

## DRYLAND WINTER GRAIN

### Wheat

The interstate winter wheat nursery seeded at Creston consisted of seventeen entries. All were hard red winters except 27-15 x Rex-Rio-41 which is a bread type white wheat. Moisture conditions were very good. Ice which formed during January reduced the yield of much of the wheat, but had no effect on the station material. To control weeds this nursery was cultivated once and hand weeded to remove weeds within the row.

Drawf bunt was moderate to severe in this nursery. Newturk and Yogo-Rescue 66-22 were the varieties with the highest rate of infection. Wasatch had traces of bunt. C.I. 12696 was the highest yielding variety with 74.2 bushels per acre and free of drawf bunt. C.I. 12933 was next in yield followed by 12930. These are of the drawf bunt resistant varieties, of these, C.I. 12933 showed 0.1% drawf bunt this year. Lodging was moderate in the Yogo-Rescue crosses and in some of the older varieties. No lodging was noted in C. I. 12933, 12930 and C. I. 12696. The mean yield of this nursery was 65.5 bushels per acre. Table XXXV.

Twenty entries were grown in the Uniform Western Regional Hard Red winter nursery. This was seeded very late in the season, Oct. 17, 1955. Emergence was poor due to dry conditions in the area. Winter killing was severe in the less hardy varieties due to the lack of snow cover.

There was no evidence of drawf bunt in this nursery. Stands were poor in most varieties. This nursery tested the winter hardness of these varieties. C. I. 12696 was poorest in stand (7%), and lowest in yield (2.3). C. I. 12806 was best in stand (90%) and highest in yield (17.0). Because of erratic stands a high C. V. was obtained. Wasatch, the check variety was low in yield 6.4 bushel per acre and a stand of 33%. C.I. 12930 and 12933 were 53 and 72% in stand respectively. However the difference of yield of these two varieties was not significant. Table XXXVI.

To study a large selection of crosses of Yogo-Turkey/oro 221 a single row three replicated nursery was seeded. There were 163 entries in this nursery. Only a portion of them were harvested. Many being eliminated because of poor characteristics. Lodging was severe in this nursery, but no notes were taken for comparisons. Drawf bunt was noted in several of the varieties. The mean of this nursery was 53.5 bushels per acre. No one variety can be selected at this time for high yielding ability.

Planting dates of winter wheat have been a question in Northwestern Montana for many years. To determine the optimum date a study was begun in the fall of 1955. Two varieties were used in this study. See Table XXXVII a. One years data shows that Sept. 24 was the best planting date in 1955, and 12930 was the highest yielding variety. Table XXXVIIb.

Table XXXV. Agronomic data from interstate winter wheat nursery grown at Creston, Montana in 1955-56.  
Four row plots four replications.

Date Planted. September 19, 1955      Date Harvested. August 16, 1956      Size of Plot. 16 feet

Variety or Cross	C. I. or N No.	Head- ing Date	Height in Inches	Lod- ging %	Drawf Bunt %	Plot Yield In Bushel Per Acre				Total Bushel	Average Bushel Per Acre	Bushel Wt. in Pounds
						I	II	III	IV			
Blackhull-Rex/Rio/Rex	12932	6-10	37	7	.1	64.5	60.3	71.6	64.5	260.9	65.2	62
Yogo	8003	6-11	41	20	.7	55.3	61.0	56.7	67.4	240.4	60.1	62
Yogo x Rescue 56-28		6-10	41	54	.3	71.6	61.7	59.6	73.7	266.6	66.7	61
Yogo x Rescue 56-30		6-10	38	26	.7	75.2	75.9	54.6	81.5	287.2	71.8	62
Yogo x Rescue 66-22		5-8	38	-	.8	60.3	44.0	44.4	51.1	199.8	50.0**	61
Newturk		6-11	40	78	.8	61.0	56.7	54.6	63.1	235.4	58.9	63
Kharkof 17-7		6-10	41	26	T	66.6	55.3	57.4	69.5	248.8	62.2	62
Cheyenne		6-10	39	-	1.6	71.6	61.7	70.2	80.8	284.3	71.0	62
Karmont		6-10	39	44	.3	58.1	63.1	52.5	59.6	233.3	58.3	62
Wasatch	11925	6-9	41	7	T	61.7	61.0	69.5	68.1	260.3	65.1	62
Blackhull/Rex x Cheyenne	12933	6-10	40	-	.1	75.9	80.1	56.0	80.1	292.1	73.0	63
27-15 x Rex-Rio-41 (Burt)	12696	6-9	37	-	-	82.2	76.5	51.6	86.5	296.8	74.2	61
Norin 10 x Brevar-11		6-8	24	-	1	81.5	69.5	59.6	66.6	277.2	69.3	58
Norin 10 x Brevar-17		6-8	22	-	2	71.6	73.0	73.0	73.7	291.3	72.8	60
Yogo x Rescue 56-19		6-10	37	5	.3	60.3	63.1	53.9	70.2	247.5	61.8	59
Rio-Rex Nebred	12930	6-8	37	-	-	68.1	74.4	51.6	80.1	274.2	68.6	63
Columbia	12928	6-8	36	-	T	57.4	69.5	60.3	73.0	260.2	65.1	63

Note: Wasatch is used as a check in this nursery.  
\*\*Varieties yielding significantly less than the check 1%.

Mean Yield.....65.5  
S. E.  $\bar{x}$ .....3.32995  
L.S.D.(5%).....9.5  
L.S.D.(1%).....12.6  
C. V. ....5.11%

Analysis of Variance

Source	D. F.	Mean Square	F.
Replications	3	464.20	10.47**
Varieties	16	168.2375	3.79**
Error	48	44.3548	
Total	67		