With the growth of Winnipeg, and the consequent development of the demand for fresh farm produce, will come a certain expansion in mixed farming operations throughout this and other districts. Fresh eggs, spring lamb, chickens, garden produce, new potatoes, fresh dairy butter, milk, etc., will all be demanded in lager quantities; this will inure to the advantage of the mixed farmers. One thing at present retards the growth of the trade between city and country, and that is the limited number of trains and the independence of the companies of this class of trade.

The suggestion a casual observer is inclined to offer inhabitants of the mixed farming districts is to work towards the building up of a herd of cows, every one of which would be, not simply a good cow, but an outstanding animal. As it is to-day, on most farms, but for the plentifulness of pasture land and the cheapness of fodder, not one-half the cows kept would pay for the feed they eat. Of course, the poorer milkers are generally the best beefers and raise the better class of calves, so that what is lost one way is often gained another, but the possibility of reaching a higher standard of milk production, without sacrificing anything of the meat-making proclivities, should not be lost sight of.

A Dakota Rotation.

The following rotation has been suggested as useful for portions of the Canadian prairie:

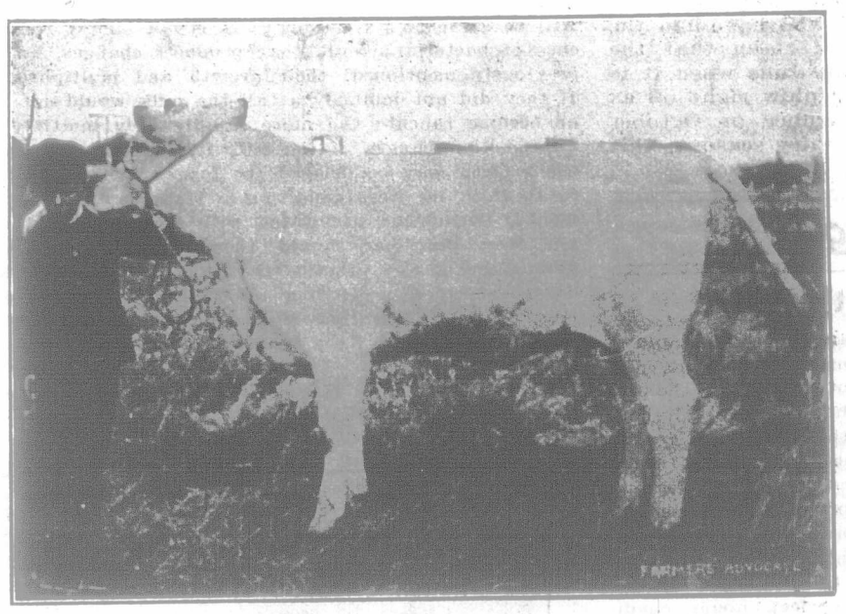
Divide the farm into six or seven fields. If into six fields, put grass into field No. 1, brome grass and timothy being the best I know of, and cut it for hay first year. Second year use it for pasture, third year seed to flax, fourth year to oats, fifth year to barley, and perhaps some of it to corn or millet, and the sixth year to wheat, and with it the grass seed. If divided into seven fields, I would put first grass, second grass, third flax, fourth wheat, fifth oats, sixth barley and such like, seventh wheat, and so on. Then I would haul all the manure right from the barn onto the field that was used for pasture.

Some Work in Testing Grades of Wheat.

For some time the farmers in Manitoba and the Northwest Territories have been feeling that too wide a spread is made in the price paid for the different grades of wheat. With a view to obtaining some actual data which might throw light on this subject, the Department of Agriculture, Northwest Territorial Government, sent eleven samples of the crop of 1903 and ten samples of the crop of 1904 to the Chemical Department of the Ontario Agricultural College for examination. The samples of each year were intended to cover the grades from No. 1 Hard to No. 4 Northern, in duplicate They were all selected from soil of somewhat uniform type, thus obviating the differences in quality of the wheats caused by different soils. The samples of both years were graded by Mr David Horn, Chief Grain Inspector, of Winnipeg, so that the grading might be official. One lot of the 1903 samples was graded as "Feed," and one of the 1904 samples as "No. 4 Northern." The remainder of the samples did not grade out in the manner expected; that is, duplicating the various grades. However, all the grades were covered excepting No. 2 Northern in the sample of the 1904 crop.

