

PROJECT TITLE: Western Regional Soft White Winter Wheat Evaluations

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OBJECTIVE: To evaluate hard red winter wheat varieties for adaptability, yield quality and disease resistance.

RESULTS: Yields were drastically reduced in many varieties of the Soft White Winter Wheat nursery due to a combination of winter injury and snow mold. The winter kill complex was most severe in the Oregon entries and thinned stands up to 90 percent. Regrowth combined with spring and summer tillering enabled some varieties to produce a fair yield in spite of considerable stand reduction. Besides the Oregon entries suffering from winter kill there were also large plot losses in the varieties of Nugaines, Moro, Elgin, and Kharkof. The high yield was 139 bu/A (WA7756) while the mean for the nursery was 92 bu/A. Eighteen varieties had yields in excess of 100 bu/A. Test weights were less than normal due mainly to environmental conditions throughout the growing season. The mean test weight was 49.1 lb/bu and the high was 54.6 lb/bu (OR851139). TCK smut (dwarf bunt) was observed in the nursery at low levels with only seven varieties having greater than 1% infection. There were twelve varieties that had no TCK infection.

SUMMARY: There was severe winter kill and snow mold in several soft white winter wheat varieties this year. Yields were below normal but were higher than the hard red winter wheat averages.

FUTURE PLANS: Continued evaluation of new and introduced cultivars is planned in the future through cooperative state-wide testing.

Table 1. Agronomic data from the Western Regional Soft White Winter Wheat Nursery grown on the Northwestern Agricultural Research Center, Kalispell, MT in 1993.
Planted: September 21, 1992 Harvested: August 30, 1993

CI NUMBER	VARIETY	YIELD BU/A	TESTWT LB/BU	HEADING DATE	HEIGHT INCHES	WINTER KILL %	1/ % 2/ TCK	LODGE 3/ INDEX
CI 1442	Kharkof	55.85	51.50	158.5	49.21	94.75	.25	67.7
CI 11755	Elgin	62.79	49.00	164.0	44.78	82.50	.12	5.0
CI 13740	Moro	64.96	47.30	162.3	41.83	93.25	.00	.0
CI 13968	Nugaines	39.79	47.85	161.0	31.00	97.25	.12	.0
CI 17596	Stephens	93.45	48.88	159.0	34.45	57.50	.62	.0
CI 17917	Tres	78.52	47.80	164.3	37.89	83.75	.12	.0
OR 855	Paha//Sel.72-330/D	73.04	47.77	162.8	32.97	91.50	.00	.0
WA 7662	Luke/Daws//Hill 81	74.71	44.80	162.8	30.51	93.25	.25	.0
WA 7686	VH02254/ORCW8313,	109.3	50.15	160.5	34.94	52.50	.25	.0
WA 7753	Tyree/Reason/Tres,	74.04	45.78	165.3	34.94	71.75	.00	.0
WA 7690	VPM/MS951/YMH/Hill	98.00	49.90	160.5	36.91	64.75	.25	.0
OR850933	YMH/HYS/4/MRS/3/YM	63.49	48.40	157.5	31.99	85.75	.12	.0
OR851048	Stephens/Quilamapu	102.2	48.97	159.5	35.43	66.00	.12	.0
OR860303	AFG2/BUC, F1/KVF	36.83	51.53	154.8	31.99	98.00	5.50	.0
ED085153	Sprague/Stephens	122.4	50.00	159.3	38.39	43.75	.12	.0
WA 7729	WA6814/Tres, VA087	64.59	45.70	163.8	33.46	94.75	.00	.0
WA 7730	VH090077	64.05	45.03	164.8	32.97	88.75	.00	.0
WA 7717	WA7690 Sib	110.2	50.17	162.8	41.34	23.75	.12	.0
WA 7695	Daws//SU92/3*Omar-	59.15	44.13	163.0	31.00	75.50	.00	.0
WA 7697	SPN//SU92/3*Omar-2	61.90	48.38	162.8	31.50	90.50	.00	.0
IWH 1004	X WH1004 Hybritech	135.7	53.20	159.5	37.89	4.500	.37	.0
IWH 1005	X WH1005 Hybritech	125.8	52.70	160.0	39.37	3.250	.37	.0
FB185WV1	Daws/ CIMMYT/PNW B	113.9	51.92	159.0	36.42	40.00	.25	.0
OR851139	YMH/HYS/3/EG/17838	129.9	54.55	161.0	41.34	32.50	.12	.0
OR856537	HYS/YAHA//WA4095/3	23.14	41.30	163.3	35.43	99.50	.00	.0
OR855350	Pendleton Sel. OR8	74.76	47.22	161.3	34.94	86.25	.00	.0
ORFW0333	Pendleton Sel.	84.93	45.28	165.3	33.46	55.25	.12	.0
WA 7622	Tyee/Reason/Tres,	97.74	47.22	164.5	37.40	4.250	.00	.0
WA 7752	Tres//Madsen/Tres,	113.2	51.50	162.8	38.88	2.500	.12	.2
WA 7754	Pullman Sel. VD090	82.70	45.92	163.5	38.88	3.500	.00	.0
WA 7755	Pullman Sel. VH091	131.8	51.10	159.5	39.37	2.000	.87	.0
WA 7756	Pullman Sel. VH091	138.9	53.50	160.8	40.85	3.250	1.00	.0
XWH 1008	XWH1008 Hybritech	113.0	48.77	158.8	35.43	7.500	1.25	.0
OR870012	HYS703/3/55-1744/7	92.57	48.00	162.0	34.45	38.50	.12	.0
OR870337	KVZ/3/HD/ON//BB/4/	111.3	50.45	159.0	32.48	6.500	1.25	.0
OR870831	AFG2/BUC,F1/KVZ	105.1	53.28	154.3	34.94	5.000	6.00	.0
OR880525	OR946/HILL/HILL	118.8	52.78	162.5	41.34	1.500	.75	.0
ORFWHS02	T. TIMOPHEEVI/2*P1	82.21	46.15	163.0	43.80	4.000	.00	42.7
ORFWB004	STEPHENS*2/SM-4	101.2	49.48	164.0	36.42	10.50	4.75	.0
ORFWHS04	FW84106/GREER	110.7	51.80	158.8	34.94	7.750	.37	.0
FB83WV56	Plant Breeders 1 S	135.4	50.58	158.8	38.39	2.750	.62	.0
FB83WV59	Plant Breeders 1 S	130.5	51.25	162.0	40.85	4.750	.00	.8

OVERALL MEAN = 91.96 49.07 161.2 36.78 47.02 .628 2.777
LSD (05 by t) = 17.57 1.742 1.984 1.976 20.07 2.533 7.268

1/ Winter Kill % = that percent of plot reduced by snow mold and winter injury
2/ % TCK = percent of plot (ocular observation) infected with Dwarf Bunt
3/ Lodging Index determined by lodging prevalence X severity divided by 9.