never ripened . . three ears which grew apparently fr. . single grain. These were preserved and, although sown the next year under unfavourable circumstances, being quite late and in a shady place, it proved at harvest to be entirely free from rust when all wheat in the neighbourhood was badly rusted. The produce of this was carefully preserved and from it sprung the variety of wheat known over Canada and the Northern States by the different names of Fife, Scotch and Glasgow."

From this it would appear that the Red Fife has been in cultivation for more than half a century, and it does not show any tendency to deterioration. It gives as large a crop and is as high in quality as it ever was. It was taken from Ontario to Manitoba and the Northwest Territories, where it is believed to have improved in quality, and as grown there stands probably higher in the estimation of millers for the making of flour than any other known variety.

While the Red Fife has so many points of excellence, it is open to one objection, which sometimes proves a very serious drawback to its cultivation. It is rather late in ripening, and during the past fifteen years there have been several seasons when early frosts in the Northwest have injured the grain so as to reduce its value very materially. Whenever this has occurred an outcry has been made by the farmers who have suffered, for an earlier ripening wheat.

In the endeavour to meet this demand varieties of wheat have been brought to Canada from many different countries, and grown for many years at all the Experimental Farms alongside of the Red Fife and other well-known sorts, and their periods of ripening and weight of crop carefully recorded. Some wheats have been brought from the colder districts in Northern Russia, verging on the Arctic circle, some from other countries in the northern parts of Europe, others from different altitudes in the Himalaya Mountains in India, from 500 to as high as 11,000 feet, which is about the limit for wheat growing in that range. Other wheats have been obtained in the Northern United States, from Australia, Japan and elsewhere.

Both the Russian and Indian wheats have usually ripened earlier than the Red Fife, but some have been inferior in quality, and others have given such small crops that the growing of most of them has been abandoned. Those we have had from Australia, also those from the Northwestern States, have been as late as, and many of them later than, the Red Fife, and show no advantages over that variety. Every promising sort obtainable has been tested under the different climatic conditions existing in Canada, without finding a single earlier ripening sort in cultivation elsewhere having the high quality of the Red Fife.

THE BREEDING OF NEW WHEATS.

Another method by which we have sought to obtain the desired end has been by the cross-breeding of wheats, with the object of combining the good qualities of two or more varieties. It was on July 19, 1888, when the first experiments were begun in the cross-breeding of wheat on the Experimental Farm, and since that time several hundred new sorts have been produced and tested. In originating many of these new productions the Red Fife has been chosen as one of the parents. One of the earlier importations from Northern Russia was the Ladoga, a wheat which after a thorough test proved on an average to be about a week earlier in ripening than the Red Fife; it was also fairly productive, but in quality did not compare favourably with that variety. A considerable number of crosses were produced between these two sorts, the most promising of which were multiplied until plots of considerable size could be grown. These were subject to rigid inspection from year to year, the less desirable sorts being promptly discarded so as to keep the number of varieties under trial within reasonable bounds.

Among the most promising of the numerous progeny from this cross are the varieties known as Preston and Stanley. The Preston is a bearded sort. The Stanley is beardless. Taking the average yield obtained on the