

OREGON AGRICULTURAL COLLEGE WINTER COURSE OF LECTURES

Winter courses in agriculture have become an important factor in the agricultural development of the nation. The attendance at these courses at the various agricultural colleges of the country probably exceeds in number those students taking regular courses of instruction, and they are undoubtedly doing more for the immediate development of agriculture than the regular long courses. The farmers taking these courses have reached mature years; they own their own farms, most of them, and they are able to put into practice at once any new idea that they may get at the college.

Agricultural methods and practices are rapidly changing as a result of the great amount of hard, earnest work that is being done at the experiment stations of the country. A little discovery is sometimes worth millions of dollars, and the prosperous farmer is the first to put in practice new and better methods.

Alfalfa has added millions of dollars to the agricultural wealth of the country in the past few years, and this has been brought about largely by agricultural college men who investigated and proclaimed its possibilities.

A discovery of an agricultural college man made it possible to discover the robber cow and to put dairying on a profitable basis.

Improvement in seeds by selection or breeding has added immensely to the value of the field crops of the United States. A day at the winter course will show how it is done.

Today we would be without fruit in this country but for the discoveries that have been made as a result of long and expensive work at the agricultural colleges and experiment stations. Instead of being helpless against the ravages of insect pests the farmer is master of the situation, and we continue to eat fruit.

But for our better knowledge of animal diseases and their prevention we would be unable to produce animal products at a profit.

The improvements that have been made in methods of soil treatment and animal breeding and feeding with a view to increased crop and animal production, have been revolutionary.

About a hundred million dollars has been added to the wealth of the nation annually through work at the experiment stations in developing the sugar beet industry.

And all this is just a beginning. The work of improvement must go on, for the perpetuity of the nation depends largely upon the ability of our farmers to increase the productivity of the farms.

The winter course is helping solve the problem of how to improve conditions in rural communities, which President Roosevelt's country life commission is wrestling with. When farmers return to their homes from such a meeting at the college, carrying with them the inspiration and information received, it means an uplift in their community.

Free Course of Lectures. Winter short courses of study will begin at the Agricultural College, Corvallis, Ore., on January 5. Men and women, young and old, interested in the farm, the shop, or the home, are cordially invited to attend. By writing at once to the Agricultural College a circular will be sent telling in detail what is proposed to be accomplished by these courses.

A week of lectures on general agricultural topics begins January 5. A special course for creamery operators and managers runs from January 5 to 15; a course in dairying from January 18 to March 27; a course in horticulture January 11 to February 20; a course in mechanic arts from January 11 to February 20; a course in road construction from January 11 to February 6; a course in household science and art from January 11 to February 20. Special lectures on business methods on the farm will be given.

The winter course is a part of a general scheme of agricultural extension which the agricultural college faculty is working for. Traveling agricultural and domestic science schools, farmers' institutes, demonstration trains, free circulating libraries, home reading courses, winter courses, and free bulletins are all features of a comprehensive system of extension work that the agricultural college faculty has recommended to President Roosevelt's uplift commission.

(President W. J. Kerr, in Pacific Grange Bulletin, October, 1908.) The greatest difficulty that has been encountered in the development of the public school system of the United States has been in extending the advantages of education

to all the people, and in adapting school work to the needs of the masses who are engaged in industrial pursuits. From the time of Plato, who organized the first system of education, on down over a period of nearly two thousand years, education was intended primarily, if not exclusively, for the aristocracy, the governing class; and the advantages of education were not participated in by the masses of the people who were engaged in the industries. Even in this country, for a period extending over more than two centuries, the accepted type of higher education was the four years' course of the old classical college. The conventional courses in philosophy, literature, classics, law, and medicine, constituted the leading features of college work. The purpose was to train the few who were engaged in literary pursuits, in the service of the government, or in the "learned professions."

While it was soon recognized by some of the leading statesmen that the perpetuity of the republic and its free institutions depended upon an intelligent citizenship, and that it was important that the advantages of education be extended to all the people, it was not expected that this education should have any direct bearing upon, or should assist in, the vocations in which these people were engaged. As late as 1787, when congress passed the famous ordinance donating public lands to the states in the Northwest Territory for the support of education, it was declared that the income from these lands should be used for the maintenance of "literary institutions." Indeed, it was not until nearly the middle of the nineteenth century that the people began to realize the inadequacy of the existing institutions to meet the needs of the new and rapidly growing country. As the country advanced in population and wealth there was a corresponding increase in the demand for trained men for responsible positions in the different industries. Engineers, chemists and others trained in applied science were in great demand for the construction of railroads, factories, iron works; in opening up iron and coal mines; and in other industries. But there were no institutions in the country in which men could be trained for this important work, and it was necessary to import these experts from England, Holland, Germany and France. Moreover, the impairment of the natural productivity of the soil, with a corresponding deterioration in farm crops and depreciation in farm values, made apparent the necessity for scientific methods in agriculture.

