

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

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North Dakota Bean Production

Dry edible beans have been a significant crop in eastern and east-central North Dakota during the past decades. Acreage for the past 15 years is shown in Table 1, with production by classes in Table 2.

Table 1. North Dakota Dry Edible Bean Harvested Acreage, 2003 to 2017.

Year	Acreage
2003	520,000
2004	475,000
2005	565,000
2006	640,000
2007	665,000
2008	640,000
2009	580,000
2010	770,000
2011	380,000
2012	685,000
2013	430,000
2014	615,000
2015	635,000
2016	570,000
2017	675,000

Source: North Dakota Agricultural Statistics Service – USDA.

Table 2. North Dakota Dry Edible Bean Production by Commercial Class, 2003 to 2016.

Year	Pinto (Cwt)	Navy (Cwt)
2003	5,864,000	1,164,000
2004	3,561,000	650,000
2005	6,530,000	1,330,000
2006	4,988,000	1,585,000
2007	7,606,000	1,636,000
2008	6,660,000	2,087,000
2009	6,106,000	1,263,000
2010	7,543,000	1,958,000
2011	2,709,000	1,125,000
2012	7,610,000	2,215,000
2013	4,765,000	1,299,000
2014	5,677,000	1,622,000
2015	4,932,000	1,694,000
2016	5,745,000	1,321,000

Source: North Dakota Agricultural Statistics Service – USDA.

2017 Growing Season Weather Summary for North Dakota

Table 3. April-September 2017 Average Temperature and Precipitation Rankings for Selected North Dakota Locations.

City	Temperature Ranking	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 Average ¹	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.

2017 Dry Bean Performance Trials

Information about dry bean variety performance can be accessed on the Web at www.ag.ndsu.edu/varietytrials/, the site with all variety trial data from all NDSU Experiment Station locations for all crops. 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 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 to 95 percent probability (0.10 and 0.05 level, respectively), 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. 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 bean varieties are arranged in alphabetical order within market class. Footnotes provide more detailed information about data in the table under which they appear. Characteristics to evaluate for selecting a dry bean variety include marketing 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. Choose a high-quality variety that, on average, performs the best at multiple locations near your farm during several years.

Information contained in this publication is based on research conducted by North Dakota Agricultural Experiment Station scientists. We express our thanks to dry bean growers who assisted with the on-farm variety testing.

Trials are supported in part by fees collected from entrants of private varieties. We acknowledge the support for Juan Osorno’s breeding project from the Northharvest Bean Growers Association. Research specialists and technicians helped with the field work and data compilation. The assistance given by many secretaries in typing respective portions of the document is very much appreciated. A special thank you goes to Lisa Johnson, Extension Plant Sciences secretary, for assisting in the compilation of this publication.

Presentation of data for the varieties tested does not imply approval or endorsement by the authors or agencies conducting the tests. NDSU 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 credited for the data.

Table 4. 2017 Pinto Bean Variety Trial - Hatton - Authors, J. Osorno, J. VanderWal and J. Posh.

Variety	Days to Maturity (DAP) ¹	Plant Height (inch)	100 Seed Weight (gram)	Seed Yield (lb/a)
Blackfoot	96	16	34.4	1,720
Cowboy	95	22	36.7	2,760
El Diablo Fu	94	20	38.8	2,320
La Paz	100	22	34.6	2,710
Lariat	103	20	40.6	2,450
Maverick	100	19	38.1	2,320
Monterrey	99	22	36.4	2,760
ND-307	103	21	40.5	2,310
Nez Perce	103	20	33.6	2,120
Othello	95	16	37.3	2,080
ND-Palomino	102	21	36.1	2,230
Radiant	95	20	34.4	2,200
Santa Cruz	97	22	35.8	2,480
Sinaloa	94	21	34.8	2,520
Stampede	100	20	37.0	2,240
StayBright	106	24	37.7	2,320
SV6139GR	92	19	35.2	2,450
Torreón	97	22	39.1	2,940
Twin Falls	102	23	35.1	2,340
Vibrant	100	20	35.0	2,380
Windbreaker	98	17	39.4	2,200
Mean	99	20	36.7	2,374
CV %	4.0	12.0	5.5	13.6
LSD 0.05	6	3.5	2.9	470
LSD 0.10	5	3.0	2.4	393

Planted: May 31. Previous crop: small grain.

