

# North Dakota Dry Pea Variety Trial Results for 2013 and Selection Guide

Hans Kandel, Kevin McPhee, T. Stefaniak and D. Styczynski (NDSU Main Station); Blaine Schatz, Steve Zwinger, S. Schaubert and Mike Ostlie (Carrington Research Extension Center); John Rickertsen and Rick Olson (Hettinger Research Extension Center); Eric Eriksmoen, Shana Pederson, James Tarasenko and Joe Effertz (North Central Research Extension Center, Minot); Bryan Hanson and Travis Hakanson (Langdon Research Extension Center); Jerry Bergman, Diana Amiot, Chelsey Penuel, Tyler Tjelde and Cameron Wahlstrom (Williston Research Extension Center); and Glenn Martin (Dickinson Research Extension Center).

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## Introduction

Field pea fits well into small-grain rotations. The green- and yellow-seeded varieties are used for human consumption as dry split peas. Field peas also are used as protein concentrates for livestock and pigeon feeds. In North Dakota, pea yields are similar to hard red spring wheat yields. Field pea stems grow to a length of 33 to 36 inches, and the plant reaches maximum height at the early pod fill stage. A cool growing season is necessary for optimum pea yields (a mean temperature of 55 to 65 degrees). Hot weather during flowering may result in a reduced seed set.

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In North Dakota, field pea takes about 60 days from seeding until flowering and 90 to 100 days to maturity. The moisture requirement for field pea is similar to that for cereal grains. Field pea can be grown on a wide range of soil types, but drainage must be good because field pea does not tolerate saturated or soggy conditions. Field pea can be grown in a no-tillage or conventional-tillage cropping system. Field pea grows best when seeded into a weed-free seedbed and fertile soils. Land preparation for seeding is similar to that of wheat.

To obtain good soil-to-seed contact, seedbeds should be firm. Avoid seedbeds with large clods. Do not work the soil too finely because subsequent soil crusting following rains may cause poor emergence. Drill the seeds 2 to 3 inches deep in narrow rows (<10 inch) apart as early in the spring as feasible. The soil should not be excessively wet at seeding. Seeding can be done with an air seeder or grain drill. Adjust the seeder to prevent cracking of the seed, especially with the large-seeded varieties, because cracked seed will not germinate. Do not pack or roll immediately after seeding if the soil moisture is high because excess compaction or crusting can occur.

Pea seedlings can withstand considerable frost. Even if the frost is severe enough to kill the main shoot, the pea plant will regrow from buds at one of the nodes at or below the soil surface. However, this will delay plant maturity. The pea seed germination rate increases with increasing temperatures, but at temperatures greater than 64 degrees, the percentage of seed germination decreases.

Field peas are capable of utilizing bacterially fixed atmospheric nitrogen. The specific bacterial association for nitrogen fixation in field peas and lentils is with the bacterium *Rhizobium leguminosarum*, which is a different bacteria species than is used for soybean inoculation. If field peas are to be grown in a field for the first time or no peas were grown there recently, inoculating the seed with the proper *Rhizobium* prior to planting may be needed to ensure nodulation.

Treating the seed with a fungicide can improve emergence significantly. Fungicide labels should be checked to see if a particular fungicide can be used on field pea.

Having level ground is critical for easy harvesting. Stony fields should be avoided or rolled after seeding to bury loose stones that might be picked up during swathing and harvesting. For more production information, see publication A1166, "Field Pea Production," ([www.ag.ndsu.edu/pubs/plantsci/rowcrops/a1166.pdf](http://www.ag.ndsu.edu/pubs/plantsci/rowcrops/a1166.pdf)). Dry peas have become a significant crop in North Dakota during the past decade. Acreage for the past 15 years is shown in Table 1.

Table 1. North Dakota Dry Pea Harvested Acreage, 1999 to 2013.		
Year	Acreage	Yield in Bushel Per Acre
1999	58,000	31.7
2000	62,000	36.2
2001	86,000	33.7
2002	138,000	26.7
2003	155,000	29.5
2004	296,000	39.0
2005	515,000	31.7
2006	590,000	26.3
2007	500,000	36.2
2008	500,000	26.3
2009	480,000	40.0
2010	400,000	33.8
2011	80,000	24.2
2012	230,000	32.5
2013	280,000	34.2

Source: North Dakota Agricultural Statistics Service – USDA.

### 2013 Dry Pea Performance Trials

Variety trial data from all NDSU Research Extension Centers for all crops can be found at [www.ag.ndsu.edu/varietytrials/](http://www.ag.ndsu.edu/varietytrials/). Weather data are provided in Table 2.

