

## THE NATIONAL UNIVERSITY OF AGRICULTURE

Few persons have any adequate idea of the extent and importance of the educational work carried on by the government of the United States; and fewer yet have a definite knowledge of the varied and exhaustive scientific training given by the Department of Agriculture alone. An article in *Scribner's Magazine* for January, 1904, gives an account of the work of the Smithsonian Institution and of the scientific investigations of the several executive departments, but the Department of Agriculture is dismissed with a brief reference.

If no other scientific work were done by the Government except that of the Department of Agriculture, Uncle Sam would still be at the head of by far the greatest scientific institution in the country—an institution with an income for educational purposes exceeding the combined incomes of the rich universities of Harvard, Yale, Columbia, Chicago, Leland Stanford, and California.

The germ of the Department of Agriculture is to be found in the United States grant of 1862 to the various States for the encouragement of agriculture and the mechanic arts. A few of the States made wise use of the Federal aid provided and registered real progress towards an improved agriculture; but it became evident that to secure the results intended a central, national, coördinating agency was demanded. Eight years ago the Department of Agriculture was created to supply this need, and the Hon. James Wilson, Professor of



Agriculture in the Iowa State College, at Ames, was made its first Secretary.

Entering upon his new duties, Secretary Wilson organized the Department upon five main lines of research: (1) Meteorology, or climatic conditions, a science fundamental to a knowledge of the development of vegetable and animal life; (2) the analysis of soils; (3) the science of plant industry, including the pathology of plant life as well as its normal development; (4) animal industry, normal and pathological; and (5) forestry.

The first and greatest demand of the new Department was for men with the thorough and minute training requisite for the conduct of scholarly investigation along these several lines. Mr. Wilson called upon all the colleges and universities of the land to supply the men, without whom a Department of Agriculture could not be created. Only a very limited number could be found who were fitted for the work demanded, and it was found necessary to prepare the scholars for conducting the researches of the various divisions, to take the graduates of the colleges and universities and give them the advanced and specialized courses, the higher training which they lacked.

Now, after eight years, the Department of Agriculture has secured the services of about five hundred expert scientists devoted to research and skilled in their particular fields of study. About fifteen hundred others are under training. They are employed as assistants or contributors to the labors of their instructors. As many more are employed in clerical and manual labors. Altogether the teachers, students, and assistants of various grades number a little more than



four thousand. The Department searches the world for the most accomplished experimentees, and any part of the world appears to be at liberty to levy tribute upon the Department.

In illustration of this latter point Secretary Wilson relates an instance. The Department has been wrestling with a problem connected with the cultivation of tobacco. One cigar sells for a cent, while another brings fifty cents. What is the difference? A young German was found with especial qualifications for the study and set to work to gain the mastery of the tobacco plant and the conditions requisite to the production of the superior quality. The question involved extensive examinations into a variety of matters—the source and condition of the seed, the climate and the soil best adapted to the plant, the kind and degree of fermentation necessary to mature the product, and a multitude of other considerations. The Department of Agriculture was making rapid progress towards the solution of the problem. Suitable soils were found in different parts of the country and the new industry was being established under favoring conditions, when suddenly the Japanese government, being interested in the same investigation, seized upon our expert and carried him off to the Orient.

The experiment stations of this great Agricultural University are situated in all parts of the country and of the world where there is a developing agriculture. Our own soils and climates are being mastered in their relations to agricultural industries, and the entire world is made to contribute to the discovery of plant and animal products suited to our widely varied conditions. This searching of the world for the



already developed germ is for the present of vast importance. Discoveries are being made that will add greatly to the productiveness of our lands. But the time will come when that part of the work of the Department will hold a relatively smaller place, and fewer discoveries will be made. The real science of agriculture consists, after all, in the more minute adaptation of plant and animal life to local environment.

Secretary Wilson mentions with much chagrin the fact that thus far America has produced not one clearly differentiated breed of domestic animals. We have only been importing and adapting foreign breeds, and this has been attended with immense waste. We shall not have all that science is fitted to give until we have discovered approximately the particular varieties of products suited to each special locality, and this will involve the evolution of many new varieties.

The work of the Agricultural Department is of a sort that can be done only by a fully equipped national institution reaching to every part of the country and to all parts of the world. Only by such an institution can the experiments carried on in all the States be supervised and their results coördinated and utilized for the common good. Its usefulness is manifold; it may serve as a clearing house of information for all educational agencies concerned with similar subjects; it creates a constant demand for trained and expert scholars from the colleges and universities and fosters the production of scholars; and it will be able to supply the demand for specialists in its several lines as instructors in colleges and universities, and in many ways as its work develops will act as a powerful stimulus in respect to many forms of worthy endeavor.



Agriculture embraces half the industries of our country. The ideal University of Agriculture will render guidance to every school, high and low, wherever any branch of the comprehensive subject is taught, and it will utilize the services of all such schools. At the same time it will offer practical direction and help to all engaged in the many pursuits which make up the varied forms of agricultural industry.

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