¹Days after planting.**Table 5. 2017 Miscellaneous Dry Bean Variety Trial - Hatton - Authors, J. Osorno, J. VanderWal and J. Posh.**

Variety	Market Class	Days to Maturity (DAP) ¹	Plant Height (inch)	100 Seed Weight (gram)	Seed Yield (lb/a)
Dynasty	Dark Red Kidney	106	23	56.6	2,460
GTS-104	Dark Red Kidney	106	22	49.8	1,770
Aries	Great Northern	99	22	35.5	2,740
Draco	Great Northern	104	25	36.1	2,880
Matterhorn	Great Northern	98	21	35.1	2,480
Orion	Great Northern	101	19	35.5	2,870
Powderhorn	Great Northern	94	23	35.3	2,570
Taurus	Great Northern	106	23	41.2	3,150
OAC Inferno	Light Red Kidney	107	24	58.5	2,700
Floyd	Pink	98	17	36.6	2,360
Rosetta	Pink	100	22	33.9	2,700
Sedona	Pink	98	21	36.5	2,060
Merlot	Small Red	102	25	38.1	2,960
Ruby	Small Red	101	20	33.1	3,010
Viper	Small Red	100	23	32.4	3,460
COB 212-03	White Kidney	111	25	53.3	2,550
Mean		102	22	40.5	2,670
CV %		4.0	10.0	4.8	12.3
LSD 0.05		5	3.1	2.6	490
LSD 0.10		4	2.6	2.2	410

Planted: May 31. Previous crop: small grain.

¹Days after planting.

Table 6. 2017 Navy Bean Variety Trial - Hatton - Authors, J. Osorno, J. VanderWal and J. Posh.

Variety	Days to Maturity	Plant Height	100 Seed Weight	Seed Yield
	(DAP) ¹	(inch)	(gram)	(lb/a)
Blizzard	105	25	20.5	2,630
DS105WO	106	24	21.6	2,650
Ensign	102	21	20.8	2,290
HMS Medalist	106	21	18.7	2,570
Mist	105	19	21.1	2,640
Nautica	103	20	18.0	2,430
T9905	104	21	23.2	2,810
Vigilant	104	21	20.6	2,390
Vista	111	22	20.5	2,680
Mean	105	22	20.6	2,566
CV %	2.0	7.0	5.4	14.8
LSD 0.05	2	2.0	1.6	NS
LSD 0.10	2	1.6	1.3	NS

Planted: May 31. Previous crop: small grain.

¹Days after planting.

Table 7. 2017 Black Bean Variety Trial - Hatton - Authors, J. Osorno, J. VanderWal and J. Posh.

Variety	Days to Maturity	Plant Height	100 Seed Weight	Seed Yield
	(DAP) ¹	(inch)	(gram)	(lb/a)
Black Cat	104	26	19.9	2,410
CDC Blackstrap	98	17	22.3	2,210
Eclipse	105	22	20.9	2,660
GTS-1103	107	24	21.6	2,810
Jet	104	20	21.5	2,360
Knight Rider	109	21	19.9	2,420
Loreto	104	22	19.8	2,310
Super Jet	103	19	21.5	2,380
T-39	107	22	20.9	2,610
Zenith	105	21	21.1	2,640
Zorro	105	22	21.3	2,720
Mean	105	21	21.0	2,503
CV %	2.0	7.0	5.8	14.2
LSD 0.05	4	2.4	1.7	520
LSD 0.10	3	2.0	1.4	435

Hatton - Planted: May 31. Previous crop: small grain.

¹Days after planting.

Table 8. 2017 Pinto Bean Variety Trial - Forest River - Authors, J. Osorno, J. VanderWal and J. Posh.

Variety	Days to Maturity (DAP) ¹	Plant Height (inch)	100 Seed Weight (gram)	Seed Yield (lb/a)
Cowboy	95	19	37.8	2,440
El Diablo Fu	92	19	36.0	2,070
La Paz	100	22	36.8	2,580
Lariat	109	22	39.7	2,160
Maverick	95	18	32.9	2,010
Monterrey	101	22	36.7	2,770
ND-307	104	19	36.3	2,180
ND-Palomino	107	19	36.2	1,920
Radiant	94	20	35.3	2,530
Santa Cruz	100	21	37.2	2,550
Sinaloa	98	19	34.0	2,450
Stampede	96	19	36.3	2,020
SV6139GR	98	19	34.8	2,780
Torreón	92	19	35.7	2,300
Vibrant	92	18	33.3	2,270
Windbreaker	101	17	38.5	2,280
Mean	98	19	36.1	2,332
CV %	5.0	10.0	5.7	18.0
LSD 0.05	7	2.8	2.9	570
LSD 0.10	6	2.3	2.4	477

Planted: May 25. Previous crop: small grain.

