station is supplied as few are with land and facilities to meet new problems that will come."

Field Crop Problems Solved.

(G. R. Hyslop, Head of Farm Crops, O. A. C.)

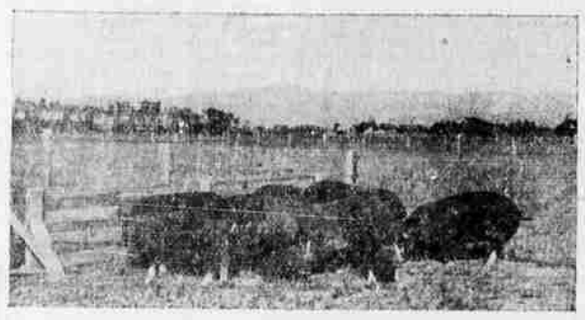
For many years the station at Union has been a bumper protecting Union and Baker county farmers from poor agricultural practices, mixed varieties, expensive freaks and passing fads in agriculture.

It has demonstrated beyond question the absolute necessity for more leguminous forage plants and pasture crops in this district. Year after year it has proved the practicability of field peas and oats or barley for the production of seed, silage, and hay, and for control of weeds.

It has proved the practicability of alfalfa for some of the moist soils, and demonstrated the value of a good drainage system in reclaiming subirrigated lands.

This station was first in the state to demonstrate the hardiness of Grimm alfalfa, later demonstrated at the other stations and recommended for the entire state. Even under the cold subirrigated conditions at Union, Grimm alfalfa survived and has made good in every way. Its long life and high yield lower the production cost.

Year after year forty-fold wheat has been and still is the leading winter wheat variety in Union county. It was grown also in many other places in the state. Hundreds of car loads of forty-fold wheat rolled into Portland to be graded No. 2 or mixed because of mixture of varieties. They took a discount of 2 or 4 and in some instances as high as 10 cents a bushel. This station developed some pure forty-fold wheat. This was put into select hands. A few good farmers grew it, had it certified and sold for seed. Now practically every forty-fold growing section of Oregon is growing this forty-fold free enough from Mixture to grade No. 1. About 250,000 bushels of such wheat was marketed in 1921. This has meant thousands of dollars to Union, Wallowa, Morrow and Gilliam counties particularly, as these are the principal forty-fold districts.



A pen of hogs at the State Experiment Station, Union, where both scientific and practical methods are combined in producing the best in livestock.

From Forty-fold to Hybrid.

Union county is switching from forty-fold to hybrid 128. The station is already at work to be ready with pure seed of this variety when it is needed in a very few years. The same valuable service will be rendered with all leading grains as needed.

This station recognized a need for a first class forage barley and through plant breeding work and selection has developed an erect, leafy, high yielding, beardless, hulless barley which has been used by leading stock men extensively for hay, silage and grain.

Practically all of the oats, an important crop in Eastern Oregon, are grown from high yielding varieties introduced by the station.

This station has shown that diversified cropping is of material aid in the control of perennial weeds like quack grass and it has shown also the benefits in control of annual weeds like mustard by crops cut early for hay or silage.

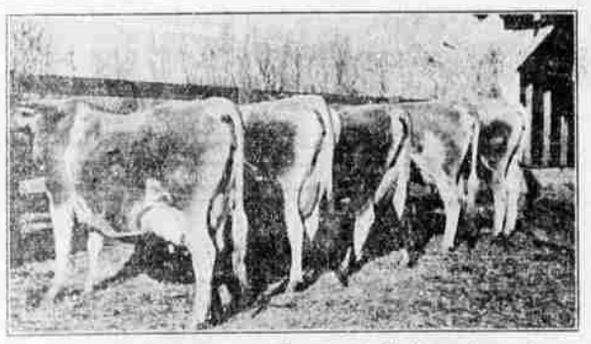
Standard Varieties Best.

And now about freaks. Years ago the Union station proved that the seven-headed wheat, sometimes called Alaska wheat, Wild Goose wheat, Mummy wheat and sometimes by other names, was not so good as standard varieties for the district. This information, since corroborated at the Corvallis station, has been useful in nearly every year for the last 15 years in protecting farmers from paying high prices for this well known fake wheat. There is constant need for reliable facts about untested highly advertised crops, many of which are inferior to our standard varieties.

