

SPRING GRAIN IMPROVEMENT
Spring wheat (Irrigated)

A Total of six spring wheat nurseries were seeded in the spring of 1952. Two of these were located on the station at Creston, and four were located off-station. The off-station nurseries were located in Sanders County (Lonopine, not harvested), Lincoln County (Soreka), Lake County (Charlo), and Missoula County (Potomac).

The advance yield and western regional nurseries were grown on the station. The mean yield for the advance yield nursery was 50.58 bushel per acre. There was no significant difference when this test was analysed statistically. Considerable leaf rust was noted in this nursery. Table XX. The mean yield for the western regional white wheat nursery was 61.21 bushel per acre. Using Onas as a check, White Federation 38, Bart 46, and Thatcher were significantly less in yield. Considerable stem and leaf rust were noted. Table XXI.

The off-station nurseries contained nine varieties three of which were white wheat and six hard red spring wheats. Considerable damage was done by deer in the nursery at Potomac in Missoula County. Table XXII. Yields were outstanding in the nursery in Lincoln County, with a mean yield of 52.44. Eighty-five percent of this nursery lodged. A great amount of mildew and leaf rust were noted on most of the varieties. Table XXIII.

Table XXIV shows the results of test at Charlo, Lake County. In this test, three white and two hard red spring wheats were significantly better than Thatcher.

Table XXV gives the average of all trials under irrigation in 1952. named Onas ranks number one followed by Onas, Lemhi, and Pilot respectively.

Data for the period 1949-1952 is shown in Table XXVI. For thirteen station years Pilot has produced more than any of the hard red spring wheats. Onas was highest yielding white wheat for the same period.

Table XX. Agronomic data from spring wheat advanced yield nursery grown under irrigated conditions, three replications, Creston, Montana, in 1952.

Date of seeding 5-8-52

Date of emergence 5-15-52

Size of plots 16 feet

Variety or Cross	C. I. or N No.	First Headed date	Plant Height (ins.)	Leaf Rust %	Stem Rust %	Lod- ging %	Test wt.	Yield Per plot, bu/a				Average Bushels /a
								I	II	III	Total	
1764 x Rescue	B49-90	7-16	49	9	-	-	62	46.1	54.6	44.7	145.4	48.47
1552 x Mida	12746	7-8	51	1	-	-	61	44.7	51.7	43.2	139.6	46.53
1750 x Rescue	B50-120	7-10	52	53	-	-	62	38.3	40.4	60.2	138.9	46.30
Rescue	12435	7-10	48	40	lt*	-	62	50.3	50.3	52.4	153.0	51.00
1750 x 1753 (N2256)	12975	7-9	47	2	-	-	63	46.1	58.1	66.6	170.8	56.93
Thatcher	10003	7-8	45	50	-	-	61	39.7	57.4	47.5	144.6	48.20
Ceres	6900	7-9	51	22	-	-	63	49.6	60.2	41.1	150.9	50.30
Thatcher x S615	H-4258	7-9	50	50	-	-	62	39.7	49.6	41.1	130.4	43.47
Rushmore	12273	7-7	46	-	-	1%	62	46.1	70.2	53.1	169.4	56.47
Supreme	8026	7-7	51	38	lt*	5%	61	39.0	63.1	41.8	143.9	47.97
Pilot	11945	7-9	47	8	-	-	62	50.3	60.9	52.4	163.6	54.53
1750 x Rescue	B49-102	7-11	48	7	-	-	63	48.2	40.4	60.2	148.8	49.60
Lee	12488	7-4	47	10	-	-	61	51.7	58.9	53.9	164.5	54.83
1764 x Henry (N2211)	12733	7-3	46	-	-	-	62	35.4	56.7	48.9	141.0	47.00
Mida	12008	7-7	52	22	-	-	62	46.1	60.9	54.6	161.6	53.87
Pilot x Thatcher N2170	12974	7-9	49	7	-	-	62	41.8	70.9	48.9	161.6	53.87

Note: The analysis of variance indicates no significant yield difference.

* lt indicates very light rust.

Mean yield 50.58
 S. E. \bar{x} 4.23
 L.S.D. ($P_{.05}$) N. S.
 Q. V. 8.36%

SPRING GRAIN IMPROVEMENT
Wheat (Dryland)

Seven dryland nurseries were seeded during May 1952, in four Northwest Montana Counties. Two of these seven nurseries were located on the home station at Creston. The remaining five were off-station in Lincoln, Sanders, and Mineral Counties. One nursery was seeded in each county except Sanders where three nurseries were seeded. Only two of the nurseries were harvested in Sanders County.

