

Agricultural Education.

An address delivered at the sixth annual convention of the Cattle Breeders' Association of Manitoba, Winnipeg, Man., February 21, 1900, by W. A. Henry, Dean College of Agriculture and Director Agricultural Experiment Station, University of Wisconsin.

It is sometimes well, in these matter-of-fact times, to go back to the foundation of things, in order to have a proper conception of the causes for what may now be taking place. It is eminently proper that American farmers should have a clear understanding of how our American agricultural colleges originated, who were their founders and what are their purposes.

A bill was introduced into our National Congress in 1858 by Representative Justin F. Morrill, of Vermont (afterwards Senator), providing for the establishment of an agricultural college in each State of the Union. Passing both bodies by a good majority, the bill was vetoed by James Buchanan. On April 30, 1858, Representative Morrill delivered an address before the House of Representatives, which is a classic of its kind, and which has been unequalled as a plea for the education of the children of the industrial class of our country, especially farmers' sons. In this address he points out how agriculture is the basis of national prosperity. He quotes Adam Smith as saying: "That which arises from the more solid importance of agriculture is much more durable and cannot be destroyed but by those more violent convulsions occasioned by the depredations of hostile and barbarous nations continued for a century or two together." He showed that "National wealth is greatly increased or diminished by the more or less skill, dexterity and judgment with which labor is generally applied." Congressman Morrill pointed out that European nations were already awakened to the importance of agricultural education, and were providing schools and experiment stations for the advancement of this great art. He showed that our system of farm practices was faulty and ultimately disastrous, because each year saw the fields poorer in fertility than before, the crops gradually diminished in quantity and quality. He showed that our farmers were not indifferent to these conditions, but were groping in the dark for help, while only meager or desultory assistance was rendered them. There was some help from agricultural papers and the annual fairs of the agricultural societies; but nowhere were there laboratories and schools for exact investigations and competent instruction.

Closing his plea, which was one of the most eloquent ever delivered in the halls of Congress, he said, "Pass this measure, and we shall have done:

"Something to enable the farmer to raise two blades of grass instead of one;

"Something for every owner of land;

"Something for all who desire to own land;

"Something for cheap scientific education;

"Something to induce the farmers' sons and daughters to settle and cluster around the old homestead;

"Something for peace, good order and the better support of Christian churches and common schools;

"Something to enable sterile railroads to pay dividends;

"Something to enable the people to bear the enormous expenditures of the national government;

"Something to prevent the dispersion of our population and to concentrate it around the best lands of our country—places hallowed by church spires and mellowed by all the influences of time—where the consumer will be placed at the door of the producer, and, thereby,

"Something to obtain higher prices for all sorts of agricultural products."

Washington must have had something akin to our agricultural colleges in mind when he wrote in his last message: "It will not be doubted that, with reference either to individual or national welfare, agriculture is of primary importance. In proportion as nations advance in population and other constituents of maturity, this task becomes more apparent, and renders the cultivation of the soil more and more an object of public patronage. Institutions for promoting it grow up supported by the public purse, and to what object can it be dedicated with greater propriety?"

But James Buchanan turned a deaf ear to the pleading of the people, and it was left for Congress to consider the subject once more, and for that patriot, Abraham Lincoln, whose heart was always in accord with the hopes and aspirations of the common people, to sign the Bill which gave away eleven million acres of the public domain for the education of the children of the industrial classes. The Agricultural College Land Grant Bill was signed by Lincoln, July 2, 1862, at the time when the United States were in the throes of an awful civil war.

By this grant there was given to each State in the Union thirty thousand acres of land for each representative it then had in Congress. It was specified that the income from the sale of all such land should constitute a fund, the interest of which should be forever used to maintain at least one college where the leading object should be the education of the children of the industrial classes. This was the grandest gift ever made for education.

