

law. The secret is that our common school education is not adapted to create a race of farmers capable of adjusting themselves to the times. We are educating away from the farms, and not toward them. Emerson says: "We are fired with the hope to reform men. After many experiments, we find that we must begin earlier—at school." That is what we come back to each time that we attempt social amelioration. The solution of the labor problem is not in legislation, but in improved tact and skill in the blood and in the fingers of the laborers. The marriage problem will be settled, not by layer on layer of laws, but in a higher moral education of boys and girls to comprehend the purpose of life as altruistic instead of egotistic. The farm perplexity is in a peculiar manner dependent upon defective education. So long as the old order of things existed, the curriculum of common education was satisfactory. The farm boy of the early part of our century had two sorts of education; one half of it was home training, the other half was from the schools. At home he had manual culture—he was taught to handle tools such as were used, and to be proud of his skill; he must hoe his row, and turn a straight furrow, and mow a clean swath, and know the knacks of plain farming. At school all he needed was the three R's; and those he got. A peculiarly talented boy, or one all brains and no muscle, went over to the parsonage, and was fitted for college. The farm boy only needed to read, to write, and to cipher; the rest of his education was on the land.

But note how total is the change. That part of the boy's education which consisted in skilful handling of the scythe and axe and other tools is useless and vacated. So far as the three R's are concerned, they can mostly be taught at home. *What we want of our country schools is to make the farming to-day intelligent, interesting, and profitable.* The boys and girls should first of all be taught the composition of the rocks and soils with which they have to deal. This should be complemented with a good knowledge of plant and animal life. I suppose that no one could be more ignorant of these things than the average farmer. He is in no case taught in the common schools the structure of the animals he employs, or the grains that he eats. Geography gives a knowledge of the surface of the earth in general; it points away from the farm. Geology gives a knowledge of the earth under foot, the farmer's own immediate property; it makes every grain of sand and every granule of clay interesting; it opens the eyes to ten thousand things the farmer must daily touch and see. Yet the farm children have geography and not geology. No one surely would condemn geography, no one would shut in or circumscribe the farmer's interests; but I plead for the other. Geology I would follow with biology in its forms of zoology and botany, and in its divisions of physiology, entomology, and ornithology; that is, I insist that our country schools shall undertake to make farmers. The boy on the farm—and the girl, quite as much—needs to know the things under his feet and over his head, the soil, the life in and on the soil, and his relation to them. He should understand a cow and a horse in their zoological relations, and, to some extent, anatomically. I am considering the broadening out of farm life, and the awakening of interest in those things that make a part of the farmer's daily life. *As the schools are, whatever is taught points to the store and the city, and not to the farm.* A college professor said to me: "We can do very little in the way of putting more science into the college curriculum until the high schools are revolutionized, and that requires a preliminary change in the common schools." Before the age of seven or eight, in well-to-do families, where kindergartens are impossible, the child should be taught chiefly to observe. He should learn to see well and to use all his senses. After that age books should be used as aids to observation; not to dispense with original observation, but to assist. Every child should become an investigator. When this change is made, and the curriculum is readjusted as suggested, I do not say that you cannot drive our boys away from the farms into trade and manufacture; but I do say that, unless a lad is born with a particular bias for something else, *he will love the land so that he will not wish to leave.*

So utterly impossible has it been for myself to secure my children what I call a rational education, that I have done what I regret many more do not do or cannot do,—have built a laboratory and employed private tutors. Here they enjoy with a zest drawing, geology, biology, chemistry, mathematics, and music, with, as far as possible, field work. These studies are followed by a general knowledge of life on the globe as well as the history and science of human language and thought. At this point geography becomes a rational part of education. The result has been more than satisfactory. They love the land, and the things of the land. I am confident they will never consider land culture inferior to traffic. Their minds are here because their acquaintances are here. Their souls are with the birds, the plants, the animals, the bugs. They also escape that fatal vacuum which is created by a school system that omits moral culture, a vacuum quickly filled with an inrush of immoral emotions, and by premature knowledge of sexual impurities. Home education should be widened to the utmost possible limit, and no system of public schooling should be tolerated that omits moral training.

(TO BE CONTINUED).

Work at the Ontario Agricultural College.

Work, with the exception of corn planting, which almost continuous rains had delayed for nearly a couple of weeks, was well forward at the Ontario Agricultural College Farm, Guelph, when visited by a member of the FARMER'S ADVOCATE staff on the 26th of May. The growing field crops, including the experimental plots, were as a rule in excellent condition, despite excessive wet and backward weather. Some idea of the magnitude of the experimental work carried on may be inferred from the fact that there are some 1,500 or more plots devoted to that purpose.

