

Project Title: Statewide Pea Variety Trial - 2015

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

Results:

No significant difference was observed for yellow pea yield. Mean yield was 19.2 bu/A and ranged from 13.8 bu/A for Mystique to 24.5 bu/A for Nette 2010 (Table 2). Statistical difference was observed for flowering, with an average occurrence at 171 Julian days (June 20); the earliest was Universal Yellow at 167 days (June 16); the latest was CDC Amarillo at 174 days (June 23). Significant difference in height at 50% flowering averaged 15.1 inches, and ranged from 11.6 inches for Delta to 17.6 inches for Jetset. Delta remained the shortest variety at pod fill and at physiological maturity while Jetset remained the tallest. No statistical difference was observed for test weight, which averaged 64.6 lb/bu. Thousand kernel weight was significant with an average of 188.2 grams and ranged from 160.3 grams for CDC Meadow to 215.0 grams for Mystique.

No significant difference was observed for green pea yield, which averaged 19.3 bu/A (Table 3). Days to flowering was significant among cultivars with an average occurrence at 171 Julian days (June 20). Height at flowering ranged from 11.4 inches for Arcadia to 16.9 inches for Viper. Viper was the tallest variety until physiological maturity. Test weight averaged 63.8 lb/bu with no significant difference observed amongst cultivars. Significant difference was observed for thousand kernel weight and ranged from 155.5 grams for Aragorn to 205.9 grams for Majoret.

Summary:

Pea yields on average were down from last year by more than 50 bu/A. The nursery was planted under rainfed condition and there was an extreme moisture stress (drought year) that affected low yields.

Table 1. Materials and Methods — Pea Variety Trial — 2015

Seeding Date: 4/29/2015	Harvest Date: 7/24/2015
Julian Date: 119	Julian Date: 205
Seeding Rate: 8 plants/sqft	Soil Test: NA
Previous Crop: Barley	Fertilizer: 6-30-20
Tillage: Conventional	Herbicide: Prowl H20 2 pt/A + Pursuit 3 oz/A (pre-plant)
Irrigation: None	Assure II 10-12 floz/A + NIS 1 qt/100 gal + AMS 2-4 lb/A
Soil Type: Creston Silt Loam	Basagran 1-2 pt/A + MSO 0.5-1 pt/A + 28% UAN 2-4 pt/A

Table 2. Yellow pea agronomic data — 2015

Cultivar	FLWR	HT	HT PF	HT PM	YLD	YLD	TWT	TKW
	Julian	FLWR in	in	in	lb/A	bu/A	lb/bu	g
Nette 2010	168	14.0	17.7	15.5	1470.5	24.5	66.4	182.8
CDC Saffron	173	14.1	17.2	15.8	1396.0	23.3	60.8	190.4
Jetset	171	17.6	22.1	18.7	1358.7	22.7	65.4	184.6
Univeral Yellow	167	15.0	19.1	15.9	1301.9	21.7	65.1	172.1
Early star	171	17.0	20.8	18.5	1258.3	21.0	65.5	178.5
CDC Treasure	170	16.3	21.4	17.6	1255.4	20.9	65.3	175.5
Agassiz	172	15.4	21.5	18.1	1207.7	20.2	64.3	194.1
DS Admiral	171	15.8	20.2	16.4	1197.6	20.0	64.8	187.8
Hyline	170	15.8	19.1	15.8	1168.6	19.5	65.6	193.4
Navarro	168	13.5	16.6	15.7	1166.3	19.4	64.5	200.8
CDC Meadow	170	14.7	17.3	16.9	1163.0	19.4	65.2	160.3
AAC Carver	173	16.2	19.5	18.0	1032.3	17.2	65.0	189.0
Abarth	173	14.9	18.2	17.6	1031.6	17.2	63.7	208.3
CDC Amarillo	174	14.9	18.3	17.0	971.1	16.2	64.6	185.0
Korando	171	13.9	17.3	15.0	895.9	14.9	65.1	208.4
Delta	169	11.6	15.4	13.2	891.6	14.9	64.8	173.7
Mystique	171	15.4	19.9	16.0	829.6	13.8	62.6	215.0
Mean	171	15.1	18.9	16.6	1152.7	19.2	64.6	188.2
CV	1.0	10.8	10.4	10.9	25.7	25.7	3.5	4.3
LSD	2.4	2.3	2.8	2.6	ns	ns	ns	11.6
Pr>F	0.0001	0.0014	0.0002	0.0074	0.1118	0.1086	0.2315	0.0001

Table 3. Green pea agronomic data — 2015

Cultivar	FLWR	HT	HT PF	HT PM	YLD	YLD	TWT	TKW
	Julian	FLWR in	in	in	lb/A	bu/A	lb/bu	g
Majoret	170	14.5	18.1	16.0	1246.2	20.8	64.0	205.9
Aragorn	167	13.7	17.9	16.6	1243.7	20.7	63.1	155.5
Arcadia	171	11.4	16.5	14.8	1201.6	20.1	63.9	171.1
Hampton	172	14.0	17.1	14.2	1201.6	20.1	63.2	202.6
CDC Striker	173	14.1	18.0	16.0	1140.6	19.0	64.6	192.8
Viper	170	16.9	19.8	18.1	1121.1	18.7	64.2	184.0
LN1123	174	13.4	16.1	14.4	1075.7	17.9	62.6	172.6
Daytona	172	15.7	19.4	17.8	1043.5	17.4	64.8	197.8
Mean	171	14.2	17.9	16.0	1159.3	19.3	63.8	185.3
CV	0.8	11.9	8.5	12.3	21.9	21.9	3.1	5.0
LSD	1.9	2.5	2.2	ns	ns	ns	ns	13.5
Pr>F	0.0001	0.0088	0.0300	0.0738	0.9167	0.9156	0.7042	0.0001

FLWR: 50% flower, HT FLWR: height at flowering, HT PF: height at pod fill, HT PM: height at physiological maturity, YLD: yield, TWT: test weight, TKW: thousand kernel weight, ns: nonsignificant.