Because of the immense bodies of land thrown upon the market through the homestead act, the grants to railroads, and the agricultural college land grant, before referred to, and because of lack of proper foresight and business judgment on the part of the agricultural colleges derive but a small income from the original land grant. Believing that the

errors of a few who had handled this trust should not be visited upon the young of our country seeking education, Senator Morrill introduced a supplementary bill increasing the income of agricultural colleges, the bill passing August 30, 1890. By this second act, money derived from the sale of public lands to the amount of \$15,000 was appropriated to each State, this sum to be increased by \$1,000 annually until it should aggregate \$25,000, at which sum the annual appropriation should stand.

In 1887 Congress passed what is known as the Hatch Act, giving \$15,000 annually to each State in the Union for the establishment of an experiment station.

The income arising from the sale of lands granted in 1862, the annual appropriation of the United States, which amounts to \$25,000 for each State the present year and will so continue yearly, and the further appropriation of \$15,000 for experimental purposes, constitute the government gift to each State in the Union for the benefits of the colleges of agriculture and the mechanic arts, and for investigation. In many instances this government aid is supplemented by State appropriations. For example, in the State which I represent the agricultural college receives from the commonwealth \$35,000 annually for instruction and experimentation. Michigan has given her agricultural college over \$1,000,000 in all since its foundation in addition to the government appropriation. The manner of disposition of the original government land appropriation was quite diverse for different States. Connecticut, for example, turned this gift over to Yale College. Massachusetts founded a distinctly agricultural college at Amherst, giving it two-thirds of the grant and turning over the other third to the Boston Institute of Technology. New Hampshire gave her grant to Dartmouth College. New York's gift of 900,000 acres (the largest of all) went to Cornell University, where it was splendidly conserved through the wonderful foresight of that able and generous benefactor, Ezra Cornell. In most instances a goodly part of the money went to the enlargement of the scientific courses, and sometimes even to the further promulgation of the classics. In many institutions the mechanic arts department came rapidly into existence and accomplished untold good. I ascribe the marvelous advancement our States have made in engineering and mechanical arts directly to these schools; they have turned out thousands of young men trained in the sciences and in the handling of machinery; they have paid for themselves a hundredfold. In practically all cases, agriculture direct received less assistance and gained far less from this great grant than the friends of the measure had anticipated. It was found very easy to push the other sides of the institution and very difficult to advance the agricultural department. All of this is not difficult to understand now that the efforts of the earlier years are matters of history. Who in those years was able to tell what an agricultural college should be and how it should be managed? Scarcely was there a person in the country who could lay out any definite plan of procedure. The wildest theories prevailed, ranging from those born in classical minds, which would have the every-day farmer a classically educated gentleman, down to the so-called practical man who wished the students to wear a peculiar garb and to do the most menial labor, in the belief that by keeping the student close to the soil he would never lose his love for farming. The farmers generally were indifferent to the matter, for they had no theories to apply and sometimes preferred to criticize rather than assist, and so it was left to college trustees and college presidents to do as best they could. As the years rolled on it was found that few students were pursuing agricultural studies at the several institutions, and then arose a clamor among the farmers for a change. The National Grange took up the matter and urged the separation of the colleges where they were departments of universities, urging that young farmers would not attend these institutions along with students pursuing other courses, and that agricultural colleges could only be a success when established on a separate foundation. They pointed to the great success of the Michigan Agricultural College and the good work of the Massachusetts Agricultural College, both of which were separate institutions, and to the attendance in some other institutions. In some cases, institutions which bore the name of agricultural colleges and carried a large number of pupils in their catalogue were really not agricultural colleges at all, but schools of science and the mechanic arts located in the country, affording a good education in the lines taught at a minimum cost to the pupils. That the farmers were thoroughly dissatisfied with existing conditions, and that they were powerful and successful in their efforts at separation, is shown by the fact that in New Hampshire the agricultural college was wrested from Dartmouth and placed on a separate foundation at Durham. In Rhode Island the funds were taken away from Brown University and given to an institution in Kingston. Up in the hills of Connecticut was a little agricultural school established on a farm through the benefaction of a New York merchant. To this school young men were going for education in farming, while Yale College, receiving the land grants, had practically no agricultural students. The farmers of the State, acting as one man, pushed their efforts at separation until the funds were taken from Yale and given to the Storrs school at Mansfield. In several

of the Southern States separation has also taken place.

