

PROJECT TITLE: Winter Wheat Evaluations

YEAR/PROJECT: 1991/756

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

RESULTS: Soil moisture in September of 1991 was very low due to trace amounts of rainfall during that month. Stand thinning was observed in some areas where winter wheat had been seeded deep ( 3-5" ) due to dry, soft seedbeds. Pseudo-cercospora ( foot rot ) was more prevalent in these areas than previous years. Dwarf bunt ( TCK ) was light in both the hard red and soft white varieties even though the period of continuous snowfall was conducive for that disease ( 52 days ). Winter survival averaged 95% in winter wheat plots this season.

SUMMARY: - 1991 Western Regional Hard Red Winter Wheat Nursery -

The average yield for the Hard Red Wheat nursery was 95.4 bu/a which is 7 bu/a higher than the long term average of 87 bu/a. The dry seedbeds in September did not hinder the further development of winter wheat. All test weights were above 60 lb/bu and the average was 61.7 lb/bu. The heading date average was 6 days earlier than last year. Winter survival averaged 95.5% for the 35 entries. Lodging and dwarf bunt incidence were very slight.

- 1991 Western Regional Soft White Winter Wheat Nursery -

1991 yields were slightly above average yet lower than the 1990 production. The average yield for the 1991 Soft White Wheat Nursery was 104 bu/a. Twenty-one of the forty entries yielded higher than 100 bu/a. Test weights were generally above 60 lb/bu and the mean test weight was 60.9 lb/bu. The top yielding entry, WA 7431, had the lowest test weight of 56.55 lb/bu. In most cases percent winter survival was above 90% except for two Corvallis selections ( OR 8833765 and OR 832784 ), and Elgin. TCK incidence was very slight and was not found in levels higher than .75%.

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

Table 1. Agronomic data from the Western Regional Hard Red Winter Wheat Nursery grown on the Northwestern Agricultural Research Center in Kalispell, MT. Planted: September 21, 1990 Harvested: August 15, 1991 Field E1

