

Services of the University of Nebraska to the State



UNIVERSITY of NEBRASKA - Down-town campus.

BY P. A. BARROWS.
ADVANTAGES which the agricultural interests of Nebraska have received from the state university through the college of agriculture and the school of agriculture cannot be estimated. These three schools, or rather the last two, working under the direction of the first, has enabled the boys and girls of the farm to receive an education along farm and dairy lines which has been one of the big factors in making Nebraska what it is today and placing it among the very first in the agricultural states of the middle west.

The college of agriculture educates young men and women along lines of agriculture and dairy work which enables them at the close of their courses to go back to the farm better fitted for the work of the farm. There are about 500 of these students in the college at the present time. Of those who graduate, both men and women, about 75 per cent either return to the farm or into some profession where their education received at the farm will fit in with their work. Many go out as instructors in other colleges or as farm demonstrators teaching the people engaged in dairying and farming how to get the best results for their labors.

The school of agriculture is intended to give the boys and girls of the state who have passed the eighth grade in their studies a chance to become experts in the agricultural lines. About 700 are connected with this school, who, as they graduate, will go back to the farm with new and better ideas of compelling the soil to give up its best to the tiller.

Many of the graduates of the school of agriculture go out as teachers in rural schools, the instruction received at the school fitting them especially for this line of teaching and they are in demand from all over the state so that as the years go by scientific methods in farming will be inculcated into the men and women of the farm and the best results will be reached.

What the Schools Are Doing.
 Under the direction of Dean Burnett every effort is being made to give the students of the two schools the best technical education that it is possible to give. Under his direction the College of Agriculture has influenced the types of farmers in the state by its investigation of farm problems and carrying results of investigations having economic bearing back to the farmers.

"No agent," said Dean Burnett to a newspaper representative who called upon him "fifteen years selecting the best types of Red Turkey wheat, and are now introducing three or four selections for farm purposes. There are probably fifty

men in the state now growing this selected strain, and we are still working to get strains which will give large yields, a stiff straw, ripen early and good quality of grain with high gluten proportion. We have wheat harvested right now (June 22) which is about ten days earlier than the common varieties.

"In our investigations we have discovered that the early varieties of oats are much superior to the late. The Kherson leads in this respect. The Burt, Texas Red and one other variety ripen very nearly at the same time as the Kherson. We have discovered that if we can get a grain, and especially oats, that will ripen ten days or two weeks ahead of the common variety that it is likely to escape the dry weather which is usually harmful to the common varieties which come on later.

"We have done a great deal of work on seed selection of corn. In tests carried on we have co-operated with the farmer in the eastern portion of the state, where about ten varieties have been grown by each man, and have selected the two best producers, which outyielded the others by about eighteen bushels per acre. This indicates that every corn grower should raise the corn best adapted to his soil, and also to the climate, and he will not get the best results unless the seed is raised and selected in his own locality.

"In some years seed corn selected early in the field has proven quite superior to that selected later from the crib, and we advocate the selection in the field as showing the best results."

Plant Diseases.
 According to Dean Burnett, in some counties plant diseases have been severe, and the college has helped the farmer to treat the grain, and it has been to much benefit, especially in the case of oats. Where the formaldehyde treatment has been used the yield increased to about twelve bushels per acre, increasing the value of each acre about \$5.

Some work has been done to help orchardists to get rid of disease. Spraying demonstrations have been carried on in five or six counties for several years, and the department has many interesting facts shown in its printed bulletins covering the spraying proposition and its help to the fruit grower. The work done in treating trees attacked by the Illinois canker has been so successful that thousands of trees have been and will be saved, which otherwise might have died from the disease. In one instance Dean Burnett showed where a tree attacked by that disease had been killed nearly half way around the main trunk of the tree. Treatment was given it and today

it is as healthy as any other tree in the orchard.

Stock Experiments.
 The work of the experiment station in developing the best rations for fattening cattle and hogs is recognized all over the state. At the North Platte experiment farm more than 2,000 hogs have been fed to determine the cheapest method of pork production. Alfalfa pasture, with a medium ration of corn in summer and alfalfa hay with a full ration of corn in winter, has produced cheaper gains than any other rations used. With the use of alfalfa about 25 per cent of corn is saved. This would mean \$20,000,000 a year if only half of the corn crop was fed to hogs.

When alfalfa cannot be secured, or when the price is extremely high, it has paid to feed protein concentrates, like tankage or oil meal, along with the corn.

In feeding cattle, experiments made have shown that alfalfa hay and corn have proved the most profitable rations. In some instances the addition of corn silage has cheapened the cost of gain. In other instances, while it has not cheapened the cost, the use of the silo has greatly increased the number of cattle which could be kept on the farm.