The agronomic data presented in this publication are from replicated research plots using experimental designs that enable the use of statistical analysis. The LSD (least significant difference) numbers beneath the columns

in the tables are derived from the statistical analyses and only apply to the numbers in the column in which they appear. If the difference between two varieties exceeds the LSD value, it means that with 90 percent probability (LSD 0.10), the higher-yielding variety has a significant yield advantage. If the difference between two varieties is less than the LSD value, then the variety yields are considered similar. The abbreviation NS is used to indicate no significant difference for that trait among any of the varieties. The CV is a measure of variability in the trial. The CV stands for coefficient of variation and is expressed as a percentage. Large CVs mean a large amount of variation that could not be attributed to differences in the varieties. In the tables, the “mean” indicates the average of the observations in the column. The abbreviation PM stands for physiologically mature. Only compare values within the table and look for trends for the desired trait among different experimental sites and years. In the tables, the dry pea varieties are arranged in alphabetical order within market class (yellow and green cotyledon types). Footnotes provide more details for the table under which they appear. Characteristics to evaluate for selecting a dry pea variety include market class, yield potential in your area, test weight, reaction to problematic diseases and maturity date.

When selecting a high-yielding and good-quality variety, use data that summarizes several years and locations. Table 3 provides information on a core group of varieties that were included in all locations. Choose the variety that, on average, performs the best at multiple locations near your farm during several years. Presentation of data for the varieties tested does not imply approval or endorsement by the authors or agencies conducting the test. North Dakota State University approves the reproduction of any table in this publication only if no portion is deleted, appropriate footnotes are given, the order of the data is not rearranged and NDSU is given credit for conducting the trial.

**Table 2. April-September 2013 Average Temperature and Precipitation Rankings for Select North Dakota Locations.**

City	Temperature Ranking	Precipitation Ranking
Bowman	49th Warmest	The Wettest
Bismarck	67th Coolest	8th Wettest
Cavalier	21st Warmest	38th Wettest
Fargo	37th Warmest	4th Wettest
Minot Exp. Station	23rd Warmest	The Wettest
Williston Exp. Station	37th Coolest	3rd Wettest
North Dakota Average	<b>45th Coolest (119 years)</b>	<b>8th Wettest (119 years)</b>

Source: Adnan Akyüz, NDSU, North Dakota state climatologist.

**Table 3. 2013 Dry Pea Description and Yield of Selected Yellow and Green Cotyledon Varieties.**

Variety	Vine Length	Harvest Ease	Powdery Mildew		Seed Size	2010 Avg. Yield	2011 Avg. Yield	2012 Avg. Yield	2013 Avg. Yield
			Tolerance	Maturity		14 locations <sup>1</sup>	11 locations <sup>2</sup>	15 locations <sup>3</sup>	7 locations <sup>4</sup>
<b>Yellow Cotyledon Type</b>									
Agassiz	Tall	Good	Good	Medium	Medium	51.3	42.5	50.3	56.3
CDC Golden	Medium	Good	Good	Medium	Medium	50.0	39.3	49.6	--
CDC Meadow	Medium	Good	NA <sup>5</sup>	Medium	Med. Small	--	--	--	51.6
DS Admiral	Medium	Good	Good	Early/Med.	Medium	45.7	42.9	49.3	47.6
<b>Green Cotyledon Type</b>									
CDC Striker	Medium	Good	Poor	Medium	Medium	44.2	38.3	51.4	46.1
Cruiser	Medium	Fair	Poor	Medium	Small	42.5	32.6	44.3	45.4
Majoret	Medium	Fair	Poor	Medium	Medium	45.3	40.2	44.3	48.4
Mean						46.5	39.3	48.2	49.2
CV %						--	9.7	7.9	9.1
LSD 0.10						--	2.7	2.3	4.1

<sup>1</sup>These varieties appeared in all the locations reported in the 2010 publication.

<sup>2</sup>These varieties appeared in all the locations reported in the 2011 publication, except for Cathay organic and Nesson Valley irrigated.

<sup>3</sup>These varieties appeared in all the locations reported in the 2012 publication, except for Carrington Forage/Cover Crop.

<sup>4</sup>These varieties appeared in all the locations reported in this publication except Tables 10, 11 and 14.

<sup>5</sup>NA = not available.