Among the samples of the 1903 wheat there were two known as "riffled" wheat—that is, wheat that had been wet in the stook, thus causing the bran layers to wrinkle and giving it the appearance of frozen wheat, and graded accordingly by the buyers. The No. 4 samples of the crop of 1904 were pure Red Fife, and if they had not been frozen would probably have graded No. 1 H. The samples of both years were shown to a number of millers, and they all stated that they were of better quality of wheat than they could buy in the corresponding grades for milling purposes in Ontario.

Upon arrival in Guelph the various lots of wheat were immediately ground in a short-process roller mill, and an endeavor made to determine the yields of flour. Every care was taken to get the best yields possible and to ensure accuracy in all of the work. No attempt was made to separate the flour from the various lots of wheat into different grades, excepting that ten per cent. of the low grade was removed. Thus the portion which was used in the chemical analysis and in the baking tests was straight flour in the ordinary sense, as the ten per cent. removed was not of a quality which would make good bread. The percentage yields given in the following table, however, represent the total yield of flour from the various lots of wheat. The flour in every case was placed in a dry, airy room, and kept for from two to three months before baking, in order that it might become thoroughly seasoned. Each flour was put through a chemical analysis, with the object of bringing out the quantity and quality of the gluten it contained. The quality thus shown was further confirmed by actual baking experiments, which must always be the final test of the quality of a flour. The average yield of flour from the various grades, and the average yield of bread for each of the two years will be found in the following table:



Master Mutch and His Show Shorthorn Calf.

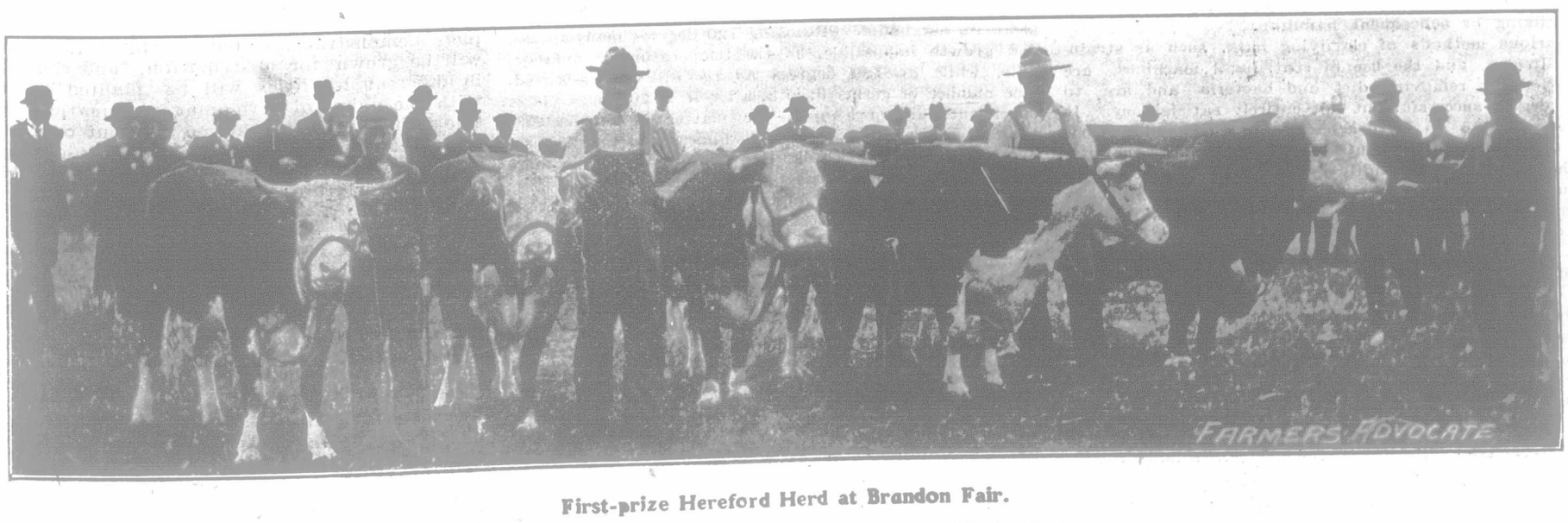
PERCENTAGE YIELD OF FLOUR AND YIELD OF BREAD FROM 100 LBS. OF FLOUR.