It became evident, therefore, that the old education was not meeting the new demands. It trained men for the professions and for service in the government; but it left the country entirely dependent upon Europe for men who had received the training required in the development of its resources and industries.

Hence a new type of education was required—an education bearing more directly upon the arts of life.

The New Education. The new education for which the country was calling should do two things: it should bring the advantages of school work nearer to all the people; and it should be in harmony with the environment of the people, adapted to their particular needs, in whatever pursuits they might be engaged. It was in response to these demands that congress passed what is known as the Morrill act of 1862, under which lands were granted to the several states for the endowment of colleges the leading objects of which should be, "without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts."

In order to "promote the liberal and practical education of the industrial classes in the several pursuits and professions of life." As explained by Senator Morrill, "the fundamental idea was to offer an opportunity in every state for a liberal and larger education to larger numbers, not merely those destined to sedentary professions, but to those much needing higher instruction for the world's business, for the industrial pursuits and professions of life." It will be observed that the leading object of these institutions was to apply science in the industries of life—not one industry alone, but any and all industries affecting the interests of the people and the development of the country; to promote the education, "liberal and practical," of the laboring classes, those engaged in the world's work, in the great fields of production, manufacture and commerce.

The character of the work contemplated for these institutions is further emphasized by the supplementary act of congress of 1890, in which provision is made that the money appropriated by this act shall "be applied only to instruction in agriculture, the mechanic arts, the English language and the various branches of mathematical, physical, natural and economic science, with special reference to their applications in the industries of life." As interpreted by the department of the interior, the "mechanic arts" of the congressional acts comprehend the most extended courses in engineering—civil, electrical, mechanical, mining, irrigation, etc.; while the economic sciences include the different subjects of political and household economy.

The Oregon Agricultural College was established by the state legislature in 1868 in pursuance of the act of congress of 1862. It is one of sixty-five similar institutions maintained in the different states and territories under the provisions of this act. In establishing the college, the legislature accepted all the provisions and conditions of the act

of congress and pledged the faith of the state to carry the same into effect. Section two of the act of the legislature of 1868 provides that "students shall be instructed in all the arts, sciences and other studies, in accordance with the requirements of the act of congress." Again, in section one of the laws of 1870, it is provided that "students shall be instructed in accordance with the requirements of the act of congress approved July 2, 1862, granting public lands to the several states and territories which might provide colleges and the mechanic arts, and the acts amendatory thereof."

It will be observed, therefore, that the Agricultural College is a federal-state institution. While under the immediate supervision of the state, it receives its support in part from the government and must be maintained in accordance with the acts of congress. The purpose in view in the establishment of the college, and the nature and scope of the work contemplated for it, are clearly indicated by the following excerpts from the federal and state laws.

Sources of Income. The land granted to Oregon by the act of congress of 1862 has been sold for approximately \$200,000. The interest on this sum, which may be used for the support of the college, amounts annually to about \$11,000. The appropriation for instructional purposes received by the college from the federal government, under the act of 1890 and the supplementary act of 1907, known as the Nelson amendment, amounts to \$35,000 for the year ending June 30, 1909, and will be increased by an additional \$5000 for each succeeding year until the total annual amount is \$50,000. Under an act of congress, approved March 2, 1887, the college receives \$15,000 a year for the maintenance of the Agricultural College Experiment Station; and, under an act of congress approved March 20, 1906, this appropriation is increased by \$11,000 for the year ending June 30, 1909, and \$2000 additional for each year thereafter until the total amount available annually for experimental work is \$30,000.

In addition to the income from the federal government, the college is dependent upon the state legislature for such appropriations as are required for the development and maintenance of the institution in response to the educational and industrial demands of the state, and in accordance with the requirements of the acts of congress.

