

original wild stock, and other varieties that by some mysterious process have added to them virtues and qualities which neither of the original parents contained; and you have a starting point from which there is no calculating what the results will be, because the continuity of nature being once rudely broken in on by this process of crosses, the tendency to variation is increased, so that by continuing the varieties we have we might produce as good results as by hybrids. In wheat, barley and oats it does not seem as if the agency of insects comes in at all. The grains appear in every case to be self-fertilized, and hence I do not think there is any likelihood of new varieties of wheat or barley or oats being obtained by cross-fertilization in nature, unless it be by accident, where, for instance, a grasshopper or some predacious insect may have eaten away a part of the enclosure surrounding the essential organs of the plant, and thus exposed them in a way that the wind or insects could carry the pollen from one to the other. In that class of plants we can only look for useful results by artificial impregnation. I have succeeded in securing 25 or 30 grains of hybridized cereals to start with this year, the growth of which will be watched with a good deal of interest to see what tendency they develop, and how far they combine the qualities of the two useful species which it has been aimed to combine. Mr. Hilborn, my assistant at the Experimental Farm, has succeeded in making quite a number of crosses with raspberries with different varieties, and also in some other departments of the same line; and I think a very important feature of the farm will be the origination of new varieties by both hybridization and cross-fertilization as well as by selection.

Prof. PANTON.—Do you find that those hybrid raspberries of yours are reverting back to the black in flavor?

Prof. SAUNDERS.—Not the plants themselves, or the plants struck from the roots or tips of those that have been produced; but sowing the seed of those, and raising another generation, they sprout in every direction, some white, some black, and some red, so that I have good hopes that by sowing the seed of the best of these we may multiply varieties of a useful character with much greater rapidity than we could hope to get them in any other way.

BIRDS USEFUL AND INJURIOUS IN HORTICULTURE.

Mr. T. McILRAITH (Hamilton) read the following paper:

Although I have read with interest the reports which have from time to time been issued by this Association, and have heard with satisfaction of the success which has attended the efforts of its members in the production of new fruit, I have not hitherto been present at any of the meetings. Permit me, then, to say, that I consider it an honor to meet with those who are doing such an important work in the Province, and I had much pleasure in complying with the request of your secretary to be present on this occasion.

I do not come as a fruit grower, although I have fruit trees, and many native flowering shrubs near my home, nor yet as a fruit dealer, although for several years I have consigned an annual shipment of apples to friends in the old country. Last fall I sent a barrel of this fruit, grown near Hamilton, to a friend in Devonshire, which seemed at the time to be like sending coals to Newcastle, but in due course the receipt was acknowledged with the remark that "they grew large quantities of apples and made good cider in Devonshire, but produced no such fruit for the table as the Golden Russet, King of Tomkins County, Seek-no-farther, and other sorts which the barrel contained."

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