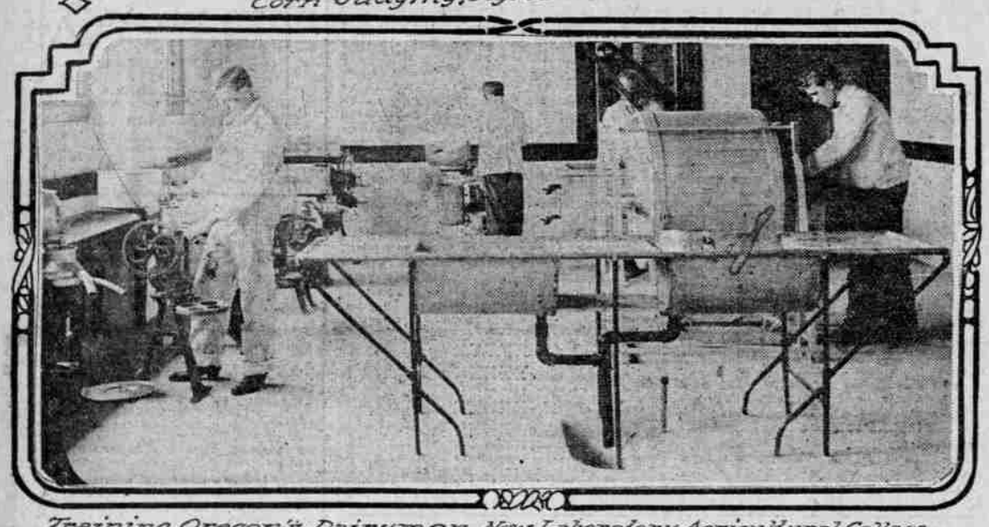
GOSPEL OF MODERN FARMING, SPREAD BROADCAST, GAINS DESIRED RESULTS

Revolution in Agricultural Practices Takes Place—Growing of Grains and Raising of Livestock Brought Up to Date — Demonstration Farms Have Strong Influence.

Agricultural College Students Making Cement Fence Posts.

Corn Judging, Agricultural College Class At Work



Training Oregon's Dairymen, New Laboratory, Agricultural College.

By Dr. James Withycombe, Director Oregon Experiment Station.

CAPITAL invested in the operation of the farm is bringing in greater returns each year. This is due to agricultural education. The progressive farmer reads the best papers and periodicals devoted to his vocation and takes advantage of every opportunity to gain information. He no longer ridicules book-farming but realizes that agriculture is a fruitful field for endless thought and investigation.

The agricultural development of Oregon is due to a number of educational agencies. Among these we may mention the Grange, Farmers' Institutes, demonstration trains, farmers' week and the Winter short course of the Oregon Agricultural College, the work of the experiment stations and demonstration farms, the press, experiment station bulletins and the United States Department of Agriculture farmers' bulletins. These educational factors have had their influence in developing better methods of husbandry.

Any one acquainted with farm practices of the past will note the changes which have taken place. Instead of the bare Summer-fallow in Western Oregon, fields of clover, vetch, corn, kale, rape and other forage crops can be seen. It is not unusual to find, in districts where a few years since farmers declared clover could not be successfully grown, fields yielding from two to four tons of clover hay an acre, or from $50 to $100 worth of clover seed an acre. Farmers have also learned that it is better to market their hay and grain in the form of livestock, butter fat and eggs than in the bale and sack.

Although the livestock industry has not been brought up to its highest standard, there has been a marked improvement. There are more and better herds of dairy cattle, more and better swine, and the sheep and the draft horses have been greatly improved.

Attention has been given to special crops and greater care has been exercised in seed selection. Variety adaptability has received more thought. Farmers are beginning to realize the importance of variety and environment. Great wastes have been eliminated through the selection of seed to suit certain climatic and soil conditions. A variety of cereals, for example, which would be excellent for some localities would be practically worthless for others. In the higher altitudes, where the growing season is somewhat short, varieties are selected which will mature quickly. This question of selection is becoming very well understood by the farmer.

Agriculture is comparatively new in much of Central Oregon, but despite this fact the industry has made great progress. Contributing factors to this end have been the extension work done through the demonstration trains, farmers' institutes and traveling agricultural advisers, and the demonstration farms. Excellent results were obtained on the demonstration farms at Redmond and Metolius last season. These were splendid object lessons for the number of farmers who visited the farms from time to time. The success of the various crops was published by the local papers, which gave it a wide range of publicity. Much co-operative work in connection with these farms was carried on among the farmers of the district and the superintendent and his assistant acted as agricultural advisers. They visited a large number of farms and helped the farmer in the most practical way to solve his own problems. This seems at present to be the very best form of agricultural extension work.