**Table 4. 2013 Dry Pea - Carrington - Authors, B. Schatz and M. Ostlie.**

Variety	Days to Flower (DAP) <sup>5</sup>	Flower Duration (days)	Days to PM (DAP) <sup>5</sup>	Vine Length <sup>1</sup> (inch)	Canopy Height <sup>2</sup> (inch)	Height Index <sup>3</sup> (%)	Harvest Ease <sup>4</sup> (0-9)	Seed Protein (%)	Seeds/ Pound (seeds)	1,000	Test Wt. (lb/bu)	Seed Yield	
										Seed Weight (gram)		2013	3-yr. Avg. ---(bu/a)---
<b>Yellow Cotyledon Type</b>													
Agassiz	50	8	74	27	23	87	2	28.3	2,099	219	64.7	64.0	56.7
Bridger	49	8	74	28	25	88	1	27.5	2,236	203	65.2	59.5	57.3
CDC Meadow	50	7	73	28	24	85	2	26.6	2,298	199	65.6	58.5	53.0
CDC Treasure	50	8	72	27	23	85	2	25.8	2,184	208	65.4	63.4	58.0
DS Admiral	49	7	72	29	27	95	1	28.1	2,065	223	64.7	54.5	52.3
E	52	6	76	29	19	66	4	28.0	2,117	218	65.3	58.6	--
GAN	53	6	78	29	14	48	6	28.8	1,830	250	64.3	50.8	--
Garrison	51	4	74	27	25	94	1	27.8	2,048	223	64.4	53.8	--
Gunner	50	7	74	28	22	80	2	27.7	2,059	222	64.5	60.3	51.3
Korando	45	11	72	28	24	89	2	29.2	1,756	259	65.2	61.9	58.8
Mystique	49	7	74	27	24	89	3	27.4	2,244	206	64.3	56.0	51.0
Navarro	45	10	72	27	23	86	2	28.5	1,899	240	65.1	55.1	53.5
Nette	47	9	72	25	21	85	2	27.1	2,054	222	65.9	55.4	53.2
Rainbow	50	6	72	27	26	95	1	27.2	1,910	238	64.6	55.6	--
Salamanca	49	7	72	27	25	94	1	30.1	1,860	244	65.0	59.6	--
Spider	51	6	73	27	25	94	2	29.5	2,046	224	64.9	53.6	54.0
Supreme	47	9	72	26	23	83	3	28.2	2,018	226	65.0	58.9	--
SW Midas	49	6	73	25	21	83	2	25.9	2,287	199	64.8	62.5	--
SW Trapeze	48	7	72	24	23	98	2	27.8	1,884	241	64.4	59.7	--
Torch	52	4	75	26	22	87	2	28.8	2,150	218	64.4	52.5	51.4
Vegas	51	6	75	27	25	93	1	29.6	2,176	210	64.8	57.4	53.6
<b>Green Cotyledon Type</b>													
Aragorn	45	11	70	23	17	75	4	28.8	2,409	191	63.7	44.3	42.9
Bluemoon	54	2	75	26	23	86	2	28.0	2,003	227	64.6	60.0	56.2
CDC Raezer	53	4	77	29	22	76	3	27.5	2,085	218	64.5	61.4	--
CDC Striker	51	5	74	24	12	57	5	26.8	2,586	179	64.2	58.7	51.9
Cruiser	50	8	73	25	18	76	3	27.7	2,560	180	63.9	52.5	46.5
Greenwood	49	7	73	22	18	80	3	26.6	2,307	198	65.3	52.0	--
K2	47	10	73	24	24	99	2	27.1	2,130	214	64.8	52.4	47.6
Majoret	52	5	75	27	21	80	4	28.1	2,229	204	64.5	56.9	49.7
Matrix	55	2	78	24	24	100	2	27.7	1,761	259	64.3	63.5	--
Shamrock	54	4	78	26	19	73	3	27.0	2,412	195	64.3	49.9	45.2
SW Arcadia	50	6	73	23	13	62	4	27.7	2,505	182	64.4	58.4	52.8
Viper	46	10	73	27	20	75	3	28.3	2,046	222	64.1	55.7	--
Mean	50	7	74	26	22	83	2	27.9	2,129	217	64.7	56.9	52.2
CV %	2	20	2	8	15	17	46	2.3	7.8	6.8	0.8	9.9	--
LSD 0.10	1.2	1.7	1.3	2.6	3.9	16.4	1.1	0.7	186	17.8	0.6	6.6	--

Planted: May 10. Harvested: Aug. 9. Previous crop: flax.

