FIELD PEA VARIETY TRIALS

Objective: To evaluate field pea varieties for yield and adaptation to western South Dakota.

Procedure: Field peas were planted in a randomized complete block experiment with four replications near Selby, Hayes, Wall and Bison, South Dakota. The seeding rate was 300,000 seeds/A (90 - 220 Lb/A) and the peas were inoculated with a granular pea inoculum (*Rhizobium leguminosarium* biovar *viceae)* just prior to planting. A John Deere 750 with 10-inch spacing was used to plant the trials in April 2003. The peas were harvested for grain in July with a Wintersteiger small plot combine equipped with vine lifters and a pickup reel.

Location Information:

Pennington County – Wall

Planted: April 14, 2003 — Herbicide: Treflan 4L (2 pint/A)
Harvested: July 21, 2003 — Additional Nitrogen: Inoculated
Previous crop: Conventional fallow

Perkins County - Bison

Planted: April 9, 2003 — Herbicide: Pursuit (3 oz/A), Poast (1 pint/A)
Harvested: July 24, 2003 — Additional Nitrogen: Inoculated
Previous crop: Hayed wheat, No-till planted

Stanley County - Hayes

Planted: April 10, 2003 — Herbicide: Spartan
Harvested: July 15, 2003 — Additional Nitrogen: Inoculated
Previous crop: Hayed wheat, no-till planted

Walworth County - Selby

Planted: April 10, 2003 — Herbicide:
Harvested: Not harvested — Additional Nitrogen: Inoculated
Previous crop: Winter wheat, no-till planted

Summary: Better conditions for field peas prevailed in 2003, with the cool condition from April thru June favoring pea growth. The dry conditions in June was certainly the limiting factor for yield with all the locations averaging 28 Bu/A. Good yielding grain varieties in 2003 were Stratus, Topeka, Grande, Eclipse, CDC Mozart and SW Salute. The varieties Arvika and 40-10 Magda make excellent forage peas with their long vines, normal leaf type and vigorous growth. Variety characteristics are presented in Table 24 and yield results in Table 25.

Table 24. Field Pea Characteristics.

Variety	Leaf type	Height Inches	Lodging 1-9*	Test Wt Lb/Bu	Seed Size Seeds/Lb
Forage					
4010 Magda	Normal	28	8	62.9	3050
Arvika	Normal	29	8	62.3	3007
Wyodun (Austrian Winter Pea)	Normal	29	8	62.0	2330
Yellow Cotyledon					
Grande	Normal	20	2	63.2	2157
Carneval	Semi-leafless	20	1	62.4	2353
CDC Mozart	Semi-leafless	16	1	63.9	2283
Eclipse (CEB1475)	Semi-leafless	16	1	63.5	2187
Integra	Semi-leafless	19	1	60.8	1897
SW Circus	Semi-leafless	18	1	62.8	2280
SW Midas	Semi-leafless	18	1	62.2	2463
SW Salute	Semi-leafless	19	1	63.6	2343
Topeka (CEB1489)	Semi-leafless	16	1	63.7	2037
Green Cotyledon					
Cruiser	Semi-leafless	19	1	62.3	2473
Journey	Normal	27	9	61.9	2987
Majoret	Semi-leafless	19	1	63.2	2093
Stratus (CEB1171)	Semi-leafless	14	1	63.0	2057
SW Parade	Semi-leafless	18	1	61.8	2430
Toledo	Semi-leafless	20	1	60.9	1927

***** 1=No lodging, 9 = 100% lodged.

Table 25. Field Pea Variety Trial Yields (Bu/A), 2003.

Variety	Bison	Wall	Hayes	Average
Forage				
4010 Magda	23.6	**29.4**	25.2	26.1
Arvika	21.6	22.9	22.1	22.2
Wyodun (Austrian Winter Pea)	25.2	22.6	27.0	25.0
Yellow Cotyledon				
Grande	**33.3**	**29.8**	28.7	30.6
Carneval	30.8	28.2	27.9	29.0
CDC Mozart	30.8	27.5	**32.2**	30.2
Eclipse (CEB1475)	**32.7**	28.5	**29.8**	30.3
Integra	27.0	28.4	25.7	27.1
SW Circus	31.1	**29.6**	27.9	29.5
SW Midas	28.3	28.7	28.5	28.5
SW Salute	31.5	**30.7**	28.5	30.2
Topeka (CEB1489)	30.7	**33.5**	29.1	31.2
Green Cotyledon				
Cruiser	26.6	27.6	27.7	27.3
Journey	22.5	22.0	21.3	22.0
Majoret	26.4	28.0	24.0	26.2
Stratus (CEB1171)	**37.5**	**32.9**	**32.9**	**34.4**
SW Parade	25.1	24.2	26.2	25.2
Toledo	25.8	**30.1**	24.5	26.8
Average	28.4	28.0	27.2	27.9
LSD (P=.05)	5.0	4.5	3.5	3.7
CV	12.5	11.3	9.1	16.8