

WINTER GRAIN IMPROVEMENT

Winter Wheat

Eight nurseries were seeded in the fall of 1952. The Nursery on the station was the advanced yield nursery. The nursery in Flathead county was a hard red winter drawf smut nursery. The remaining six nurseries contained nine entries and were seeded in Lake (Ronan), Sanders (Plains and Camas Prairie), Mineral Tarkio), Missoula (Frenchtown), and Lincoln (Eureka) counties.

The station nursery yields were non-significant and had a mean yield of 38.47 bushels per acre. Considerable leaf spot was noted on the Rio/Rex x Nebred and Rio/Rex x Cheyenne crosses. A sample of this was sent to Dickson University of Wisconsin for identification. He identified it as a bacterial disease but did not give the causitive organism. Table LXXXII.

No Drawf smut was found in the smut nursery in Flathead county at Stillwater. The mean yield was 19.20 bushels per acre with no differences in yield when analysed statistically. Table LXXXIII.

Table LXXXIV shows the yield data of the nursery grown near Ronan. Dry weather in the fall at seeding time apparently prevented good stands.

Good stands were obtained in the nursery at Camas Prairie. Orfed (White Wheat) was the only variety significantly higher in yield than Wasatch, which was used as a check. Table LXXXV.

Blackhull/Rex x Cheyenne and Rio/Rex x Nebred were higher in yield at the 1% level than Wasatch which was used as a check in the nursery at Plains. The mean yield of this nursery was 12.9 bushels per acre. Table LXXXVI.

No significant results were obtained from the nursery at Superior. The mean yield was 27.64 bushels per acre. Table LXXXVII.

In the nursery at Frenchtown two varieties were lower in yield than Wasatch. The varieties were Orfed and Rex x Rio. The mean yield of this nursery was 15.32 bushels per acre. Table LXXXVIII.

Results were not significant in the Lincoln county nursery. The fall was very dry at seeding time as was the following growing season. The mean yield was 6.03 bushels per acre. Table LXXXIX.

Table XCI gives data for four years at Creston. Only five varieties have been tested for for four years. The lead in those five is Karmont, but it is very susceptible to drawf bunt.

In table XCII only four varieties have been in all eleven trials and of those four Yogo leads in production, but it is not resistant to drawf smut.

Table LXXXII. Agronomic data from winter wheat nursery dryland, Creston, Montana 1953. Three row plots, three replications.

Date Planted, September 18, 1953

Size of Plot 16 feet

Variety or Cross	C. I OR N No.	Percent Stand		Head- ing Date	Head- ing Height	Plot Yield In			Total Bushel	Average Bushels Per Acre	Bushel Weight Pounds
		Fall	Harvest			Bushels Per Acre	I	II			
Comanche		61	75	6-14	42	15.4	39.9	37.8	93.1	31.03	61
Yogo		77	88	6-18	47	37.0	35.7	49.7	122.4	40.83	61
Newturk	88	88	97	6-18	48	39.2	18.9	50.4	108.5	36.17	63
Karmont		93	93	6-17	48	25.2	50.4	33.6	109.2	36.40	62
Kaharkof	92	92	98	6-17	49	35.0	44.8	41.3	121.1	40.37	61
Wasatch		93	95	6-15	50	25.9	39.2	44.1	109.2	36.40	62
Turkey x Oro -221		95	97	6-19	49	40.6	29.4	44.1	114.1	38.03	61
Yogo x Wasatch -6		97	95	6-16	50	27.3	30.1	56.0	113.4	37.80	61
Yogo x Wasatch -8		97	100	6-16	50	39.2	49.7	22.4	111.3	37.10	62
Yogo x Wasatch -3		98	93	6-16	51	25.2	39.2	44.1	108.5	36.17	60
Yogo x Wasatch -4		80	98	6-17	49	25.2	31.5	34.3	91.0	30.33	61
Blackhull/Rex-Cheyenne	M-482296	80	98	6-19	50	47.6	45.5	51.1	144.2	48.07	61
Rio/Rex x Cheyenne	M-472361	97	98	6-13	45	39.2	34.3	37.1	110.6	36.87	59
Rio/Rex	M-43131	98	100	6-12	43	41.3	32.9	39.9	114.1	38.03	60
Rio/Rex x Nehred	M-482215	98	98	6-15	45	37.1	44.8	41.3	123.2	41.53	63
Rio/Rex x Nehred	M-482235	93	98	6-14	44	44.1	45.5	36.4	126.0	42.00	62
Marguillo x Oro/O x T x F	Ks-47B9	95	100	6-13	48	34.3	30.1	39.9	104.3	47.77	60
Comanche/ O x T x F	Ks-47B129	97	98	6-12	48	32.9	27.3	30.8	91.0	30.33	60
Orfed		97	100	6-13	47	48.3	51.1	42.0	141.4	47.13	61
Tenmark		92	98	6-13	48	42.0	58.8	42.7	143.5	47.83	62
Yogo Elite Composite		95	100	6-18	50	42.7	38.5	44.1	125.5	41.77	62
Yogo Poor Composite		86	97	6-18	50	28.7	26.6	44.8	100.1	33.37	61
Yogo Good Composite		85	97	6-18	52	26.6	33.6	39.9	100.1	33.37	61
Cheyenne		92	100	6-19	47	51.6	48.3	44.8	147.7	49.23	61
Minter		93	97	6-19	49	35.4	33.6	40.6	110.6	36.87	61