¹Days after planting.**Table 9. 2017 Miscellaneous Dry Bean Variety Trial - Forest River - Authors, J. Osorno, J. VanderWal and J. Posh.**

Variety	Market Class	Days to Maturity (DAP) ¹	Plant Height (inch)	100 Seed Weight (gram)	Seed Yield (lb/a)
Dynasty	Dark Red Kidney	112	20	52.5	2,600
GTS-104	Dark Red Kidney	112	21	47.6	1,840
Aries	Great Northern	105	21	38.0	3,360
Matterhorn	Great Northern	108	20	34.7	2,800
Powderhorn	Great Northern	92	20	35.9	2,770
OAC Inferno	Light Red Kidney	113	21	52.5	1,960
Floyd	Pink	95	16	34.8	2,730
Rosetta	Pink	108	24	36.0	2,930
Sedona	Pink	108	24	38.6	2,650
Merlot	Small Red	108	25	38.9	2,840
Ruby	Small Red	110	22	30.4	3,210
Viper	Small Red	111	25	32.8	4,030
COB 212-03	White Kidney	115	24	48.7	1,770
Mean		107	22	40.1	2,730
CV %		3.0	8.0	5.7	12.9
LSD 0.05		4	2.4	3.1	550
LSD 0.10		3	2.0	2.6	460

Planted: May 25. Previous crop: small grain.

¹Days after planting.

Table 10. 2017 Navy Bean Variety Trial - Forest River - Authors, J. Osorno, J. VanderWal and J. Posh.

Variety	Days to Maturity	Plant Height	100 Seed Weight	Seed Yield
	(DAP) ¹	(inch)	(gram)	(lb/a)
Blizzard	103	21	19.2	2,520
DS105WO	108	23	21.5	2,720
Ensign	98	16	19.4	1,880
HMS Medalist	111	20	18.2	2,430
Mist	104	17	19.1	2,460
Nautica	103	16	18.3	2,140
T9905	107	20	21.6	2,560
Vigilant	97	20	18.1	2,120
Vista	109	20	17.0	1,990
Mean	104	19	19.2	2,313
CV %	3.0	11.0	6.0	17.8
LSD 0.05	5	3.1	1.6	NS
LSD 0.10	4	2.6	1.3	NS

Planted: May 25. Previous crop: small grain.

¹Days after planting.**Table 11. 2017 Black Bean Variety Trial - Forest River - Authors, J. Osorno, J. VanderWal and J. Posh.**

Variety	Days to Maturity	Plant Height	100 Seed Weight	Seed Yield
	(DAP) ¹	(inch)	(gram)	(lb/a)
Black Cat	104	23	18.8	2,700
Eclipse	103	22	19.8	2,770
GTS-1103	106	20	19.1	2,600
Knight Rider	109	22	18.5	2,780
Loreto	103	20	18.5	2,210
T-39	109	21	20.0	2,700
Zenith	109	20	22.3	2,280
Zorro	105	21	21.1	2,380
Mean	106	21	19.8	2,553
CV %	4.0	13.0	6.6	19.6
LSD 0.05	6	NS	1.9	NS
LSD 0.10	5	NS	1.6	NS

Planted: May 25. Previous crop: small grain.

¹Days after planting.

Table 12. 2017 Kidney Bean Variety Trial - Staples, Minn. - Authors, J. Osorno, J. VanderWal and J. Posh.

Variety	Market Class	Days to	Plant	100 Seed	Seed
		Maturity	Height	Weight	Yield
		(DAP) ¹	(inch)	(gram)	(lb/a)
CR318-6	Cranberry	102	19	53.4	1,470
Cabernet	Dark Red Kidney	102	20	48.9	1,430
Chaparral	Dark Red Kidney	108	17	48.5	1,110
Dynasty	Dark Red Kidney	109	23	60.1	1,590
Epic	Dark Red Kidney	104	22	55.1	1,240
GTS-104	Dark Red Kidney	104	17	55.2	760
Montcalm	Dark Red Kidney	107	21	47.1	1,020
Red Rover	Dark Red Kidney	98	22	52.8	1,530
Redhawk	Dark Red Kidney	101	17	49.6	1,150
Talon	Dark Red Kidney	101	18	47.9	1,190
Big Red	Light Red Kidney	91	20	54.6	1,560
Celrk	Light Red Kidney	90	19	50.9	1,160
Foxfire	Light Red Kidney	96	19	48.2	830
OAC Inferno	Light Red Kidney	111	21	63.2	1,330
Pink Panther	Light Red Kidney	96	21	58.6	1,640
Ronnie's Red	Light Red Kidney	111	25	62.9	1,920
Rosie	Light Red Kidney	109	20	52.9	1,510
Beluga	White Kidney	108	24	52.8	1,010
COB 212-03	White Kidney	113	22	55.7	1,590
Snowdon	White Kidney	90	18	55.6	1,320
Mean		103	20	53.7	1,318
CV %		4.0	11.0	7.4	27.2
LSD 0.05		5	3.1	5.4	500
LSD 0.10		4	2.6	4.5	419

