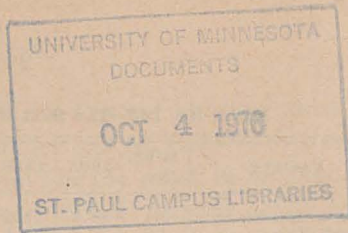


MN 1000  
CB 8



2 Ag  
Experiment Station.

St. Anthony Park, Minn.

UNIVERSITY OF MINNESOTA.

Department of Agriculture.

WM. M. LIGGETT, Dean.

DIVISION OF AGRICULTURE.

3 CLASS BULLETIN No. 8.

MINNESOTA No. 163 WHEAT.

W. M. HAYS AND A. BOSS.

In 1899 and 1900 the Minnesota Experiment Station distributed several hundred bushels of Minn. No. 163 wheat. This is a hard fife wheat, which at University Farm during the past six years has averaged two to five bushels per acre more than the best fife and blue stem varieties commonly used in Minnesota, as shown by the following tables.

Minn. No. 163—The Best Wheat Tried Six Years.

VARIETY	Minn. No.	1895	1896	1897	1898	1899	1900	Aver.
Hayne's Blue Stem.....	51	21.6	24.6	20.4	23.3	25.9	30.5	24.4
Power's Fife.....	66	26.3	21.4	17.4	24.0	30.4	31.5	25.2
Minn. No.....	163	42.7	23.0	19.9	25.0	30.3	34.3	29.2

This wheat was originated by a system of rigid breeding by selection begun in 1889. During the first two years only one seed was planted in a hill, that the best plants might be chosen. The yield in the above table was recorded under conditions of soil and field management no better than on many of the best farms of Minnesota. No commercial fertilizers were used. The fact that these comparatively large yields represent six annual crops, 1895, 6, 7, 8, 9, and 1900, is conclusive proof that the soil was only moderately manured with stable manure, because during some of these years heavy manuring would have caused the loss of the crops by lodging. Under these conditions common stocks of fife and blue stem wheats yielded about 25 bushels per acre while Minn. No. 163 wheat yielded 29 bushels.

The averages of two milling and four baking tests show that Minn. No. 163 wheat is identical with our best No. 1 hard wheat in selling quality, in milling quality and in baking quality.

	Quality Gluten	Per Cent Gluten	Rise of Loaf From Each Gram Gluten
Hayne's Blue Stem.....	85	13.4	59.5
Power's Fife.....	86	14.0	58.9
Minn. No. 163.....	87	13.8	65.6

Every one who has this wheat should raise and sell it for seed that every farmer may have seed of it. No other wheat has such a pedigree of actual performance as to yield of grain and money value per acre in Minnesota. Other of

our new wheats are pressing it hard; some which promise to surpass it in value are now under test at University Farm, but at present this wheat should be the most in demand of any wheat in Minnesota. Every farmer or seed dealer who is so fortunate as to have some of this seed to sell should have no trouble in selling it at a profit.

Its yielding quality warrants as high a price as any seed wheat ever offered to the farmers of Minnesota. The figures as to yield and quality of this wheat at the Minnesota Experiment Station warrant our giving it our full and unqualified endorsement. It may not do well on all soils, probably will not, but it is worthy of extensive trial in every county in Minnesota, and it will doubtless be a valuable acquisition to surrounding states. In counties where it succeeds as well as at University Farm it should gradually take the lead over the wheats commonly grown. A wheat does not always yield well the first year on a new soil.

Taking the figures of the Experiment Station at their face value, as we do, it is reasonable to hope that this variety, if generally used, especially in Southern Minnesota, would increase the average yield of wheat on our farms at least one bushel per acre. If this be true, every bushel of this wheat now in existence and in good condition for seed is worth very much more than seed growers and dealers are asking for it. We are already receiving orders for this wheat in quantities from two bushels to one hundred bushels. We prefer to sell in quantities not less than two bushels. Since we can fill only a part of these orders from the experiment farms we refer them to those to whom we sold this wheat in 1899 and 1900.

We have sent out a circular requesting those who have seed of this variety to sell to list it with us that we may refer to them those from near-by points who apply to us for this wheat. We can thus further aid in widely distributing this new variety, and also accommodate buyers and sellers. Good prices should prevail for seed of Minn. No. 163 wheat.

University Farm, Nov. 10, 1900.



## THE NEW FIFE WHEAT YIELDS MORE THAN BLUE STEM.

In November, 1900, letters were sent to those farmers to whom seed of Minn. No. 163 wheat was sold in the spring of 1899 and 1900. Owing to various accidental causes, and especially to the very unfavorable season of 1900, only about twenty per cent. of the trials by farmers came up to the requirements of good experimental methods.

In 38 cases all the conditions under which the new wheat and the common wheat beside which it was grown, are reported exactly similar by the graduates of the School of Agriculture and other farmers chosen to aid in the experiment. In these cases Minn. No. 163 wheat averages 18.1 bushels per acre, as compared with 16.7 bushels for the ordinary kinds. The average of the ordinary kinds is made up of 6 trials with Fife, 29 trials with Blue Stem, and 3 trials with mixed varieties.

The results as given in the following table show that the new wheat averaged 1.4 bushels more than all the wheats with which it was compared; 2.4 bushels more in northern Minnesota and .9 of a bushel more in southern Minnesota. It yielded .9 of a bushel more than Blue Stem and 4.4 bushels more than Fife.

Average yield throughout the state, 38 trials.....	Fife, B. S., etc.....	16.7	Gain
	Minn. No. 163.....	18.1	1.4
Average yield throughout the state, 6 trials.....	Fife.....	15.1	
	Minn. No. 163.....	19.5	4.4
Average yield throughout the state, 29 trials.....	Blue Stem.....	17.2	
	Minn. No. 163.....	18.1	.9
Average yield north part of state, 12 trials.....	B. S. and Fife.....	15.1	
	Minn. No. 163.....	17.5	2.4
Average yield south part of state, 26 trials.....	Fife and B. S.....	17.5	
	Minn. No. 163.....	18.4	.9

In a few cases the new wheat yielded less than the common wheat, and further careful trial may show that there are general districts, or groups of counties, where this wheat does especially well and other districts where it does not succeed so well. No county should discard a new wheat of such promise without more than one or two years' trial.

The yields at the Experiment Station and the average yields reported by those picked farmers—whom it is presumed had superior stocks of Fife and Blue Stem wheat—warrant the assumption that this wheat, if generally grown, would increase the yield of the wheat crop one bushel per acre for the entire state. Every bushel of this wheat which is of good quality, should be planted that it may be rapidly increased.

University Farm, Dec. 19, 1900.