In the older agricultural sections of Eastern Oregon almost a revolution in agricultural practices has taken place within the last few years and especially during the past season. Formerly wheatgrowing, with the smallest possible number of livestock, was the prevailing practice. Fields of corn, field peas and alfalfa now dot the landscape instead of exclusive wheat and the barren fallow. Since the successful demonstration that corn and other forage crops can be grown in rotation with wheat, the livestock production has greatly increased. Even dairying has made a good showing in some dry farming districts, but the greatest increase is perhaps in the production of swine. The demonstration train and the traveling agricultural adviser, maintained by the Tri-County Development League, are entitled to much of the credit for the changed conditions. There has also been a marked improvement in the horses kept on these wheat farms. The farmer has learned that he can grow economically a very high-class workhorse that is very popular and in great demand in the city, hence the production of a very serviceable class of horse is becoming one of the features of the district.

Since it has been definitely determined that alfalfa, corn, field peas and other forage crops can be grown, this solves the problem of the economical growing of the pig, and if the present good prices for hogs are maintained wheat is worth at least 50 cents a bushel more for hog feed than the present price paid for export. There seems to be no good reason why Oregon should be bringing in such large numbers of hogs and quantities of pork products. Practically all of Eastern Oregon is well adapted to the economical production of hogs and, instead of bringing in, we should be shipping out great quantities of pork products. From the present rate of development of the industry, it is probable that this will be the condition within a few years.

For the more rapid development of agriculture in this state a vigorous campaign of education should be undertaken. A good beginning has been made. The state and National Governments are maintaining six experimental farms, which are very well located geographically. In addition to these, two demonstration farms were operated in Central Oregon, which were supported by funds subscribed by the railroads, commercial organizations and Crook County. At present the United States Department of Agriculture is partially supporting two agricultural advisers, one in Wallowa County in co-operation with the O.-W. R. & N. Company and one at Salem in co-operation with the Salem Board of Trade and the Chicago Grain Exchange. In addition to these agencies, the farm, orchard and garden pests are fairly well cared for under the crop pest fund of $15,000 a year. This enables the experiment station to maintain six scientific experts in the field working out methods of control and giving growers advice relating to plant diseases.

This work could be supplemented profitably by maintaining a limited number of agricultural advisers, also by the continuance of the demonstration farm work in Central Oregon and the establishment of a demonstration dairy farm in co-operation with Tillamook County and special horticultural investigations in co-operation with Hood River County.

The agricultural and industrial work among school children, supported by the State Bankers' Association, Portland Union Stockyards, office of State Superintendent of Public Instruction and the extension department of the Oregon Agricultural College, is giving excellent results and is destined in time to be an important factor in the agricultural and industrial development of the state.

Money wisely expended in promoting agriculture is the best investment for the state. The latest agricultural possibilities of Oregon are almost incalculable. Agriculture is and always will be our principal source of wealth.

STUDY OF AGRICULTURE IS NEW BRANCH IN SCHOOLS

Greater Attention to Rural Institutions Is Now Need in Oregon —Progress Made During 1912.

By L. R. Alderman, State Superintendent of Public Instruction.

A DEEP and widespread interest in the study of agriculture, domestic science and manual training; a steady increase in the number of high schools; a vigorous attempt on the part of the teachers of the state to bring the schools and the home into a closer relation by the home-credit plan, and the securing of a firm and permanent position in our educational system of a State Normal School are some of the most interesting signs of progress in the work of our public schools for the past year.

New life was put into the study of agriculture through the school fairs held in every county excepting one the past year. By far the most interesting feature of the State Fair was the industrial exhibit of the schoolchildren of the state. The State Educational Department, in connection with the State Bankers' Association and the State Agricultural College, inaugurated a plan last Spring for a series of fairs for the children, and the State Fair Board set aside $1000 to be given in prizes for their exhibits. In addition to this generous backing, public-spirited citizens from all parts of the state, including stockmen, poultrymen, orchardists and merchants, offered a large number of choice prizes amounting in value to more than $2500. Three thousand exhibits were made at Salem by the schoolchildren of the state. Garden products, woodwork, sewing and cooking exhibits were housed under the grandstand, while the poultry and livestock were placed in one of the regular barns. Thousands of people visited the exhibits, and it was agreed by all that the products brought by the children rivaled in excellence those of their elders.

