

strongly impressed, and from our own experience in corn-growing a thorough cultivation of the soil is the first essential. To get the land thoroughly pulverized a spring tooth or disc harrow is recommended, or some kind of cultivator that will do the work well. In a great many districts, and in fact it is quite general, it is the practice to plow sod for corn, and if it is a clover sod so much the better. The practice is to plow this sod pretty deeply in the fall, and, if possible, work it some on top before the winter sets in. During the winter or spring apply a liberal coat of manure, and then plow shallow, after which work the land thoroughly before planting. Some adopt the very reverse of this, and plow shallow in the fall and deeper in the spring. In such cases the manure is applied in the fall before the shallow plowing. The plan of plowing down a clover sod is very strongly recommended, and in nearly every case has given good results. Some recommend plowing the clover sod in the fall if the land is heavy clay, and applying the manure in the fall if it is coarse, but if well rotted apply in the spring. If the land is sandy or a sandy loam the sod is plowed in the spring after adding a liberal coat of manure.

The growing of a corn crop is considered by some to be a good way of cleaning a dirty field. Several correspondents mention this being done with very good results. If the corn is planted in hills so arranged that it can be cultivated both ways it may be a good plan to make the growing of a crop of corn a kind of scavenger for weeds, but we are somewhat doubtful about the practice being a good one. The corn will have a much better chance if the land is thoroughly cleaned before it is planted. In preparing the land it is considered to be a good plan to roll the land a couple of times. This would certainly help to pulverize the land and make it in finer condition.

In growing corn for the silo and for fodder a common practice is to plant it with the seeder in drills from three and a half to four feet apart with grains about six inches apart. Where the corn is planted in hills four or five grains to the hill is about right. It is usually planted in the hills by hand or an ordinary corn planter. Where the land is marked both ways, as recommended in Mr. Moore's article, corn can be planted very quickly by dropping the seeds where the markings cross. The time for planting varies somewhat. The time usually followed is from the 15th to the 24th of May. This will largely depend upon the nature of the soil and the season. Unless the ground is well prepared and warm it is not good to plant too early. After planting, one of our correspondents recommends harrowing with a light harrow when the corn is from three to six inches high. Whether it would be safe to do this in all cases it is hard to say. At any rate the corn cannot be cultivated too much from the time it appears above the ground till it is so high that a horse cannot walk through it. The more cultivation it gets the better. The plan of harrowing between the rows, recommended by Mr. Moore, should be a good one. His especially constructed harrow is easy to make.

THE RELATION OF AGRICULTURE TO OUR SCHOOL SYSTEM.

By E. C. WALLACE (Wallace & Fraser), St. John, N.B., and Toronto.

Much interest attaches to Prof. James' paper on "The Relation of Agriculture to our School System," and I may be pardoned for making a few suggestions on the subject.

The conclusions he reaches are well and thoughtfully reasoned, and not at all strained. As he truly says, the difficulty is to judge just how to apply them practically to the schools. It has occurred to me that if the teachers of rural schools were themselves thoroughly versed in the science of agriculture and the latest researches, and besides had a practical agricultural training, it would greatly assist in forwarding the plan of education. An afternoon talk on agriculture (or you might call it a lecture), the subjects being chosen to meet the stage of advancement of the pupils, would be of great value. These talks might often be made to fit the season of planting, growing, and harvesting. The peculiarities of the soil of the district might be sometimes dwelt on. Feeding, the care of manures, dairying, forestry etc., would all come in place, and a practical kindergarten plan of referring to the farms on which the pupils lived would furnish object lessons for these talks.

While it is true that an attempt at teaching practical agriculture in the schools would almost surely be a total failure, the benefit to be gained from the general principles of scientific agriculture to the farmers' children must result in great good to the nation.

Another plan, and possibly one more easily introduced quickly, would be the employment of a staff of traveling agricultural teachers, who would go from district to district giving these talks or lectures in the schools. The attendance of the parents of the children at these school talks could be encouraged, and thus much good could be done as they would be thus enabled to assist their children at home in following up the themes in a practical way. In the city schools the pupils get a much better education than in the country schools, and it is noticeable that when a well educated, city bred man takes to farming he brings much more intelligent effort to his work than the country bred man. His brain seems to be better developed and guides his work more intelligently, and with perseverance he soon acquires the practice which makes him a skilled workman. His observation is usually keener, and he more quickly notes phenomena, and seeks the cause which produces various effects. It is noticeable also that a mechanic, or a man with a naturally mechanical bent, usually displays much intelligence in farming. It always seems a hardship that boys are forced to leave their father's farm, and seek a living in the cities. May not the cause of this be partly from the fact that through want of knowledge of the actual requirements of the land and of the plants, the farm is showing evidence of running down. The farmer says the crops are not what they used to be, while the needs seem greater. The boy's education in the country school has not taught him how to remedy the evil.

The farmer, not knowing himself, is unable to enlighten him, and the son dreads to take up as a life task a matter which seems shrouded in mystery.