The mean yield of the advanced yield nursery was 40.54 bushels per acre. When analysed statistically there was no significant difference in yield. Table XL.

The western regional white wheat nursery had a mean yield of 65.21 bushels per acre. Considerable leaf rust was noted on all varieties, with Baart having a reading of 96%. Stem rust was found on all the white wheats but Baart, and Baart 46. Table XLI.

The nursery on the Harker farm in Sanders County was seeded quite late in the spring. This date was about two weeks after most plantings had been done in that area. The mean yield was 18.65 bushels per acre. All of the white wheats were significantly better when compared to Thatcher and Rescue was found to be significantly better than Thatcher. Table XLII.

The yields in the nursery at Casag Prairie were very low with a mean yield of 11.9 bushels per acre. Very little moisture fell during the growing season. There was no significant difference in the test when analysed statistically. Table XLIII.

Livestock damage in the Mineral County nursery reduced the yields and made the test inconclusive. The mean yield was 6.3 bushels per acre, with no significant difference between varieties. Table XLIV.

The mean yield of the nursery on the Grubb farm in Lincoln County was 13.70 bushels per acre. Using Thatcher as a check there was no variety significantly higher in yield. Table XLV.

Table XLVI shows work done in Northwest Montana in 1952. The white wheats rank in the following order; Onas, Awmed Onas, Lemhi, followed by Ceres a hard red spring wheat. Table XLVII gives data for all trials and ranks Onas number one white wheat and Pilot is the highest yielding hard red spring wheat in 15 trials.

XL. Agronomic data from spring wheat advanced yield nursery grown under dryland conditions, three replications, Creston, Montana, in 1952.

Date of seeding 5-8-52

Date of emergence 5-14-52

Size of plots 16 feet

Variety or Cross	C. I. or N No.	First Headed date	Plant Height (ins.)	Leaf Rust %	Stem Rust	lod- ging %	Test wt.	Yield Per plot, bu/a			Total	Average Bushels /a
								I	II	III		
Thatcher	10003	7-5	40	2	-	-	62	35.4	28.3	31.9	95.6	31.87
More	12273	7-4	41	-	-	-	62	36.9	51.7	33.3	121.9	40.63
x Rescue	B-50-120	7-6	43	3	-	-	63	36.9	45.4	35.4	117.7	39.23
s	6900	7-8	44	1	-	-	64	39.7	46.8	34.7	121.2	40.40
t	11945	7-7	44	-	-	-	62	32.6	36.1	38.3	107.0	35.67
	6221	7-14	45	2	-	-	62	58.9	50.3	22.0	131.2	43.73
x Mida	12746	7-4	43	1	-	-	63	43.9	51.0	39.7	134.6	44.87
x 1753 (N2256)	12975	7-3	45	-	-	-	64	45.4	41.1	41.8	128.3	42.77
me	8026	7-3	44	-	-	-	61	39.0	43.2	42.5	124.7	41.56
x Rescue	B-49-102	7-8	42	2	-	-	64	42.5	45.4	35.4	123.3	41.10
	12008	7-5	42	-	-	-	63	41.8	41.8	36.1	119.7	39.90
x Henry (N2211)	12733	6-31	41	-	-	-	61	37.6	44.7	30.5	112.8	37.60
	12488	7-6	43	-	-	-	62	38.3	41.1	31.2	110.6	36.87
x Lemhi ⁴	12685	7-8	43	-	-	-	61	48.9	46.8	43.2	138.9	46.30
t x Thatcher (N2170)	12974	7-9	44	-	-	-	63	43.2	45.4	39.0	127.6	42.54
x Rescue	B-49-90	7-9	44	-	-	-	63	40.4	41.1	35.4	116.9	38.97
ne	12435	7-8	43	-	-	5%	63	48.2	32.6	35.4	116.2	38.73
l Onas	12235	7-10	42	10	-	-	62	54.6	56.7	41.1	152.4	50.80
cher x 5615	H-4258	7-3	45	-	-	-	62	41.1	36.9	31.9	109.9	36.63

The analysis of variance indicates no significant yield difference.

Mean yield.....40.54
 S. E. \bar{x} 3.26
 L.S.D. ($P_{.05}$).....N. S.
 C. V..... 8.04%