

North Dakota Dry Pea Variety Trial Results for 2017 and Selection Guide

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List of Figures and Tables

- Figure 1. North Dakota Dry Pea Harvested Acreage, 1999 to 2017.
- Figure 2. North Dakota Dry Pea Yield in Bushels per Acre, 1999 to 2017.
- Table 1. April-September 2017 Average Temperature and Precipitation Rankings for Selected North Dakota Locations.
- Table 2. 2017 Dry Pea Description and Yield of Selected Yellow and Green Cotyledon Varieties.
- Table 3. 2017 Locations Where Pea Varieties Were Tested.
- Table 4. 2017 Dry Pea - Carrington.
- Table 5. 2017 Dry Pea - Organic - Carrington.
- Table 6. 2017 Dry Pea - Langdon.
- Table 7. 2017 Dry Pea - Minot.
- Table 8. 2017 Dry Pea - Recrop - Dickinson.
- Table 9. 2017 Dry Pea - McKenzie County (Williston REC).
- Table 10. 2017 Dry Pea - Williston.
- Table 11. 2017 Dry Pea - Divide County (Williston REC).
- Table 12. 2017 Dry Pea - Hettinger.

Introduction

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

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 adequate because field pea does not tolerate saturated or soggy conditions.

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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 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 (less than 10 inches apart) as early in the spring as possible. 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. 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. Do not pack or roll immediately after seeding if the soil moisture is high because excess compaction or crusting can occur.

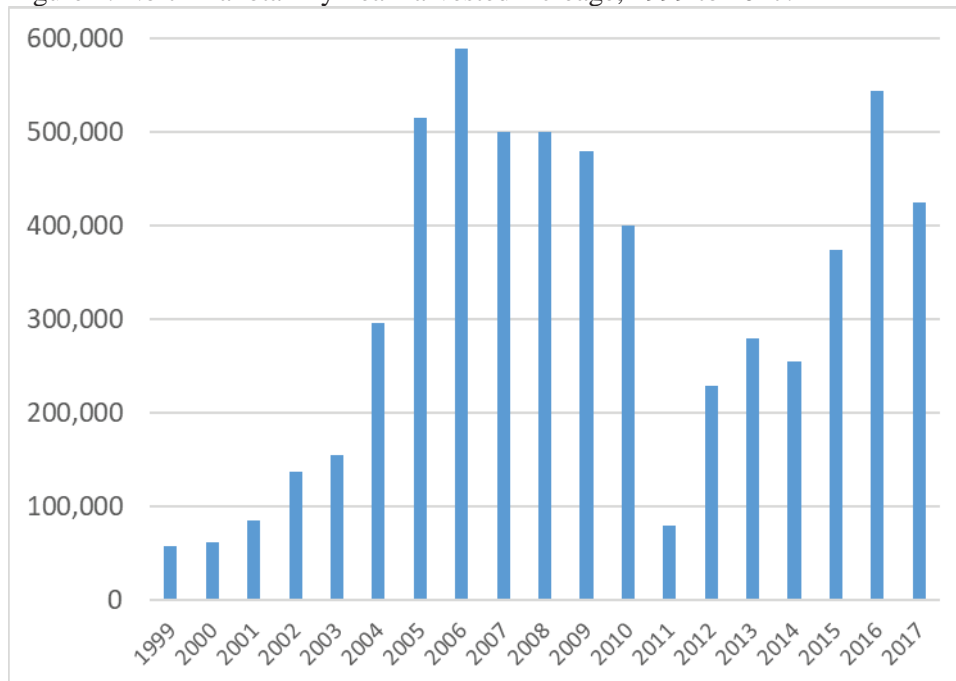
Pea seedlings can withstand considerable frost. Even if the frost is severe enough to kill the main shoot, the pea plant will regrow from buds at one of the nodes at or below the soil surface. However, this will delay plant maturity. The pea seed germination rate increases with increasing temperatures,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

Field pea is capable of utilizing bacterially fixed atmospheric nitrogen. The specific bacterial association for nitrogen fixation in field pea and lentils is with the bacterium *Rhizobium leguminosarum*, which is a different bacteria species than is used for soybean inoculation. If field pea is to be grown in a field for the first time or pea was not grown there recently, inoculating the seed with the proper *Rhizobium* bacteria prior to planting may be needed to ensure nodulation.

