

received the name of 'book-farmer.' But perseverance brings success, and in time I was able in some measure to apply the knowledge in such a way as to get better returns than those who followed the old ways. Space forbids to mention what took place in connection with growing corn and building a silo (the very craziest thing of all), seeding every crop of grain to clover, etc. Now, you must bear in mind some woeful mistakes were made, and, after growing good crops, I did not always get a proper return for them until I got to figuring balanced rations for dairy cows, weighing the feed, weighing and testing the milk, sending the cream to the creamery, and feeding the warm skim milk to calves and pigs, and studying the advantages of using special animals for special purposes. All this took quite a number of years, and, while I have been farming for twenty years, it is only about ten years since I have made much headway financially, and during this time have fallen short in several instances in making theory and practice work together. One of the things which I received the greatest criticism for was keeping accounts. Everyone, to a man, claimed it was impossible to figure out a profit in farming, but I have always contended that, unless it could be figured out, it was impossible to get a profit, for the reason that a man does not know where he is making profit or loss. My accounts have simply been keeping receipts and expenses, and from this and other data at hand I could tell the cost of a bushel of the different kinds of grains, the cost of feed given each cow, and her production in milk and fat, the cost of producing 100 pounds pork, etc. I would say that a farmer owning 100 acres of land, and putting into practice the teachings of good agricultural journals and bulletins from the experimental stations, and other information to be obtained by an inquiring mind, would not need to think he was doing anything wonderful to clear \$1,000 a year above living and running expenses."

EDUCATION THROUGH SCIENTIFIC AGRICULTURE.

There is one other point to which I must refer, though I may not dwell upon it as I would like. That is the mental development which comes with a study of agricultural science and economics in their larger aspects. We are getting over the idea that schooling and education are synonymous terms. Intelligent labor is an exceedingly valuable means of education, and incidentally it can be made an invaluable means of child education through the medium of a school-garden and otherwise. The beauty of it is that anyone who studies his occupation has a means of continuing his education indefinitely, leading to larger and larger development, whereas the studies of the school are too often left behind with the classroom, and the mind atrophies for want of vigorous exercise. Scientific agriculture is to be advocated, therefore, on grounds of intellectuality and citizenship. I believe the silo has been an immensely valuable civilizing agent; so of clover, alfalfa and all other good things whose introduction has pried us out of the ruts and caused us to exercise our minds. If agricultural progress were merely a matter of making more money, I would be half-hearted in support of it; for the end of riches is cancer and vanity. I believe scientific and business farming will enable us to make more money, to make it more liberally, to achieve a more broad gauge success in a business way. I hope it will not lead us to save more, for the purpose of earning is judicious spending, reserving, of course, a competence against accident and old age. But my strongest appeal is based on the fact that scientific farming will tend to the intellectual and social development of the farmer and his family. As Solomon says, "Wisdom is better than rubies."

THE SUMMING UP.

And so, in the last analysis, it comes down to this: The trouble with agricultural theorizing is that we have had altogether too much poor theory preached, altogether too little good theory practiced, and especially not enough good theory practiced in the right way. Farming is no longer a mere trade. It is a complicated business and science. We need all the help of scientists, all the help of experimenters, all the help of other people's experience, all the help of reading lectures, and travel, to stimulate, inform and assist. Let us prepare ourselves earnestly to farm well and to live well. Let us read, travel, observe, study, and think, that we may carve out for ourselves a larger, broader success. Above all, let us realize, if we have not realized it long before, that brain power, understanding and knowledge are far more precious than gold.

Eighty per cent. of everything grown on Canadian farms is consumed within our borders, declares the Canadian Manufacturers' tariff memorial, which dilates upon the happy position of the farmer, who is thus enabled to convert four fifths of his produce into cash at his very doors. But the farmer whose product was consumed at home receives more for it than the one whose produce was purchased for export. In most cases, did not. Wheat, cheese, beef and all

our staple agricultural products are sold at a level determined by the price of the exportable surplus. Some of the minor products, such as fruit and vegetables, are enhanced in value by the fact of a protected home market, and in special localities, during periods of scarcity, the price of staples, such as butter, may rule above an export basis. But, for the most part, the home market is not a better paying one for producers than the export market. Nor does produce marketed locally add to the support of the great transportation systems, concerning whose welfare some of us have become so nervous.