Planted: June 7.

Table 13. 2017 Kidney Bean Variety Trial - Perham, Minn. - Authors, J. Osorno, J. VanderWal and J. Posh.

Variety	Market Class	Days to	Plant	100 Seed	Seed
		Maturity	Height	Weight	Yield
		(DAP) ¹	(inch)	(gram)	(lb/a)
CR318-6	Cranberry	103	20	56.4	2,530
Cabernet	Dark Red Kidney	100	19	44.1	1,350
Chaparral	Dark Red Kidney	106	20	46.4	2,460
Dynasty	Dark Red Kidney	105	21	56.9	2,560
Epic	Dark Red Kidney	106	21	54.4	2,330
GTS-104	Dark Red Kidney	109	22	53.7	2,200
Montcalm	Dark Red Kidney	106	20	46.8	1,990
Red Rover	Dark Red Kidney	97	18	46.8	1,400
Redhawk	Dark Red Kidney	97	20	44.8	1,610
Talon	Dark Red Kidney	103	19	49.8	2,250
Big Red	Light Red Kidney	100	21	57.3	2,700
Foxfire	Light Red Kidney	100	20	45.5	2,320
OAC Inferno	Light Red Kidney	112	20	56.4	1,880
Pink Panther	Light Red Kidney	102	20	58.6	2,410
Ronnie's Red	Light Red Kidney	105	20	59.8	2,230
Rosie	Light Red Kidney	112	22	56.8	2,170
Beluga	White Kidney	107	21	50.2	1,690
COB 212-03	White Kidney	112	22	45.4	1,360
Snowdon	White Kidney	96	19	57.4	1,990
Mean		104	20	52.0	2,075
CV %		2.0	10.0	5.8	22.5
LSD 0.05		3	NS	4.2	660
LSD 0.10		3	NS	3.5	552

Planted: May 26. Previous crop: corn.

¹Days after planting.

Table 14. 2017 Miscellaneous Dry Bean Variety Trial -Staples, Minn. - Authors, J. Osorno, J. VanderWal and J. Posh.

Variety	Market Class	Days to Maturity	Plant Height	100 Seed Weight	Seed Yield
		(DAP) ¹	(inch)	(gram)	(lb/a)
Eclipse	Black	100	22	16.3	1,830
GTS-1103	Black	104	25	17.0	2,280
Knight Rider	Black	105	22	16.7	1,610
Loreto	Black	102	24	17.6	2,060
HMS Medalist	Navy	101	25	16.3	2,370
Mist	Navy	108	24	17.0	2,330
Nautica	Navy	105	22	14.4	1,820
T9905	Navy	108	20	18.4	2,150
Vigilant	Navy	105	23	22.4	1,770
El Diablo Fu	Pinto	94	22	33.0	1,940
La Paz	Pinto	102	28	32.2	2,340
Lariat	Pinto	102	24	36.7	2,140
Monterrey	Pinto	101	26	31.3	2,610
ND-Palomino	Pinto	101	25	35.9	1,580
Sinaloa	Pinto	102	26	32.7	2,070
Stampede	Pinto	95	25	29.6	1,960
SV6139GR	Pinto	99	25	29.9	2,180
Windbreaker	Pinto	96	23	37.2	2,390
Mean		102	24	25.3	2,079
CV %		4.0	10.0	12.5	25.2
LSD 0.05		6	3.5	4.5	NS
LSD 0.10		5	3.0	3.8	NS

Planted: June 7.