<sup>1</sup>Plant height at end of flowering.

<sup>2</sup>Height to the top of the canopy at harvest.

<sup>3</sup>Height Index: Calculated as the ratio of canopy height/plant height.

<sup>4</sup>Harvest Ease: 0 = all plants upright (very easy harvest) to 9 = all plants flat (very difficult to direct harvest).

<sup>5</sup>DAP = Days after planting.

**Table 5. 2013 Dry Pea - Organic - Carrington - Authors, S. Zwinger and S. Schaubert.**

Variety	Days to Flower Flower (DAP) <sup>3</sup>	Flower Duration (days)	Days to PM (DAP) <sup>3</sup>	Canopy Height <sup>1</sup> (inch)	Seeds/ Pound (seeds)	1,000	Plant Lodge <sup>2</sup> (0-9)	Seed Protein (%)	Test Weight (lb/bu)	Seed Yield	
						Seed Weight (gram)				2013	3-yr. Avg. ----- (bu/a) -----
<b>Yellow Cotyledon Type</b>											
Abarth	48	11	76	21	1,857	244	4	24.0	64.6	37.4	--
Agassiz	51	12	82	23	1,924	236	2	24.3	64.7	50.3	50.9
CDC Meadow	51	11	79	19	2,240	203	4	23.9	65.4	48.8	--
DS Admiral	50	8	79	24	1,956	232	2	24.6	65.5	41.9	45.6
Miami	51	10	81	20	2,009	226	2	24.0	63.7	31.3	--
Spider	52	11	84	23	1,831	248	1	26.3	63.9	34.4	47.5
<b>Green Cotyledon Type</b>											
Bluemoon	52	7	81	22	1,998	227	3	24.6	64.9	43.9	--
CDC Striker	52	9	82	23	1,887	241	2	26.2	65.0	41.6	49.3
Cruiser	50	9	76	20	2,308	197	3	25.7	64.4	44.3	42.0
Majoret	51	9	83	23	1,919	237	2	25.6	64.9	46.8	47.5
Matrix	54	8	85	21	1,658	274	3	22.2	64.5	32.5	--
Shamrock	53	9	84	24	1,906	238	1	23.6	64.9	51.4	--
Mean	51	9	81	22	1,958	234	2	24.6	64.7	42.0	47.1
CV %	1.2	13.0	2.9	8.1	4	4	61	4	0.9	16.1	--
LSD 0.10	0.7	1.5	2.7	2.2	83	9.8	1.3	1.2	0.7	8.7	--

Planted: May 10. Harvested: Aug. 8. Previous crop: spring wheat.

<sup>1</sup>Height to the top of the canopy at harvest.<sup>2</sup>Lodging: 0 = none, 9 = lying flat on the ground.<sup>3</sup>DAP = Days after planting.

**Table 6. 2013 Dry Pea - Langdon - Authors, B. Hanson and T. Hakanson.**

Variety	Days to 1st Flower (DAP) <sup>5</sup>	Days to PM (DAP) <sup>5</sup>	Vine Length <sup>1</sup> (inch)	Canopy Height <sup>2</sup> (inch)	Height Index <sup>3</sup> (%)	Harvest Ease <sup>4</sup> (0-9)	1,000 Seed Weight (gram)	Seed Protein (%)	Test Weight (lb/bu)	Seed Yield	
										2013	3-yr. Avg.
<b>Yellow Cotyledon Type</b>											
Agassiz	51	91	30	24	84	2	277	23.5	64.3	90.7	73.8
CDC Meadow	51	89	25	23	92	1	252	23.1	65.1	73.0	--
DS Admiral	50	88	23	20	86	2	286	24.4	64.5	69.0	63.3
Mystique	51	92	30	27	88	1	287	23.2	63.9	79.9	--
Nette	50	90	23	22	94	1	276	24.9	64.8	64.2	--
Vegas	52	91	25	24	94	1	288	26.0	64.1	66.1	--
<b>Green Cotyledon Type</b>											
CDC Striker	51	89	21	18	89	2	279	23.5	64.5	67.6	63.2
Cruiser	50	90	27	21	83	3	242	24.3	64.2	67.5	59.2
Majoret	52	91	25	19	81	2	252	25.2	64.8	74.4	67.0
Mean	51	90	25	22	88	2	271	24.2	64.5	72.5	65.4
CV %	1	2	9	16	13	42	4.6	2.0	0.5	8.7	--
LSD 0.10	1	2	3	4	NS	0.7	23	0.6	0.4	7.4	--

Planted: May 16. Harvested: Aug. 29.

