

PROJECT TITLE: Spring Wheat Variety Evaluations

YEAR/PROJECT: 1985/756 Small Grain Production

PROJECT PERSONNEL:

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SUMMARY:

The spring wheat variety nurseries are used to evaluate and test new lines for production in western Montana.

Three nurseries were grown this year. The two on station trials (Advanced Yield and Western Regional) had extremely good yields with low disease incidence. One off station nursery was grown in Frenchtown this year, but late harvest and extreme weed problems resulted in unreliable data.

RESULTS:

Advanced Yield Nursery

Extremely good yields were taken from the Advanced Yield nursery this year. A record yield of 140.6 bu/a was harvested from plot of the variety Lloyd and 132 bu/a from the variety Owens. Newana was used as a check variety (124.7 bu/a) and in comparison eight varieties had significantly lower yields (Table 1). Test weights were a little light but are a reflection of the dry growing season. The higher test weights that were significantly different from Newana were above 58.7 lbs/bu. Nine varieties were less than Newana and significantly different also.

Practically no disease was observed throughout this nursery and any infection that was noted was insignificant.

Western Regional Nursery

High yields were also taken from the Western Regional Spring Wheat nursery. It is thought that in spite of the drought conditions experienced this summer that ample subsoil moisture contributed to such good yields. The average yield for this nursery was 129.8 bu/a, nearly 21 bu/a higher than the Regional Nursery of 1984. Owens, the check variety, yielded the highest at 151.5 bu/a and ten varieties were significantly lower in yield (Table 2). Test weights were a little lower than previous years, even in comparison to last years data which was also effected by a hot dry season. The average test weight was 56.7 lbs/bu and Owens recorded a test weight of 56.9 lbs/bu. Heading dates and height notes varied by variety.

Off station Spring Wheat Nursery

Due to unusual harvest conditions and severe weed pressure the data acquired from this nursery is not reliable and therefore not released at this time.

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Table 1. Agronomic data from the Advanced Spring Wheat Nursery grown on Northwestern Agricultural Research Center, Kalispell, MT in 1985. Field Y-5.

Date seeded: April 11, 1985

Date harvested: September 10, 1985

VARIETY	YIELD BU/A	TEST WT LBS/BU	HEIGHT INCHES	HEADING DATE
PI476211 LLOYD	140.55	57.63	32.15	178.00b
HY000000 HY320	138.02	56.87	33.33	174.87b
CI 17804 DWENS	131.90	55.47	36.58a	177.73b
MT 8353 PM 23/ MT7448	131.18	57.70	37.80	177.00b
MT 8419 MT7031/MT7336	131.00	55.47	37.53	178.00b
MT 8330 MEXSEL 2315/MT74	128.78	57.73	36.48	176.67b
MT 8319 S1103/MT7448	128.00	57.00	37.80	176.33b
MT 8428 MT 7031/MT 7336	126.57	56.20	37.40	176.00b
MT 8282 PI 345931/MT7440	125.98	54.17b	35.70	175.67b
SUCC0000 SUCCESS	124.88	56.43	37.14	177.67
CI 17430 NEWANA 1/	124.73	57.37	34.91	179.00
CI 17828 PONDERA	122.80	57.47	36.75	176.00b
NK000000 NK 751	122.72	55.90	33.20	174.33b
MT 8447 SU73/MT7336	122.43	58.37	44.23a	176.67b
WRC 80-8 WRC 80-8	122.25	57.13	35.56	173.00b
MT 8423 CI 15838/MT7418	121.43	56.63	36.61	175.33b
MT 8446 MT7336/SHORTANA	119.47	58.30	33.46	174.67b
MT 8421 MT7336/NORANA	119.35	57.23	37.53	175.67b
MT 7819 GLENMAN	118.45	55.77b	37.53	176.33b
MT 8321 PM 23/MT7448	117.72	57.07	37.14	176.33b
DT 433 MEDORA	117.68	58.33	49.74a	175.67b
ND 582 STDA	117.63	56.47	43.31a	176.33b
MT 8434 MT7421/NEWANA	117.40	57.80	37.93	176.00b
MT 8218 CI5838/MARBERG	116.10	55.10	35.43	176.67b
MT 7926 ND 681/MT 6830	115.87	57.97	45.14a	178.67
MT 8457 MT7031/MARBERG	115.03	55.40b	36.48	173.33b
MT 8402 MT7336/SHORTANA	114.20	58.13	35.83	174.00b
MT 8363 MT7448/MT7031	114.18	55.80b	38.98a	176.00b
MT 8436 MT7031/MARBERG	113.17	54.60b	35.30	174.33b
CI 17910 ALEX	113.13	57.43	45.01a	177.33b
MT 8336 PM 23/ MT7448	112.62	58.70a	36.09	177.67
MT 8325 MT7448/MT7031	112.20	55.70b	41.21a	172.33b
MT 8320 PM 23/ MT7448	111.85	57.57	35.96	177.00b
MT 8456 SU73/MT7336	110.72	58.13	44.09a	176.00b
MT 8407 SU73/MT7336	110.23	57.67	45.01a	176.67b
MT 8304 S1103/MT7448	109.37	55.47b	37.01	172.67b
DT000000 MONROE	109.30	57.87	42.78a	172.33b
MT 8401 MT7421/NEWANA	109.22	58.13	40.29a	176.67b
CI 17282 CROSBY	108.65	58.90a	45.01a	175.67b
MT 8328 PM23/MT7448	108.30	58.13	36.88	175.67b
MT 8435 CI 15838/MT7418//PONDERA	107.60	57.07	35.43	175.33b
MT 8441 MT7421/FORTUNA	103.83b	57.07	39.50a	177.67