The Farm-School.

The idea that the pursuit of knowledge is rewarded by its mere acquisition is losing its hold. Its place is giving way to the doctrine of Pragmatism, which teaches that the justification of beliefs is found only in their expression through conduct. Concerning each branch of learning, the questioning grows louder and more insistent. What is the good of it? People are coming to see that thinking is to be valued by action, and that the true purpose of all study is the improvement of human conditions and life.

A writer in the Craftsman discusses the making of school-studies during the "vision years of youth"—fourteen to twenty—significant and effective by and through their relation, not to constructive and manual-training courses in the schools, which he calls "play-work," but to actual, useful work. His plan is the "Farm-School," which takes the boy at fourteen years of age and employs him—body, mind and soul—not in study half the time, and play and holidays half the time, but in work, study and play, daily all the twelve months round.

"Just as I said," argues the writer, "that everyone should live in the country at least part of the year, so I say that every boy should receive part of his education on a farm. I choose the farm in which to carry out the principle of learning to work, because the farm offers opportunities of almost endless variety for practical creative and constructive development. In my opinion, there is no single method of education that teaches a boy so much as farming. The farmer has to depend on his own forethought, skill and muscle. He must study the weather, the seasons, the animals, the plants, and the tools that he uses. Athletics and drill may offset to a certain extent the evil physical effects of indoor study during the youth's growing years. But, on the farm, strength and muscle are acquired by

dweller's point of view. The writer properly appreciates the nature and value of the education during these "vision years" that comes from the experiences and associations of the family hearth. "The family, with all its loving duties, is the greatest institution humanity has yet produced." It is on the farm that the youth sees this idea expanded, "in the hen with her brood, the mother cow with her calf." The boy, bearing his part in supplying the material wants of the home, working in the garden, splitting the kindling-wood, etc., will likely develop truer attitudes towards life and social conditions than the youth away from home, and living in some boarding-house. "I would have these fundamentals taught, not for their practical value, only, but for their ideals."

The Craftsman shows what the town boy would gain by education at the farm school. What, it may be asked, does the farm boy lose by being educated at the town school, or at any school that is a town school in all but name?

What is the practical application of this idea—the school as a part of a farm for city children—to the education of children whose home is on the farm? Is it not, in the first place, that the farm and the school should be correlated—I might say integrated—to the extent that farm life, farm needs, farm ideals, should become the center of educational interest and activity? The science of the farm and household duties should become, and can be made, the subject of study in the school.

In the second place, the boy who leaves his farm home at, say, fourteen to attend a school in town, stands to lose the invaluable education that comes from bearing his share in the duties of home-making; third, he misses the most useful experience of the apprenticeship years—learning to do useful manual work; fourth, he is likely to fall short of the physical stamina he would develop from the daily performance of two or three hours' work on the farm; and, fifth, as town schools are now constituted, he has no opportunity to get that particular and important kind of education for which the Farm-School is established.