<sup>1</sup>Plant height at end of flowering.<sup>2</sup>Height to the top of the canopy at harvest.<sup>3</sup>Height Index: Plant height at time of harvest relative to plant height at the end of bloom.<sup>4</sup>Harvest Ease: 0 = all plants upright (very easy harvest) to 9 = all plants flat (very difficult to direct harvest).<sup>5</sup>DAP = Days after planting.**Table 7. 2013 Dry Pea - Recrop - Dickinson - Author, G. Martin.**

Variety	Days to Flower (DAP) <sup>1</sup>	Flower Duration (days)	Canopy Height (inch)	Seeds/ Pound (seeds)	Seed Protein (%)	Test Weight (lb/bu)	Seed Yield	
							2013	3-yr. Avg.
<b>Yellow Cotyledon Type</b>								
Agassiz	54	16	24	1,924	24.3	63.0	37.6	42.1
CDC Meadow	53	15	26	2,180	24.5	64.5	38.0	--
CDC Treasure	53	16	27	2,158	23.9	64.6	40.9	--
DS Admiral	53	15	27	1,979	24.9	64.1	40.9	41.8
<b>Green Cotyledon Type</b>								
CDC Raezer	55	12	25	1,929	24.7	63.6	34.5	--
CDC Striker	52	14	18	2,340	24.1	64.0	27.2	36.1
Cruiser	53	14	24	2,444	25.2	63.9	29.9	33.3
Majoret	52	15	23	2,001	26.0	64.1	34.8	39.3
Mean	53	15	24	2,120	24.7	64.0	35.5	38.5
CV %	1.5	8.1	6.0	3.5	1.6	0.7	11.4	--
LSD 0.10	1	1	2	90	0.5	0.6	4.9	--

Planted: May 3. Harvested: Aug. 5. Previous crop: barley.

<sup>1</sup>DAP = Days after planting.

**Table 8. 2013 Dry Pea - Minot - Authors, K. McPhee, T. Stefaniak and E. Eriksmoen.**

Variety	Days to Flower	Flower Duration	Days to Maturity	Seed Protein	Seeds/Pound	1,000	Test Weight	Seed Yield	
						Seed Weight		2013	3-yr. Avg.
<b>Yellow Cotyledon Type</b>	(DAP) <sup>1</sup>	(days)	(days)	(%)	(seeds)	(gram)	(lb/bu)	---(bu/a)---	
Agassiz	43	18	75	27.9	2,233	204	63.2	37.0	50.4
Bridger	41	16	72	27.8	2,836	160	62.3	30.1	48.5
CDC Meadow	41	17	74	26.1	2,530	180	63.7	36.6	47.3
CDC Treasure	43	18	73	26.3	2,471	184	64.3	44.1	49.3
DS Admiral	40	18	72	26.1	2,149	211	62.9	31.7	48.6
Garrison	44	10	73	26.9	2,284	199	62.5	33.3	--
Gunner	43	17	75	27.3	2,508	182	63.4	43.0	--
Korando	37	20	76	28.6	1,897	239	62.7	42.8	--
LN4206 Abarth	43	17	74	28.7	2,566	177	63.6	38.0	--
Mystique	44	17	75	28.2	2,637	172	62.6	32.3	--
Navarro	37	18	71	27.1	2,218	206	62.8	36.3	--
Nette	42	12	71	25.9	2,779	164	63.1	39.7	--
Rainbow	43	10	71	26.1	2,242	203	61.5	34.0	--
Salamanca	43	13	73	30.0	2,443	186	61.9	27.9	--
Spider	44	16	76	29.0	2,123	215	63.9	41.9	43.2
Supreme	40	15	73	27.6	2,472	184	62.5	41.1	--
SW Midas	42	16	71	27.7	2,595	175	63.0	39.3	--
SW Trapeze	40	16	74	29.0	2,072	220	63.0	30.1	--
Torch	45	11	73	29.8	2,611	174	62.6	34.2	--
Vegas	43	15	72	30.2	3,003	151	61.8	26.3	--
<b>Green Cotyledon Type</b>									
Aragorn	40	20	71	27.2	2,776	164	62.1	27.8	--
Bluemoon	43	12	73	27.6	2,408	189	62.5	33.6	46.1
CDC Raezer	44	12	72	24.9	2,419	188	63.6	25.8	--
CDC Striker	41	13	72	26.8	2,697	169	62.2	27.3	45.7
Cruiser	43	17	74	27.4	2,931	155	63.0	26.9	38.0
Greenwood	41	14	74	25.3	2,421	188	64.6	41.3	--
K2	40	20	73	27.7	2,820	161	62.7	29.5	--
Majoret	44	14	74	28.2	2,768	164	62.9	34.8	45.8
Shamrock	48	13	76	29.2	2,525	180	62.9	28.4	--
SW Arcadia	42	13	72	26.9	2,735	166	62.4	32.6	--
Viper	39	14	73	28.6	2,524	180	61.8	40.2	--
Mean	41	15	73	27.8	2,509	183	62.8	34.6	46.3
CV %	1.8	8.8	2.4	2.8	3.8	3.9	0.6	18.1	--
LSD 0.10	1.1	1.6	2.4	1.1	111	10	0.6	7.3	--