¹Days after planting.**Table 15. 2017 Miscellaneous Dry Bean Variety Trial - Perham, Minn. - Authors, J. Osorno, J. VanderWal and J. Posh.**

Variety	Market Class	Days to Maturity	Plant Height	100 Seed Weight	Seed Yield
		(DAP) ¹	(inch)	(gram)	(lb/a)
Eclipse	Black	104	23	19.4	2,670
GTS-1103	Black	107	21	19.3	2,970
Knight Rider	Black	104	23	18.1	2,070
Loreto	Black	105	20	19.9	2,180
HMS Medalist	Navy	105	21	17.6	2,680
Mist	Navy	107	20	21.4	2,840
Nautica	Navy	106	22	17.4	2,890
T9905	Navy	107	19	20.9	2,730
Vigilant	Navy	105	20	19.2	2,210
El Diablo Fu	Pinto	103	19	38.0	2,350
La Paz	Pinto	105	21	32.2	2,180
Lariat	Pinto	105	18	35.8	2,010
Monterrey	Pinto	107	19	31.7	1,810
ND-Palomino	Pinto	106	20	37.0	2,490
Sinaloa	Pinto	104	21	34.4	2,450
Stampede	Pinto	102	19	31.0	1,490
SV6139GR	Pinto	102	22	32.5	2,690
Windbreaker	Pinto	106	17	40.8	2,560
Mean		105	20	27.0	2,404
CV %		2.0	13.0	7.8	13.6
LSD 0.05		3	NS	3.0	470
LSD 0.10		3	NS	2.5	393

Planted: May 26. Previous crop: corn.

¹Days after planting.

Table 16. 2017 Dry Bean Variety Trial - Dryland - Carrington - Authors, M. Ostlie, B. Schatz and G. Endres.

Variety	Market Class	Growth Maturity (DAP) ³	Direct Habit ¹ (1-9)	Seeds/ Direct Harvest ² Pound (%)	Test Weight (lb/bu)	100 Seed Weight (gram)	Seed Yield		
							2017	3-yr. Avg.	
Eclipse	Black	100	9.0	98	2,369	62.4	19.2	2,610	2,284
Loreto	Black	103	7.8	96	2,342	62.2	19.4	2,304	2,012
Zorro	Black	99	8.8	95	2,577	61.7	17.7	2,202	2,254
Powderhorn	Great Northern	98	7.5	88	1,372	57.9	33.1	2,804	--
HMS Medalist	Navy	103	8.3	95	2,529	63.5	18.0	2,801	2,490
T9905	Navy	104	8.5	96	2,204	63.8	20.6	2,765	2,618
Rosetta	Pink	104	8.8	92	1,357	62.0	33.5	2,549	--
La Paz	Pinto	99	7.3	91	1,248	60.7	36.4	3,054	2,478
Lariat	Pinto	99	5.5	84	1,175	59.4	38.7	3,021	2,832
Maverick	Pinto	95	4.8	81	1,232	59.5	36.9	2,562	2,602
Monterrey	Pinto	99	7.5	93	1,217	60.5	37.4	2,840	--
ND-307	Pinto	101	6.5	85	1,130	58.4	40.2	2,649	2,566
ND-Palomino	Pinto	100	5.5	78	1,198	58.8	37.9	2,590	2,502
Stampede	Pinto	97	7.5	91	1,269	58.5	35.9	2,901	2,755
Windbreaker	Pinto	97	6.0	81	1,125	57.7	40.4	2,620	2,775
Merlot	Small Red	100	7.0	90	1,211	61.0	37.9	2,328	2,275
Mean		100	7.3	89	1,597	60.5	31.4	2,663	2,495
CV %		1.6	10.7	3.7	5.1	1.2	5.0	11.7	--
LSD 0.05		2	1.1	5	113	1.0	2.3	445	--
LSD 0.10		2	0.9	4	94	0.8	1.9	371	--

Planted: May 24. Harvested: Sept. 8. Previous crop: field pea.

¹Growth Habit: Scored on scale of 1 to 9; 1 = longer vine, low-stature plant, pods lower to ground; 9 = very upright plant stature, pods held well off ground.

²Direct Harvest: A relative score to estimate the percent of beans that would be harvested successfully in a direct/straight harvest system.

³Days after planting.

Table 17. 2017 Dry Bean Variety Trial - Irrigated - Carrington - Authors, M. Ostlie, B. Schatz and G. Endres.

