

## EDITORIAL.

The next convention of the Association of Agricultural Colleges and Experiment Stations will be held at Denver, Col., beginning July 16th.

Liver fluke in sheep is reported quite common in New South Wales, and pleuro-pneumonia is also likely to continue there under existing arrangements.

Through the wiles of the Chicago manufacturers of bogus dairy products, an "oleo bill" was recently smothered in the Illinois Legislature, much to the chagrin of the makers of honest butter.

Cornell University has received from the State of New York an appropriation of \$16,000 to be expended in horticultural investigations in the principal fruit regions of that State, under the direction of the State Commissioner of Agriculture.

A division of Dairying has been created under the U. S. Department of Agriculture, Washington, with Major H. E. Alvord, who recently accepted the position of Agriculturist at the New Hampshire Experiment Station, at its head; salary, \$2,500. The sum of \$25,000 per annum is set aside for the use of this division.

Prof. H. J. Waters has resigned his position as Professor of Agriculture and Agriculturist of the Experiment Station of the Pennsylvania State College, to accept the Deanship of the Agricultural College and Directorship of the Agricultural Experiment Station of the University of Missouri, of which he is a graduate.

Coleman's Rural World:—"The cause of agriculture in our common schools is making snail's pace. Agitation of the subject, half-hearted and half-convinced of its legitimacy, is not calculated to achieve a great end. The opponent of the proposed work by our common schools is general passiveness, a more potent force, or rather obstacle, than active opposition, for the latter stirs to conflict and hastens the life or the death of a movement."

When money is scarce there is a great temptation to sell any animal on the place that a buyer will pay a decent price for. Now, if it is the intention to remain in business, no farmer can afford to sell the best of his stock, especially the females. With good mares, the better they are in quality the stronger the reason why they should be kept on the farm for breeding purposes. Selling the best mares, or the best females of any sort of stock, is a step backward.

As the season advances, what are known as hoed crops should be cultivated more and more shallowly, as the feeders (roots) extend in all directions, coming almost to the surface in the summer months. Now, just in proportion as these tiny rootlets are cut off will the plants suffer for want of nourishment. While the presence of weeds has taught the value of cultivation, do not forget the lesson as soon as the weeds are killed, but keep the surface stirred every few days, and drouth will not cause a total failure of crop in your field.

## A "Royal" Prize Winner.

For our frontispiece in this issue we re-engage from the English Live Stock Journal a portrait of the first-prize Shorthorn bull—the roan, Nonsuch,—at the recent annual show of the Royal Agricultural Society of England, at Darlington. He is the property of Lord Polwarth, Mertoun House, St. Boswells. He was bred by Mr. J. Hill, Langside, Fifeshire; calved January 28th, 1890, his sire being Chief Secretary, and his dam Rose Flower 2nd by Cherry Shoot. He was not only first in his class, but gained the Shorthorn Society's champion prize as best male of the breed. Last year he took first at Aberdeen, where he was purchased by His Lordship. He is described as a massive bull of great character, with head and neck about faultless; long, and well-finished in the hind quarters, and very level-fleshed. If he has a fault, it is a slight deficiency around the heart; but it was conceded that he fairly earned his honors. He is reported to have been sold to a French syndicate, at a very long price, a fact regretted by British breeders, as his sort are difficult to procure.

## Scientific Farming--Thoughts on a Noteworthy Address.

There was a time, now happily passing away, when the terms "scientific farmer" and "scientific farming" were regarded as expressing something of a very dubious character, if, indeed, their use did not imply positive ridicule. To our mind there is but one answer to the question: Is scientific farming a success? Indeed, we would say that scientific farming is the only sort of farming that does succeed or can succeed. Scientific farming, as we understand the expression, is simply farming in harmony with the laws which the great Architect and Ruler of Nature has implanted in the soil, the air, the plants, and animals, and the relations which subsist among them. If we quietly sit down and think over the attainments as shown in the practice of some eminently successful farmers of our acquaintance, do we not find that in their knowledge of plants and plant life, of how the growth of vegetables and grains may be promoted and weeds killed, they are botanists of no mean order; in the rearing of farm animals, that they understand the principles of anatomy and physiology; that in constructing a silo, a drain, or a barn, they are architects or engineers; that in destroying the curculio or the aphid they are entomologists; in combating blight and keeping milk free from taints they are practical biologists; in conserving the valuable elements of barn-yard manure they are chemists; and so on through one department after another of farm work we find that those men are scientific farmers, even though they may disclaim the name. The farmer has done his part to achieve success—to make his enterprise pay—who links himself with the divine forces of nature, and administers his farm affairs according to sound business principles.

It is well to observe the distinction between one who knows the reasons for processes employed and he who only imitates or follows accidental discoveries. Scientific farming means an intelligent apprehension of the relation between causes and results, the discernment of the "whys" and "wherefores" of the various actions and efforts of the farmer. Ensilage, for example, will be none the less profitable to a farmer who knows why it is more digestible than rough cornstalks, or the results of sowing lime or phosphate on a crop none the less effective because a man understands the action of these stimulants upon the soils. How much nobler is the life of that man whose mind is busied with, and can enjoy the contemplation of, those wonderful divine laws that govern every change and phenomenon that effects him, than that of one who goes through his daily duties by rote and imitation, differing in degree rather than in kind from the horse he drives. "A little learning is a dangerous thing," wrote the poet, and although his tenet is not accepted, the danger of self-conceit sometimes attends the first lessons, a fact to which may be traced the reproach that formerly was cast upon scientific farming. But when a real learner gets beyond the primer in the experience school, he finds that every lesson learned in the right way opens several new problems to challenge his research, and at last the most advanced and experienced scholar is the humblest.