Planted: June 19. Harvested: Oct. 2.

<sup>1</sup>DAP = Days after planting.

**Table 9. 2013 Dry Pea - Recrop - Williston - Authors, J.Bergman, D. Amiot and C. Penuel.**

Variety	Days to	Flower	Lodging <sup>1</sup>	Canopy	Seed	Test	Seed Yield		
	Flower	Duration		Height <sup>2</sup>	Protein	Weight	2013	2-yr. Avg.	3-yr. Avg.
	(DAP) <sup>3</sup>	(days)	(0-9)	(inch)	(%)	(lb/bu)	------(bu/a)-----		
<b>Yellow Cotyledon Type</b>									
Agassiz	38	9	0	28	24.8	64.0	53.5	35.1	34.2
Bridger	38	7	0	28	26.0	64.7	56.9	39.1	38.9
CDC Meadow	40	5	0	31	24.0	65.9	60.1	39.3	35.0
CDC Treasure	40	7	0	30	23.3	65.9	56.9	38.0	37.2
CM1609	41	4	0	30	24.3	64.3	63.1	--	--
CM3404	41	4	0	31	24.3	65.0	62.9	--	--
DS Admiral	40	6	0	29	25.3	64.6	54.6	36.7	35.0
E	41	4	0	30	25.5	64.5	56.0	--	--
GAN	41	5	3	28	26.4	64.0	42.1	--	--
Garrison	41	4	0	27	26.0	64.8	57.5	--	--
Gunner	40	6	0	27	24.8	65.5	46.5	30.0	32.2
Korando	35	11	1	23	27.5	64.6	48.7	33.7	34.4
LN4206 Abarth	38	8	0	28	24.5	64.1	54.1	--	--
Mystique	40	7	0	31	26.0	64.2	59.6	38.0	--
Navarro	35	10	0	26	26.8	65.1	57.9	38.7	--
Nette	38	7	0	27	25.0	65.5	55.0	36.6	--
Rainbow	40	5	0	29	25.3	64.7	52.3	-	--
Salamanca	40	5	0	32	26.8	65.0	58.5	36.0	--
Spider	40	7	0	27	26.5	64.6	48.2	33.4	34.0
Supreme	37	9	0	27	25.5	64.4	60.7	--	--
SW Midas	40	6	0	27	23.8	64.3	60.4	38.6	36.3
SW Trapeze	38	7	0	26	25.3	63.9	56.4	35.5	36.1
Torch	41	4	0	28	26.8	64.0	60.6	35.9	--
Vegas	40	5	0	26	27.4	64.2	52.7	33.9	34.3
<b>Green Cotyledon Type</b>									
Aragorn	36	9	0	24	26.3	64.4	46.8	31.3	31.4
Bluemoon	40	5	0	29	25.3	64.3	58.8	38.6	37.6
CDC Raezer	40	5	0	29	24.5	64.5	53.3	--	--
CDC Striker	37	8	0	26	24.8	64.2	57.3	36.8	35.2
Cruiser	38	7	0	26	25.8	63.6	48.4	32.6	30.5
Greenwood	38	8	0	26	21.5	65.1	53.9	--	--
K2	36	9	0	25	25.3	64.3	45.9	31.7	32.0
Majoret	40	5	0	26	26.8	65.0	52.2	32.8	32.2
Shamrock	41	4	0	29	23.8	64.7	61.8	36.8	36.2
SW Arcadia	39	6	0	24	25.0	64.5	55.2	37.4	38.5
Viper	37	7	0	30	26.0	64.2	54.4	36.1	--
Mean	39	6	0.1	28	25.5	64.6	55.3	35.7	34.8
CV %	3	17	--	6	--	0.9	11.0	--	--
LSD 0.10	1.3	1.3	--	5.0	--	0.7	5.6	--	--

Planted: May 8. Harvested: Aug. 9. Previous crop: spring wheat.