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

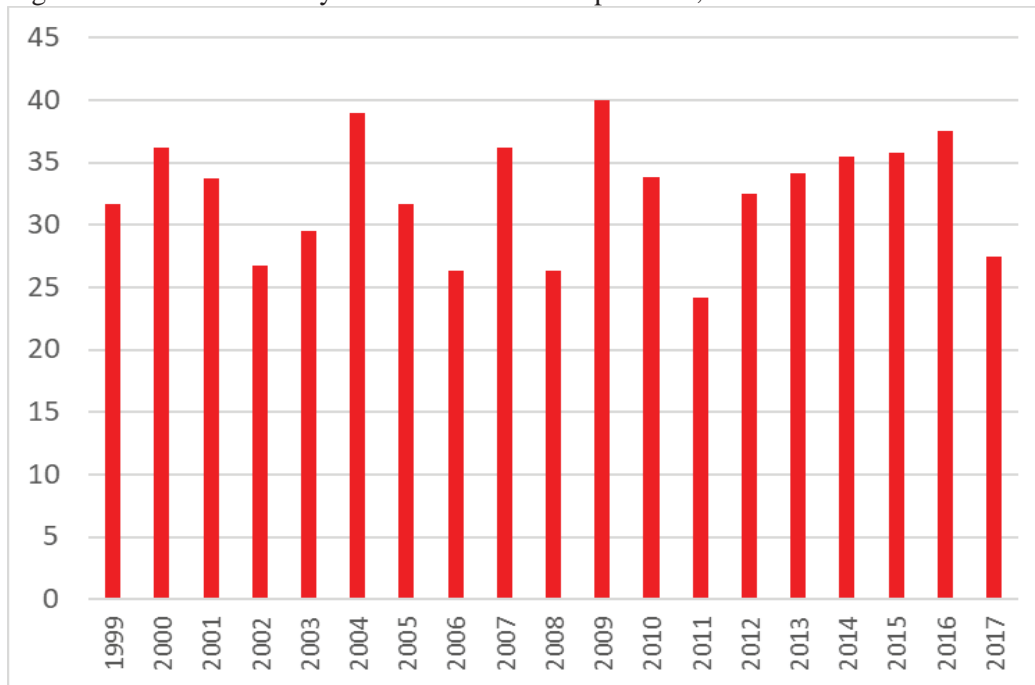
For more production information, see publication A1166, “Field Pea Production” (www.ag.ndsu.edu/publications/crops/field-pea-production). Dry pea-planted acres and yield have fluctuated during the past 19 growing seasons, as shown in Figure 1 and 2.

Figure 1. North Dakota Dry Pea Harvested Acreage, 1999 to 2017.



Source: North Dakota Agricultural Statistics Service – USDA.

Figure 2. North Dakota Dry Pea Yield in Bushels per Acre, 1999 to 2017.



Source: North Dakota Agricultural Statistics Service – USDA.

2017 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/. Weather data are provided in Table 1.

Table 1. April-September 2017 Average Temperature and Precipitation Rankings for Selected North Dakota Locations.

Location	Average Temperature (Ranking)	Total Precipitation (Ranking)
Bowman	59.4 F (44th Warmest Period Since 1915)	7.4 inches (10th Driest Period Since 1915)
Bismarck	62.3 F (12th Warmest Period Since 1875)	11.1 inches (55th Driest Period Since 1875)
Cavalier	58.2 F (43rd Warmest Period Since 1934)	12.2 inches (32nd Driest Period Since 1927)
Fargo	61.9 F (24th Warmest Period Since 1881)	11.2 inches (20th Driest Period Since 1881)
Minot Exp. Station	59.6 F (29th Warmest Period Since 1905)	8.3 inches (14th Driest Period Since 1905)
Williston Exp. Station	62.0 F (9th Warmest Period Since 1894)	9.1 inches (41st Driest Period Since 1894)
North Dakota Average¹	59.7 F (33rd Warmest Period Since 1895)	10.7 inches (14th Driest Period Since 1894)

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

¹Statewide values are calculated based on all available locations in North Dakota rather than the mathematical average of the list above.

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 95 or 90 percent probability (LSD 0.05 or 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. Physiological maturity is reached when the bottom 75 percent of the pods have turned yellow to brown. At this time, the upper 25 percent of the pods will be a dull green, with the pod surface no longer succulent.

Yields are reported at 15 percent moisture content. The standard for reporting protein in field pea is at 0 percent moisture. The harvest index reflects the plant height at the time of harvest relative to plant height at the end of bloom (maximum plant height). The harvest ease score is taken at the time the plants are dried sufficiently to allow threshing or harvesting to occur. Harvest ease is an assessment of combining efficiency. The lower the score, the easier the operator will be able to get the cutter bar underneath the lowest pods and make decent travel speed through the field.

In the tables, the dry pea varieties are arranged in alphabetical order within market class (yellow and green cotyledon types, and Marrowfat). 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 summarize several years and locations. Table 2 provides information on a core group of varieties that were included in most 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. 2017 Dry Pea Description and Yield of Selected Yellow and Green Cotyledon Varieties.