Experimental Work.—In all the work of testing varieties, methods of cultivation, manures, etc., the general plan seems to be to attain results that will be permanent in their character. This is certainly far better than attempting to hurry through an immense number of experiments that simply make a show on paper. Ample time should be taken to verify (repeatedly and under varying conditions) results, more especially if the first showing is one that might lead others to expect phenomenal results. Varieties that do not seem desirable are being sorted out and in due time discarded. By a more careful system of selecting seed grain, there is no doubt that the outstanding excellence of varieties can be much longer perpetuated than is too generally the case. New sorts become necessary from time to time if the best results are to be secured, but a continuous dabbling in all manner of novelties is an unprofitable and unsatisfactory extreme, just as is the practice of sticking to "run out" varieties. We would commend heartily the idea of devoting more attention to improvement and the maintenance of desirable qualities by means of seed selection, various methods of seeding, cultivation, etc. Nothing has yet been attempted in the way of hybridizing, but something in that direction is under contemplation. The Experimentalist has done wisely, we think, to enlist the co-operation of ex-students and other farmers all over the Province in the testing of a few of the more promising sorts of grains, roots, etc., in order that their general excellence may be determined.

Improvements.—Numerous improvements have been made about the grounds and buildings since the writer's last visit, and others are now in progress. Another effort (with better prospects of success than those in previous years) is being made to drain a low-lying area in a field south of the main barns. The long-deferred levelling of the slope in rear of the barns and College is now being accomplished and small clumps of evergreens, to improve appearance from a landscape standpoint, are being planted.

On what may be called the Dairy School Farm great changes are noticeable. We might say the equipment for dairy work is most complete, both for the regular course and for the Farm Dairy Department, where farmers' sons, daughters and others have the privilege of going for a short course of instruction in practical dairying.

Only one travelling dairy is out this season. It commenced in Halton; next going to Peel, and thence to York County. Prof. Dean has been in charge, but on his return to the College it was arranged that Mr. F. J. Sleightholm, a farmer from the County of Peel, should take charge. Mr. Sleightholm took the gold medal at the completion of the Agricultural College course for associate diploma, and recently passed the last of a long series of examinations for the degree of B. S. A. in the University of Toronto. Prior to going out with the travelling dairy, he spent some time in the Experimental Dairy. Mr. J. Hume was chosen as his buttermaker.

Prof. Dean has inaugurated a series of experiments in the cheesemaking department to determine whether the quantity of cheesemilk made from milk varies in proportion to the amount of fat in the milk.

Among other experiments being carried out at the Dairy Farm is one to compare the results of feeding swine sweet and sour milk. Thus far, those receiving the sour milk were reported doing best.

Sheep Husbandry.—Not long ago the sheep shearing and putting up of the fleeces for market was done by students, under the directions of Mr. Wm. Rennie, the Farm Superintendent. That the work was well done may be seen from the following statement which we have received from Mr. John Hallam, wholesale wool dealer, of Toronto:—

"Your letter came to hand with reference to the 105 fleeces from the Agricultural College Farm at Guelph. The wool was well grown and got up free from chaff, straw and burs, and full of yolk. The fleeces came to me all ticketed with the name of each breed. I counted the fleeces out and weighed each kind separately, with the following result, with the exception of the 29 fleeces which were of Cotswold, Leicester and grade ewes:—

No. of Fleeces	Name	Weight	Average Weight	Price	Total Price per Fleece	Average Price per Fleece
7	Hampshire	46 lbs.	6 1/2 lbs.	12c.	85.32	78.67c.
11	Suffolk	37 "	5 2/4 "	12c.	6.81	62.21c.
7	Southdown	37 "	5 2/7 "	13c.	4.81	68.57c.
23	Shropshires	176 "	5 7/15-23 "	12c.	21.12	91.19-23c.
7	Oxford	77 "	11 "	12c.	9.24	132c.
19	Dorset	109 "	5 1/4-19 "	12c.	13.08	68.619c.
29	Fleeces	390 "	10 1/2-29 "	10c.	30.00	103.13-29c.
					\$90.61	

Poultry Department. The new poultry building is to be completed and all ready for work this fall. Students entering in October will receive lectures and practical instruction in this too much neglected branch of farming.