Let me return once more to those early days of experimentation in agricultural instruction. In some of the colleges there was not even a professor of agriculture to give instruction in that line; in others, matters were not much better, because upon a single professor were laid all the duties of instruction. There was no system of agricultural instruction which this teacher could follow; in other words, agriculture had not been put in "pedagogic form." There were books on agricultural chemistry, general works on farm practice, live stock, etc., but none of these were in form for class use. The few teachers who were really in earnest in those days were groping in the dark. Think for a moment of the tools they had to work with, compared with teachers in other lines. When a teacher is asked to give instruction in algebra or Latin, he can glance over the catalogues of publishers of educational works and note the names of dozens of books treating of his particular subject. As he approaches a decision in the matter, it is difficult to decide which of half a dozen text-books to choose. This is because educators have been at work for generations upon Latin and algebra text-books. In those days no one had taught the teachers of agriculture, and their efforts were but "the blind leading the blind." At these institutions those in authority, ignorant of what was required or of the possibilities, thought that one or two men could instruct in the whole field of agriculture, and for this cause matters were held back tenfold more than they should have been. Now we are learning to put men into each branch of agriculture, and as we divide up the work, with bright men back of each line, we are rapidly building up our schools into centers of *bona fide* agricultural instruction. They are no longer despised by our more progressive farmers, who now look to them with eager, anxious interest; they are beginning to have faith in them, and where once there was narrow suspicion and mild enmity, we now find an open-hearted and frank interest, such as has been evinced at this meeting in your welcome to the professors, and such as is seen in a thousand ways throughout this Province, as well as in my own country, in reference to agricultural progress. Your own country has been a leader from the start in agricultural education. Your school at Guelph has been an ideal institution in many particulars for American educators studying the subject, and has proved of untold worth to us in advancing our ideas along this unknown way. Your great system of experimentation, founded by the Central Government, with its headquarters at Ottawa and its branches reaching to every part of your vast domain, has been a constant source of admiration to the people on our side. Your numerous dairy schools and your system of travelling dairy instruction, together with the various other means of assistance to the people provided by the Government, have placed you far in advance of those on the other side of the border in many particulars. While the educational efforts on each side of the line are yet more or less imperfect and everything is immature, your people are to be complimented in the highest terms for the measures they have taken and the earnestness with which they have entered upon the solution of the great problem of how to lift agriculture to the highest plane of its possibilities.

TO BE CONTINUED.

A Pen of Breeding Ducks.

In the beginning of the breeding season, which is now, one drake to four ducks or two drakes to eight ducks is about right, and ought to give the best fertility, if stock is properly fed. Later, in warm weather, one drake to five or six ducks will do.

As to a house for a small flock of ducks, a weather-tight structure is all that is necessary. Ducks should not be kept too warm; they can stand a great deal of cold and exposure. They will prefer to remain out in all the snowstorms, and will seek the house or shelter only at night. There is one important point to be observed in housing. Although they are naturally water animals, they cannot stand damp bedding. The litter must be kept dry, otherwise they will be crippled with rheumatism. Give them, at this time of year, as well as in warm weather, all the exercise possible. Yard them, if you will, but let the yards be of fair size.

A good ration for breeders is half corn meal and half wheat bran, to which add a liberal handful of coarse black or builders' sand; mix all thoroughly together with water and feed in rather a moist or sloppy consistency, and never dry. Three times a week add a small portion of soaked ground beef scraps to this ration. Add also boiled and fine-chopped vegetables, and give whole cabbages every day. Whole grain, like corn, is not a natural food for ducks, although they will eat it. Soft and moist food is more to their fancy. When they are fed, which should be only twice a day, fresh water should be within easy reach, as they will take a billful of feed and then wash it down with water. If the water is omitted they sometimes choke. Breeding ducks should not be allowed to become over-fat.—Country Gentleman.

Much time is saved and advantage gained by having machinery, implements, grains and grass seed in condition for immediate use before seeding.