

THE RELATION OF AGRICULTURE TO OUR SCHOOL SYSTEM.

An address by C. C. James, M.A., Deputy Minister of Agriculture, before the Natural Science Department of the Provincial Teachers' Association, April 14, 1903.

"Perfect agriculture is the true foundation of trade and industry—it is the foundation of the riches of states."

These are the words of the great Liebig, one of the founders of the modern science of agriculture. They were uttered half a century ago, but they are more pregnant with truth at the end of the nineteenth century than they were in the middle of the century when Liebig was carrying on his agricultural investigations, or than at the beginning of the century when Sir Humphrey Davy was unfolding for the first time his memorable proposal for agricultural investigation before the learned societies of England. They are applicable to all civilized, to all semi-civilized countries, but they have a special significance when applied to Canada; for while our fisheries add annually to our wealth to the amount of about \$20,000,000, and our mines nearly \$30,000,000, and our forests about \$80,000,000—agriculture adds no less than \$600,000,000, or nearly five times as much as the other three sources of wealth combined.

The perfect agriculture of Liebig implies, of course, a class of agriculturists well equipped, thoroughly trained, and rationally educated.

Now let us quote a more modern educationist as to the workers in this field.

Identified as I am by birth and early education with the agricultural population of this country, I regret to see so many of our agricultural youth leave the holiest of earthly employments and the most independent of social pursuits for the professions, the counting room, the warehouse, and even for petty clerkships and little shops. I know that persons in public offices, and inhabitants of cities and towns, who have no farms, must, for the most part, bring up their sons to other employments than that of agriculture; personal peculiarities and relations may prompt to the same course in regard to some farmers' sons, and a divine call may select from the farm, as well as from the shop and the college, for a divine vocation; but that, as a general rule, the sons of farmers, as soon as they begin to be educated, leave the farm is a mistake to the parties themselves, a loss to agriculture and to the country. A boy's leaving the farm because he has, or is acquiring, a good education, is an assumption or admission by all consenting parties that a farmer does not need such an education; and as long as this error is admitted, by farmers not being educated, agriculture will be looked down upon, instead of being looked up to, as a pursuit for educated men.

Politicians are accustomed to call farmers, by way of compliment, the bone and sinew of the land; and bone and sinew they will remain, and never be anything else, without education. It is a supreme law, illustrated by all history, that head rules muscle; and all farmers who educate only their muscles, and not their heads, must occupy the inferior relation of muscle. It is true that such farmers, as well as mechanics, may be and feel themselves quite as good as other people; but if they are not as intelligent—that is as well educated and informed—their goodness will be associated with ignorance, and their social position will necessarily be one of inferiority. But let the boy be educated to make him a better farmer, as well as a better citizen; let it be assumed, and become a recognized fact, that a farmer must be educated to be a good farmer, as a lawyer, doctor, or clergyman must be educated to be master of his work, and agriculture will hold a rank equal to, if not above, law or medicine. Educated farmers, educated merchants, and educated manufacturers and mechanics, will not only develop and advance the material interests of the country, but its civil and social interests, by

enabling the people to select chiefly intelligent and well-to-do men from these classes as their representatives—men not needing an office for support, or making politics a trade—affording the best chance of practical wisdom and honesty in legislation and government, and the hope of producing the great public desideratum—a generation of honest politicians and patriotic statesmen.

One might reasonably assume that this is an extract from an address before one of our Ontario Farmers' Institutes, or has been taken from a lately issued report of the Ontario Department of Agriculture, and that they are the words and opinions of some leading agriculturist. Not so, however.

These are the words of Egerton Ryerson, taken from the introduction to his text book on Agriculture for use in Ontario public schools, and written in 1870.

Were these statements true and applicable in 1870? Then they are even more so in 1898.

I can well believe that 25 years from the present some student of the educational and economic history of this province will be hard at work studying out and trying to explain why so little progress was made in general agricultural instruction in this province during the years from 1870 to 1898. During that period four text-books at least were available, the one by Dr. Ryerson already referred to, one by Prof. Henry Youle Hind, one by Dr. now Sir, Wm. Dawson, that first appeared in 1864, and the "First Principles of Agriculture," by Dr. Mills and Prof. Shaw, that appeared in 1890.

An interesting discussion might be made on the subject of why the trustees of rural public schools at least have not insisted upon having instruction given on this subject, based upon the book prepared by Messrs. Mills and Shaw.

It is not my purpose in this short address to take up this subject—instead of looking backward we should examine the present situation and lay plans for the future.

At the present time the subject of general instruction in public schools is being carefully worked out in France, Germany, Italy, and even in darkest Russia. Many of the most progressive of the States to the south of us are also discussing the question, and in some cases at least a promising start has been made.

In the Province of Manitoba a course of agricultural instruction has been laid down, and a text-book prepared adapted to the conditions of that province.

In Quebec more has been done in the way of editing and publishing text-books in various departments of agriculture than in any other province, and a continued effort has been made to make the instruction as general as possible.

In Ontario, however, we shall have to work out our system on the lines that are best adapted to this province, and it will not do to try to copy very closely the system of any other country or of any other province. We can have our own system if we desire it, and we can have a system adapted to our own conditions of agriculture and suited to the mental capacity of our pupils.