Short Course for Public School Teachers.—It affords us pleasure to announce that arrangements have been completed for another term this season of the "Summer School for Teachers," so successfully inaugurated last year. There is an increasing demand for intelligent agricultural education. The public school teachers and educationists are wise in thus availing themselves of such advantages as the College affords, and equipping themselves in advance for this trend of education. On general principles, any teacher will realize great advantage from a month spent at the Agricultural College. The surroundings at the College, and, in fact, it might be said of Guelph generally, are delightful, so that no mistake would be made in going there even for a vacation, not to speak of the educational advantages to be derived at such a splendidly-equipped educational institution, with its well-managed farm, arboretum, gardens, greenhouses, chemical laboratories, etc. The object of the course is to show how agriculture and kindred branches of knowledge may be taught by simple talks to pupils in rural schools, and to furnish information that will serve as a basis for such talks—say the last hour of each Friday afternoon: geology and chemistry, in the fall; live stock and dairying, in the winter; botany and entomology, in the spring. The subjects embraced will be:—Agriculture, Dairying, Agricultural Chemistry, Geology, Botany and Entomology. The forenoons will be devoted to lectures; the afternoons and Saturdays, to geological and botanical excursions, in charge of a professor; a certain amount of practical work in laboratories, and observation trips in gardens, fields and experimental plots. The course will extend throughout the month of July, commencing on Monday, the 2nd, and ending on the 31st. There will be no tuition fee. Teachers to the number of 50, male or female, will be provided with rooms and board in the College, for which there will be a charge of \$12.00, payable in advance to the Bursar. Washing will be done in the College laundry, and charged extra, at moderate rates. Sheets and towels, four of each, must be provided by applicants for admission. Applications should be sent to President Mills as soon as possible.

The College Staff.—As at present constituted the staff is as follows:—James Mills, M. A., LL. D., President; Wm. Rennie, Farm Superintendent; A. E. Shuttleworth, B. A. Sc., Professor of Chemistry; J. H. Panton, M. A., F. G. S., Professor of Natural History and Geology; J. H. Reed, V. S., Professor of Veterinary Science; H. H. Dean, B. S. A., Professor of Dairy Husbandry; C. A. Zavitz, B. S. A., Experimentalist; G. E. Day, B. S. A., Lecturer on Agriculture; H. L. Hutt, B. S. A., Lecturer on Horticulture; J. B. Reynolds, B. A., Assistant Resident Master; Captain Walter Clarke, Instructor in Drill and Gymnastics; A. McCallum, Bursar.

Excursions to the College.—The Agricultural College of late years has become a popular point for excursions from various parts of Ontario, under the auspices of Farmers' Institutes and other agricultural organizations, and this season appears to be no exception. Apart from the mere holiday pleasure of a visit to this institution, the observant visitor finds abundant opportunity to gather useful information, and those in charge doubtless derive advantage by coming in contact with the suggestions and friendly criticism of those whose interests this institution is intended to serve.

Pointers in Pig-raising.

BY C. J. WRIGHT, DIXVILLE, QUE.

Never overfeed a sow with rich heat-producing foods, which have a tendency to cause fever and dry up the milk flow, thus stunting the growth of the young pigs. For the first week feed house-slops and bran, sparingly, after this time you can feed as heavy as you like.

In order to be healthy, young pigs must have plenty of exercise. Another important point in pig-raising is to provide a dry, clean bed; otherwise they are likely to die of thumps, cold or rheumatism.

As soon as the pigs are four weeks old, commence to prepare them for weaning by feeding them in a trough within reach of the little pigs at all times, but inaccessible to the sow. Increase the feed gradually, and by the time they are eight weeks old they will be eating sufficient, so that they can be weaned without checking their growth in the least.

The Right Hon. Mr. Chaplin, British Minister of Agriculture under the late Salisbury Government, recently delivered an address in Edinburgh, upon which the Scottish Farmer comments as follows:—

"Mr. Chaplin's frank, outspoken utterance will have done much to deal its death-blow to any revival of Protectionist views in agricultural circles. His statement proves clearly that Protection is not merely an impolitic cry, but a strictly illogical and unfounded remedy. The most prosperous period agriculture ever passed through in this country was that following the adoption of the Free Trade principles—a period extending for about twenty-five years; and during the succeeding term Protectionist as well as Free Trade countries have suffered from agricultural depression. The conclusion, therefore, seems natural that whatever else may have caused the melancholy state of our chief industry, it was not and could not be Free Trade."