Throughout the state I have asked the teachers to make some recognition of the work done by the children in the homes. Every day brings reports of teachers who are working out this idea to meet the needs of their particular localities. Last Spring I issued a bulletin outlining the plan, and suggesting a few ways by which the school could be brought into closer touch with the home. A writer in one of our local newspapers says: "It is the testimony of the parents where this plan has been tried that the children are co-operating with them and becoming interested in their homes as never before. One mother said it seemed that her duties were reduced by half, and that the children were eager to do more, for more work meant more school credits. Conditions are reversing themselves—instead of the parent saying 'You must do your chores or I shall punish you,' the child is asking, 'Isn't there something more I can do?'"

The number of high schools in the state is increasing each year. Seventy-five per cent of the children of Oregon who complete the eighth grade, go on to high school. A high school within the reach of all of the people or rural high schools are made possible by the Union High School law, and the County High School Fund law. This latter was made effective in Multnomah and Lake Counties at the November election, and is now in force in nine counties.

All phases of industrial work are being taught in the Oregon high schools, and we are particularly fortunate in securing the consent of the State University to give credit for all such work. In other words, our high schools give a well rounded and fairly complete education. For those who are able to go on to secure a higher education, the University does not insist upon an ironclad set of college requirements, but takes the pupils and gives them credit for all the work done in high school.

Teachers' training courses are proving very popular. Many of our four-year high schools are employing a normal-trained teacher to take charge of these high school students who expect to teach. The students are given a good course in the practical side of teaching, methods, use of school blanks, school laws of Oregon, history of education, and one good work on pedagogy. Upon the completion of this course the students receive a one-year limited state certificate, without examination.

The best part of this course is that it gives the prospective teacher a desire to secure a thorough professional training. Those who expect to take up high school work go to the State University, or some other college offering a course in education; those who wish to do special work go to the Oregon Agricultural College, while those who expect to fit themselves for grammar grade teachers, principals or superintendents go to the State Normal School. The new certificate law is doing much to raise the standard of teachers. Many trained teachers from other states are coming to Oregon because the graduate of a standard normal school or of a university having a department of education may receive without examination a certificate to teach in this state. This tends to make those in Oregon who wish to teach first prepare themselves by a good professional course.

The greatest problem in the public school system today is how to make the rural school equal in efficiency to the town or city school. The study of practical agriculture will help to make the school fit the community in which it is situated. Oregon is well adapted to poultry raising, yet she does not produce enough eggs to supply her own demands. This year through the school fairs we expect to lay special emphasis upon poultry contests, and make as our goal the raising of enough poultry products by the school children of the state to pay the cost of public schools.

The new supervisory law is intended particularly for the rural schools. In the cities and towns we have close supervision, and all will agree, satisfactory and efficient service. We are paying in such schools about $33 per capita for the child's education, while for the country child's education we are paying about $13 per capita. In the rural schools without the supervisors, there is practically no supervision, once a year being as often as it is possible for the County Superintendent to visit the schools. The supervisors not only help the teachers to make their work more effective, but they visit the directors and school patrons, hold parent-teachers' meetings in each community and thus arouse local pride in the betterment of the school system. Reports from nearly every county where the law is in effect show that much is being done to better the conditions of the rural schools. At the beginning of the year the County Superintendent outlines a definite plan of work and certain things to be accomplished during the year.

On the whole, the public schools of the state are progressing, modern sanitary buildings are being constructed in all of our cities and towns, industrial work is being taught in most of our high schools and is rapidly being introduced into the grades. The state may be proud of its university and its normal school and its agricultural college. However, if our state is to continue to prosper and its resources are ever going to be developed fully, all must unite to make the rural schools a place where parents will feel satisfied to send their children.

LIBRARY WELL PATRONIZED.

Few, if any, city libraries in the United States have a larger per capita circulation of books than has the Portland Public Library. This institution during the past year circulated 1,036,894 volumes, a gain of 32 per cent over 1911. This is equal to four books for every resident, placing the city's population at 257,490, the directory census. The more extensive use of the library privileges by Portland citizens has made necessary the erection of a new and more commodious building, which is now under construction. The annual book circulation of the library, which is not a Carnegie institution, follows:

1900...	57,895	1911...	785,560
1905...	177,076	1912...	1,036,894
1910...	552,722		

SCHOOL ENROLLMENT BY YEARS.

Enrollment in public schools in Oregon has shown considerable gain every year. In 1900 there were 89,405 pupils registered, while in the past year there were 130,268. A table showing the school enrollment by years follows:

1900.....	89,405	1909.....	114,464
1905.....	100,534	1910.....	118,412
1906.....	100,898	1911.....	124,439
1907.....	102,662	1912.....	130,268
1908.....	107,493		

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