CI or State #	VARIETY	YIELD BU/A	TEST WT LB/BU	HEADING DATE	HEIGHT IN	%WNTR SURVL	LÖDGING INDEX /1	% TCK SMUT
ID 361	CNN//7*LEE/TF/5/SM4/	115.25	61.83	162.25	35.43	96.25	.00	.25
OR830027	PMF//CNO S/GLL	113.50	62.28	158.50	42.32	96.25	.00	.00
IDHWO355	2*MC/NP824/3/LMH66/5	112.59	61.90	159.75	45.28	95.00	.00	.00
OR861555	VS 74-709/BUC	112.51	60.25	160.75	35.43	97.25	.00	.50
OR841708	CER//YMH/HYS	108.53	60.52	163.25	37.89	97.25	.00	.25
UT 211	1784-211/ARBON/ID 51	107.19	60.50	158.50	39.37	99.75	.00	.25
OR 8522	VORO/MNIM,85B-839	105.36	61.20	161.25	33.46	97.50	.00	.00
ID 355	MC*2/NP824/3/LMH66/5	104.55	62.05	160.00	42.81	96.00	.00	.00
OR832306	TJB368-251/BUC	104.34	60.18	159.00	33.46	96.25	.00	4.00
WA 7680	UT122275/N7800501	104.21	63.10	158.75	44.29	96.25	.00	.25
UT 303	1257-6/MNG	103.59	62.52	157.25	35.93	97.00	.00	.25
UT165093	ID 51022/MNG	103.47	60.65	160.75	37.40	95.00	.00	.00
WA 7678	CI 14484//BNK/GNS/3/	99.85	63.23	160.25	40.35	91.25	.00	2.75
WA 7679	NB23105/NB106201	99.00	62.05	160.00	41.83	95.00	.00	.75
UT162334	BEZ1/MNG/3/HNL//IT/F	98.64	61.78	160.50	34.45	97.25	.00	.00
ID 421	A74125W-16-3-1/A7470	98.09	61.90	162.25	45.77	97.25	.00	.00
CI 13844	WANSER	98.00	62.50	158.50	45.77	94.75	.00	.25
OR860455	GOV//PCI/VEE	95.83	60.47	162.25	34.94	91.25	.00	.25
UT 190	AG POD/WHEAT	95.13	61.73	160.75	37.40	98.50	.00	.00
QT 555	HYBRITECH	94.90	61.52	156.75	33.46	96.00	.00	.75
ORCR8601	PMF//CNO S/GLL	93.95	62.08	156.00	39.86	96.00	.00	1.25
XNH 1401	HYBRITECH	92.75	63.17	155.00	39.86	92.50	.00	.50
ID 422	CNN/LEE*7/TF/5/SM4/4	91.88	61.45	161.50	34.45	95.00	.00	.00
DS 00001	BLIZZARD S	90.29	61.90	160.25	42.32	94.75	.00	.00
OR008718	D887-74/PEW	88.13	61.23	160.75	36.42	90.00	.00	.00
OR830282	ND/P101//BUHD	87.76	61.48	154.00	32.48	96.00	.00	.50
ORCR8602	TJB788-1089/ALDAN	86.65	60.48	154.00	28.54	95.75	.00	.25
OR831134	CNO/INIA/HN7/3/CC//C	86.32	63.08	158.75	33.46	97.25	.00	.25
ID 434	ATL50/4/R/R//2*CNN/3	85.19	62.82	159.75	40.35	97.50	15.00	.00
WA 7620	N7701501//V72044/CER	83.29	62.48	162.50	39.37	95.00	.00	.50
OR008718	BPR 689-71/TI	81.40	61.23	159.75	42.32	93.75	63.80	.25
ID 423	ID0076/3 11-60-157/W	80.13	61.43	157.00	30.51	91.25	.00	.00
WA 7658	NE 77663/WA 6815	79.03	61.63	160.25	43.31	93.75	.00	.00
CI 1442	KHARKOF	69.73	60.70	160.00	47.24	95.75	69.98	.50
ID 433	II-60-156/CI 14106//	66.36	62.15	159.50	43.31	96.25	35.62	.00
EXPERIMENTAL MEANS		95.35	61.70	159.44	38.60	95.47	5.27	.41
F TEST FOR VAR.		2.56**	18.47**	16.72**	21.09**	2.12**	20.34**	1.96**
C.V. 2: (S OF MEAN/MEAN)*100		7.89	.33	.35	2.69	1.55	70.30	138.91
LSD (0.05)		21.09	.57	1.57	2.91	4.16	10.39	1.65

1/ Lodging Index = a combined score of lodging severity X prevalence  
 0 = no lodging, 99 = very severe lodging

\*\* Indicates statistical significance at the .01 level

Table 2. Agronomic data from the Western Regional Soft White Winter Wheat Nursery grown on the Northwestern Agricultural Research Center in Kalispell, MT. Planted: September 18, 1990 Harvested: August 13, 1991 Field E1