	Flour.	Bread. Lbs.
No. 1 hard—		
1903	70.3	144.5
1904	72.0	153.0
No. 1 northern—		
1903	70.3	144.0
1904	70.5	154.3
No. 2 northern—		
1903	68.3	149.0
1904		
No. 3 northern—		
1903	68.2	150.3
1904	70.0	154.0
No. 4 northern—		
1903	68.0	153.3
1904	65.6	155.6

As might be expected, the yields of flour obtained from the various grades of wheat in the two years do not exactly duplicate one another; the reason being that the wheat varies in quality from year to year. It is noticeable that the yield of bread from the flour of the higher grades of wheat was lower last year than this year, while that from the lower grades is about the same in both years' experiments. The work, however, shows clearly that there is no wide difference in the quality of the wheat, as determined by the yield of flour and the yield of bread. The chemical analysis also showed that the difference in the quality of the flour, as distinguished by the amounts of protein and gluten, or by the quality of the gluten, as indicated by the percentage of gliadin in the gluten was very slight. Figuring from the percentage yield of flour and the yield of bread from 100 pounds of flour, it will be found that, so far as quantity of bread is concerned, the No. 4 Northern is as valuable as No. 1 Hard, thus indicating that when strength alone is taken into consideration the flour from the wheat of the lower grades is just as valuable as that from the higher grades. In fact, judging the flour by this standard alone, a greater variation was found in the percentage of proteids and gluten, and in the quality of gluten between the samples of No. 1 Hard of the 1904 crop than No. 1 Hard and No. 1 Northern.

However, this method of comparison does not take into consideration one very important factor, namely, color. The public demands a white loaf of bread, and to produce this the baker must have a white flour. The color of the flour from the low grades, especially No. 4 Northern, was not equal to that of the higher grades, although the difference was not as great as was expected, nor was the bread produced from these wheats sufficiently dark in color to form a serious objection to them. While it is true that the miller may not be able to keep up the quality of his output of flour if he grinds only wheat such as here shown in the No. 4 grade, it would seem as though the spread in price was greater than the difference in the value. He could apparently keep up the strength of the flour, but the color would be sufficiently "off" to prevent the production of a large amount of high-grade flour.

There are some other points which should be considered besides strength and color of the flour which the wheat will produce. For instance, it is said that the keeping quality of the flour from the lower grades of wheat is not equal to that from the higher grades. It is also obvious that some difference should be made in the prices of the various grades to encourage the farmers to produce a clean, even quality of wheat, but with all these and other points which grain buyers might raise, it would seem, judging by the results of the individual samples examined during the last two years, that the spread in price is greater than the difference in the wheat would warrant. it must be clearly borne in mind that no attempt has been made to distinguish between the milling value of the grades of wheat as delivered to the millers, but that it is an attempt to show the values of the individual samples of wheat as graded at the elevators, and the basis upon which the farmer must sell his wheat. A full report of the work done on the 1903 crop of wheat may be found in Bulletin No. 14, Department of



First-prize Hereford Herd at Brandon Fair.

Mr. Chapman holding his herd bull, and Mr. Bing with the first cow.