<sup>1</sup>Lodging: 0 = none, 9 = lying flat on the ground.<sup>2</sup>Height to the top of the canopy at harvest.<sup>3</sup>DAP = Days after planting.



**Table 10. 2013 Dry Pea Advanced Variety Trial (Williston REC) - Authors, J. Bergman, D. Amiot and C. Penuel.**

Variety	Flower Date	Flower Duration	Lodging <sup>1</sup>	Canopy Height	Seed <sup>2</sup> Protein	Test Weight	Yield
<b>Yellow Cotyledon Type</b>	(DAP) <sup>3</sup>	(days)	(0-9)	(inch)	(%)	(lb/bu)	(bu/a)
Agassiz	37	11	1	29	24.8	64.2	54.5
Aragorn	36	10	2	25	25.8	62.9	43.8
CDC Golden	38	9	1	26	25.3	64.1	49.0
DS Admiral	38	9	0	28	25.8	64.3	52.4
<b>Green Cotyledon Type</b>							
CDC Striker	37	8	1	24	24.8	63.5	50.6
Cooper	43	4	0	26	24.5	63.8	63.2
Majoret	38	8	0	26	26.8	64.3	48.5
Mean	38	8	0.5	26	25.4	63.9	51.7
C.V.%	2.7	14.5	124	6.3	2.2	0.8	10.3
LSD 10%	1.2	1.5	1.1	2.0	0.7	0.6	4.7

Planted: May 4. Harvested: Aug. 12. Previous crop: spring wheat.

<sup>1</sup>Lodging: 0 = none, 9 = lying flat on the ground.

<sup>2</sup>Protein content adjusted to a 0% moisture.

<sup>3</sup>DAP = Days after planting.

**Table 11. 2013 Dry Pea Western Regional Pea Trial (Williston REC) - Authors, J. Bergman, D. Amiot and C. Penuel.**

Variety	Flower Date	Flower Duration	Lodging <sup>1</sup>	Canopy Height	Seed <sup>2</sup> Protein	Test Weight	Yield
<b>Yellow Cotyledon Type</b>	(DAP) <sup>3</sup>	(days)	(0-9)	(inch)	(%)	(lb/bu)	(bu/a)
Agassiz	36	12	1	28	24.3	63.6	53.8
Aragorn	36	11	1	28	26.0	63.1	48.7
CDC Meadow	37	10	1	27	23.5	64.3	53.4
DS Admiral	38	9	0	28	25.0	63.7	50.6
<b>Green Cotyledon Type</b>							
CDC Striker	36	9	0	25	24.3	63.7	48.7
Cooper	42	6	0	27	24.3	63.8	60.2
Mean	37	9	0.5	27	24.5	63.7	52.6
C.V.%	2.7	12.4	143	8.3	2.3	0.9	9.6
LSD 10%	1.2	1.4	1.4	2.5	0.7	0.7	5.9

Planted: May 4. Harvested: Aug. 12. Previous crop: spring wheat.

<sup>1</sup>Lodging: 0 = none, 9 = lying flat on the ground.

<sup>2</sup>Protein content adjusted to a 0% moisture.

<sup>3</sup>DAP = Days after planting.

**Table 12. 2013 Dry Pea - Golden Valley (Williston REC) - Authors, J. Bergman, D. Amiot and C. Penuel.**

Variety	Seed Protein <sup>1</sup> (%)	Test Weight (lb/bu)	Yield 2013 (bu/a)
<b>Yellow Cotyledon Type</b>			
Agassiz	22.0	62.2	61.9
CDC Meadow	20.7	64.1	55.6
DS Admiral	20.3	63.0	41.4
<b>Green Cotyledon Type</b>			
CDC Striker	21.0	62.2	48.0
Cruiser	22.0	63.7	51.9
Majoret	22.7	63.3	39.9
Mean	21.4	63.1	49.8
CV %	4.1	0.5	11.1
LSD 0.10	1.3	0.5	8.2

Planted: May 10. Harvested: Sept. 6.