The true plan of education then must be to open the children's mind to the known facts of agricultural science. Instead of allowing them to grow up with the idea that it is all an unfathomable mystery, teach them to understand clearly the nature and constitution of plants and soils; how plants feed; what they require for proper development and ripening; how the food is to be procured and prepared; how to turn to account the natural forces by which they are surrounded; how to prevent disease of the crops, and how to treat it when it appears. Teach them the difference between the animal which carries its food about with it while it digests and absorbs it, and the plant fixed in the soil which pushes its way through its food in the soil digesting and absorbing it. Let them understand animals and their requirements and the science of feeding, so that from actual knowledge they may develop judgment in disposing of the products of the land on the farm itself. All are not "born feeders"; early acquired knowledge and training may develop a latent faculty. Open their eyes while yet young to the nature and composition of milk and its products, and when the traveling dairy comes along they will quickly and surely understand its practical teachings. In fact prepare the youthful mind on the subjects of its surroundings in life, and as it develops and matures the man himself will complete his education by observation and practice.

But the greatest stumbling block to be encountered is the farmer himself. Usually short-sighted and wedded to false economies and antiquated notions, he resents what he considers innovations. Not realizing the necessity for this higher education and more accustomed to use his brawn than his brain, he doubts (often in a very positive way) the wisdom of introducing what he is pleased to term "new-fangled notions." His way of going has been incessant toil from daybreak till the stars twinkle in the sky, and he starts in early to "bring the boy up in the way he should go." Duped as he frequently is by all sorts of traders, he naturally looks with suspicion on any attempt to interfere with his settled notions of farming; consequently in preparing agricultural education for the farmers' children, we must reckon with the parents as well as with their children, with the teachers as well as the scholars, with settled customs and the conditions of rural society of to-day as well as of the future. The task is no light one, and it is sincerely to be hoped that Prof. James will not turn back from the plow to which he has put his hand, for no greater benefit can be bestowed upon agriculture than that of the education of the agriculturist who stands greatly in need of light.

Young hens are unquestionably the best for egg production.

Filthy houses breed lice, and lice are the cause of most poultry diseases.

PREMIUMS EASILY OBTAINED.

The following letter shows how easily premiums may be obtained by those who determine upon making the necessary effort to secure them.

Adelaide, April 19, 1898.

DEAR SIR,—Having seen in last week's FARMING the list of valuable premiums offered I determined to make an effort to secure one. The result was that I succeeded in a very short time. Enclosed please find \$1.18 to pay for one year's subscription for Mr. L. T. Miller, Adelaide, Ont., and one bushel of Prussian blue peas. The 18c. is to pay for the bag. Hoping this slight effort to increase the circulation of your indispensable journal on agriculture may meet with your approval, I remain, yours sincerely,

ALFRED CUDDY.

It is needless to say that Mr. Cuddy's effort is not only very highly appreciated, but we are very much obliged to him for the opportunity it gives us of showing how easily the circulation of FARMING could be doubled if each of our friends would follow his example. It shows also how profitable the effort is. What Mr. Cuddy got would have cost him 75c. if obtained in any other way, whereas the actual cost to him was only 3c. for postage.

Books.

TESTING MILK AND ITS PRODUCTS. By Professors E. H. Farrington and F. W. Woll. 8vo., 236 pages. Price \$1.

This book should be in the hands of every dairyman in Canada. Copies of it may be obtained at this office, or will be sent free to anyone for two new yearly subscribers at \$1 each.

THE TRACTION ENGINE: Its Use and Abuse. By James H. Maggard. Revised and enlarged by an expert engineer. Philadelphia, Pa. Price \$1.

As announced by the author this is not a scientific work on engineering, which would be only valuable to engineers of large stationary engines, but is intended for engineers of farm and traction engines. "Rough-and-tumble engineers," who "have everything in their favor to-day and to-morrow are in mud-holes; who with the same engine do eight horse work one day and sixteen horse work next day; who use well water to-day, creek water to-morrow, and water from some stagnant pool next day." To these who operate farm and traction engines it will furnish a great deal of valuable information in plain everyday language, free from all technicalities so that "he who runs may read."

FIRE AND FROST: Stories, Dialogues, Satires, Essays, Poems, etc. By Ethelbert F. H. Cross.

This little book appeals so strongly to the national sentiment and sympathy we cannot refrain from giving it a good send-off although it does not treat of any subject connected with agricultural journalism. It is, in fact, a collection of short stories, essays and poems, written by a clever young Canadian who is destined at no distant date to make his mark in a much wider field, if first performances can be taken as any indication of future accomplishment. The author, though still a very young man, is by no means unknown to literature. He has been a tolerably prolific writer and a constant contributor for some years to the leading Canadian and American literary journals and magazines and his productions have claimed a large number of admirers on both sides of the line. "Fire and Frost" is the first attempt to collect his works in concrete form and we have no doubt it will be extensively read as it well deserves to be. The stories bear the impress of that indefinable charm which local coloring and familiar scenes and events lend to works of fiction or of history. We should certainly like those of our friends who appreciate a good story, an instructive essay or an interesting poem to procure a copy of this very excellent product of typical Canadian genius. It may be obtained from all booksellers. Price \$1, handsomely bound in cloth.

You can't become practical by books alone; you must combine experience with them.