Variety	Vine Length	Harvest Ease	Powdery Mildew Tolerance			2013 Avg. Yield	2014 Avg. Yield	2015 Avg. Yield	2016 Avg. Yield	2017 Avg. Yield
			Mildew Tolerance	Maturity	Seed Size	7 Locations ¹	10 Locations ²	10 Locations ³	8 Locations ⁴	8 Locations ⁵
						(bu/a)	(bu/a)	(bu/a)	(bu/a)	(bu/a)
Yellow Cotyledon Type										
Agassiz	Tall	Good	Good	Medium	Medium	56.3	54.0	56.2	45.6	41.3
CDC Meadow	Medium	Good	NA ⁶	Medium	Med. Small	51.6	54.2	58.5	--	--
DS Admiral	Medium	Good	Good	Early/Med.	Medium	47.6	51.1	55.8	41.4	38.4
Spider	Medium	Fair	Good	Medium	Medium	--	--	--	40.0	38.8
Green Cotyledon Type										
Arcadia	Medium	Good	Good	Early/Med.	Medium	--	--	--	40.5	42.2
CDC Striker	Medium	Good	Poor	Medium	Medium	46.1	48.4	57.7	40.1	39.9
Cruiser	Medium	Fair	Poor	Medium	Small	45.4	46.6	49.7	34.6	35.9
Majoret	Medium	Fair	Poor	Medium	Medium	48.4	48.1	50.6	--	--
Mean						49.2	50.6	54.8	40.4	38.6
CV%						9.1	9.6	7.1	12.9	10.4
LSD 0.05						--	--	3.5	5.3	4.4
LSD 0.10						4.1	3.6	2.9	4.4	3.6

¹These varieties appeared in all the locations reported in the 2013 publication except Tables 10, 11 and 14.

²These varieties appeared in all the locations reported in the 2014 publication except Table 9.

³These varieties appeared in all the locations reported in the 2015 publication except Table 6.

⁴These varieties appeared in all the locations reported in the 2016 publication except Table 4, which was not used, and Table 10.

⁵These varieties appeared in all the locations reported in the 2017 publication except for McKenzie and Divide County data.

⁶NA = is not available.

Table 3. 2017 Locations Where Pea Varieties Were Tested.

Pea Variety	Carrington	Carrington Organic	Langdon	Minot	Dickinson	Williston	McKenzie	Divide	Hettinger
Yellow Cotyledon Type									
AAC Carver	x	--	x	x	--	x	-	--	--
AC Earlstar	x	--	x	x	--	x	x	x	--
Agassiz	x	x	x	x	x	x	x	x	x
Banjo	--	x	--	--	--	--	--	--	--
Bridger	x	--	--	x	--	x	--	--	x
CDC Amarillo	x	--	x	x	--	x	--	--	--
CDC Inca	x	--	x	x	--	x	--	--	--
CDC Saffron	x	--	x	x	--	x	--	--	--
DS Admiral	x	x	x	x	x	x	x	x	x
Durwood	x	--	--	--	x	x	--	--	x
Fiddle	--	x	--	--	--	--	--	--	--
Gunner	x	--	--	x	--	--	--	--	x
Hylene	x	--	--	x	--	x	--	--	x
Jetset	x	--	x	x	--	x	--	--	--
Korando	x	--	--	--	--	x	--	--	x
LG Amigo	x	--	--	--	--	x	--	--	x
Majestic	x	--	--	x	--	--	--	--	x
Marquee	x	--	--	--	--	--	--	--	--
Mystique	x	--	x	--	--	x	--	--	x
Navarro	x	--	--	x	--	x	--	--	x
Nette 2010	x	x	x	--	x	x	x	x	x
Oro	--	--	--	x	--	--	--	--	--
Salamanca	x	--	--	x	--	x	--	--	x
Spider	x	x	x	x	x	x	--	--	x
SW Midas	x	--	--	--	--	x	--	--	x
Green Cotyledon Type									
AAC Comfort	x	--	x	x	--	x	--	--	--
Aragorn	--	--	--	--	--	x	--	--	x
Arcadia	x	x	x	x	x	x	x	x	x
Bluemoon	x	--	--	x	--	--	--	--	x
CDC Greenwater	x	--	x	x	--	x	--	--	--
CDC Striker	x	x	x	x	x	x	--	--	x
Cruiser	x	x	x	x	x	x	--	--	x
Flute	--	x	--	--	--	--	--	--	--
Ginny	--	--	--	--	--	x	--	--	x
Greenwood	--	--	--	--	--	x	--	--	x
Hampton	--	--	--	--	--	--	x	x	--
LG Koda	x	x	--	--	x	x	--	--	x
Majoret	--	--	--	x	--	--	--	--	--
Matrix	x	x	--	--	--	--	--	--	--
Shamrock	x	--	--	x	--	x	--	--	x
Viper	x	--	--	--	x	x	--	--	x
Marrowfat Type									
Okra	x	--	--	x	--	x	--	--	x

Table 4. 2017 Dry Pea - Carrington - Authors, B. Schatz, M. Ostlie, S. Zwinger and S. Schaubert.

