

stated, with little or no proof, some of which bear evidence of a very superficial examination of the subject.

Class I.

(1) The well known advantages which arise from the selection of seed, which every farmer should practise, and where seed can be selected from vigorous growing plants the best results may be expected.

(2) The desirability of using barn-yard manure with a root or corn crop.

(3) That varieties of grain have very useful qualities and that one of their distinguishing characteristics is productiveness.

(4) That all varieties are liable to vary, and have more or less power of adapting themselves to changed conditions of climate and soil.

Class II.

The following statements of the Commissioner may be placed in Class II.:

(1) That there is no productiveness in variety, as such. This is contradicted by another statement of the Commissioner's, and has been shown to be contrary to experience.

(2) It is taught that it is injurious to apply manure to cereal crops. This, also, is contrary to experience.

(3) That variation in varieties appeared to be brought about by growing them under different conditions of soil and climate. This is not proven. On the contrary, our best and most productive varieties have manifested inherent productiveness from the beginning, and have carried this power with them and manifested it in many different soils and climates.

(4) That comparison as to productiveness without selection is of no value. The only illustration used in support of this statement is a series of experiments where selection has been regularly practised.

(5) That change of seed is most absurd and unnecessary. A statement advanced without proof, and contrary to general experience.

(6) That the rules which apply to the crossing of flowers do not apply to farm crops. This is erroneous.

(7) That the only result of crossing is an increasing of the tendency to change. This is contrary to experience.

(8) That rolling of land warms the soil. This statement, which is taken from a book on "The Soil," by Prof. F. H. King (pp. 230-33), is only partly true, and hence may be misleading.

FARM CROPS IN CANADA NOT "LAMENTABLY POOR."

I also took issue with the Commissioner when he said that the crops of farm products in Canada are "lamentably poor." Such statistics as are available show a material increase in the crops raised by farmers in Canada during the past five years, and also that they compare very favorably with the crops of other countries in similar climates. Were the farm crops of Canada "lamentably poor," the rapid increase which has taken place in the volume of our exports of farm products could not have occurred.

LARGE POSSIBLE GAINS.

A word must also be said with regard to the very large sum of money which he held out as a possible gain to Canadian farmers by the general adoption of the plans recommended—from \$50,000,000 to \$80,000,000. While such a handsome addition to the returns realized by Canadian farmers would be greatly appreciated, I fear that the calculation rests on a rather faulty basis. The Commissioner mentions a possible increase of from 20 to 30 per cent. in all farm crops by following his teaching. The \$280,000,000 on which his calculation is based includes the hay crop, the largest of all crops in Canada; and all the root crops and corn. With the exception of a limited area in Western Ontario, the farmer has not the opportunity for selecting his own seed on his own farm for these crops, since he does not produce his own seed. The Commissioner's statement is not very clear as to the basis on which his hopes of an increase of from 20 to 30 per cent. rest; but the impres-

sion was that they were built on the results of experiments in the selection of seed grain at Guelph.

The experimental work done there by Mr. Zavitz has been good and he has shown himself a careful worker; but these particular tests have not been planned in such a way as to admit of their being fairly used in such a calculation. The largest and plumpest kernels of grain were selected for one experiment and the smallest plump kernels for another, and in sowing, the number of kernels used in each case was the same. Hence, the plump grain would have nearly double the weight of the small grain. No farmer selects the very smallest seed he can find for sowing, and if he sows unselected seed, he would, in most cases, have in this from one-half to two-thirds of good plump seed, and in sowing he would use in every instance the usual weight of seed. A fair consideration of these conditions would take away a large part of the foundation on which these dazzling figures rest.

I have endeavored to present this subject in a fair and straightforward manner, submitting the reasons for the opinions I have advanced, and must now leave the intelligent public to form their own conclusions.

To Visit Europe

Mr. F. C. Harrison, Bacteriologist, Ontario Agricultural College, left last week for Europe, where he will spend the summer in study under some of



F. C. Harrison, B.S.A.

Harrison personally, but to the agricultural interests of this province.

the best scientific teachers in the Old Land. Among other things Professor Harrison will give some attention to gathering information in regard to tuberculosis and the tuberculin test, and will visit Germany, France, and Great Britain in the interest of his department. Coming in contact with the great men who have devoted their lives to the study of the sciences bearing upon agriculture cannot help but be of great value, not only to Prof.

The Agricultural Situation

A Business Man's View of It

At the annual meeting of the Canadian Bank of Commerce, held last week, the General Manager, Mr. B. E. Walker, in his address made some references to agricultural conditions in Canada that are worth reproducing. The extract, which we quote below, is valuable as showing the view which a business man in direct touch with the great commercial interests of the country has of its most important industry. The review he presents to us of the farmers' position is certainly very encouraging, and we can only hope that this favorable outlook will be fully realized:

"As you all know, there is little to be said about the results of agriculture last year, which is not favorable. We were disturbed about the wet weather last autumn in Manitoba, but nevertheless the railroads have already moved twenty-one million bushels of wheat out of the Northwest, and three-quarters of this graded as Nos. 1 and 2 hard, and No. 1 Northern, so that, with more wheat not yet shipped, the farmers in that part of Canada have prospered. The figures for cattle exports are still very small, and it is disappointing to learn that out of about 60,000 cattle shipped from the Northwest, as many as 22,000 were lean cattle sold in the United States, to be fattened there instead of in Canada. This is, of course, a much more serious matter than the mere loss of the profit of feeding them. Considering all sources together, the farmers of Manitoba and the adjacent territories have in the past two years received