J. DEARNESS.

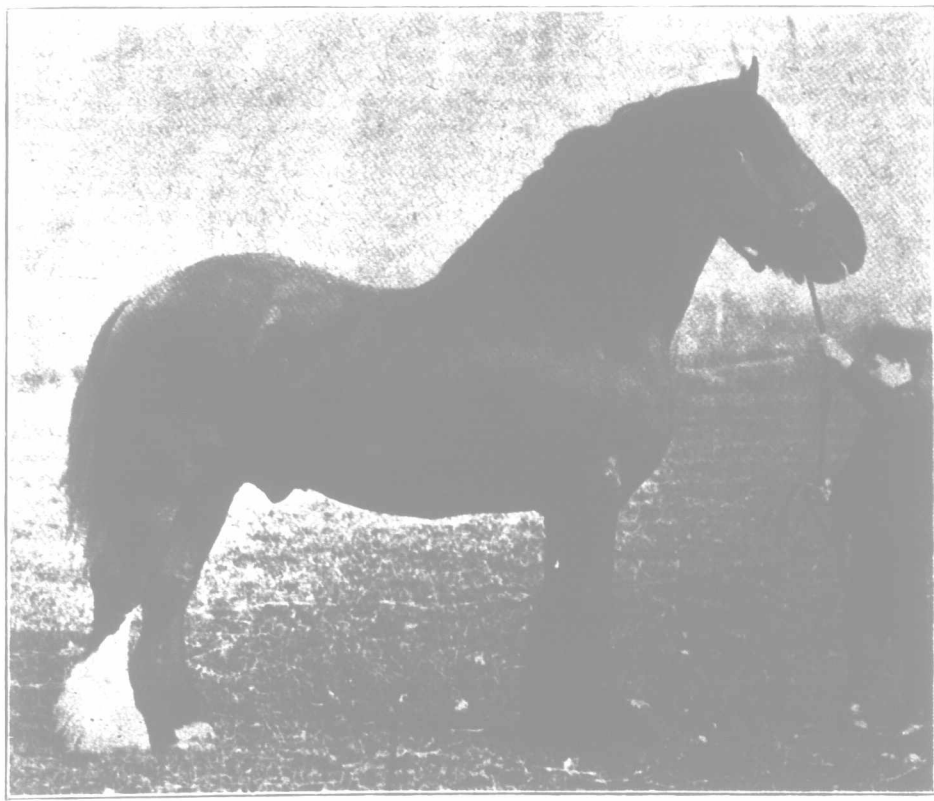
HORSES.

A Notable Clydesdale Sire.

The accompanying portrait of the renowned Clydesdale sire, Darnley, is by far the best representation of this great horse that has appeared

in any of the histories of the breed that has come under our notice, and, together with the following notes, is copied from that excellent publication, "Horses of the British Empire," edited by Sir Humphrey F. De Trafford, Bart.

Darnley (222) was a rich bay, with very little white, sired by Conqueror, and foaled in 1872; he was full of quality, and of good size. Some objected to his head and ear as not being sufficiently large and masculine, and somewhat pony in character, doubtless through his paternal grandam. His arms and thighs were light, and lacked muscle, while his action left something to be desired. This may seem a serious catalogue of deficiencies, but withal he was the gentleman of any company in which he was placed. He had



Darnley (222).

Clydesdale stallion; bay, foaled 1872. Sire Conqueror (199); dam Keir Peggy (187).

a wholly useful expenditure of energy, while at the same time the boy is learning the dignity of labor."

So far as teaching to work is concerned, the idea is not a new one. Luther's plan of education was an alternation of a half-day's work with a half-day's study, and his plan was actually adopted in several German principalities. The quality that distinguishes the modern idea of education by work is that the work itself should be made part of the education. Learning to work simply by imitation and habit is a different thing from studying one's work and developing power and interest through a study of the science—the why and wherefore—of each step taken in the work.

The Farm School is a boy's school from a city

beautiful quality of bone, with sufficient quantity, fringed, but not clad, with good hair; with strong, oblique pasterns, big coronets and hard, open, round feet. As a colt, he was late of maturing, and did not impress one as likely to develop into a heavy horse, but he continued to grow and flourish until he ultimately scaled fully a ton. Darnley proved victor in many stiff show-yard contests, among other prizes, capturing the Glasgow District Premium twice, in 1876 and 1877; first at the Highland in 1877 and 1878, in the latter year being made champion of the breed. He was second-prize winner at the great International Show at Kilburn, in 1879, and first at the Highland and Glasgow in 1882, as sire of the best family of five aged animals exhibited; and finally champion at the Centenary