Variety	Days to Flower Flower (DAP) ³	Flower Duration (days)	Days to PM (DAP) ³	Vine Length (inch)	Canopy Height ¹ (inch)	Seeds/ Pound	Plant Lodge ² (0-9)	1,000			Seed Yield	
								Seed Weight (gram)	Seed Protein (%)	Test Weight (lb/bu)	2017 -----(bu/a)-----	3-yr. Avg.
Yellow Cotyledon Type												
AAC Carver	55	11	79	28	27	1,962	0	232	24.3	63.0	44.8	44.0
AC Earlystar	51	14	78	30	27	2,094	0.5	217	24.4	62.8	54.5	47.2
Agassiz	50	15	79	32	27	2,020	0	225	25.5	62.2	55.2	47.6
Bridger	50	14	78	26	24	2,037	0	223	24.9	63.5	49.6	46.0
CDC Amarillo	58	9	82	32	28	2,001	0	227	25.3	62.6	42.8	43.6
CDC Inca	57	10	81	29	27	2,121	0	214	25.7	63.1	43.2	--
CDC Saffron	57	9	81	27	24	1,978	0.3	230	25.6	63.1	43.7	44.1
DS Admiral	52	12	77	27	24	1,933	0	235	25.8	63.3	48.5	45.9
Durwood	51	14	78	34	29	1,948	0	233	26.2	63.7	47.3	45.7
Gunner	54	12	79	31	26	2,057	0	221	25.7	63.4	45.2	--
Hyline	56	10	80	31	26	1,993	0	229	25.2	63.6	50.4	46.4
Jetset	53	11	77	28	26	1,855	0	245	25.1	63.1	46.0	44.7
Korando	46	19	78	27	24	1,690	0	269	25.1	62.9	49.5	45.8
LG Amigo	53	12	79	25	23	2,043	0	222	24.6	62.5	50.2	--
Majestic	55	9	79	29	27	1,904	0	239	26.0	63.5	49.5	--
Marquee	53	12	78	27	25	2,420	0	188	26.4	63.1	42.1	--
Mystique	55	11	81	31	29	1,895	0.3	240	25.3	62.6	53.3	47.1
Navarro	46	17	78	23	22	1,777	0	256	24.7	62.8	47.8	45.1
Nette 2010	49	14	77	25	22	2,036	0	223	23.9	63.2	50.5	45.9
Salamanca	53	12	79	34	28	1,834	0	248	25.8	63.4	49.5	46.2
Spider	56	11	81	31	27	1,966	0.3	231	26.2	62.8	36.6	41.9
SW Midas	54	10	77	24	22	2,265	0	201	24.3	62.9	45.8	44.3
Green Cotyledon Type												
AAC Comfort	60	7	85	27	26	1,846	1.0	246	25.8	61.8	47.9	--
Arcadia	53	12	78	24	22	2,285	0	199	24.7	62.6	49.6	45.7
Blumoon	55	8	79	28	24	1,935	0	235	26.0	63.2	42.8	44.0
CDC Greenwater	58	9	83	29	27	1,979	0	229	25.8	62.8	43.7	--
CDC Striker	49	14	78	25	21	2,329	0.3	195	24.9	62.3	49.1	45.4
Cruiser	50	16	79	29	23	2,238	0	203	26.3	62.4	37.5	42.1
LG Koda	56	9	80	29	25	1,994	0	228	24.0	63.6	53.2	--
Matrix	57	8	81	20	18	1,818	0	251	24.6	63.2	44.7	44.2
Shamrock	58	8	82	29	27	2,020	0.8	225	24.9	63.4	35.6	--
Viper	50	14	80	34	29	2,144	0.3	212	24.4	63.0	43.9	43.7
Marrowfat Type												
Orka	49	15	81	28	23	1,242	1.0	366	25.3	62.6	37.7	--
Mean	53	12	79	28	25	1,990	0.1	231	25.2	63.0	46.4	45.1
CV %	2.2	11.6	1.3	11.4	9.3	3.2	319	3.3	2.1	1.1	14.3	--
LSD 0.05	1.6	1.9	1.4	4.5	3.3	89	0.5	11	0.7	1.0	9.4	--
LSD 0.10	1.4	1.6	1.2	3.8	2.8	75	0.4	9	0.6	0.8	7.9	--

Planted: May 2. Harvested: July 28. Previous crop: barley.

