Effect of Cutting at Different Stages of Maturity.

For this experiment, five plots each of two varieties of winter wheat were sown at the same time in the autumn of 1893. In the summer of 1894 one plot of each variety was cut at five different times. The period between each two cuttings was one week in length. The third cutting was made when the wheat was in that condition of ripeness in which it is usually cut throughout Ontario. It will therefore be understood that the wheat was quite green at the time of the first cutting, and that it was very ripe at the time of the last cutting. This experiment has been repeated in each of the years 1895, 1896, 1897, and 1898. The varieties used in each of the five years were the Dawson's Golden Chaff and the Early Genesee Giant. The average results of the ten tests, covering a period of five years, show that the largest yield of grain per acre was produced from the fourth cutting, the heaviest weighing grain per measured bushel from the third cutting, and that the best quality of straw and the heaviest yield of straw per acre were produced from the first cutting.

In order to find out the influence of cutting wheat at different stages of maturity upon the quality of the grain for seed purposes, samples were taken from the crop produced from each of the cuttings previously mentioned and these samples were carefully sown upon separate plots. In the average results of these tests made with two varieties in each of the past four years it is found that the heaviest weight of grain per measured bushel and the largest yields of grain and of straw per acre were produced from the last cutting.

Treatment for Stinking Smut.

On a good many Ontario farms the winter wheat is badly infested with what is known as the stinking smut which is also sometimes called hard smut, bunt, or smut balls. This disease produces a very unpleasant odor, and besides reducing the yield of wheat per acre, it frequently lessens the market value of the grain fully 25 per cent, and in some case renders it practitally useless for for the production of flour. This disease can be so easily and so effectually treated that there is no reason why any farmer cannot practically rid his wheat fields from this trouble in a very short time. An experiment in treating seed wheat for the prevention of smut has been conducted on our experimental grounds during each of three years with very gratifying results. Badly infested seed wheat not treated for smut, produced a crop containing an average of 170 smut balls per pound of grain; while that treated with potassium sulphide produced an average of 12 balls of smut; and that treated with either copper sulphate or hot water an average of less than 1 ball of smut per pound of grain. The treatment with copper sulphate was made by immersing the seed for five minutes in a solution of one pound of copper sulphate dissolved in one gallon of water. The hot water treatment consisted in immersing the seed for fifteen minutes in hot water at a temperature of 132 degrees F. For this treatment the water should not go below 130 and not above 135 degrees. Every farmer in smut-infested districts should treat sufficient seed to insure the harvesting of clean grain for seed next year.