Variety	Market Class	Growth Maturity ⁴ (DAP) ⁴	Direct Habit ¹ (1-9)	White Harvest ² (%)	Seeds/ Test 100 Seed Mold ³ Pound Weight Weight	Seed Yield				
						2017	3-yr. Avg.			
Eclipse	Black	103	6.5	88	6	2,219	62.3	20.5	3,603	2,600
Loreto	Black	105	3.0	78	2	2,211	62.5	20.5	3,321	2,652
Zorro	Black	102	8.5	94	7	2,458	62.4	18.5	3,193	2,300
Powderhorn	Great Northern	103	2.3	80	6	1,211	58.0	37.5	3,905	--
HMS Medalist	Navy	106	3.0	82	2	2,381	63.9	19.1	3,856	2,843
T9905	Navy	106	3.0	78	2	1,957	63.5	23.2	3,902	2,973
Rosetta	Pink	102	3.5	81	2	1,240	61.6	36.7	4,049	--
La Paz	Pinto	102	2.8	77	22	1,301	60.4	35.4	3,541	3,197
Lariat	Pinto	103	2.0	56	8	1,122	60.0	40.5	3,422	3,042
Maverick	Pinto	102	1.0	30	15	1,149	59.0	39.6	4,075	3,209
Monterrey	Pinto	102	2.5	78	9	1,231	61.1	37.0	3,977	--
ND-307	Pinto	103	2.0	59	17	1,160	57.6	39.5	3,305	2,854
ND-Palomino	Pinto	103	3.0	76	4	1,138	59.0	39.9	3,489	2,682
Stampede	Pinto	102	1.3	66	8	1,218	58.6	37.3	3,302	2,824
Windbreaker	Pinto	102	1.0	56	23	1,119	58.3	40.6	3,372	2,985
Merlot	Small Red	102	1.0	45	8	1,199	60.1	38.1	3,171	2,779
Mean		103	2.9	70	9	1,520	60.5	32.7	3,593	2,842
CV %		0.6	26.9	7.8	100	4.6	0.9	5.5	9.8	--
LSD 0.05		1	1.1	8	13	98	0.8	2.6	499	--
LSD 0.10		1	0.9	7	11	82	0.6	2.2	417	--

Planted: May 24. Harvested: Sept. 11. Previous crop: corn.

¹Growth Habit: Scored on scale of 1 to 9; 1 = longer vine, low-stature plant, pods lower to ground; 9 = very upright plant stature, pods held well off ground.²Direct Harvest: A relative score to estimate the percent of beans that would be harvested successfully in a direct/straight harvest system.³White Mold: An assessment of the incidence of plants that expressed some level of white mold (sclerotinia).⁴Days after planting.**Table 18. 2017 Pinto Bean Variety Trial - Irrigated - Williston - Authors, J. Jacobs and T. Tjelde.**

Variety	Maturity	Canopy Height	Plant Lodge ¹	Test Weight	100 Seed Weight	Seed Yield	
						2017	2-yr. Avg.
La Paz	(date)	(inch)	(0-9)	(lb/bu)	(gram)	----- (lb/a) -----	
La Paz	9/10	15	1	61	37.4	4,202	4,284
Lariat	9/14	14	2	60	40.1	3,814	3,880
Maverick	9/10	11	2	59	40.8	3,934	3,966
Monterrey	9/10	14	1	61	38.4	4,890	4,768
ND-307	9/10	13	2	57	42.5	3,224	3,447
ND-Palomino	9/11	14	1	59	39.2	2,473	3,580
Stampede	9/10	14	1	58	47.0	3,536	3,317
Windbreaker	9/9	13	2	58	41.9	3,075	3,387
Mean		14	1	59	40.9	3,644	3,828
C.V. %		11.7	24.1	0.6	10.2	16.3	--
LSD 0.05		2.3	0.5	0.5	6.2	871	--
LSD 0.10		1.9	0.4	0.4	5.1	721	--

¹0 = no lodging, 9 = lying flat on ground.

Table 19. 2017 Dry Bean Variety Trial - Irrigated - Oakes (Carrington REC) - Authors, K. Cooper, L. Besemann and H. Eslinger.