¹Height to the top of the canopy at harvest.

²Lodging: 0 = none, 9 = lying flat on the ground.

³DAP = Days after planting.

Table 5. 2017 Dry Pea - Organic - Carrington - Authors, S. Zwinger and S. Schaubert.

Variety	Days to Flower	Flower Duration	Days to PM	Canopy Height ¹	Seeds/ Pound	Plant Lodge ²	Seed Protein	Test Wt.	Seed Yield	
	(DAP) ³	(days)	(DAP) ³	(inch)		(0-9)	(%)	(lb/bu)	2017	3-yr. Avg.
Yellow Cotyledon Type										
Agassiz	49	19	79	31	2,109	0	24.9	62.3	47.6	37.6
Banjo	51	16	82	36	2,219	0.3	26.3	63.0	46.8	--
DS Admiral	50	15	80	30	2,017	0	24.7	62.9	42.7	34.5
Fiddle	51	17	86	32	2,149	0	26.9	63.0	42.2	--
Nette 2010	47	17	78	30	2,253	0	23.5	62.4	46.1	39.9
Spider	50	18	83	34	2,158	1.7	26.2	63.1	46.1	--
Green Cotyledon Type										
Arcadia	49	16	80	26	2,335	1.0	25.0	62.1	47.6	--
CDC Striker	49	16	80	27	2,306	0	24.8	62.2	47.2	37.2
Cruiser	48	18	80	31	2,373	0	23.8	62.1	41.7	30.3
Flute	53	14	86	35	2,469	0	25.4	63.3	43.8	--
LG Koda	54	12	84	28	2,146	0	23.6	63.6	38.2	--
Matrix	56	9	84	28	1,837	0	23.7	62.9	42.2	--
Mean	51	16	82	31	2,198	0.3	24.9	62.8	44.3	35.9
CV %	0.9	5.8	1.3	6.2	3.9	263	2.3	0.7	9.6	--
LSD 0.05	0.8	1.5	1.7	3.3	136	1.0	1	0.8	7.3	--
LSD 0.10	0.6	1.2	1.4	2.8	113	0.8	0.8	0.6	6.1	--

Planted: May 2. Harvested: Aug. 1. Previous crop: Einkorn.

¹Height to the top of the canopy at harvest.²Lodging: 0 = none, 9 = lying flat on the ground.³DAP = Days after planting.**Table 6. 2017 Dry Pea - Langdon - Authors, B. Hanson, T. Hakanson and L. Henry.**

Variety	Days to Flower	Vine Length	Canopy Height ¹	Height Index ²	Harvest Ease ³	1,000 Seed Wt.	Test Wt.	Seed Yield			
	(DAP) ⁴	(days)	(inch)	(inch)	(%)	(0-9)	(gram)	(lb/bu)	2017	2-yr. Avg.	3-yr. Avg.
Yellow Cotyledon Type											
AAC Carver	56	16	46	18	38	6	221	63.6	90.8	64.9	--
AC Earlystar	55	19	45	17	38	6	196	63.2	74.6	60.8	--
Agassiz	55	20	42	17	40	5	210	62.9	80.2	60.1	65.8
CDC Amarillo	59	16	49	28	58	3	226	63.9	87.5	63.2	69.6
CDC Inca	58	17	47	27	59	3	219	64.1	80.8	--	--
CDC Saffron	57	15	42	20	51	5	247	64.1	75.0	59.4	65.8
DS Admiral	55	18	45	18	39	6	233	63.3	78.9	64.5	70.0
Jetset	55	14	40	15	39	7	211	62.0	73.5	65.2	--
Mystique	56	18	45	22	50	3	235	63.0	81.7	58.3	66.7
Nette 2010	52	16	40	17	42	6	211	64.2	79.8	64.7	69.6
Spider	57	19	47	18	39	7	247	63.3	79.5	61.2	--
Green Cotyledon Type											
AAC Comfort	63	12	48	21	45	5	250	61.7	74.8	--	--
Arcadia	55	15	37	11	31	8	204	62.9	81.0	62.7	--
CDC Greenwater	58	19	48	25	51	4	242	63.5	89.1	--	--
CDC Striker	55	15	41	11	28	9	207	63.1	85.4	64.1	70.4
Cruiser	54	19	40	16	42	6	186	62.9	70.5	49.6	56.5
Mean	56	17	44	19	43	5	221	63.2	80.2	61.4	66.8
CV %	1.5	11.5	7.6	31	35	36	3.3	1.2	7	--	--
LSD 0.05	1.2	2.7	4.7	8.2	NS	2.7	15.5	1.1	7.9	--	--
LSD 0.10	1.0	2.3	3.9	6.9	NS	2.3	12.7	0.9	6.6	--	--

Planted: May 9. Harvested: Aug. 24.