So much for what may be called the introduction to my paper. Let me now briefly state my views under three heads:

1. Should agriculture be taught in our schools?

2. When and where should it be taught in our school programme?

3. What can be taught, and how can it be taught?

1. Should agriculture be taught?

If agriculture can be taught in our schools, that is, if there is time and place for it, and if it can be presented in a form adapted to school pupils, the more reasonable form for this question, it seems to me, is, "Should agriculture not be taught?"

The agriculture of this province is in a critical condition. We certainly have not yet reached the most acute condition that has come to the farmers of Great Britain, France, and Germany, but we have reached a point which, compared with the conditions of the newer farming communities of Manitoba, the N.W.T., and other sections similarly situated, can be expressed by no better term than the one I have used, viz.: *critical*.

The building up of the purebred live stock interests of this province and the development of our dairy industry have been the two main factors in saving us from a condition that could be described only by the term "desperate."

Just at the present time the conditions are more favorable than they have been for some time. Prices have improved for us, mainly because of the temporary misfortunes of agriculturists in other parts of the world. One consequence of this is seen in the great rush at present in progress for the cheap productive lands of Manitoba and the N.W.T. If nothing be done to give a decided upward movement to our Ontario agriculture, however, we may soon find ourselves approaching the conditions now prevalent in the older farming lands of Europe. Let me give you a statement of that condition from the pen of one who is an authority. M. Tisserand, the late Director General of Agriculture in France, speaks as follows in a report to the Recess Committee of the British House of Commons dealing with the question of the industries of Ireland:

In this extraordinary century, when everything has been profoundly modified by steam, when distances have disappeared, and the Australian with his wool, the Indian with his corn, the American with his cattle and his dead meat, can reach the markets of Europe at less cost than it took the farmer of Yorkshire at the beginning of the century to get produce to London, old methods and paternal traditions have become insufficient for the struggle which has to be carried on against foreign competition. It is no longer the struggle for life between man and man which is in question; it is the struggle for existence between industry and industry, between agriculture and agriculture, between country and country.

The struggle which agriculture has to sustain is all the more intense and severe because it has been less prepared for it. The formidable transformation brought about by the progress of railways, navigation, and the telegraph has had a greater effect on agriculture than on any other industry, because it has been surprised, so to speak, in the midst of the calm and quietude which it had been enjoying. It is no doubt a great boon to humanity that the products of the earth may overflow with an extreme facility from the regions in which they abound to the countries that need them; that every individual is assured his daily bread, and has no longer to fear the horrible famines which in other times periodically decimated the population; that, thanks to the Australian wool and the vast pasturages of the new world, the workingman

*Reference is made here to the native of British India, and the word "corn" includes grain of every kind, with especial reference to wheat.

can obtain cheap clothing and cheap food to protect him against infirmity and give him health and strength. But if these are results to be thankful for from the humanitarian point of view, it is nevertheless true that they have had upon agriculture, through the general lowering of the prices of produce, an action which has placed it in a critical situation, and which has thrown the cultivators into confusion and brought discouragement and despair among the rural population. All thoughtful minds, the public powers, and Governments, are occupied with these considerations. In all directions it is felt that the agriculture of Europe is like an old and leaking ship, tossed and buffeted about upon a sea of breakers, and that, to save it from foundering, it needs to be steered by adler hands and navigated by pilots who will join to a thorough practical training a profound and extensive scientific knowledge.

The authorities of France are thoroughly awake to the situation, and are now carrying on the most thorough system of general agricultural instruction in order to provide trained men to man the "ship" in her perilous career.

Two things especially are, in my opinion, of prime importance now to save the agriculture of this province and the agriculture of Canada from being reduced to the level of cheap lands, cheap labor, and cheap mental calibre. The first is the rapid development of our deep waterways system, so that the advantage may be maintained of the very lowest transportation rates on all farm products for export to Europe, and the completion of a perfect system of transportation, so that our fruits, including peaches and grapes, butter, eggs, poultry and other perishable products may be safely and cheaply transported to the consuming markets of Europe. It may be advisable to divert some of the rushing American tourists for Europe from New York and Boston to Montreal, St. John, or Halifax, but it means vastly more wealth to this country to be able to send our valuable and perishable farm products to London, Liverpool, Bristol, Glasgow, or Manchester in perfect condition.

The second requirement is that our agriculturists shall receive some grounding in the scientific principles underlying their work, so that farm practice may be more intelligently directed, and that some of the great waste of time and labor may be saved to this important industry.

One of the distinguishing features of the agriculture of to-day is the rise of co-operative associations. In Ontario we have had agricultural societies ever since the province was organized, and for nearly seventy years legislative grants have been made for their encouragement. But the societies for discussion of agricultural topics, for interchange of ideas, and for teaching or instruction by experts are of recent origin. We have associations of the owners and breeders of all the leading breeds of live stock. We have a Fruit Growers' Association, associations also of the poultry keepers and of the bee keepers, an association of experimenters, two associations of the dairymen, and an Entomological Society. All these, through their many meetings, and the hundreds of meetings of Farmers' Institutes, have quickened the minds of the workers. Supplementing these meetings, reports and bulletins have been distributed by the hundreds of thousands in the past ten years. But the point that I wish to make here is that the persons principally benefitted