PROJECT TITLE: The evaluation of winter triticale, and winter barley grown under dryland cropping conditions. 1991

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PROJECT LOCATION: MSU - Southern Agricultural Research Center Huntley, MT 59037

OBJECTIVES: To evaluate winter triticale, and winter barley varieties and germplasm for winter survival, yield and test weight grown in south-central Montana.

RESULTS: A. Winter Triticale: Yields ranged from 37.2 to 87.8 bu/A (Table 1). This compares to our intrastate winter wheat variety trial where yields ranged from 36 to 67 bu/A. The higher yielding winter triticale lines produced yields equal to or better than the yields of Judith, Tiber, Redwin, and Neely winter wheats. The triticale variety Musketeer was the only line to winter kill or show any stand reduction.

B. Winter Barley: The winter barley data is described in Table 2. Yields ranged from 54 to 97 bu/A. Test weights were considerably higher in 1991 due to adequate moisture. Several selections, had test weights over 48 lbs/bu. Some winter kill was observed, however it didn't significantly reduce yields.

SUMMARY: It appears that winter triticale can compete favorably with winter wheat on dryland. Also, previous data indicate a low nitrate level for triticale when cut for hay. This may be an added asset in some areas of Montana, and will be studied further.

Under adequate moisture levels, it appears several winter barley selections are able to yield and have test weights comparable to spring barley. We feel that if a hardy winter barley selection can be found, it can fill a niche in Montana.

TABLE 1 . 1991 DRYLAND WINTER TRITICALE VARIETY TRIAL SOUTHERN AG RESEARCH CENTER HUNTLEY, MT.

VARIETY	YIELD BU/AC	TESTWT LBS/BU	HEAD DATE	PLANTHT INCHES	PROTEIN %
FW90229	87.75	53.62	154.00	39.00	10.80
FT90483	84.06	51.83	156.50	42.50	10.95
FT90228	75.50	51.67	156.50	31.00	11.67
FT90235	74.08	52.68	155.50	30.50	11.23
NEWCALE	71.73	53.58	147.00	43.50	11.20
FT86044	69.47	48.00	159.00	35.00	11.03
M81-8046	67.29	48.08	159.00	39.50	11.92
81DE01021	52.53	51.88	160.00	55.50	11.45
DOUBLE CROP	50.05	50.88	159.00	55.00	11.60
PIKA	48.79	51.75	160.00	55.50	11.80
WINTRI	48.09	50.98	159.00	54.00	12.03
81DE01012	44.77	50.95	159.00	55.00	12.03
83DE01026	44.32	51.83	159.00	54.50	11.60
82DE01008	43.53	50.98	159.00	54.00	12.00
OAC	42.83	50.85	159.00	54.50	12.33
239	37.17	48.70	159.00	50.50	12.80
***** STATISTICAL TABLE *****					
EXPERIMENTAL MEANS	58.87	51.14	157.53	46.84	11.65
TOTAL OBSERVATIONS	64.00	64.00	32.00	32.00	64.00
NO. OF REPLICATIONS	4.00	4.00	2.00	2.00	4.00
NO. OF VARIETIES	16.00	16.00	16.00	16.00	16.00
C.V. 1: (S/MEAN)*100	14.93	1.45	.58	5.39	5.63
C.V. 2: (S OF MEAN/MEAN)*100	7.46	.73	.41	3.81	2.82
LSD (0.05)	12.52	1.06	1.96	5.38	.93

Date planted: 10/1/90 Date harvested: 7/29/91
WNTRIT91.WTD
WTRIT.STT