¹Height to the top of the canopy at harvest.²Height Index: Calculated as the ratio of canopy height/plant height.³Harvest Ease: 0 = all plants upright (very easy harvest) to 9 = all plants flat (very difficult to direct harvest).⁴DAP = Days after planting.

Table 7. 2017 Dry Pea - Minot - Author, T. Stefaniak.

Variety	Days to Flower (DAP) ²	Days to PM (DAP) ²	Vine Length (inch)	Plant Lodge ¹ (1-9)	Seeds/ Pound	1,000 Seed Wt. (gram)	Test Wt. (lb/bu)	Seed Yield		
								2017	2-yr. Avg.	3-yr. Avg.
								------(bu/a)-----		
Yellow Cotyledon Type										
AAC Carver	55	87	26	1	2,015	226	64.9	52.8	48.4	51.7
AC Earllystar	56	86	30	2	2,173	209	64.2	55.9	55.7	54.8
Agassiz	56	91	27	2	1,947	233	64.6	51.8	53.7	53.1
Bridger	52	87	24	2	2,158	211	64.2	53.6	50.3	--
CDC Amarillo	58	92	27	1	1,941	234	64.3	59.0	54.1	54.3
CDC Inca	57	91	27	1	2,073	219	63.8	53.4	--	--
CDC Saffron	57	92	25	2	1,923	236	64.9	45.3	50.1	53.2
DS Admiral	55	88	26	2	1,931	235	64.1	44.0	49.5	49.0
Gunner	56	91	31	2	1,950	233	64.5	53.4	--	--
Hyline	56	91	26	2	1,892	240	63.8	46.1	46.6	50.4
Jetset	56	89	27	2	1,880	242	64.9	52.1	49.5	50.4
Majestic	57	90	29	1	1,911	238	64.6	52.2	51.4	--
Navarro	50	89	26	2	1,815	251	64.5	56.0	--	--
Oro	56	89	28	1	1,988	229	65.7	52.9	--	--
Salamanca	55	88	30	2	1,906	239	64.5	59.7	58.2	53.6
Spider	58	94	26	1	1,908	238	65.4	35.3	38.4	45.7
Green Cotyledon Type										
AAC Comfort	62	91	25	2	1,776	256	64.3	62.9	--	--
Arcadia	52	89	25	2	2,328	195	63.7	56.3	51.7	--
Bluemoon	54	87	25	2	1,922	237	63.8	54.2	53.2	55.0
CDC Greenwater	58	92	27	1	1,924	237	64.4	63.6	--	--
CDC Striker	54	90	24	2	2,307	197	63.8	40.6	45.0	47.4
Cruiser	52	89	26	2	2,167	210	63.5	47.5	45.3	47.6
Majoret	57	90	24	2	2,027	224	64.9	49.2	--	--
Shamrock	60	93	24	2	2,094	217	64.31	44.5	--	--
Marrowfat										
Orka	54	92	26	3	1,309	347	63.5	45.5	--	--
Mean	56	90	26	2	1,971	233	64.4	51.5	50.1	51.3
CV %	2.4	3.0	11.8	39	3.3	3.3	1.2	20.2	--	--
LSD 0.05	1.6	3.2	5.1	0.7	77.8	9.0	0.9	12.3	--	--
LSD 0.10	1.2	2.5	2.8	0.6	60.4	7.0	0.7	9.6	--	--

Planted: April 20. Harvested: July 31.

¹Lodging: 0 = none, 9 = lying flat on the ground.

²DAP = Days after planting.

Table 8. 2017 Dry Pea - Recrop - Dickinson - Author, G. Martin.

Variety	Days to	Days to	Vine	Canopy	Height	Seeds/	1,000	Test	Seed Yield	
	Flower	PM	Length	Height ¹	Index ²	Pound	Seed Wt.	Wt.	2017	3-yr.Avg.
	(DAP) ²	(DAP) ²	(inch)	(inch)	(%)		(gram)	(lb/bu)	-----(bu/a)-----	
Yellow Cotyledon Type										
Agassiz	50	66	16	14	85	2,406	189	65.9	21.6	37.6
DS Admiral	51	66	16	14	90	2,082	218	65.5	23.1	36.6
Durwood	49	65	19	16	86	2,301	197	64.8	22.8	--
Nette 2010	49	63	18	14	81	2,172	209	65.8	25.4	--
Spider	51	67	18	16	87	2,264	200	65.6	18.5	--
Green Cotyledon Type										
Arcadia	49	63	14	12	88	2,568	177	62.1	25.8	--
CDC Striker	49	64	14	13	89	2,552	178	64.3	24.8	36.6
Cruiser	49	65	16	14	89	2,612	174	64.5	22.7	34.5
LG Koda	50	64	15	14	89	2,254	202	65.7	21.3	--
Viper	49	63	19	18	91	2,211	205	66.6	22.0	--
Mean	49	65	17	14	88	2,342	195	65.1	22.8	36.3
CV %	2.2	1.4	9.8	8.3	5.8	3.5	3.5	2.5	8.5	--
LSD 0.05	1.5	1.4	2.4	1.7	7.4	118	9.8	2.4	2.8	--
LSD 0.10	1.3	1.1	2.0	1.4	6.1	98	8.2	2.0	2.3	--

Planted: April 28. Harvested: July 21. Previous crop: cover crop.

