

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: Dwarf bunt ( TCK ) was light in both the hard red and soft white varieties even though the period of continuous snowcover was conducive for that disease (32 days). TCK was more prevalent in the Intrastate Winter Wheat Nursery. 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%.

- 1991 Intrastate Winter Wheat Nursery -

TCK severity varied from 1.75% ( Bighorn ) to 10.75% ( Norwin ) in susceptible varieties. Blizzard and Winridge were the only two varieties that had no TCK infection. No stripe rust was observed in the nursery. The mean yield was 95.24 bu/A with half ( 51% ) of the thirty-nine varieties yielded over 100 bu/A. Judith had the high yield of 128 bu/A. Test weights did not vary extremely from the mean ( 60.7 lb/bu ) except for Tiber and Hybritech QT-2 ( 62.03 and 62.23 lb/bu, respectively ). Lodging was severe throughout the nursery and may have contributed to lower yields in several varieties.

Table 3. Agronomic data from the Intrastate Winter Wheat Nursery grown on the Northwestern Agricultural Research Center in Kalispell, MT. X-3  
Planted: September 18, 1990 Harvested: August 22, 1991

CI or STATE #	VARIETY	YIELD BU/A	TEST WT LB/BU	HEADING DATE	HEIGHT (IN)	% TCK SMUT	LODGING INDEX 1/
MT 8039	JUDITH	127.59	60.57	161.50	44.78	4.75	19.45
MT 8909	MT 8001/MT 7673	119.35	61.50	167.75	42.32	2.37	.00
MT 8957	RDW/FRD//RRI/(TT/BUR	115.66	61.52	164.25	44.78	3.50	12.50
RH78W296	BIGHORN	110.81	60.92	163.50	37.89	1.75	16.10
PI517194	TIBER	109.46	62.03	164.00	50.20	5.75	6.25
MT 8918	MT 7673/MT 7115	109.16	60.13	166.25	44.78	4.25	93.50
QT-2	HYBRITECH	107.46	62.23	160.25	46.75	4.63	12.10
MT 7811	FRD/WNK//MT 6928/TR	106.95	60.65	163.50	43.80	4.50	22.23
QT-1	HYBRITECH	106.83	60.78	159.75	42.81	10.50	43.53
MT 8502	ID745101/LCO	105.85	60.75	162.00	42.32	4.00	2.90
MT 8920	TBR/MT 7673	105.07	61.63	163.00	47.74	6.00	37.50
ID 279	BLIZZARD	104.01	61.75	166.00	47.24	.00	33.48
MT 8949	RDW/FRD//RRI/(TT/BUR	103.49	60.78	164.75	47.24	3.25	39.85
MT 85200	FRD/WNK//MT 6928/TR	102.66	59.65	161.00	39.37	5.00	44.05
MT 8709	MSC/CTK A+//IUL	102.25	59.45	165.75	38.88	5.25	24.25
CI 17860	NEELEY	102.06	60.65	165.50	44.78	4.38	34.93
QT 542	HYBRITECH 542	101.79	61.05	160.00	46.26	7.25	42.35
MT 8719	RRI/MT 6928	101.60	60.85	164.50	43.31	3.50	27.00
MT 8910	MT 8001/MT 7673	101.18	61.45	166.25	48.72	4.13	31.67
MT 8948	RDW/FRD//RRI/(TT/BUR	100.24	61.78	165.75	44.78	4.25	66.55
CI 17844	REDWIN	96.99	61.23	164.25	48.72	3.12	.00
MT 8713	MSC/CTK A+//IUL	96.18	61.58	161.75	37.89	2.87	.00
PI491533	NORWIN	94.29	59.65	166.75	33.46	10.75	.00
MT 8936	MT 7811/WRG	93.43	59.65	167.00	43.31	7.25	.00
MT 8935	MT 7811/WRG	91.55	59.75	165.75	42.81	7.00	.00
CI 17879	ROCKY	91.39	61.70	161.25	46.75	6.50	78.83
MT 85202	FRD/WNK//MT 6928/TR	91.00	60.80	163.75	48.23	2.75	80.78
CI 17902	WINRIDGE	89.45	59.98	168.00	48.72	.00	88.00
MT 8943	MT 7811/NRS	88.55	61.63	163.00	44.29	4.50	62.25
MT 88001	SMT/TD//YGSS	87.93	61.30	166.75	31.00	3.50	.00
CI 15075	CENTURK	86.61	60.65	161.75	44.78	7.00	90.50
ND 8002	SEWARD	85.14	61.25	165.00	51.67	8.75	72.58
CI 17735	NORSTAR	74.53	60.63	170.50	50.69	2.50	82.50
CI 17439	ROUGH RIDER	72.03	60.55	163.50	48.23	5.00	89.00
CI 13670	WINALTA	70.08	61.00	164.25	49.70	6.00	81.72
PI491532	CREE	67.44	59.55	164.75	45.28	5.25	86.75
CI 8885	CHEYENNE	66.83	59.20	165.50	48.23	5.50	96.25
MT 88005	WSC/YOGRD//RSC/3/TD25	64.76	58.73	164.00	46.75	4.00	83.50
PI478771	AGASSIZ	62.94	59.53	167.00	49.21	2.75	85.43

EXPERIMENTAL MEANS 95.24 60.73 164.35 44.83 4.72 43.29  
 F TEST FOR VAR. 7.98\*\* 6.49\*\* 15.66\*\* 24.30\*\* 1.95\*\* 8.36\*\*  
 C.V. 2: (S OF MEAN/MEAN)\*100 5.80 .56 .37 2.04 35.20 27.53  
 LSD (0.05) 15.49 .95 1.70 2.57 4.65 33.39  
 1/ Lodging Index: 0=none,99=severe \*\*= Statistical significance at the .01 level