

VII.—*Observations on Early-Ripening Cereals.*

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In July, 1885, there appeared in *Nature* a brief review of a paper published by W. Kowalewski, in the Memoirs of the St. Petersburg Society of Naturalists (XV. 1), in which were given the results of a careful series of observations on the periods of growth of various cereals in different parts of Russia, from the far north of Arkangelsk to the southern province of Kherson: from which it appears that in the higher latitudes the grain ripens in a shorter period than in the more southern districts, the difference in favour of the north, with spring wheat and oats, varying from twelve to thirty-five days. The intermediate regions show intermediate differences. While the author attributes these variations in the period of ripening partly to the influence of light during the long summer days in the high latitudes, he believes that the cereals in the north have undergone changes which have accommodated them to the conditions in which they are placed, or in other words, that the short seasons of quick growth have gradually induced an early-ripening habit.

Seeing that the present and prospective exports of wheat and flour are among the most important items connected with agriculture in Canada, the subject of cereals was one of the first to claim attention on the establishment of experimental farms in this country. It has been demonstrated beyond a doubt that the immense plains in the Northwest of Canada are capable of producing wheat of a very superior quality, and the area of land available for this purpose is so great that there is practically no limit to the quantity which may be grown, provided that the country be sufficiently populated and the period of growth in all parts long enough to permit of the maturing of the grain.

The early autumn frosts which have prevailed on several occasions in some parts of Manitoba and the Northwest Territories have proved very disastrous, and during the seasons of 1884 and 1885, early autumn frosts were so general and severe that the greater part of the wheat crop of the country was injured and much of it unsaleable, excepting at very low prices. Since 1885, the injury from frost has not at any time been so universal; nevertheless some loss occurs every season from this cause, especially in the more northern settlements. The effect of this oft-repeated experience has been discouraging, and farmers everywhere are anxious to obtain early-ripening sorts which are likely to mature in time to escape this threatened danger. Knowing that the introduction of an early-maturing wheat of good quality would be a great boon to the settlers in the Canadian Northwest, correspondence, under instructions of the Minister of Agriculture, was opened without delay with parties in Northern Russia with the object of obtaining for test in this country some of the acclimatized cereals referred to by Mr. Kowalewski, which had by long