¹Height to the top of the canopy at harvest.²Height Index: Calculated as the ratio of canopy height/plant height.³DAP = Days after planting.**Table 9. 2017 Dry Pea - McKenzie County (Williston REC) - Authors, J. Bergman, G. Pradhan, A. Link and E. Link.**

Variety	Seed	1,000	Test	Seed Yield	
	Protein	Seed Wt.	Weight	2017	3-yr. Avg.
	(%)	(gram)	(lb/bu)	-----(bu/a)-----	
Yellow Cotyledon Type					
AC Earlystar	25.1	208	60.4	31.8	--
Agassiz	28.1	195	59.5	26.7	28.8
DS Admiral	26.5	238	60.3	31.5	26.3
Nette 2010	27.0	238	62.6	27.2	--
Green Cotyledon Type					
Arcadia	26.0	179	60.3	24.5	--
Hampton	28.1	222	60.7	29.3	20.4
Mean	27.1	215	60.7	27.8	25.2
CV %	3.9	4.6	0.9	22.1	--
LSD 0.05	NS	NS	NS	NS	--
LSD 0.10	NS	NS	NS	NS	--

Planted: May 12. Harvested: Aug. 23. Previous crop: durum.

Table 10. 2017 Dry Pea - Williston - Authors, J. Bergman, G. Pradhan, A. Link and E. Link.

Variety	Days to Flower (DAP) ²	Days to PM (days)	Canopy Height ¹ (inch)	1,000 Seed Wt. (gram)	Seed Protein (%)	Test Weight (lb/bu)	Seed Yield		
							2017	2-yr. Avg.	3-yr. Avg.
							------(bu/a)-----		
Yellow Cotyledon Type									
AAC Carver	53	79	20	196	22.2	63.6	21.3	32.7	--
AC Earllystar	51	77	19	180	23.0	63.2	22.8	--	--
Agassiz	50	77	17	190	22.3	62.4	20.8	32.8	34.1
Bridger	49	76	14	184	23.1	63.6	14.5	26.7	28.0
CDC Amarillo	55	81	20	199	25.4	62.5	13.1	28.4	29.3
CDC Inca	54	80	20	186	23.6	63.6	17.0	--	--
CDC Saffron	55	80	19	203	23.8	61.5	12.5	29.1	29.5
DS Admiral	51	78	17	200	22.4	61.9	18.8	28.2	29.8
Durwood	51	78	21	197	23.9	62.5	20.4	31.8	32.8
Hyline	53	78	18	198	23.5	63.9	20.8	32.6	33.8
Jetset	52	79	21	210	24.7	61.9	20.7	27.9	--
Korando	44	75	15	253	23.4	63.9	18.3	29.3	29.4
LG Amigo	50	78	18	192	24.1	61.9	24.5	--	--
Mystique	53	79	19	199	27.5	61.8	17.5	-	-
Navarro	44	76	15	229	23.3	63.4	23.0	30.1	-
Nette 2010	49	76	17	193	21.1	64.8	23.4	30.4	28.9
Salamanca	51	78	20	211	23.3	63.2	22.1	32.4	--
Spider	54	82	22	210	26.3	62.2	10.1	26.6	--
SW Midas	53	78	16	159	21.8	62.1	17.8	--	--
Green Cotyledon Type									
AAC Comfort	57	84	19	218	25.2	60.7	12.5	--	--
Aragorn	49	76	16	175	22.3	63.2	20.8	--	--
Arcadia	51	78	17	173	22.8	63.3	22.5	30.9	32.0
CDC Greenwater	55	83	19	187	25.2	62.5	15.6	--	--
CDC Striker	50	77	14	172	21.9	63.9	19.2	29.4	32.2
Cruiser	51	78	17	171	21.5	62.7	18.0	27.9	28.1
Ginny	51	78	12	175	20.9	63.5	19.2	--	--
Greenwood	50	77	16	170	18.0	64.2	20.1	--	--
LG Koda	54	79	17	198	21.5	63.8	21.8	--	--
Shamrock	56	83	18	190	25.1	62.7	11.8	--	--
Viper	49	78	20	212	23.8	63.2	18.3	26.2	--
Marrowfat									
Orka	49	79	14	311	22.7	61.1	18.4	--	--
Mean	52	79	18	197	23.1	62.8	18.3	29.6	30.8
CV %	1.6	1.5	12.7	3.9	3.6	0.6	11.6	--	--
LSD 0.05	1.3	2.0	3.7	12.8	1.4	0.6	3.6	--	--
LSD 0.10	1.1	1.6	3.1	10.7	1.2	0.5	3.0	--	--

Planted: April 27. Harvested: July 31. Previous crop: durum.