Variety	Market Class	Maturity (DAP) ¹	Seeds/ Pound (seeds)	100 Seed Weight (gram)	Test Weight (lb/bu)	Seed Yield	
						2017	3-yr. Avg.
						----- (lb/a) -----	
La Paz	Pinto	96	1,165	39.0	61.9	4,249	3,618
Lariat	Pinto	97	1,011	44.9	61.2	4,112	3,640
Maverick	Pinto	94	1,043	43.6	60.5	3,651	3,351
Monterrey	Pinto	96	1,114	40.8	62.5	4,134	--
ND-307	Pinto	95	1,004	45.2	59.6	3,947	3,875
ND-Palomino	Pinto	97	992	45.8	59.8	4,040	--
Stampede	Pinto	94	1,013	44.9	59.1	3,343	3,454
Windbreaker	Pinto	91	1,037	43.8	59.3	3,985	3,826
Mean		95	1,047	43.5	60.5	3,932	3,627
CV %		1.3	3.7	3.8	0.7	11.4	--
LSD 0.05		2	57	2.4	0.6	662	--
LSD 0.10		2	47	2.0	0.5	548	--
Ensign	Navy	92	2,249	20.3	63.7	3,230	3,209
HMS Medalist	Navy	95	2,307	19.7	64.1	3,872	3,292
T9905	Navy	95	2,124	21.4	64.2	3,553	3,378
Mean		94	2,226	20.5	64.0	3,552	3,335
CV %		0.8	2.4	2.2	0.6	6.7	--
LSD 0.05		1	91	0.8	0.6	412	--
LSD 0.10		1	72	0.6	0.5	327	--
Eclipse	Black	93	2,064	22.0	63.1	4,256	3,638
Loreto	Black	97	2,085	21.8	63.6	4,023	3,534
Zorro	Black	96	1,950	23.3	64.4	4,827	3,835
Powderhorn	Great Northern	92	1,173	38.8	58.9	3,787	--
Rosetta	Pink	96	1,165	39.1	61.8	4,522	3,872
Merlot	Small Red	96	1,116	40.7	61.3	3,924	3,694
Mean		95	1,592	30.9	62.2	4,223	3,715
CV %		1.4	3.8	4.9	0.6	12.9	--
LSD 0.05		2	91	2.3	0.5	818	--
LSD 0.10		2	75	1.9	0.5	673	--

Planted: May 26. Harvested: Sept. 11 and 12. Previous crop: soybean.

¹Days after planting.

Table 20. 2017 Dry Bean Variety Trial - Langdon - Authors, B. Hanson, T. Hakanson and L. Henry.

Variety	Market Class	100 Seed Weight (gram)	Seed Yield				
			2014	2015	2017	2-yr. Avg.	3-yr. Avg.
Eclipse	Black	18.4	2,415	1,932	3,858	2,895	2,735
Loreto	Black	21.1	1,944	1,607	2,391	1,999	1,981
Zorro	Black	20.6	2,275	1,933	2,738	2,336	2,315
Powderhorn	Great Northern	34.6	--	--	3,327	--	--
Ensign	Navy	22.3	2,703	2,087	2,061	2,074	2,284
HMS Medalist	Navy	19.6	2,286	1,724	3,118	2,421	2,376
T9905	Navy	22.3	2,571	2,168	3,948	3,058	2,896
Rosetta	Pink	33.2	--	--	3,490	--	--
La Paz	Pinto	33.5	2,900	2,151	3,730	2,941	2,927
Lariat	Pinto	35.1	2,445	2,133	3,874	3,004	2,817
Maverick	Pinto	35.0	2,848	2,090	3,358	2,724	2,765
Monterrey	Pinto	32.0	--	--	3,902	--	--
ND-307	Pinto	36.9	3,113	2,029	3,372	2,701	2,838
ND-Palomino	Pinto	33.5	--	--	3,138	--	--
Stampede	Pinto	31.3	3,020	1,877	3,144	2,511	2,680
Windbreaker	Pinto	37.5	2,822	1,930	3,458	2,694	2,737
Merlot	Small Red	32.8	2,180	1,544	2,353	1,949	2,026
Mean		29.4	2,579	1,939	3,251	2,562	2,567
CV %		--	9.3	10.4	8.2	--	--
LSD 0.05		--	470	320	445	--	--
LSD 0.10		--	388	266	370	--	--

Planted: May 17. Harvested: Oct. 4.

The 2016 trial was abandoned due to excessive moisture.

Table 21. 2017 Dry Bean Variety Trial - Cavalier - (Langdon REC) - Authors, B. Hanson, T. Hakanson and L. Henry.

