

SPRING GRAIN IMPROVEMENT

Spring wheat (Irrigated)

A total of seven irrigated spring wheat nurseries were seeded in the spring of 1953. Two of which were located on the station. The off-station nurseries were located in Lake County (Polson and Charlo), Sanders (Hot Springs), Lincoln County (Eureka), Missoula County (Potomac). The nursery at Polson in Lake County was not harvested due to bird damage and the nursery at Hotsprings was not harvested because of improper care.

The advanced yield and western regional nurseries were grown on the station. The mean yield for the advance yield was 59.23 bushels per acre. Lee contained loose smut in all plots. Table XXIV. The mean yield for the western regional was 51.31 bushels per acre using Onas as a check, White Federation 38 and Marfed x Merit 10 were significantly greater in yield than the check. Many of the varieties had 100% leaf rust infection and some up to 78% stem rust. Percent of lodging was also very high in this nursery. High infection of mildew was noted during the growing season, but no notes were made at the time. Table XXV.

The off-station nurseries contained eleven varieties. Three white wheats and nine hard red spring varieties. The nursery at Charlo in Lake County was very good, and a good test of the varieties. Rescue and Chinook were significantly lower in yield than Pilot which was used as the check. Table XXVI.

No significant difference was found in the nursery at the Horticultural Branch station at Corvallis. Table XXVII. Due to uneven soil conditions only two replication of the nursery at Eureka in Lincoln County were harvested. Table XXVIII.

Lemhi (white wheat) was significantly better than the check (Pilot) in the nursery at Potomac in Missoula County. Table XXIX.

Table XXX gives the average of the eleven varieties under irrigation for the past season. The rank of the first three varieties are Lemhi (white), Pilot and Ceres.

Data for the period 1949-1952 of work done on hard red spring wheats at Creston, Montana and in Northwestern Montana are shown in tables XXXI and XXXII respectively. Data on white wheats for the same period and area are shown in tables XXXIII and XXXIV. For 20 trials Pilot is the highest yielding hard red spring and Lemhi the highest white wheat with 36.2 and 37.7 respectively.

Table XXV. Agronomic data from irrigated western regional white wheat nursery, Creston, Montana, in 1953. Three row plots three replications.

Date Planted May 11, 1953

Size of Plot 16 feet

Variety or Cross	C. I. or N No.	Head- ing Date	Leaf Rust %	Stem Rust %	Lodge- ing %	Plot Yield in Bushels per Acre			Total Bushels	Average Bushels Per Acre	Bushel Weight Pounds
						I	II	III			
Marfed x Merit-22	13057	7-16	100	27	97	73.00	71.58	38.27	64.50	60.95	59
Baart 46	12386	7-19	100	17	98	42.53	81.51	48.20	60.75	57.40	60
K.F.D.E.B.-121	12944	7-17	97	-	70	36.15	26.22	48.90	39.25	37.09	59
Idaed	11706	7-13	98	42	60	41.11	63.79	43.23	52.25	49.38	59
Henry	12265	7-16	33	-	90	63.79	70.87	57.41	67.75	64.02	60
Onas	6221	7-20	100	37	73	31.89	44.65	46.07	43.25	40.87	57
Marfed x Merit-28	13058	7-18	78	13	88	68.04	75.13	40.40	64.75	61.19	58
Kenya x Lemhi ⁴	13051	7-17	100	75	68	45.36	39.69	51.03	48.00	45.36	60
Kenya x Lemhi	12947	7-18	98	67	83	48.90	34.02	56.70	49.25	46.54	55
W5-67 (Lemhi x Hope-Fed)	13053	7-18	100	73	75	58.12	63.79	44.65	58.75	55.52	57
Lemhi	11415	7-19	100	78	82	58.12	46.78	66.51	60.50	57.17	55
Marfed x Merit-10	13056	7-18	82	3	82	83.63	58.12	65.92	73.25	69.22*	60
White Fed. 38	11906	7-13	100	27	17	70.88	75.13	60.24	72.75	68.75*	59
Baart	1697	7-19	100	3	95	48.90	23.39	58.83	46.25	43.71	61
Federation	4734	7-24	100	13	72	31.89	47.49	30.48	38.75	36.61	56
Onas 52	12946	7-20	100	-	88	58.12	44.65	34.73	48.50	45.83	57
Marfed	11919	7-19	100	43	80	34.02	34.02	41.11	38.50	36.38	58
Awned Onas	12235	7-19	100	38	97	58.12	29.77	37.56	44.25	41.82	57
Thatcher	10003	7-15	-	-	-	42.53	56.70	39.69	49.00	46.31	59
Idaed x Merit-5	13055	7-14	63	-	62	28.35	73.71	61.66	57.75	54.57	60
Idaed x Merit-2	13054	7-17	77	-	72	60.24	57.41	58.83	62.25	58.83	59

Note: Onas check in this Nursery.

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

Mean Yield51.31
 S. E. \bar{x} 7.58
 L.S.D. (5%).....21.23
 C. V.14.77%