

2004 Red River Valley On-Farm Yield Trials Spring Wheat

Following are the results of the 2004 Red River Valley On-Farm Yield Trials. These regional trials were located throughout northwestern Minnesota.

About the Trials:

The 2004 Red River Valley On-Farm Yield Trials were grown in 5 locations throughout the region. The locations, cooperators, and planting dates are summarized in Table 1. This year's yields rivaled and even exceeded last year's high yields at some of the locations and were the highest ever recorded in the history of the Red River On-Farm Yield Trials. Each of the location was harvested just in time, such that grain quality did not suffer from the prolonged wet period at harvest.

About the Entries:

The entries of the 2004 Red River On-Farm Yield Trials, including the breeder and the year of release, are listed in Table 2. Testing of 'Ingot' was discontinued. New releases that were added to the test included 'Freyr', 'Granger', 'Polaris', 'Steele', and 'Trooper'.

Interpretation of the Data:

One-, two-, and three-year averages for grain yield are reported. Within the table, the varieties are listed alphabetically. No single location data is presented to avoid misinterpretation of data. Single environment data has to be interpreted with caution. Performance data across multiple environments, either single location/multiple year, or multiple location/single year, and/or a combination of years and locations is more reliable. Performance data of individual locations is only available upon request. No data may be reproduced without written consent of the author.

In each table, the highest performer for each trait is printed in bold. The grain yield in each table is expressed as a percentage of the trial mean with the overall mean in bu/A listed below. Presenting the data this way allows for better comparisons over years. Secondly, variety selection is based on the relative ranking of the cultivars, rather than the absolute yield. Comparisons between varieties should only be made within each column and not between columns or between tables. In addition to the overall mean for the trial, the Least Significant Difference (LSD) is printed at the bottom of each column. The LSD is calculated using an alpha level of 5%. This indicates that, if and when the observed difference between two varieties is larger than the LSD unit, with 95% confidence the observed difference is a real difference rather than experimental error.

Table 1 Location of the 2003 Red River Valley On-Farm Yield Trials.

<i>Location</i>	<i>Cooperator</i>	<i>Planting Date</i>	<i>Harvest Date</i>
Rothsay	Bruce Brendon	April 19	August 20
Perley	Brian Hest	April 16	August 18
Oklee	Ray Swenson	April 21	September 1
Strathcona	Jim Kukowski	May 3	September 18
Humboldt	Gerald Olsonowski	April 26	September 1

Table 2 Hard Red Spring Wheat entries in the Red River On-Farm Yield Trials (2002-2004).

<i>Breeder</i>	<i>Cultivar</i>	<i>Year Released</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>
AgriPro	Norpro	2000	x	x	x
	Hanna	2001	x	x	x
	Knudson	2001	x	x	x
	Freyr	2004			x
Northstar Genetics	Mercury	1998	x	x	x
	Polaris	2004			x
NDSU	Parshall	1999	x	x	x
	Reeder	1999	x	x	x
	Alsen	2000	x	x	x
	Dapps	2003		x	x
SDSU	Oxen	1996	x	x	x
	Walworth	2000	x	x	x
	Briggs	2002	x	x	x
	Granger	2004			x
Univ. of Minnesota	Verde	1995	x	x	x
	Oklee	2003	x	x	x
Western Plant Breeders	Granite	2001	x	x	x
	Trooper	2004			x

Table 3: Grain yield expressed as a percentage of the trial mean across all locations 2004 and multi-year (2002-2004) comparisons and agronomic characteristics of cultivars entered in the Red River Valley On-Farm Yield Trials.

<i>Cultivar</i>	<i>Across All Locations</i>						
	<i>Grain Yield</i>			<i>3-Year data</i>			
	<i>1 year</i>	<i>2 year</i>	<i>3 year</i>	<i>Plant Height</i>	<i>Lodging*</i>	<i>Test Weight</i>	<i>Protein</i>
-----	<i>(% of mean)</i> -----		<i>(inches)</i>	<i>(1-9)</i>	<i>(lb/bu)</i>	<i>(%)</i>	
Alsen	98.1	97.9	96.8	31.1	3.2	61.1	14.7
Briggs	99.3	100.5	102.1	31.8	4.3	61.9	14.4
Dapps	89.9	89.2	--	--	-	--	--
Freyr	98.7	--	--	--	-	--	--
Granger	108.4	--	--	--	-	--	--
Granite	98.9	98.1	97.7	29.2	1.2	60.6	15.3
Hanna	95.8	96.7	92.4	35.9	3.7	59.5	14.4
Knudson	104.2	104.6	107.7	29.8	3.6	61.0	13.7
Mercury	102.8	102.7	104.2	27.7	3.8	59.5	13.7
Norpro	100.3	101.7	96.7	29.2	2.9	58.9	14.1
Oklee	97.1	101.5	100.6	29.6	4.3	61.9	14.6
Oxen	98.9	105.1	104.2	29.8	3.3	59.4	14.1
Parshall	88.4	92.2	89.6	34.7	3.4	60.2	14.6
Polaris	107.8	--	--	--	-	--	--
Reeder	98.2	100.3	98.9	31.4	2.9	59.4	14.4
Steele	97.6	--	--	--	-	--	--
Trooper	103.9	--	--	--	-	--	--
Verde	104.4	106.0	105.8	30.6	3.3	60.0	13.7
Walworth	97.1	99.9	99.4	37.5	5.0	59.8	14.3
C.V.	6.9	7.6	9.0	29.7	28.9	2.3	3.0
LSD (5%)	7.7	6.1	5.9	4.4	0.7	0.9	0.3
Mean	87.6	85.5	67.9	31.5	3.5	60.2	14.3

* 1=erect and 9 = flat

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