

Spring Wheat

The spring wheat work was reduced this season because of budget limitations. The reduction was made in the off-station work. In the main, spring wheat work consisted of yield nurseries and one milling and baking nursery.

The yield nurseries were as follows: (1) dryland advanced yield, (2) irrigated advanced yield, (3) uniform Western Regional white wheat, and (4) the milling and baking plots.

Dryland Advanced Yield

The entries in this nursery consist of breeding material and standard varieties. The promising lines from other breeding programs are also included in this nursery.

There were twenty-eight entries in the 1961 nursery planted in four row plots and four replications. It was located in field number A-1b.

Yields were below normal for this location. Stripe rust was found on some lines, however, the majority of the hard red lines were quite resistant. There were no significant differences in this nursery and the C.V. is a little high. There was considerable difference due to replications in this test. See Table XVII.

Irrigated Advanced Yield

This nursery has the same entries as in the dryland nursery.

This nursery was located in field number Y-8. Stripe rust was found on some lines in this nursery. The mean yield for this nursery was 42.2 bushels per acre or somewhat less than expected under these conditions. A hail storm on September 1, 1961 did considerable damage to this nursery and thus accounts in part for the reduction in yield. Table XVIII shows yield and agronomic data for this nursery.

Uniform Western Regional White Wheat

This nursery is grown throughout the western states of the United States. Entries are supplied by many breeders and workers throughout the western states.

Stripe rust was quite severe in this nursery and many lines were found to be susceptible. Also there are many lines quite superior in yield, in disease resistance, and lodging resistance to Lemhi, which is the currently recommended variety. C.I. No. 13641 is the highest yielding line in this nursery. Table XIX gives the agronomic data for this trial.

Table XIX. Agronomic data from dryland uniform western regional spring wheat nursery at Creston, Montana in 1961. Four row plots, three replications, field number A-1b. Date Planted: April 24, 1961 Date Harvested: August 18, 1961 Size of Plot: 16 square feet

Variety	C.I. No.	Head- ing Date	Stripe Rust 1 - 4	Ht. in In.	Grams Per Plot			Total Grams	Yield Bu./ Acre	Bu. Wt. in Pounds
					I	II	III			
Baart	1697	6-27	4.00	28	245	240	280	765	25.5**	61.0
Gabo x Idaed ³	13637	6-22	1.00	26	350	271	324	945	31.5**	59.5
Federation	4734	6-28	4.00	26	275	238	235	748	24.9*	57.0
Onas 52 x Idaed ²	13635	6-24	1.33	26	360	300	231	891	29.7**	59.6
Kenya x Lemhi ⁶	13630	6-28	4.00	28	205	190	205	600	20.0	55.9
Onas	6221	6-28	4.00	27	260	215	175	650	21.7	56.5
Thatcher	10003	6-26	1.00	29	340	255	305	900	30.0**	58.0
Kenya x Lemhi ⁶	13435	6-28	4.00	30	269	260	202	731	24.4*	57.4
Idaed 59C	13634	6-22	2.33	25	340	340	270	950	31.7**	60.5
Onas 53	13257	6-27	4.00	27	270	190	200	660	22.0	57.0
Burt x K.F., 58-2479	13640	6-26	1.66	29	355	310	265	930	31.0**	59.5
Kenhi	13268	6-25	4.00	26	245	235	220	700	23.3	58.0
Idaed x Burt-42-5	Pendleton	6-25	1.66	25	325	215	305	845	28.2**	60.1

Continued ---

Table XIX. (Continued)

Variety	C.I. No.	Head- ing Date	Stripe Rust 1 - 4	Ht. in In.	Grams Per Plot			Total Grams	Yield Bu./ Acre	Bu. Wt. in Pounds
					I	II	III			
Lemhi	11415	6-28	4.00	27	180	200	170	550	18.3	—
Idaed	11706	6-23	2.33	28	280	270	270	820	27.3**	59.0
Eureka-Lemhi x Idaed ²	13636	6-23	1.00	26	350	335	285	970	32.3**	59.0
Lemhi 53	13258	6-28	4.00	28	170	205	168 ¹	543	18.1	—
Burt x K.F., 57-70136	13641	7- 2	1.33	34	340	355	370	1065	35.5**	60.9
Pullman 59B-3-36-107*	13638	6-26	2.66	30	285	270	250	805	26.8**	60.0
Idaed 59B	13632	6-22	1.66	22	295	305	365	965	32.2**	59.6
Pullman 59K-33-40-5-5*	13639	6-26	2.66	27	270	285	235	790	26.3**	59.6

Note: Lemhi is used as a check in this nursery

¹ Calculated missing plot

* Varieties yielding significantly more than the check (5%)

** Varieties yielding significantly more than the check (1%)

Mean Yield.....	26.7
S.E. \bar{x}	1.821
L.S.D. (5%).....	5.2
L.S.D. (1%).....	7.0
C.V.	6.82%

Analysis of Variance

Source	D.F.	Mean Square	F
Replications	2	6,035.1500	6.07**
Varieties	20	7,282.0350	7.32**
Error	39	994.2487	
Total	61		