This thought was admirably brought out by Hon. Mr. Dryden in his address at the closing exercises of the Ontario Agricultural College, when he cautioned the students before him to guard against undue pride because of their attainments in scientific research, because there was another school where they would find the same truths were learned—the slow, hard school of practical experience. If the result of scientific research be correct and the conclusions of practical experience have been wisely summed up, both will have reached the same conclusion—agricultural truth, whether through theory or practice. One may be called a "scientific farmer," the other a "practical farmer," but there is really no difference between them.

Keeping in mind the conditions under which farming is carried on to-day, the foregoing considerations but emphasize the increasing utility of properly-conducted experiment stations and agricultural colleges, of the work of which Mr. Dryden made due acknowledgement in his address.

Speaking of another function of the Agricultural College, Mr. Dryden limited true education to that which leads to exact observation and exact thought, with a wise discernment of evidence where it is presented so as to separate the true from the false; in other words, a process which is the unfolding of the power, the life, the best that is in us.

Referring to the ideal of the College itself, Mr. Dryden said: "You will all, I know, approve of what I say when I tell you that my aim in connection with this institution is to bring the theory of the professor and the practice of the farmer together, and I shall not be content until our graduates can not only explain why certain things take place, but also can go into the field and work them

out in a practical way. It is an anomaly when a young man attends the Agricultural College, receives a diploma, and yet, when he reaches home, does not know how to feed his cattle, nor to produce in the most economical way the best poultry, cannot shear a sheep or mow a swath or hold a plow. His theories about these things will not help him to make a living unless he is able to put them into practice. Following this idea, I have been insisting on still more practical work."

A fundamental reason for a broad agricultural education he indicated in these words: "One of the greatest obstacles to the advancement of agriculture is a lack of appreciation of its importance. The public in general, and even the farmers themselves, do not appreciate its importance in the development of the nation. The past three or four years have done something, however, to help us realize this principle. We have discovered that when the farmer did not prosper, in the end prosperity was denied to every other class. We have discovered that under such conditions business enterprises go to the wall, that men everywhere are turned out of employment, and distress and misery are sent abroad in the land on every hand. We have discovered that one of the largest means of acquiring wealth for the nation is in the right prosecution of the agriculture of our country."

We believe that the agriculturist does not need so much to be "bonused" or "fostered" as to possess himself of knowledge, to become inspired with confidence, to have a "fair field," and be allowed free scope for the prosecution of his chosen avocation.

There is, remarked Hon. Mr. Dryden, a lack of appreciation of the possibilities of improvement in agriculture, and of the superior advantage of the farm for the development of a pure home life. There is, in short, a lack of healthy sentiment in favor of farming, notwithstanding that there is ample room for that sentiment without any unreasoning attacks upon other callings. "To this end," said he in conclusion, "I hail with delight the fact that year by year we shall be sending out more and more of our farmers' sons with high ideals, with correct sentiments, with intellectual attainments, with correct theories, and with practical experience, which will enable them to do their best, not merely for themselves and families, but to become educators and exemplars to those around them."

## Danish Bacon Factories.

Danish bacon has made a name for itself in England that places it ahead of bacon from any other country. During the last five years the quantities imported from Denmark into the United Kingdom have increased from 470,047 cwt. (112 lbs.), valued at £1,346,385, in 1890, to 766,828 cwt., valued at £2,189,690, in 1894. It is noteworthy that the sudden augmentation is coincident with the establishment of co-operative bacon factories in that country. In view of the success which had attended co-operative work in the dairy industry, this new bacon venture was regarded as perfectly safe and advisable. In 1887 the first organization of this kind was formed by a number of farmers. There are now 34 of these establishments in operation, of which number 17 have been erected by co-operative associations of farmers.

In the case of factories established by the farmers' associations, the funds for the erection of the necessary buildings were generally derived from a loan effected on the security of the founders, each member being expected to become a guarantor for an amount not exceeding £50, the sum guaranteed by each individual determining the extent of his ownership in the concern. It is usually stipulated that the members of the association shall deliver all their salable swine to the factory for a period of seven years, except in the case of removal from the district. This stipulation does not, however, apply to boars, sows in farrow, or young pigs under 56 pounds (in some cases, 112 pounds) live weight. A corresponding obligation is nearly always imposed on the association to accept all the healthy swine consigned by a member of the factory.

The regulations do not, as a rule, contain any restrictions on the methods of feeding swine intended for factories. Sometimes, however, the employment of fish and fish-cake is prohibited, as is also the use of a ration containing more than 50 per cent. of maize (Indian corn).

Whenever it is found that the supply of swine is falling off, the manager of the factory is empowered to purchase pigs from non-members of the association, at a price fixed weekly by the council and posted up for the information of members. The managing committee of the co-operative factories have recently combined for the maintenance of their general interests. In some seasons the supply of swine has been too great—in others too small. Steps have already been taken by the joint committees of the factories to remedy these disadvantages; and more attention is being directed to the production of a good class of bacon pig, particularly of that type which finds most favor in the British markets. According to the quarterly journal of the British Board of Agriculture, the most popular classes of pigs are descended from the large and medium White Yorkshires. The best herds are kept up by frequent introductions of fresh English blood. In 1893 the total number of swine in Denmark was 829,000. (The Province of Ontario reported 1,012,000 the same year.)