

PROJECT TITLE: Spring Wheat Variety Evaluations

YEAR/PROJECT: 1990/756

INVESTIGATORS: Leader - Vern R. Stewart, Todd Keener - Research Specialist

OBJECTIVE:

To determine the adaptability of new and introduced spring wheat varieties grown under high moisture conditions in Montana. Evaluation of new and introduced spring wheat varieties in various growing conditions of western Montana.

RESULTS:

Western Regional Spring Wheat -

The yields taken from the Western Regional Spring Wheat nursery were some of the highest since the 1987 harvest. The range of yields was 73.25 to 126.45 bu/A. Owens had a yield of 111.83 bu/A, which was well above the nursery mean yield of 99.96 bu/A. Test weights were normal for spring wheat this season averaging 57.56 lb/bu. The test weights were higher than those of 1989 yet much lower than those recorded in 1988. Low test weights in spring wheat, like those recorded this year, are often a result of long periods of precipitation prior to harvest. There was very little disease or lodging in this nursery.

1990 Advanced Yield Nursery -

The mean yield for this nursery was 93.48 bu/A, 16 bushels per acre less than the average last year. The yields ranged from 79.9 to 125.05 bu/A. Owens had the top yield with all the other entries having yields that were significantly lower. The second highest yield was Lloyd at 108.78 bu/A. Penawawa yielded 102.12 bu/A and had a test weight of 57.60 lb/bu. Only five of the 36 entries had yields in excess of 100 bu/A. Test weights averaged 57.98 lb/bu, which is equal to last year. Heading dates and height did not vary from the averages that have been recorded over the years.

Offstation Spring Wheat Variety Evaluation -

Offstation spring wheat nurseries were seeded in two locations this year.

- Ravalli County - Robert Christ farm, Hamilton, MT.
- Lake County - Starkle farms, Ronan, MT

All locations were irrigated and recieved adequate rainfall during the growing season. Yields were good to excellent for the majority of entries and most varieties had average test weights. Disease incidence was low or non-existent in all areas. There was no lodging at the Hamilton and Ronan nursery sites.

Ravalli County Offstation Spring Wheat -

Yields from the offstation nursery grown on the Robert Christ farm

Table 2. Agronomic data from the Advanced Yield Spring Wheat nursery grown on the Northwestern Agricultural Research Center in Kalispell, MT.

Planted: April 2, 1990 Harvested: August 15, 1990

CI/STATE NUMBER	VARIETY	YIELD BU/A	TEST WT LB/BU	HEADING DATE	HEIGHT IN
CI 17904	OWENS 1/	125.05	58.47	178.00	37.66
PI476211	LLOYD	108.78b	56.80b	179.67a	30.97b
MT 8289	TANAGER'S'	108.03b	58.63	175.67b	33.46b
MT 8182	YDING "S"/PCI "S"-287	103.75b	56.73b	176.33b	34.38b
WA 6920	PENAWAWA	102.12b	57.60	177.67	34.51b
ND 606	AMIDON	99.92b	58.23	178.67	43.96a
MT 8836	MT7648/ANTIZANA	99.38b	58.63	179.00	40.03a
CI 17438	CANDO	99.23b	57.87	178.33	31.36b
MT 8626	CI15838/MT7418//PONDERA	98.67b	58.30	175.67b	35.83
MT 8824	MARBERG/MT7746	96.75b	58.07	175.67b	36.75
MT 8845	MT7648/MT7746	96.68b	58.50	176.67b	36.88
CI 17282	CROSBY	96.52b	59.40	177.00	44.62a
CI 17430	NEWANA	96.43b	58.97	178.00	34.65b
MT 8841	MT7648/MT7746	95.93b	57.90	177.33	35.17b
CI 13596	FORTUNA	94.58b	57.83	176.67b	43.57a
MT 8858	MT7421/BUTTE	94.53b	58.07	178.00	36.48
WB LAKER	WestBred Laker	94.22b	57.70	180.00a	36.09
CI 17828	PONDERA	93.80b	58.47	176.00b	34.91b
MT 8849	RS6880/MT7819	93.32b	58.93	177.33	37.66
CI 15930	OLAF	92.83b	56.40b	176.33b	36.75
CI 17910	ALEX	90.47b	59.00	179.00	42.52a
PI483235	GLENMAN	89.55b	58.37	178.67	36.09
MT 8651	CI15838/MT7418//PONDERA	89.12b	58.07	177.33	35.30b
MT 8402	MT7336/SHORTANA	88.85b	58.30	175.00b	33.46b
PI478289	MONROE	88.58b	57.43	175.00b	42.26a
CI 17429	LEW	87.80b	59.30	178.33	44.49a
DT 433	MEDORA	87.08b	57.97	176.67b	44.36a
BZ984326	WFB BZ 984-326	86.02b	57.67	174.67b	35.43b
ND 582	STOA	85.93b	57.97	178.00	43.83a
C982-324	RAMBO	85.80b	57.87	177.67	32.94b
CI 17790	LEN	84.28b	57.07b	174.33b	35.30b
MT 8612	CI15838/MT7418//PONDERA	83.65b	59.07	176.00b	35.56b
MT 8833	PONDERA/ANGUS	83.40b	56.80b	175.33b	36.88
CI 10003	THATCHER	83.35b	55.57b	177.67	44.75a
PI 15892	WARD	81.07b	58.73	177.33	45.01a
PI486139	KLASIC	79.90b	56.53b	173.33b	25.85b
EXPERIMENTAL MEANS		93.48	57.98	177.01	37.49
F TEST FOR VAR.		4.03**	3.98**	14.44**	44.33**
C.V. 2: (S OF MEAN/MEAN)*100		4.82	.76	.23	1.87
LSD (0.05)		12.71	1.24	1.15	1.98

** Indicates statistical significance at the .01 level of probability

1/ Check variety

a/ Values significantly greater than the check at the .05 level

b/ Values significantly less than the check at the .05 level