

successfully with the agriculture of other countries?" Mr. P. Black, of Windsor, N.S., who had been invited to attend the meeting, read a paper, taking strong ground in favor of an Agricultural College for the Maritime Provinces. Mr. Black was a Guelph student, and stood up for the institution, although he thought the curriculum covered too much ground. It would be better, in his opinion, if less was undertaken. The work then could be thorough. It came out in discussion that in the last year ten students had attended the Ontario Agricultural School from Nova Scotia, and six from New Brunswick, and it was argued from this that there was a decided feeling there in favor of a better training for farmers' sons, and for those who wished to become farmers. After the question had been discussed at some length the following resolution was passed nearly unanimously:—

"Whereas, the keen competition existing in the markets of the world in agricultural productions makes it a matter of great importance to farmers that these shall be produced at a minimum cost; and whereas, almost every civilized country has recognized the importance of agriculture to the State by establishing Agricultural Schools and Colleges and Experimental Stations, where farmers' sons, or those wishing to become farmers, can be better instructed in the principles and practice of agriculture, be it therefore resolved, that this Association meeting ask the Government of New Brunswick to communicate with the Governments of Nova Scotia and Prince Edward Island, with the view of taking united action in establishing an Agricultural School or College in some central location in the Maritime Provinces."

I am afraid, however, that those who were most anxious that the above resolution should pass the meeting have not very strong faith that it will accomplish much. The New Brunswick Government is composed of men whose knowledge of agriculture, either theoretical or practical, is very limited. The Secretary of Agriculture for the Province (quite recently appointed) is a lawyer and an ex-editor, and, it is reasonable to suppose, will not be in a position to enlighten them much.

Nova Scotia has just made a new departure in agricultural matters, having abolished the old Board of Agriculture and appointed a Secretary of Agriculture, who is under the direct control of the Government. It is also proposed to have the science of agriculture taught in the common schools, and a Professor of Agriculture has been placed in the Normal School at Truro, where those who are turned out as teachers are to be especially instructed to teach this branch.

The winter here continues pleasant, and the sleighing excellent, and in many parts of Nova Scotia there has not been snow enough to bring runners into use this winter.

[Farmers should be warned against being led by ex-students of the Ontario Agricultural College, who are now scattered all over the Dominion. They are pledged to support the Model Farm, and although their intentions in the cause of agricultural education may be good, yet they understand little about the political corruption which is the ruling power. There is no reason why a Government Agricultural College cannot be kept as free from politics as any other educational institution. That farmers and their sons ought to have an agricultural education nobody can dispute, but the work must progress little by little. Nova Scotia

having appointed a Professor of Agriculture in the Normal School, is in advance of the other Provinces in her ideas of agricultural education. —ED.]

Permanent Pastures.

In the existing depressed times, when a number of our most substantial agricultural industries are threatened with destruction by foreign competition, farmers are compelled to turn their attention to other branches of agriculture, in the study of which the question of permanent pastures occupies an important place. And yet this is not the right way to consider the issue; the broad question is intensive versus extensive farming. Farmers must produce more per acre per annum; they must learn, for example, how to calculate the quantity of milk, fruit or beef they can produce from an acre; and if the result is not a paying one, they must produce more. Many questions are involved in the accomplishment of this end, embracing the study, drainage, manuring, tillage, rotation of crops, classes and varieties of agricultural plants, etc., and the question arises, Which one or more of these means can most effectually and economically attain the desired end? No reliable opinion can be expressed with reference to any of them without taking all the local conditions and circumstances into consideration.

Regarding the recuperation of the soil, the cry has been, "More stock," "More stock, more manure, more manure, more grass," being dinned into our ears. One of the most difficult of all these subjects to comprehend is the preparation and use of manures, especially commercial fertilizers; and we almost invariably find the greatest profits can be secured from an intelligent application of those principles which are least perfectly understood. This is the reason why such large dividends are made by the proper use of commercial fertilizers. With all respect to the opinions of those who contend that fertility can be maintained for a considerable length of time by an extensive use of grass mixtures, yet the farmer who attempts to restore fertility by this system will find his task a slow and laborious one. Unquestionably, the farming of the future will embrace the use of all the barn-yard manure obtainable, with the addition of greater or less quantities of the commercial article. Feeding the soil is just like feeding animals; if you cannot get the proper ration in the manure heap, you should make it proper by the addition of suitable material. There is another important point of similarity; by feeding stock a mere maintenance ration no increase can be obtained—so it is with the soil; and we are convinced that the heaviest losses which farmers suffer arise from feeding their soil mere maintenance rations. In a rotation it may take twelve or fifteen loads of manure per acre to get back in the crop the cost of production. All the profit is in the manure applied over and above this quantity.

The Government have started out on another boom at the farmers' expense. The "per acre per annum" principle which they have adopted is perfectly sound, and if they succeed in inducing a considerable number of farmers to lay down permanent pastures, they will accomplish a great deal of good. They are, however, several years behind our leading seedsmen in their methods of procedure. The recent

attempts made by the friends of the Model Farm to petition the Commissioner of Agriculture "to advise with the principal seedsmen" for the purpose of securing reliable seeds is not very flattering to the latter. The resolution stamps our "principal seedsmen" as frauds, and compels the Government not only to interfere in this branch of private enterprise, but also to favor one seedsman at the expense of another. Our leading seed merchants are strictly honorable men, and exercise greater vigilance in the selection of pure seeds than the Government will ever do, judging by their past career. Every farmer worthy of the name is already acquainted with these seedsmen, and if other powers cannot wake up farmers of the "old-fogy" type, the Government's prospects for doing so are very slim indeed.

Many of our seedsmen have experiment stations of their own, where they test not only the suitability of varieties to our climate, but also the purity of the seeds—their germinating power and their trueness to name. Not only so, but they are interested in getting reports from their customers, often by letter and often by visiting the pasture fields, thereby strengthening or weakening the seedsman's confidence in their own experiments. In this manner they have facilities for acquiring reliable information which the Government can never possess.

An agent of the Government has been stumping the country and burdening the press with a formula for permanent pastures, which he borrowed from a leading seedsman, making slight alterations from time to time to suit his whims. The Government's mixture is so complete that it will suit any soil or location in the Province, while the leading seedsmen, in their catalogues, invite farmers, when sending in their orders, to describe the soil and aspect of the field on which the mixture is to be sown. Either the Government or the seedsmen must be wrong. Our opinion is that the farmers should follow the advice of the seedsmen. However, if they wish to master the subject for themselves, they should study the feeding and growing habits of the different clovers and grasses, and then they will know how to order their own mixtures. The only secret is to select for the mixture the largest percentage of those seeds which are best adapted to the soil and aspect of the field to be seeded down. The necessary information will be found in another column.

A year ago, in a series of three articles, we published exhaustive details on permanent pastures, based chiefly on our own experience and on our observations while travelling amongst the farmers; this year we leave the subject to other experienced men, and we find that the ground is well covered by our prize essayist.

At the New York Experiment Station Mr. Ladd, the chemist, has been making some tests as to the relative value of raw and cooked food, employing an artificial digestive fluid. In every case there was a loss of albuminoid in the cooked ration. The cooking seemed disadvantageous, both in the loss of actual albuminoid, and in the depreciation of the digestive value of the albuminoid that remained. Chemical analysis of the two kinds of food and actual feeding tests had already indicated that cooking food for stock lessens its nutritive value.