<sup>1</sup>Protein content adjusted to a 0% moisture.**Table 13. 2013 Dry Pea - Hettinger - Author, J. Rickertsen.**

Variety	Days to Flower Flower (DAP) <sup>3</sup>	Flower Duration (days)	Days to Mature (DAP) <sup>3</sup>	Vine Length (inch)	Canopy Height (inch)	Height Index <sup>1</sup> (%)	Lodging <sup>2</sup> (0-9)	Seed Protein (%)	Seed Weight (gram)	Seeds/ Pound	Test Weight (lb/bu)	Seed Yield	
												2013	3-Yr. Avg.
<b>Yellow Cotyledon Type</b>													
Agassiz	57	23	94	29	21	72	4	27.4	247	1,837	63.6	52.6	52.0
Bridger	56	20	90	24	20	85	3	26.5	237	1,917	63.1	53.0	--
CDC Meadow	56	22	92	25	17	69	5	25.0	216	2,104	63.4	50.5	--
DS Admiral	56	17	88	25	17	67	6	25.4	223	2,041	62.3	54.0	54.2
Gunner	57	21	92	25	18	72	5	26.1	225	2,016	62.5	47.8	51.9
Korando	55	22	91	24	14	58	6	27.2	277	1,644	62.5	49.2	55.5
Navarro	54	21	89	24	16	69	5	26.8	247	1,861	62.9	49.2	--
Nette	55	17	86	23	18	81	5	24.9	225	2,022	63.6	48.5	--
SW Midas	58	19	91	23	14	59	6	25.4	209	2,167	63.7	51.0	52.8
Vegas	57	18	89	24	20	83	2	28.3	237	1,921	64.7	41.9	49.6
PUSA 11002	55	17	87	23	15	64	7	26.7	223	2,036	63.0	47.7	--
<b>Green Cotyledon Type</b>													
CDC Striker	55	18	87	22	11	47	8	25.1	219	2,075	62.7	52.6	49.8
Cruiser	57	21	92	23	14	63	6	26.6	207	2,206	61.7	44.9	44.6
K2	56	22	91	20	18	90	3	25.6	215	2,115	62.7	39.8	46.7
Majoret	56	19	89	24	14	56	7	27.7	221	2,053	62.9	50.9	46.2
SW Arcadia	55	18	87	22	9	42	9	25.2	224	2,058	62.2	54.3	52.6
Mean	56	20	90	24	16	67	5	26.2	228	2,005	63.0	49.2	50.5
CV %	0.8	7.0	1.3	7.2	11.3	13.8	21.9	1.8	6.0	5.9	1.4	7.6	--
LSD 0.10	1.0	2.0	1.0	2.0	2.0	11	1	0.6	17	135	1.0	4.4	--

Planted: Apr. 30. Harvested: Aug. 8. Previous crop: no-till green fallow spring wheat.

<sup>1</sup>Lodging: 0 = none, 9 = lying flat on ground.<sup>2</sup>Harvest Index; Plant height at time of harvest relative to plant height at end of bloom.<sup>3</sup>Days after planting.

**Table 14. 2013 Dry Pea - Fargo - Authors, K. McPhee, T. Stefaniak and D. Styczynski**

Variety	Days to Flower	Flower Duration	Days to Maturity	Vine Length	Pod Height	Protein	Seeds/Pound	1000	Test Weight	Seed Yield
								Seed Weight		
<b>Yellow Cotyledon Type</b>	(DAP) <sup>1</sup>	(days)	(days)	(inch)	(inch)	(%)	(seeds)	(gram)	(lb/bu)	(bu/a)
Agassiz	39	24	76	25	13	26.5	2,217	205	65.5	40.0
CDC Meadow	38	17	75	22	13	28.0	2,365	193	66.4	27.4
CDC Treasure	38	15	75	24	14	27.8	2,377	191	66.5	20.9
DS Admiral	38	14	74	21	13	28.9	2,221	205	65.6	26.7
<b>Green Cotyledon Type</b>										
CDC Raezer	39	17	76	21	15	26.8	2,182	209	65.7	31.2
CDC Striker	38	14	74	19	12	27.8	2,391	190	65.7	32.3
Cruiser	39	20	76	24	15	27.8	2,494	183	65.1	26.8
Majoret	39	14	75	20	14	28.3	2,389	190	65.3	30.2
Mean	38	17	75	22	14	27.7	2,330	196	65.7	29.4
CV %	0.9	12.9	1.2	10.7	11.0	3.2	5.2	5.2	0.7	13.8
LSD 0.10	0.4	2.6	1.0	2.8	1.8	1.3	144	12.1	0.5	4.8

Planted: June 14. Harvested: Sept 5.

<sup>1</sup> DAP = Days after planting.

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