When the necessity for forage during the war period became acute and stock men were casting about for cheaper feeds, the Union station immediately undertook an extensive silage experiment comparing the heavily bossed sunflower crop with corn and field peas and barley. It did not stop with the simple yield of green material per acre but carried it through the feeding pens and proved that while sunflowers make fairly good silage they are not so good considering effect on soil, cost of handling and feed value, as peas and oats or peas and barley. This alone will do much to standardize forage production for silage purposes for dairymen, beef cattle and sheep feeders.

The station is now undertaking extensive experiments in weed control methods, crop rotation, tillage trials and also new crop varieties trials for the general wheat and stock farmers and is starting special forage, root and pasture trials to meet the new and developing dairy industry of the county.

Knowledge of soils, their maintenance and use in growing the things we need, is still limited. Soil depletion from fertile to waste land, unprofitable till rebuilt in fertility, is the universal story of unscientific farming. Union county soils are still fertile but facts are available to show the importance of crop rotation and other practices to maintain the fertility. Tests with commercial fertilizers and crop rotations have been under way at the Union station for several years. They are being co-ordinated with similar tests and laboratory work at the Moro and the Corvallis stations. Information is accumulating on maintaining soil productiveness, of value now and some day imperative in profitable farming.



In the dairy barn at the Union Experiment Station. A great deal of attention is given to improved methods of feeding, as well as to a general building up of dairy herds.

Livestock an Important Industry.

(By E. L. Potter, Head of Animal Husbandry, O. A. C.)

The livestock work of the station is to solve the problems of the Eastern Oregon stockman. Most of the livestock of the state is in Eastern Oregon.

Here on the Old Oregon Trail are large areas of irrigated and dry-farm land, but mixed with it much larger areas of land of value essentially for grazing purposes. To the south of the trail the proportion of grazing land is very much larger. Such counties as Grant, Wheeler, Harney, Lake and large portions of Crook, Malheur and Klamath, ship out no agricultural produce but sheep and cattle. Vast areas of national forest and other mountain timber land afford summer grazing and equally large areas of bunch grass and sage brush land provide spring and fall grazing. Scattered everywhere are little valleys and patches of hay land for growing winter feed. The spring and fall ranges near the forests and all through the Blue mountains are today mostly deeded land and pretty thoroughly under the control of the user. In the southeastern part of the state, however, is an area approximately 150 miles square, which, with the exception of the hay lands, is almost devoid of fence and open to homestead and to free grazing after the fashion of 30 years ago.

Free Range Nearly Gone.

Free range has almost disappeared in Oregon, but our grazing lands are still range and used for grazing purposes under the control of the user who can handle it as he likes. This transition is bringing about many new problems in the management of cattle and sheep.

While the branch station has given particular attention to conditions in this immediate locality, it has considered the needs of adjoining territory, especially in Eastern Oregon.

Tests with growing steers show that it is possible to produce splendid steers ready for market at 2 1-2 years old, and yet wintered on but a half ration of hay. Such tests as these go far toward solving the problems of such districts as Grant or Wheeler counties where the total hay production allows only two-thirds of a ton of hay for each head of cattle.

The station has shown that calves and yearlings can be successfully wintered on straw supplemented with one pound of cotton seed cake, and that they can be ready to market in good condition at 2 1-2 years, thus opening up increased possibilities of beef production in the grain growing districts bordering on the ranges, such as are found in the southern edge of Morrow, Sherman and Wasco counties.

Work with fattening steers on hay and peas, and barley, silage or sunflower silage, showed the possibilities of utilizing these feeds in the higher altitudes of the Baker, Union, Redmond, Prineville, Lakeview and Klamath Falls districts.

Tests demonstrating the unusual value of corn silage in fattening steers opens up new possibilities for the farmers around Vale, Ontario, Hermiston, Stanfield and other irrigated districts of lower altitudes, showing methods of marketing hay and utilizing irrigable land.

Experiments in lamb fattening have demonstrated the possibilities and methods of marketing grain and hay in this way. Around Ontario, Redmond, Klamath Falls and Lakeview, a considerable lamb feeding industry is developing, based very largely upon the data from the station at Union.

Barley is Hog Feed.