VARIETY	YIELD BU/A	TEST WT LBS/BU	HEIGHT INCHES	HEADING DATE
CANADA LEADER	100.25b	55.43b	44.45a	177.00b
CI 17429 LEW	102.23b	57.00	46.33a	180.33
MT 8455 MT7421/MT7336	101.58b	57.80	35.70	173.33b
CI 15892 WARD (DURUM)	101.05b	57.70	50.79	176.00b
CI 13596 FORTUNA	99.82b	57.00	45.41a	177.33b
MT 8327 N2211/MT7448	98.40b	56.63	34.65	175.67b
CI 10003 THATCHER	96.62b	55.67b	46.98a	177.00b
EXPERIMENTAL MEANS	116.12	56.95	39.13	175.99
F TEST FOR VAR.	2.67**	5.88**	14.73**	8.91**
STANDARD ERROR OF THE MEAN	6.27	.47	1.20	.56
C.V. 2: (S OF MEAN/MEAN)*100	5.40	.82	3.06	.32
LSD (0.05)	17.59	1.32	3.36	1.58

- 1/ Check variety
- 2/ F value for variety comparison
- a/ Indicates values significantly greater than the check at the .05 level
- b/ Indicates values significantly less than the check at the .05 level
- ** Indicates statistical significance at the .05 level

SPRING WHEAT VARIETIES

RECOMMENDED FOR WESTERN MONTANA

Hard Red Varieties

1. Fortuna
2. Newana
3. Pondera
4. Marberg

Soft White Variety

5. Owens

CHARACTERISTICS OF RECOMMENDED VARIETIES

Hard Red Varieties

1. Fortuna

- a. Bearded variety
- b. Good yielding variety
- c. Medium to tall height
- d. Medium maturity
- e. High test weight
- f. Poor to fair lodging
- g. Somewhat susceptible to leaf rust
- h. Resistant to most common races of leaf rust
- i. Resistant to most common races of stem rust
- j. Fair to good milling and baking quality

2. Newana

- a. High yielding ability
- b. Semi-dwarf variety
- c. High test weight
- d. High lodging resistance
- e. Good shattering resistance
- f. Resistance to stem rust
- g. Moderately susceptible to leaf rust

3. Pondera

- a. High yielding ability
- b. Semi-dwarf variety
- c. High test weight
- d. Mid season maturity
- e. Resistance to stem and stripe rust
- f. Moderately resistant to leaf rust

4. Marberg

- a. Good yielding ability
- b. Semi-dwarf variety
- c. Good test weight
- d. Mid season maturity
- e. Resistant to stem rust
- f. Moderate resistance to stripe rust

Soft White Varieties.

5. Owens

- a. Bearded variety from Idaho
- b. Very high yielding ability
- c. Semi-dwarf type
- d. Medium maturity
- e. Fair test weight
- f. Good straw strength
- g. Good shattering resistance
- h. Resistant to stem and stripe rust