When the experiment station began studying rations for fattening cattle, probably three-fourths of all the cattle in the state were fattened on corn and prairie hay. This ration has been found to be too expensive and has been almost abandoned, or if forced to use prairie hay, cotton or linseed oil meal has been added to the corn ration.

Development of Dairy Industry.
 The experiment station has helped to develop the dairy interests of the state by showing how to feed and handle the dairy cow so as to increase the quality and production of milk. The average yield of butter per cow in the experiment station herd is over 400 pounds per cow per annum, while the average of the cows of Nebraska is about 340 pounds. This difference is due to the selection of good individual cows, the use of high grade sires and good feeding and management. The college of agriculture has assisted in the organization of cow testing associations, of which there are now a half dozen in the state.

In the Douglas county association the best herd made an average of 215 pounds and the poorest 174 pounds. The ten most profitable cows made a test of \$108.25 per cow, while the poorest ten only averaged \$5.78 per cow. This in itself is a story with a moral which does not have to be stated.

The new dairy building now under construction will have greatly increased fa-

ilities provided for developing dairy interests. It will cost when completed in all departments about \$175,000.

Manufacture of Hog Cholera Serum.
 The college, through its hog cholera serum plant, is doing a great deal to assist the farmers in the prevention and control of hog cholera. Enough serum will be produced this year to vaccinate nearly 700,000 hogs.

The capacity of the serum plant has been increased by the erection of new and sanitary buildings, so that probably there is no plant in the state that can turn out a better quality of serum, so that work of this kind has been of great value in protecting hogs of the state against cholera.

Agricultural College Extension.
 The appropriations which have been made by the legislature for extending the plant of the agricultural college will greatly facilitate the work of the college in assisting the farmer. A new dairy building, one of the best in the United States, now under construction; a new building of agricultural engineering will be started this year; a new horse barn and a heating plant are also under construction and when completed these will nearly double the capacity of the plant for handling students.

Conservation and Soil Survey.
 The proposition of conservation and soil survey covers considerable territory. However under the supervision of Dr. George E. Condra the territory has been greatly minimized by the use of the motion picture machine and the soil survey investigations.

In the soil survey seventeen counties have been completed and parties are now in the field working on four additional areas. In the make-up of the survey parties the state furnishes a man for each one furnished by the government. The work is very strenuous and long hours are the rule, with sometimes a walk of more than twenty miles and fit ten or twenty borings.

The first thing in the work is to determine the various types of soil in each county and map them out on a large scale map. Everything is shown. When completed data is gathered from farmers in the locality regarding agricultural practice. A description of this practice is included in the text, and in this way the survey is instrumental in increasing the efficiency of the land.

Reports of field work are prepared in the office at the university and forwarded to the United States bureau of soils, Washington, for publication. As soon as published these reports and maps contained therein are eagerly sought by citizens of the respective counties. They are of use among the farmers, in the schools and by realty dealers. No attempt is

made to overestimate the soil resources and the industries based thereon. The object of the survey is to determine a fact basis for development and to derive such information thereby as will be of greatest use in conservation and development. It is on this account that the department is given the name, conservation and soil survey.

A further use of the survey is made in the department by many persons who make inquiries relative to the different kinds of soil and their best management. The number of these inquiries is large.

Probably no phase of the work of the conservation and soil survey has attracted more attention than its duty under the blue sky law. The statutes provide that the conservation and soil survey shall investigate and report upon the sale of foreign lands in the state when requested so to do. In case the sales are found to be fraudulent the department reports the same to the attorney general, whose duty it is to prosecute. Thus the department is the means of saving many thousands of dollars to Nebraskans. The presence of such a law on the statute books has served as a means of preventing fraudulent dealers from seeking to operate in Nebraska. The department being in close touch with the surveys of other states and with the federal departments, is in a position to gather information at once upon the various projects offered for sale.

In case the facts thus derived do not tally with the representations made by the agents, and if the parties seeking to sell do not have credit, or if after investigation it appears that they can convey no valid title the department requests the operators to withdraw from the state. This has been sufficient in most cases to check the operation of parties who could not meet the requirements of the law.

The conservation and soil survey has, through its director, who has had considerable experience working on the water supply department of the government, passed upon water supplies in many locations in Nebraska. This is found to be a simple matter for those who understand the source of underground water supplies, their direction and volume. The department has made a few simple recommendations which will be of great value in conserving the human life of the state. One principle thus set forth is that on shallow water ground, as on valley floors, wells should be placed up valley from the house, privy vault or town, as the case may be, receiving the flow before it becomes polluted. A study of the location of wells has shown that they are, as a rule, not placed so as to conserve health.

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