Work in pig raising has demonstrated the value of our native feeds, especially barley. It has shown the possibilities of the self feeders and of alfalfa pasture. It has shown how it is possible with the use of the self-feeder and alfalfa pasture to get hogs to market in August or September when the prices are high. Also how pigs can be raised quite cheaply on alfalfa pasture and held ready to utilize the stubble after the grain is harvested.

Work with farm sheep has shown the value and possibilities of farm sheep raising in the irrigated sections and there can be little doubt that the farm sheep industry will grow, especially in such districts as the valleys of the Malheur and the Deschutes.

Thus, the station is trying to serve all of the interests of this vast and varied empire. The cattle man from the interior would not get anything from our work with hogs or lamb fattening or farm sheep, or perhaps even from steer fattening, but he does obtain valuable lessons from work on growing steers with a limited supply of hay. The alfalfa farmers from Malheur county would probably gain nothing of value from cattle growing tests, but do get pointers on fattening cattle, fattening lambs, and on farm sheep and hog raising.

The problems of this big country are many, but year by year we gain on them. Every time we finish up one set of tests we release the use of that much feed and equipment which may be used for new tests. Many big problems so far left untouched will be undertaken as soon as the work now under way is finished.

The greatest benefits of the livestock work of the Eastern Oregon Experiment station has not been in any one specific problem, but in its leadership of the movement toward a more careful study of the costs of production and the methods of utilizing our ranges and farm lands so as to bring about the maximum livestock production at the minimum expense, and thus utilize to the fullest extent the resources of the great Eastern Oregon empire.

Dairying Has Great Possibilities.

(By P. M. Brandt, Head of Dairy Husbandry, O. A. C.)

The dairy industry is just beginning to develop in Eastern Oregon. Creation of irrigation projects with the attendant high cost of land has induced a more intensive system of farming, and the rising value of lands has turned attention elsewhere to a more intensive system of farming. The history of dairying shows it to be an industry that can be conducted with equal success, so far as essential returns to the dairymen are concerned, on high priced land or on poor land. It is sometimes called a marginal type of farming, because it can be used by the farmer who cannot make a living on his land by any other type of farming, and with equal success by the farmer who cannot make a living in any other manner on his high priced land.

There is no reason why the volume of production east of the Cascade mountains cannot equal not even approach the volume of production west.

Certain fundamental facts in handling dairy cattle are recognized everywhere—in the cold icy regions of the north, on the wind swept plains of North Dakota, or in the humid regions of Louisiana. Every section however has its own particular problems. One may follow fundamental principles of dairying, selection of the individual cow, proper feeding, and use of the pure bred bull, but at the same time meet certain perplexing local problems. Each farmer has to solve these problems unless some agency in that particular region can overcome them for him. The Eastern Oregon Experiment station at Union started a dairy unit in the fall of 1921 to help solve these problems.

This herd known as the dairy unit, will be used to solve problems facing the dairymen of the Grande Ronde valley in particular, and Eastern Oregon in general. One of the first things to be determined is the best ration to feed, the bulk of which will be raised on the farm. It now appears that this valley is unusually fortunate as it is probable that a complete ration can be worked out from crops grown on its farms. In most localities one or two feeds have to be bought if the proper rations is to be fed. With the use of ground flax seed and possibly pea meal, both of which can be grown in paying quantities in Union county, together with barley and oats, indications are that a farmer can feed a highly satisfactory grain ration without buying one pound of it. Another problem is the best kind of pasture and how best to handle it. This territory has the possibility of developing excellent pasture for six or seven months of the year. No one knows how much of this pasture is required to support a cow, or the best method of seeding and maintaining a stand. There is a question as to whether or not the pastures should be rotated or one particular field used all summer. Also as to how much grain it is best to feed when the high producing cows are on pasture. It is important that these things be determined. Most economical production of butter fat is another unsolved problem. Cost of wintering heifers, most economical grain ration regardless of high production, best amounts of feed, breed study. Other difficulties will be taken up by the station as they arise.

To Be a Dairy Section.

It is possible that not all plans of the station may work out as foreseen, but it is safe to say that all indications point to Grande Ronde valley as one of the most promising dairy districts of Oregon. It appears that cost of production can be made lower here, than at present. The experiment station will do much to assist in establishing a successful dairy industry through Eastern Oregon.