Note: Wasatch is the check in this nursery.

Mean Yield.....38.47
 S. E. \bar{x} 4.71
 L.S.D. N. S.
 C. V. 12.24%

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Table LXXXIII. Agronomic data from hard red winter wheat, smut nursery grown under dryland conditions in Flathead County. Single row plots four replications, Conrad Gilbertson farm, Kalispell, Montana.

Date Planted, October 8, 1952

Size of Plot 16 feet.

Variety or Cross	G. I. or N No.	Stand %	Yield Per Plot In Bushels Per Acre				Total Bushels	Average Bushels Per Acre
			I	II	III	IV		
Rio x Rex/Cheyenne	Mo-472361	85	21.26	17.01	24.81	19.85	82.93	20.73
Rio x Rex/Cheyenne	Mo-482161	95	20.55	21.26	14.88	19.85	76.54	19.14
Rio x Rex/Nebred	Mo-482215	95	28.25	25.52	9.21	23.39	86.47	21.62
Rio x Rex/Nebred	Mo-482232	95	26.93	17.72	14.18	26.93	85.76	21.44
Rio x Rex/Nebred	Mo-482235	95	26.93	21.97	10.63	31.19	90.72	22.68
Blackhull/Rio x Rex	Mo-482260	100	29.76	24.10	14.88	15.59	84.33	21.08
Blackhull x Rex/Rio x Rex	Mo-482271	85	21.97	18.43	12.05	11.34	63.79	15.95
Blackhull x Rex/Rio x Cheyenne	Mo-482296	80	17.72	18.43	18.43	19.14	73.72	18.43
Rex x Rio ³ -5		90	18.43	13.47	18.43	19.14	69.47	17.37
Rex x Rio ³ -14		95	25.52	19.85	9.21	21.97	76.55	19.14
Comanche		80	19.85	9.21	12.76	15.59	57.41	14.35
Wasatch		80	24.10	25.52	17.01	19.85	86.48	21.62
Turkey x Oro Sel. 221		90	22.68	18.43	17.72	18.43	77.26	19.32
Kharkof		95	21.97	25.52	20.55	17.01	85.05	21.26
Orfed x Wasatch		90	20.55	18.43	21.26	19.85	80.09	20.02
Rio x Rex	Mo-43131	95	19.85	18.43	14.18	14.18	66.64	16.66
Rex x Rio	Mo-43096	85	21.26	17.01	9.92	9.21	57.40	14.35
Rio		70	21.97	18.43	13.47	19.85	73.72	18.43
Comanche/O x T x F	Mo-478129	90	23.39	12.05	17.72	14.18	67.34	16.84
Mieh x H 44 x Mint. ^o /M x T x Kh	Fe 1197	95	20.55	20.55	12.76	17.72	71.58	17.90
M x O x O x T/Mod x Hope x Pn	Fe 1199	95	24.10	23.39	15.59	21.97	85.05	21.26
Yogo x Wasatch -6		85	22.68	23.39	13.47	10.63	70.17	17.54
Yogo x Wasatch -8		90	21.25	24.10	18.43	19.85	83.64	20.91
Yogo x Wasatch -3		90	26.22	24.10	17.72	29.06	97.10	24.28
Yogo x Wasatch -4		90	24.10	22.68	9.92	14.18	70.88	17.72