

Project Title: Pea Variety Evaluation - 2013

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Objective: To evaluate seed yield and agronomic performance of nineteen pea cultivars in northwestern Montana.

Results:

Yellow pea yields averaged 4,404.6 lb/A (Table 2.), ranging from 4,938.0 lb/A for DS Admiral to 3,710.7 lb/A for Jetset. CDC Treasure, CDC Meadow, Universal and Navarro all yielded statistical equivalent to DS Admiral. Pea leaf weevil (PLW) infestation was high this year. On a scale of 1-10, damage averaged 5.4, with 10 being complete defoliation. Agassiz had a PLW rating of 10, maturity was severely delayed and consequently plots were not harvested. Average days to flowering were 177 (June 26) with Navarro being the earliest at 172 days. CDC Meadow, Universal, Delta and SW Midas were the first to reach physiological maturity at 218 days (August 6). Canopy height at physiological maturity averaged 14.4 inches, test weight averaged 63.8 lb/bu, and thousand kernel weights averaged 200.9g.

Green pea yields varied, with Arcadia yielding the highest at 4,700.9 lb/A (Table 3.). Daytona and Majoret yielded statistically equivalent to Arcadia. Aragorn was the earliest flowering, yet no differences in physiological maturity were observed. Thousand kernel weights averaged 197.6 g. No significant difference was observed in PLW damage, height at pod fill, height at maturity, physiological maturity or test weight.

**Table 1. Materials and Methods - Statewide pea variety trial - 2013**

Seeding Date:	4/17/13	Soil Type:	Creston Sil
Julian Date:	107	Soil Test:	301-16-288
Seeding Rate:	7.5 plants/sqft	Fertilizer:	0-20-35
Previous Crop:	Winter Wheat	Pesticide:	NA
Tillage:	Conventional	Harvest Date:	8/14/13
Irrigation:	None	Julian Date:	226

Table 2. Yellow pea agronomic data -2013

Cultivar	PLW 0-10	FLWR Julian	HT PD in	HT PM in	PM Julian	YLD lb/A	YLD bu/A	TWT lb/bu	TKW g
DS Admiral	5.3	178	41.9	11.6	220	4938.0	82.3	63.4	214.1
CDC Treasure	5.0	179	44.4	15.0	220	4871.3	81.2	65.0	189.2
CDC Meadow	4.9	178	46.8	17.1	218	4647.2	77.5	64.4	174.5
Universal	5.0	173	39.3	12.8	218	4632.7	77.2	63.3	197.8
Navarro	5.0	172	45.7	13.3	219	4493.6	74.9	63.3	231.0
Spider	5.0	180	41.3	14.5	221	4439.7	74.0	64.3	198.9
Bridger (LL7020)	4.8	177	43.4	17.3	219	4440.2	74.0	64.2	201.3
Montech 4152	5.0	176	46.9	18.0	220	4345.6	72.4	64.3	213.6
Delta	5.0	176	39.7	10.3	218	4019.2	67.0	62.8	194.5
SW Midas	5.0	178	41.4	11.1	218	3911.8	65.2	62.9	179.5
Jetset	5.0	180	44.5	11.8	219	3710.7	61.8	64.1	215.3
Agassiz	10.0	186	25.8	19.6	na	na	na	na	na
Mean	5.4	177.4	41.7	14.4	218.9	4404.6	73.4	63.8	200.9
CV	3.9	0.3	11.2	20.3	0.6	7.3	7.3	1.0	3.9
LSD	0.3	0.8	6.7	4.2	1.7	467.2	7.8	0.9	11.2
Pr>F	0.0001	0.0001	0.0001	0.0004	0.0200	0.0001	0.0001	0.0003	0.0001

PLW: pea leaf weevil, FLWR: 50% flower, HT PD: height at pod fill, HT PM: height at physiological maturity, PM: physiological maturity, YLD: yield, TWT: test weight, TKW: thousand kernel weight

Table 3. Green pea agronomic data - 2013

Cultivar	PLW 0-10	FLWR Julian	HT PD in	HT PM in	PM Julian	YLD lb/A	YLD bu/A	TWT lb/bu	TKW g
Arcadia	4.9	179	39.8	12.3	217	4700.9	78.4	62.7	187.0
Daytona	4.9	180	42.2	12.0	219	4455.1	74.3	63.2	231.9
Majoret	4.9	179	44.8	12.8	218	4332.0	72.2	62.9	199.6
Aragorn	4.8	176	39.7	13.0	218	4033.9	67.3	62.2	182.8
K2	5.0	179	39.9	12.9	220	3418.0	57.0	62.8	197.0
CDC Striker	4.9	180	43.0	12.3	218	3390.6	56.5	63.3	206.5
Cruiser	5.0	177	44.9	11.8	218	3149.6	52.5	62.4	179.2
Mean	4.9	178.4	42.0	12.4	218.3	3907.4	65.1	62.8	197.6
CV	5.2	0.3	10.1	13.6	0.6	10.8	10.8	1.0	5.3
LSD	0.4	0.9	6.3	2.5	1.9	644.3	10.7	1.0	15.9
Pr>F	0.8324	0.0001	0.3576	0.9213	0.1879	0.0003	0.0003	0.2252	0.0001

PLW: pea leaf weevil, FLWR: 50% flower, HT PD: height at pod fill, HT PM: height at physiological maturity, PM: physiological maturity, YLD: yield, TWT: test weight, TKW: thousand kernel weight