

Some of these varieties are very soft, and yield a poor quality of flour. Unfortunately, these soft wheats usually produce more bushels per acre than the harder, better wheats; and, as the buyer makes very little difference in the price, it naturally follows that the softer, heavy-yielding varieties are grown in largest quantity. We have milled and baked over sixty varieties of fall wheats grown on the college experimental plots in each of the seasons of 1907, 1908, and 1909, and also over forty varieties of spring wheats, grown the same seasons. The results of these tests are too voluminous to incorporate here, but they may be found in the Ontario Agricultural College Reports for 1908 and 1909.

To the Ontario miller the question of the varieties grown in his own district is a very important one, for the greater part of this wheat will probably be delivered at his own mill; and, if the varieties are poor ones, his difficulties in manufacturing a strong flour are increased. Fortunately, there are not a great number of varieties grown in the Western Provinces, and the mixing in transit makes the wheat of more uniform grades than could possibly be done in this Province.

MILLING OF FLOUR.

The roller mill process of making flour is a gradual one. In the old days, when all the flour was ground by the stone process, the whole of the flour was left in one grade, and the germ and some of the bran layers of the wheat were not removed in the bolting process. The consumers' demand for a whiter flour than could be made by this process was partly instrumental in bringing in the roller process of milling, although the introduction of harder varieties of wheat, closer milling, and the division of flour into a number of grades were some of the other reasons for its introduction.

By the roller process the miller has it in his power to separate the flour into as many grades as he chooses, and in the larger mills as many as six grades of flour are made from one stream of wheat. The process is, briefly, as follows:

After being thoroughly winnowed and scoured, the wheat is passed between a pair of corrugated rollers, revolving towards one another, but one travelling slower than the other. In this first "break" the wheat is simply broken open along the crease; the whole of the broken-up material is then separated according to fineness into a number of products. The coarse, main part of the grain is returned to another pair of corrugated rolls, and is ground a little closer; the product is again sifted and the branny part returned to other rolls. This is repeated a fourth, fifth, or even a sixth time, or until practically all the starchy materials are removed from the flat particles of bran. With each sifting some material fine enough for flour is obtained, but the greater part of the endosperm, or central part of the wheat, is left in a coarse, granular