

PROJECT TITLE: The evaluation of winter spelt germplasm under dryland conditions.

PROJECT LEADER: G.F. Stallknecht

PROJECT PERSONNEL: K.M. Gilbertson, SARC; Harold Bockelman, and Darrell Wesenberg, USDA/ARS, Small Grain Germplasm Center Aberdeen, ID

OBJECTIVES: To evaluate germplasm available from the Small Grain Germplasm Collection for agronomic characteristics, adaptability, and yield potential for south-central Montana.

RESULTS: The available moisture during the 1995 growing season was well above normal. The dryland yields of winter wheat exceeded 100 bu/ac, the highest yields recorded during the 15 years I've been at Huntley. Included in the spelt selections were 8 spelt selections from Dr. Hal LaFever, formerly of Ohio State Univ. Six of the selections were the top yielders in the 1995 study. However, Montana common, and Sindelar Mix were among the top 10 yielding spelt selections. The spelt trial was hit with excessively high winds resulting in high percentage of shatter loss in the most mature selections. The 1995 trial will be evaluated for comparison yield results from trials grown under more normal moisture growing season.

SUMMARY: The results of the 1995 studies indicate that the new spelt varieties developed in Ohio, have significant potential for interest in spelt production due to their high yield potential. Their shorter plant height, results in less lodging potential. The plant height of the new spelt selections varied from 35-42 inches, well below the 45 inch average of the spelt selections available from the USDA Germplasm Center, and Sindelar mix (48 in.). The grain yield of the higher yielding spelt selections (based on 70 percent recovery after de-hulling) was 60 percent of the wheat check.

TABLE 1. 1995 DRYLAND WINTER SPELT VARIETY TRIAL

VARIETY	***** VARIETY MEANS *****				
	YIELD LB/AC	SHAT %	PLANTHT INCHES	HEAD DATE	LODNG INDEX
TIBER W/WH-CK	5968.65	.00	45.67	163.00	.00
SAMMY	5483.34	.00	40.33	164.67	.00
SAVA	5199.35	.00	42.33	164.00	.00
SHANA	4681.85	.00	38.00	160.00	.00
TORA	4677.68	.00	34.67	164.67	.00
LUEG-CK	4553.06	.00	40.00	168.00	.00
LOBO	4455.20	.00	42.00	166.00	.00
SOLO	4361.51	.00	37.67	159.67	.00
PI330559-UNITED KING	4284.39	20.00	42.33	166.33	6.00
PI347971-69Z6.127-SW	4188.07	8.33	48.00	167.00	27.67
SINDELAR MIX	4085.23	8.33	47.67	167.67	14.67
PI355618-BRAUNSCHWEI	3995.95	15.00	46.67	170.33	17.67
ZORBA	3977.43	.00	38.67	155.00	.00
PI348157-69Z6.320-GE	3973.19	11.67	48.00	168.67	15.67
PI348421-69Z6.594-BE	3876.47	3.33	48.33	165.00	.00
PI348528-69Z6.706-SP	3866.64	3.33	46.33	166.67	44.33
SP 949	3775.35	8.33	45.67	167.33	44.67
CI 1772-RED WINTER-U	3696.64	5.00	43.67	164.33	.00
PI347954-69Z6.109 SW	3532.41	5.00	44.67	164.33	3.33
SINDELAR LT	3497.25	16.67	46.67	168.33	30.33
PI272573-I-1-599-HUN	3495.54	11.67	48.00	166.00	.00
PI348337-69Z6.508-BE	3482.05	26.67	49.00	168.33	2.33
SUBA	3433.29	.00	38.67	164.00	.00
PI347850-ALTGOLD-SWI	3391.10	8.33	46.67	167.00	.00
PI347991-69Z6.147-SW	3383.78	20.00	43.33	164.33	20.67
GR 900	3365.83	.00	40.00	165.67	.00
PI272574-I-1-3540-HU	3339.37	48.33	45.33	165.67	.00
PI348109-69Z6.270-GE	3316.05	11.67	44.67	167.00	.00
PI347888-69Z6.40-SWI	3297.35	10.00	49.00	166.33	.00
PI355579-SK 30-SWITZ	3276.95	6.67	45.67	165.67	3.33
PI355556-T112-GERMAN	3131.01	3.33	49.00	166.00	.00
PI347887-69Z6.39-SWI	3050.64	16.67	47.00	167.00	3.00
PI295059-DEUTCHLAND-	3007.25	18.33	43.67	164.67	6.67
PI168682-ALSTROUM-US	2896.47	3.33	39.33	164.67	.00
PI347952-69Z6.107-SW	2591.56	36.67	48.33	165.67	9.33
VITA II	2535.54	30.00	44.00	165.00	.00
SINDELAR DK	2522.79	16.67	49.67	165.67	5.33
ROUQUIN-CK (LAFEVER)	2217.94	46.67	45.00	166.00	.00
PI355647-STRICKHOF-R	2029.98	70.00	53.00	167.00	11.33
PI290513-FUGGERS-BAB	1916.40	43.33	47.67	165.67	.00
CANADA BULK	1709.53	68.33	49.33	167.00	.00
ROQUIN-(WILLIE)	1669.23	71.67	48.00	166.67	2.33
OBERKULMER/ROTTKORN-	1448.40	58.33	44.67	166.00	.00
PI347948-69Z6.103-SW	1386.90	70.00	49.67	167.00	6.00
MEAN	3455.1		44.9	165.6	
LSD 0.05	941.8		6.4	1.8	