

PROJECT TITLE: Off-station comparison of winter speltz to hard red winter wheat, winter triticale, winter barley, as well as spring triticale, spring barley and oats on dryland. 1991

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

OBJECTIVES: The primary objective is to evaluate crops which could be used for non-compliance cropping managements. Considerations are also being given to production costs, and feasibility of utilization for grain production. To evaluate speltz varieties for adaptability, maximum yield, and determine if speltz can compete with winter wheat, winter triticale, and the spring cereals; barley, triticale, and oats on dryland.

RESULTS: The results of the winter nursery is given in Table 1, and the spring nursery in Table 2. SP949 winter speltz significantly out yielded all other crops, and Sindelar light, and mix out yielded all but Tiber winter wheat. In the spring nursery (Table 2) Gallatin barley was highest yielding with Wapiti triticale close behind. It would appear from comparing the two nurseries that winter speltz SP949, Sindelar light, and mix, can yield as much as some winter wheats, and barleys, and out yield most oats and some spring barleys on dryland.

SUMMARY: These results, and those over the past four years on alternative cereals indicate that varieties of winter speltz are available which can produce yields similar to common grown winter wheats, spring wheats, oats and both winter and spring barleys.

FUTURE PLANS: This study will continue for 2-3 more years, and the results will be analyzed overall, and written up for publication.

TABLE 1 . 1991 SINDELAR OFFSTATION WINTER SPELTZ COMPARISON TRIAL
SOUTHERN AG RESEARCH CENTER HUNTLEY, MT.

VARIETY	YIELD LBS/AC	TESTWT LBS/BU	HEAD DATE	PLANTHT INCHES	PLUMP %	THIN %
SP 949 SPELTZ	2525.96	25.87	164.00	35.00	.00	.00
SINDELAR LIGHT SPELT	2431.69	27.37	163.67	36.00	.00	.00
SINDELAR MIX SPELTZ	2388.36	26.57	164.67	36.00	.00	.00
TIBER WINTER WHEAT	2346.66	58.63	160.00	29.00	.00	.00
CHAMP SPELTZ	2274.52	26.80	162.33	35.00	.00	.00
SINDELAR DARK SPELTZ	2137.95	26.10	163.67	39.00	.00	.00
SCHUYLER BARLEY	2107.74	45.30	158.33	21.00	42.73	17.20
WILLIE SPELTZ	2107.66	23.60	163.67	36.00	.00	.00
KAMIAK BARLEY	1547.56	47.37	159.00	22.00	61.80	19.70
NE 851808 BARLEY	1485.01	48.73	158.67	24.00	65.87	18.27

***** STATISTICAL TABLE *****

EXPERIMENTAL MEANS	2135.31	35.63	161.80	.00	17.04	5.52
TOTAL OBSERVATIONS	30.00	30.00	30.00	.00	30.00	30.00
NO. OF REPLICATIONS	3.00	3.00	3.00	.00	3.00	3.00
NO. OF VARIETIES	10.00	10.00	10.00	.00	10.00	10.00
C.V. 1: (S/MEAN)*100	8.56	4.23	1.49	.00	17.27	50.22
C.V. 2: (S OF MEAN/MEAN)*100	4.94	2.44	.86	.00	9.97	28.99
LSD (0.05)	313.71	2.59	4.12	.00	5.05	4.75

Date planted: 10/3/90 Date harveste: 7/26/91
91WSPCOM.WSD
WSPCOM.STT

TABLE 2 . 1991 SINDELAR OFFSTATION DRYLAND SPRING GRAIN COMPARISON
TRIAL SOUTHERN AG RESEARCH CENTER HUNTLEY, MT.

VARIETY	YIELD LBS/AC	TESTWT LBS/BU	HEAD DATE	PLANTHT INCHES	PLUMP %	THIN %
GALLATIN BARLEY	2390.12	49.87	166.33	27.00	84.73	6.33
WAPITI TRITICALE	2162.04	51.43	162.00	36.00	.00	.00
STEPTOE BARLEY	2040.92	46.77	162.00	20.00	84.63	4.23
BOWMAN BARLEY	1933.20	48.63	161.67	25.00	81.13	9.40
CLARK BARLEY	1884.51	46.13	168.33	28.00	76.23	13.00
MONIDA OATS	1772.03	30.63	170.67	29.00	.00	.00
SHONKIN BARLEY	1732.86	55.77	167.67	28.00	48.13	26.17
KARL TRITICALE	1696.77	50.23	161.67	23.00	.00	.00
WAXBAR BARLEY	1597.13	49.43	169.67	25.00	30.20	19.07
OTANA OATS	1577.53	33.60	171.33	34.00	.00	.00

***** STATISTICAL TABLE *****

EXPERIMENTAL MEANS	1878.71	46.25	166.13	.00	40.51	7.8
TOTAL OBSERVATIONS	30.00	30.00	30.00	.00	30.00	30.0
NO. OF REPLICATIONS	3.00	3.00	3.00	.00	3.00	3.0
NO. OF VARIETIES	10.00	10.00	10.00	.00	10.00	10.0
C.V. 1: (S/MEAN)*100	16.07	2.23	.72	.00	9.23	46.3
C.V. 2: (S OF MEAN/MEAN)*100	9.28	1.29	.42	.00	5.33	26.7
LSD (0.05)	517.78	1.77	2.06	.00	6.41	6.2

Date planted: 3/21/91 Date harvested: 8/8/91
91SPCOMP.SGD
SPCOMP.STT