

PROJECT TITLE: Intrastate Winter Wheat Evaluation

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OBJECTIVE: Evaluation of early generation winter wheat lines for yield, quality and disease resistance to dwarf bunt and stripe rust.

RESULTS: In comparison to the Western Regional Nurseries, the yields in the Intrastate Winter Wheat nursery were less. Lower yields may be attributed to a moderate infestation of Septoria, and light infection levels of stripe rust and dwarf bunt (TCK). The high yield was 126 bu/A (Yuma) while the mean for the nursery was 100.7 bu/A. Thirty of the forty-nine entries had yields in excess of 100 bu/A. Test weights were normal with less than 25% of the entries weighing below 60 lb/bu. The mean test weight was 60.8 lb/bu and the high was 62.4 lb/bu (Vona). Those varieties with test weights exceeding 62 lb/bu were Vona, Yuma, Lamar, Promontory, Weston and MTS 92055. TCK smut was observed in the nursery at very low levels and was highest in the varieties of Jules and Vista (2% TCK). Lodging was recorded in eight varieties and was most frequent in the lower yielding entries.

SUMMARY: Moderate disease pressure from Septoria and other leaf spot pathogens limited yields this year, but was not a major factor as in the season of 1993. The 1994 Septoria infection levels were thought to be a result of the high incidence of the disease last year.

FUTURE PLANS:

Disease resistant varieties will continue to be evaluated at Kalispell through cooperative variety testing.

Table 1. Agronomic data from the Intrastate Winter Wheat Nursery grown on the North-western Agricultural Research Center, Kalispell, MT.
Planted: September 28, 1993 Harvested: August 4, 1994

VARIETY	YIELD BU/A	TEST WT LB/BU	HEAD DATE	HEIGHT INCHES	% TCK 1/	LOGGING INDEX 2/	STRIPE RUST 3/	SEPTO- RIA 4/
CO850061 YUMA	126.0	62.1	153.7	36.1	.3	.0	M	L
CI 17860 NEELEY	124.1	61.5	158.7	43.3	.0	.0	O	L
CI 17846 MANNING	120.8	60.9	157.0	42.0	.0	.0	O	M
CI 17879 ROCKY	120.1	61.6	156.0	47.9	.7	1.9	L-M	M
XNH 1712 XNH 1712	119.1	61.2	155.0	40.0	1.0	.0	VH	O
JULES JULES	115.2	60.6	158.7	40.0	2.3	.0	H	H
S86-736 S86-736	114.4	59.2	158.3	45.3	.5	.0	H	H
MT 8039 JUDITH	114.0	59.7	155.0	42.7	.0	.0	O	O
XNH 1643 XNH 1643	113.9	61.0	156.7	38.7	.2	.0	H	O
XNH 1654 XNH 1654	112.9	61.6	155.0	38.1	.3	.0	VH	O
CI 17441 VONA	112.5	62.4	151.7	37.4	.5	.0	O	O
CI 17902 WINRIDGE	109.6	59.4	160.7	47.9	.0	5.6	L-M	H
XNH 1609 XNH 1609	108.5	61.1	153.7	41.3	1.5	.0	M	O
PI517194 TIBER	108.1	60.8	160.0	49.9	.5	.0	L-M	M
XNH 1727 XNH 1727	107.7	60.0	154.7	42.0	1.2	.0	H	O
QT 542 HYBRITECH 542	107.6	61.3	154.7	47.2	1.5	.0	O	PLS
S86-15 KESTREL	107.1	59.9	158.7	43.3	.2	.0	O	H
MTS92042 LEW/TBR//RDW	106.7	61.1	156.7	44.6	.3	.0	H	M
CI 15075 CENTURK	104.7	60.8	155.7	45.9	.3	.0	L-M	L
PI491533 NORWIN	104.4	60.7	160.7	31.5	.2	.0	O	L-M
CO820009 LAMAR	104.4	62.1	153.3	47.2	.5	.0	M	M
PI560129 PROMONTORY	104.3	62.3	156.7	38.7	.0	.0	O	M
PI512302 BLIZZARD	103.9	60.5	161.0	47.9	.0	.0	L-M	L-M
MT 8713 RRI/MT 6928	103.3	61.9	155.7	36.8	.5	.0	O	O
CI 17727 WESTON	102.3	62.2	156.0	49.9	.0	7.3	O	O
MT 8918 MT7673/MT7115	101.6	61.4	158.7	43.3	.2	.0	O	L
MTS92055 LEW/TBR//RDW	101.5	62.0	156.3	44.0	.0	.0	O	M
BZ9W89-8 WPB BZ9W89-8	101.2	61.5	152.0	29.5	.2	.0	O	PLS
MT 91432 MT7951/WWP44394	100.8	60.5	158.3	43.3	.3	.0	H	M
WI88-275 WPB WI88-275	100.5	60.2	153.7	37.4	.3	.0	O	O-L
MTSF2238 LEW/TBR//RDW	99.7	61.3	157.0	44.6	.0	.0	L-M	L
MT 91051 ORSFTWT/FRD//MT	99.7	59.3	158.3	47.2	.2	.0	VH	O
MT 7811 FRD/WNK//MT 692	98.9	59.3	159.3	42.0	.0	.0	O	L
PI557013 MERIDIAN	97.8	59.2	161.3	36.8	.2	.0	O	L
IDHW0355 2*MC/NP824/3/LM	97.0	60.8	157.7	48.6	.7	.0	O	O
CI 17844 REDWIN	93.7	61.4	157.3	48.6	.5	.0	M	M
RDW(SEL) AC READYMADE	93.4	60.6	158.7	49.9	.7	.0	H	PLS
MT 88046 PMN5/MT77003//H	92.9	61.8	153.7	42.0	.2	.0	M	PLS
MT 8949 RDW/FRD//RRI//CT	88.0	60.5	160.0	43.3	.5	.0	H	O
MTS92057 LEW/TBR//RDW	86.8	61.9	155.3	45.9	.3	.0	O-M	O
MT 8719 RRI/MT 6928	86.2	61.0	158.3	42.0	.2	.0	O	M
PI518591 ARAPAHO	82.8	59.2	154.0	42.7	.3	5.6	M	L
CI 17735 NORSTAR	79.3	59.3	161.0	55.1	1.7	35.6	L-M	O
PI564245 KARL 92	78.5	59.9	154.3	31.5	.2	.0	O	L
CI 17439 ROUGHRIDER	76.1	59.7	158.0	51.2	.3	10.2	M	H
CI 13670 WINALTA	74.8	60.6	158.3	49.9	.2	48.7	L-M	H
BZ9W8914 WPB BZ9W89-14	66.7	59.7	150.7	31.5	.0	.0	O	PLS
VISTA VISTA	65.3	59.4	152.7	36.8	2.2	.0	O	O
PI478771 AGASSIZ	64.8	60.4	158.7	52.5	.2	62.2	L-M	O
MEAN	100.7	60.8	156.7	43.0	.5	3.6	NA	NA
LSD (.05)	21.52	.89	2.29	3.14	1.37	14.35		

1/ % TCK, ocular measure of % dwarf bunt infection per plot

2/ Lodging Index = lodging prevalence X severity divided by 9

3/ Stripe rust reactions rated on Low-Medium-High scale, VH = very high

4/ Septoria leaf spot reaction (L, M, H rating), PLS = physiological leaf spot