Work Offered. The work of the Oregon Agricultural College is in strict accordance with the provisions of both the federal and state laws, and is in harmony with the spirit and policy of the best land grant institutions of the country. Degree courses are offered in agriculture, including agronomy, animal husbandry, dairy husbandry, poultry husbandry, horticultural and stomatology, domestic science and home nursing, chemistry, mechanics, etc.; engineering, architecture, mechanical, mining, electrical and pharmacy. Elementary industrial courses, such as the study of the arts, through two years, are also offered in agriculture, forestry, horticulture and art, commerce, bookbinding, etc. These courses are of a broad field, including not only necessary distinctive technical and thorough training in the subjects of mathematics, natural and physical sciences, but general training in history, literature, and other essential parts of a liberal education. Never before in the history of the state, or of the country, has so much been done for the education of persons who have had no previous preparation. The sources from which the college is supported are of a nature and scope that are clearly indicated by the following excerpts from the federal and state laws.

While the most advanced scientific, technical and practical work desired, such training is the reach of all the people. There are many districts in which without high schools, and others in which the high school extends through only one or two years. But very few districts whatever for industrial purposes, most of the people are engaged in industrial pursuits and are in need of training which can be obtained upon their vocations. There are many men and women who, if they had the opportunity, would not lead from the advanced college course. These people will not have the advantage of college training

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SALEM WATER COMPANY

OREGON STATE BOARD OF HEALTH
Portland, Nov. 10, 1908.

ROBERT C. YENNEY, Secretary
To the State Board of Health,
Portland, Oregon.
Gentlemen:
I have to report examination of two (2) specimens of water received from the Salem Water Company, with results following:
No. 1, upon examination showed no B. Coli present.
No. 2, upon examination showed no B. Coli present.
Would therefore pronounce both specimens of water as safe for drinking and domestic purposes.
Yours very truly,
RALPH C. MATON, M. D.
Bacteriologist to the State Board.
Salem Water Co.
Salem, Oregon.
Dear Sirs:
Above is copy of report made to the State Board of Health by Dr. Matson, Bacteriologist to the Board, upon his examination of specimen water received from you.
Yours very truly,
ROBERT C. YENNEY,
State Health Officer.

Salem's Water Accommodations Second to None, Considering Supply and Territory Covered

From the time J. M. Wallace took charge of the Salem Water Company in 1894 that corporation has been making improvements in their plant, until today it is one of the best equipped in the world for the character of the supply and the territory covered with its mains. Mr. R. S. Wallace had entered upon a program of building an entirely new plant when he was overtaken by death. This work was carried on by his brother and trustee of his estate, J. M. Wallace, who put in a pump of three million gallons per day capacity, and a filtering system in the gravel bar opposite the city. This was enlarged in 1904 by Chas. A. Park, who also completed the Fairmount Hill reservoir, which holds two million gallons and is lined with concrete.
A ten-inch main for an emergency reserve is laid to this reservoir, and many miles of mains and service pipes have been put down in the past five years. At present an extension of mains to Englewood is very badly needed. Mr. Chas. A. Park, the president and manager, has popularized the service of the Salem Water Company with the people and at the same time made it profitable as an investment. An excellent fire service is

maintained with a hydrant pressure of eighty to eighty-five pounds to the square inch. The fire service of the Salem Water Company has not fallen down in a single instance and has been of tremendous value to the city in affording fire protection. The pressure is such that it will throw a stream over the Salem Flouring Mills at any time day or night.
Source of Supply.
Up to 1897 the source was the main stream of the Willamette river. During the summer of that year a crib was sunk in the Minto gravel bar, extending several feet below the bed of the river.
The dimensions of the crib are 2x60 feet. It consists of twelve individual cribs or wells ten feet square and twenty-two feet deep from the top of the sand bar. The top of the crib is perfectly tight. The sides of the crib down to the river bed are encased, water tight, thus forcing all the water that enters the crib to go in below the bottom of the river, the bed of the crib not being enclosed. There is about eight feet of the crib below the river bed line for filtering purposes. Tests have disclosed the fact that a great volume of

water enters the crib from the bottom, which is open. The crib is absolutely tight above the river bed as was said above, which is conclusive evidence that only filtered water has access to the crib from the Willamette river.
The point of intake is now about fourteen feet below the low water line. The whole is entirely covered by gravel, through which any material entering the main must filter. The intake is about twenty-one feet of gravel above the intake, as now constructed. The pipe where the water enters is thirty inches in diameter, and is reduced to twenty-four inches at the turn. This is for the purpose of overcoming the possible friction at the turn. The pipe is firmly held to piling driven deep below the bed of the river, so as to insure it against the possibility of disturbance.
Stands the Test.
The Salem Water Company has samples of water analyzed by the highest authorities from time to time. There is reproduced on this page a fac-simile of one of these reports. The reference to "B. Coli" is made to show that there is no contamination of any kind in this water supply.

Office in City Hall Salem, Oregon