SCHOOLS ARE KEEPING PACE WITH TIMES

Educational Institutions of Union County Are Adequate at the Present

NEW STRUCTURES SUPERCEDE OLD

Industrial Club Work Is Growing In Importance and Interest.

(By Mrs. A. E. Ivanhoe.)

Everyone is aware that Union county schools are so located and distributed that school facilities are adequate for all. The school districts legally organized and in operation at the present time, total fifty-four. I find the most remote rural school these days demanding skilled teachers and if any imagine for a minute that the rural community is not alive to the highest and best service for their children, they are indeed mistaken.

In the rural communities the children, as a rule, come from homes where no sacrifice is considered too great to give their boys and girls a good elementary education and a majority of these children enter and many finish high school.

New Buildings Modern.

Whenever a new school house is built these days, it is well planned and equipped as, for instance, the two-room school at Medical Springs, with furnace heat and architecturally attractive. A very neat and comfortable school house at Pata, near Medical Springs, supplants one of the oldest log school houses in the county. A modern two-room school house at Telocaset also now takes the place of another ancient and worn-out one-room school. Ladd Canyon boasts of a very pretty one-room building. Kamela has a commodious play room for the children during the snows of winter and also boasts of the first teacherage built in the county. Wolf creek is at present making plans for a modern two-room school house.

Consolidation.

Consolidations proceed as fast as feasible, the condition of many almost impassable roads making this cause wait upon better road conditions. Districts 40 and 9, also Districts 78 and 11, and Districts 51, 52 and 54 being the only consolidations thus far.

There are six standard high schools in the county, as follows: La Grande, Union, Elgin, Cove, Imbler and North Powder. La Grande is also a district of the first class and there are five districts of the second class.

Industrial Clubs.

Industrial club work has good support in several districts of the county and to encourage this good work, the county court sends each year the four children, who stand the highest in club work, to the State Fair at Salem. Last September the Farm Bureau sent a stock-judging team of three boys to the State Fair and our boys scored second in the entire state contest.

Good Standard Maintained

On the whole, the school buildings of the county are kept in good repair and the teachers ever keep step with the march of progress. Eternal vigilance is always necessary in keeping our schools up to the standard in every particular, so we have found it a pleasure to keep a watchful eye on every little school house, no matter how remote, so that each and all will feel an important part of the great work that our schools must ever put on.

This is a brief synopsis of school conditions in Union county, and in closing, I wish to thank all who have given me support in my work of administration for the past ten years, and as I review the days spent in this office I find that my "lines have been cast in pleasant places."

PRODUCTS OF CEMENT MADE IN LA GRANDE

(Continued from Page One)

the decision made by the Long-Bell Lumber company the latter part of last year when after many months of preliminary work and investigation, announced their intention to use concrete pipe, as manufactured by the Concrete Pipe company, in their new city at Longview, Washington.

This is an interesting fact as the new city of Longview has been planned to take care of approximately fifty thousand people, the water and sewer systems being designed on that basis.

Perhaps a better idea of the size of the installation may be had from the fact that between two hundred and two hundred and fifty miles of concrete pipe will be required there, as its uses include sanitary and storm sewerage, drainage, culverts and gravity water systems, as well as a part of the main trunk for distribution.

Longview Has Plant.

A modern $35,000 factory, the main building of which is 80 by 150 feet has been erected and to date approximately twenty miles of concrete pipe has been manufactured. The company at Longview is one of the associated companies of the La Grande Concrete Pipe company and adds one more to the long list of successful factories situated throughout the Pacific Northwest that are manufacturing the well-known concrete product.

Perhaps one of the most interesting side lights regarding the use of concrete is the fact that contrary to popular understanding, concrete is not a modern discovery for concrete pipe, as masonry lined with concrete, was used by the Egyptians and Romans thousands of years ago. The Cloaca Maxima and principal trunk sewer of Rome was constructed of concrete seven hundred years B. C., and writers of the first century of the Christian era mention it as a monument of antiquity. What would be their surprise and astonishment to find that it is still in existence and in perfect condition after all these centuries?

The meanest man in the world is the one who is too honest to praise the possession another man delights in.

A sense of humor is what would keep men from making such haste on such insignificant errands.

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