CI or State #	VARIETY	YIELD BU/A	TEST WT LB/BU	HEAD DATE	HEIGHT IN	%WINTR SURVL	% TCK SMUT
WA007431	Luke/BR7404434	137.25	56.55	164.25	36.91	99.75	.00
WA 7662	LUKE/DAWS//HILL 81,V	124.15	60.18	163.00	32.97	96.25	.00
WA 7663	MARKSMAN/DAWS,VH0852	122.72	58.45	162.25	34.94	95.00	.12
ID085153	SPRAGUE/STEPHENS	119.89	60.57	158.25	38.88	98.75	.00
WA 7689	DUSTY/WA007050, VDOB	117.87	59.33	164.00	34.94	96.00	.00
OR833725	CORVALLIS SEL	117.58	59.22	160.00	38.88	91.25	.00
WA 7529	LUKE/VH67375//VPM/MO	117.39	60.03	162.00	32.48	98.25	.00
ORCW8635	CORVALLIS SELECTION	116.11	60.60	160.00	33.96	97.25	.00
WA 7688	SRG/LUKE/BR77136/DUS	115.23	59.53	162.75	30.51	97.50	.00
WA 7621	VPM/MS421//VH66354/W	108.67	57.57	162.75	33.96	96.25	.00
CI 13968	NUGAINES	107.20	62.97	161.50	32.97	90.00	.12
ID081277	SPN/Nacozari 76	107.15	59.58	158.00	33.96	94.25	.12
OR830801	CORVALLIS SELECTION	106.78	58.40	157.50	33.46	97.00	.12
WA 7687	WA 6580/HILL 81, VHD	106.33	59.73	159.25	33.46	96.00	.00
OR840815	SMB/HN4//SPN/3/WTS/Y	104.63	61.35	159.25	36.42	99.50	.50
WA 7690	VPM/MS951/YMH/HYS/HI	104.40	61.10	162.00	36.42	98.25	.00
CI 17596	STEPHENS	103.91	60.48	159.25	32.97	97.00	.00
OR851048	STEPHENS/QUILAMAFU 8	102.41	58.48	160.25	36.91	97.25	.12
WA 7166	HYAK	102.41	59.10	161.00	33.96	94.75	.00
CI 13740	MORO	102.20	59.70	160.75	42.81	96.00	.00
WA 7686	vho82254/orcw8313,VH	101.10	59.90	159.75	32.97	99.75	.12
WA 7527	TRES MULTILIE 86	99.89	60.13	162.00	35.93	93.75	.00
WA 7691	VPM/MS951//YMH/HYS//	99.84	60.22	160.25	31.99	92.25	.00
WA 7671	VPM/MS421//WA6241/3/	99.38	60.90	162.25	35.93	98.00	.00
ORFW 301	DAWS/SM4//MDM/SM11,F	99.30	59.83	157.50	32.48	94.75	.12
WA 7163	MADSEN	98.78	59.22	161.50	33.96	98.25	.00
OR850594	STEPHENS/CROW	98.35	60.90	155.50	30.02	94.25	.25
WA 7622	TYEE/ROAZON/TRES	97.79	60.03	163.00	35.43	93.75	.12
CI 11755	ELGIN	97.69	61.40	162.25	44.78	87.50	.25
OR087636	PENDLETON SEL, 87636	97.10	61.50	161.25	31.99	96.50	.00
CI 17917	TRES ( WA 6698 )	96.25	60.57	162.50	36.42	73.50	.12
OR087955	PENDLETON SEL, 87955	95.33	60.03	161.00	31.50	93.75	.00
ORF83115	SPN2*/THUL III	94.86	60.22	157.00	32.97	93.75	.00
OR850933	YMH/HYS/4/MRS/3/YMH/	93.60	60.75	155.50	30.51	92.50	.25
OR832784	CORVALLIS SEL	93.22	61.50	153.00	31.50	88.75	.00
ORF75336	YMH/MCD/2/T.SPELTA/3	93.09	60.05	159.00	33.46	93.75	.00
OR833765	CORVALLIS SEL	92.45	58.83	156.25	34.94	88.75	.25
OR 855	PAHA//SEL 72-330/DAW	92.04	61.38	160.75	31.50	94.75	.00
OR860303	AF62/BUC, F1/KVF	90.31	61.55	155.75	32.97	98.00	.88
CI 1442	KHARKOF	80.74	61.68	159.25	49.70	92.50	.12

EXPERIMENTAL MEANS 103.88 60.09 160.08 34.82 94.62 .09  
 F TEST FOR VAR. 5.90\*\*18.43\*\*25.16\*\*28.93\*\* 1.31 1.82\*\*  
 C.V. 2: (S OF MEAN/MEAN)\*100 4.42 .47 .32 2.07 4.23 137.06  
 LSD (0.05) 12.85 .80 1.45 2.02 11.22 .35  
 \*\* Indicates statistical significance at the .05 level