¹Height to the top of the canopy at harvest.²DAP = Days after planting.

Table 11. 2017 Dry Pea - Divide County (Williston REC) - Authors, J. Bergman, G. Pradhan, A. Link and E. Link.

Variety	Seed Protein	1,000 Seed Wt.	Test Weight	Seed Yield	
	(%)	(gram)	(lb/bu)	2017	3-yr. Avg.
Yellow Cotyledon Type					
AC Earlstar	24.1	233	60.6	30.2	--
Agassiz	25.4	231	60.3	31.0	45.1
DS Admiral	25.6	281	61.3	24.3	39.5
Nette 2010	24.3	241	63.7	25.9	--
Green Cotyledon Type					
Arcadia	24.5	229	61.3	32.5	36.3
Hampton	26.1	255	61.6	28.9	--
Mean	25.0	245	61.5	28.8	40.3
CV %	2.9	8.3	0.9	11.0	--
LSD 0.05	NS	NS	NS	NS	--
LSD 0.10	NS	NS	NS	NS	--

Planted: May 5. Harvested: Aug. 17. Previous crop: durum.

Table 12. 2017 Dry Pea - Hettinger - Author, J. Rickertsen.

Variety	Days to Flower	Flower Duration	Days to PM	Canopy Height ¹	Seed Protein	1,000 Seed Wt.	Seeds/Pound	Seed Yield	
	(DAP) ²	(days)	(DAP) ²	(inch)	(%)	(gram)		2017	3-yr. Avg.
Yellow Cotyledon Type									
Agassiz	48	18	78	15	29.4	170	2,668	12.1	27.8
Bridger	47	16	74	13	26.2	158	2,872	12.7	26.8
DS Admiral	49	16	76	14	27.9	177	2,569	13.0	30.0
Durwood	48	17	76	15	27.9	172	2,640	14.0	--
Gunner	50	16	77	16	29.2	165	2,756	12.6	27.4
Hyline	51	13	75	12	28.3	170	2,675	11.9	26.2
Korando	45	18	74	12	26.3	200	2,268	14.4	--
LG Amigo	47	17	75	12	26.3	158	2,883	13.8	--
Majestic	50	15	76	14	27.9	172	2,644	10.7	--
Mystique	50	15	76	14	27.8	167	2,715	13.1	--
Navarro	45	18	74	12	26.6	189	2,398	14.5	--
Nette 2010	46	18	75	15	26.1	168	2,710	14.4	30.7
Salamanca	49	16	76	14	27.8	178	2,556	14.7	28.2
Spider	51	16	78	16	29.2	178	2,546	10.7	26.9
SW Midas	50	15	76	13	28.5	145	3,133	14.6	28.4
Green Cotyledon Type									
Aragorn	46	18	75	12	26.2	151	3,001	11.7	--
Arcadia	47	16	75	12	26.6	143	3,182	12.4	--
Bluemoon	48	16	75	14	28.1	184	2,461	11.5	--
CDC Striker	48	17	76	13	26.6	147	3,087	13.1	26.8
Cruiser	48	17	76	13	26.8	148	3,057	13.1	25.3
Ginny	47	17	75	13	26.9	153	2,970	10.6	--
Greenwood	46	19	76	13	25.9	146	3,116	12.0	--
LG Koda	51	13	75	13	27.3	170	2,667	12.7	--
Shamrock	52	14	77	13	26.8	153	2,964	11.3	--
Viper	46	17	74	15	27.1	172	2,647	13.2	--
Marrowfat Type									
Orka	47	16	74	14	26.3	253	1,795	11.4	--
Mean	48	16	75	13	27.3	172	2,677	12.7	27.7
CV %	1.1	6.2	1.1	12.8	1.5	3.2	3.2	14.8	--
LSD 0.05	0.7	1.4	1.2	2.4	0.6	7.6	121	2.6	--
LSD 0.10	0.6	1.2	1.0	2.0	0.5	6.4	101	2.2	--

Planted: April 28. Harvested: July 26. Previous crop: spring wheat.

¹Height to the top of the canopy at harvest.²Days after planting.

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