

Project Title: Statewide Pea Variety Trial - 2018

Objective: To evaluate pea cultivars for yield and agronomic performance in Northwestern Montana

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Summary:

The nursery was planted under rainfed environment on silt loam soil. Weeds were controlled via pre-planting herbicide application. Table 1 shows the detailed management information.

Yield was not significant within each color class of peas (Tables 2 and 3). For green peas, no significant yield difference was observed (Table 2). However, a significant difference was observed for test weight, which ranged from 62.9 to 63.9 lb/bu with an average of 63.3 lb/bu. Thousand kernel weight and stand count were not significant. Days to flowering was significant with the longest at 59 days (PSO826MT190, Hampton, and Majoret) and the shortest at 51 days (Aragorn). Vine length was significant only at flowering. Plant height was significant with the tallest at 32.6 inches (PSO826MT190) and the shortest at 19.9 inches (Hampton). Lodging was also significant with the most vulnerable at 100% lodged (PSO877MT106), and the least at 38.8% lodged (Majoret).

For yellow peas, yield was also not significantly different (Table 3). Test weight was significant ranging from 63.2 to 65.3 lb/bu with an average of 64.2 lb/bu. Thousand kernel weight was also significant with the heaviest at 274.4 g and the lightest at 241.5 g. Days to flowering was not significant. Stand count was significant ranging from 5.9 to 8.2 plants/ft².

Table 1. Management information

Seeding date:	5/8/2018	Harvest date:	8/22/2018
Julian date:	128	Julian date:	234
Seeding rate:	9 plants/ft ²	Soil nutrient residual (lbs/A):	93-7-84 (Fall, 2017)
Previous crop:	Spring wheat	Nutrient fertilizer applied (lbs/A):	0-50-0
Tillage:	conventional	Insecticide:	Warrior2
Irrigation:	None	Inoculant:	N-charge
Soil type:	Silt loam	Seed treatment:	Cruiser 5FS, Apron Maxx RTA

Table 2. Green pea agronomic performance

Variety/line	PLNT sqft	FLWR days	VLF in	VLM in	HT in	LOD %	YLD lb/A	TWT lb/bu	TKW g
PSO877MT076	6.2	58	27	44.2	20.3	100	5583	63.5	216.6
PSO826MT190	6.3	59	39.5	43.7	32.6	80	5564.6	63.5	237.3
Aragorn	6.2	51	33.9	37	27.1	62.5	5135.3	62.3	229.4
PSO877MT457	8.5	51	37.4	40.8	25.2	77.5	4976.6	63.9	242
Hampton	7.4	59	29	38.2	19.9	95	4940.2	63.6	229.4
Majoret	6.2	59	34.3	39.4	29.7	38.8	4519.6	63.3	244.1
Mean	5119.9	63	233.2	56.3	6.8	33.5	40.6	25.8	75.6
CV	7.2	0.8	4	6.6	12.5	13.1	6.5	17.9	27.1
LSD	ns	0.7	ns	1.5	ns	2.6	ns	7	32.5
Pr>F	0.0955	0.0022	0.0648	<.0001	0.0924	<.0001	0.1209	0.0085	0.012

Table 3. Yellow pea agronomic performance

Variety/line	PLNT sqft	FLWR days	VLF in	VLM in	HT in	LOD %	YLD lb/A	TWT lb/bu	TKW g
Jetset	5.9	54	38.7	42.4	33.7	25	6348	63.2	251.1
PSO826MT492	6.7	51	36.6	43.5	33.7	40	6022.7	64.7	257
PSO826MT460	6	51	33.7	36.9	17.8	100	5905	63.5	269.6
Delta	6	51	32.9	35.9	27.1	42.5	5864.3	64.8	256.5
Nette 2010	7.7	51	36.9	39.2	33	37.5	5841.4	65.3	250
DS Admiral	6.8	53	40.8	38.4	33.4	37.5	5462.5	63.1	250.5
Navarro	6.5	52	36.8	42.3	35.1	12.5	5444.6	64.1	274.4
PSO877MT632	8.2	54	32.5	40.6	17.8	100	5191.3	64.8	241.5
Mean	5760	64	256.3	52.6	6.7	36.1	39.9	29	49.4
CV	6	1.2	4	2.4	11.8	7.6	6.5	23.5	62
LSD	ns	0.8	11.5	ns	1.3	2.8	ns	5.1	36
Pr>F	0.1847	<.0001	0.0001	0.0529	0.0136	<.0001	0.0894	<.0001	0.0002

YLD: yield, TWT: test weight, TKW: thousand kernel weight, FLWR: days to flowering, PLNT: stand count, VLF: vine length at flowering, VLM: vine length at maturity, HT: plant height at maturity, LOD: lodging

ns: not significant (alpha= 0.05)