

WINTER GRAIN IMPROVEMENT

Winter Wheat

Nine nurseries were seeded in the fall of 1953. One nursery containing 25 varieties was seeded on the station at Creston and eight off-station nurseries containing nine varieties each, except the nurseries located at Stillwater.

The station nursery, agronomic data shown in Table CVII, had a mean yield of 45.4 bushels per acre. Using Wasatch as a check C. I. 12696 was significantly higher in yield with 67.9 bushels per acre. This is a hard white wheat developed by the Washington State Experiment Station. This nursery was severely lodged at harvest time. Some smut was noted in some varieties while threshing but no readings were made on the amount of smut.

The hard red winter wheat nursery, grown in Flathead county in the Stillwater area was grown in cooperation with the USDA ARS. The purpose of this nursery is to find a dwarf smut resistant variety of hard red winter wheat. Flecking of leaves was observed on all varieties. Rio had the highest rate of smut infection with 12%. C. I. 12696 was the highest yielding variety with 33.6 bushel per acre being significantly higher in yield than Wasatch which is used as a check. Table CVIII.

The western regional white wheat nursery grown in the Stillwater area was grown in cooperation with the USDA ARS. This nursery is grown for the purpose of finding white wheats adapted to the area and resistant to dwarf smut. Table CIX shows agronomic data for this nursery. The mean yield of this nursery was 27.4 bushels per acre.

Wasatch was the highest yielding variety in the nursery grown in Lake county near Ronan, with 35.5 bushels per acre. The mean yield of this nursery was 30.7 bushels per acre, Table CX.

There were no significant results obtained from the nursery in Sanders county at Plains. The mean yield of this nursery was 33.6 bushels per acre, Table CXI.

Table CXII shows yield data from the nursery in Sanders county at Camas Praire. C. I. 12930 was the highest yielding variety with 26.9 bushels per acre. The mean yield was 23.5 bushels per acre.

The nursery in Mineral County had a mean yield of 30.7 bushels per acre. The results were not significant when analysed statistically. Table CXIII.

Table CXIV gives the data from the nursery grown in Misscula County near Frenchtown. The results when analysed statistically were not found to be significant. The mean yield of this nursery was 18.5 bushels per acre.

In the nursery at Lincoln County C. I. 12930 was significantly higher in yield than Wasatch which is used as a check. The yield of this variety was 21.9 bushels per acre. See Table CXV for complete data.

Table CXVI gives a summary of the varieties grown in Northwestern Montana in 1954.

Tables CXVII and CXVIII gives the annual and five year summary of yield data at Creston, Montana and six year summary of data for Northwestern Montana respectively.

Tables CXIX thru CXXIII shows the data of individual counties in Northwestern Montana 1950-1954.

Table CIX. Agronomic data from western regional white wheat nursery grown in Flathead County.
C/X Single row plots, four replications, dryland. Conrad Gilbertson farm, Kalispell, Montana.

Date Planted. October 8, 1954 Date Harvested. August 11, 1954 Size of Plot. 16 feet

Variety or Cross	C. I. or N No.	Drawf or Smart %	Height in Inches	Plot Yield In Bushels Per acre				Total Bushels	Average Bushels Per Acre	Bushel Wt. in Pounds
				I	II	III	IV			
Karkof	1442	T	28	24.1	28.4	29.1	31.2	112.8	28.2	62
Rio	10061	1	26	31.2	26.3	19.2	27.0	103.7	25.9	62
Triplet	5408	T	27	29.8	34.1	27.0	32.0	122.9	30.7	62
Rex	11689	-	25	21.3	19.9	22.7	18.5	82.4	20.6	-
Golden	10063	-	27	30.5	27.7	26.3	34.1	118.6	29.7	60
Hymar	11605	-	28	32.7	28.4	28.4	26.3	115.8	29.0	60
Elmar	12392	-	25	25.6	25.6	28.4	25.6	105.2	26.3	62
Elgin	11755	-	29	29.8	29.1	17.8	24.1	100.8	25.2	61
Brevar	12385	-	23	29.8	24.9	19.2	27.0	100.9	25.2	61
Orfed x Hybrid 50-3	12692	-	25	24.9	29.8	29.1	29.1	112.9	28.2	62
27-15 x Rex-Rio-41	12696	-	24	29.8	29.8	29.8	33.4	122.8	30.7	63
27-15 x Rex-Rio-53	12697	-	23	31.2	29.8	27.0	29.1	117.1	29.3	63
27-15 x Rex-Rio-10-1	13061	-	23	28.4	25.6	31.2	31.2	116.4	29.1	62
27-15 x Rex-51-2	13062	-	22	31.2	31.2	29.1	30.5	122.0	30.5	62
27-15 x Rex-Rio-72	13063	-	23	27.0	27.0	22.0	22.0	98.0	24.5	62
27-15 x Rex-Rio-74	13064	-	24	27.7	30.5	29.1	29.8	117.1	29.3	62
Rex-Rio x Athena P-8-1	12694	-	25	28.4	29.1	24.9	30.5	112.9	28.2	62
Norin 10 x Brevar-11		T	19	33.4	29.8	23.4	28.4	115.0	28.8	61
Norin 10 x Brevar-14		1	14	19.2	20.6	24.9	23.4	88.1	22.0*	60
Norin 10 x Brevar-17		T	17	31.2	27.0	26.3	22.7	107.2	26.8	61

Note: Triplet is the check in this nursery.

* Varieties yielding significantly less than the check(5%).

Mean Yield.....27.4
 S.E. E..... 1.974
 L.S.D. (5%)..... 5.6
 C. V..... 7.2%