Variety	Market Class	100 Seed Weight (gram)	Seed Yield				
			2015	2016	2017	2-yr. Avg.	3-yr. Avg.
Eclipse	Black	17.6	2,077	2,229	2,606	2,418	2,304
Loreto	Black	19.4	1,841	1,871	2,558	2,215	2,090
Zorro	Black	20.3	1,876	2,451	3,246	2,849	2,524
Powderhorn	Great Northern	33.5	--	--	2,403	--	--
Ensign	Navy	18.8	1,964	2,121	2,381	2,251	2,155
HMS Medalist	Navy	16.0	1,452	1,775	2,423	2,099	1,883
T9905	Navy	20.5	2,001	2,450	3,306	2,878	2,586
Rosetta	Pink	31.4	--	2,223	3,110	2,667	--
La Paz	Pinto	31.0	2,961	2,710	2,739	2,724	2,803
Lariat	Pinto	31.4	2,725	2,430	2,471	2,450	2,542
Maverick	Pinto	31.1	2,185	2,664	2,241	2,453	2,363
Monterrey	Pinto	27.4	--	2,901	2,341	2,621	--
ND-307	Pinto	28.7	2,833	--	1,931	--	--
ND-Palomino	Pinto	30.4	--	2,590	2,469	2,529	--
Stampede	Pinto	28.6	2,519	2,505	1,279	1,892	2,101
Windbreaker	Pinto	32.0	3,130	2,325	2,766	2,546	2,740
Merlot	Small Red	29.4	2,106	1,890	1,905	1,898	1,967
Mean		26.3	2,282	2,342	2,481	2,433	2,338
CV %		--	14.0	10.7	16.6	--	--
LSD 0.05		--	496	394	685	--	--
LSD 0.10		--	413	328	570	--	--

Planted: May 19. Harvested: Oct. 6.

Table 22. 2017 Dry Bean Variety Trial - Hettinger - Author, J. Rickertsen.

Variety	Type	Maturity (DAP) ¹	Plant Height (inch)	Plant Lodge ² (0-9)	Test Weight (lb/bu)	Seed Yield		
						2017	2-yr. Avg.	3-yr. Avg.
						------(lb/a)-----		
Eclipse	Black	102	18	2	62.8	1,451	1,440	1,557
Loreto	Black	104	18	3	64.5	1,298	1,291	1,400
Zorro	Black	106	17	2	62.3	1,391	1,362	1,570
Powderhorn	Great Northern	100	18	2	58.6	1,900	--	--
HMS Medalist	Navy	104	19	2	64.2	1,466	1,374	1,448
T9905	Navy	104	18	3	62.5	1,652	1,545	1,611
Rosetta	Pink	101	22	3	61.6	1,597	1,429	--
La Paz	Pinto	105	21	5	58.4	1,507	1,413	1,616
Lariat	Pinto	110	23	7	58.4	1,140	1,196	1,471
Maverick	Pinto	102	21	5	58.7	1,386	1,228	1,390
Monterrey	Pinto	102	21	4	59.1	1,496	1,475	--
ND-307	Pinto	102	21	5	55.9	1,214	1,168	1,357
ND-Palomino	Pinto	111	20	5	57.7	1,282	1,191	1,397
Stampede	Pinto	105	22	5	56.6	1,415	1,399	1,608
Windbreaker	Pinto	104	18	5	57.2	1,110	1,090	1,293
Merlot	Small Red	104	23	4	60.2	1,449	1,340	1,494
Mean		104	20	4	59.9	1,422	1,329	1,478
C.V. %		1.5	6.2	18.1	1.6	13.1	--	--
LSD 0.05		3	1.8	0.9	1.4	266	--	--
LSD 0.10		2	1.5	0.8	1.2	222	--	--

Planted: June 2. Harvested: Oct. 4. Previous crop: soybean.

¹Days after planting.²0 = no lodging, 9 = lying flat on ground.**Table 23. 2017 Dry Bean Variety Trial - Minot - Authors, E. Eriksmoen and J. Effertz.**

Variety	Market Class	Maturity (DAP) ¹	Plant Height (inch)	Plant Lodge ² (0-9)	Seed Yield		
					2017	2-yr. Avg.	3-yr. Avg.
					------(lb/a)-----		
Eclipse	Black	111	18	2	2,509	2,634	2,566
Loreto	Black	116	16	3	1,988	1,895	2,010
Zorro	Black	108	16	1	1,748	2,052	2,182
Powderhorn	Great Northern	109	14	3	1,551	--	--
Ensign	Navy	117	14	4	1,447	2,043	2,065
HMS Medalist	Navy	114	16	3	1,411	--	--
T9905	Navy	112	15	3	2,123	2,353	2,257
Vista	Navy	115	14	4	1,800	1,966	2,114
Rosetta	Pink	112	17	2	2,865	2,476	--
La Paz	Pinto	110	17	1	1,578	2,066	2,357
Lariat	Pinto	110	16	6	2,198	2,611	2,838
Maverick	Pinto	107	12	7	1,948	2,298	2,357
Monterrey	Pinto	109	17	2	2,105	2,546	--
ND-Palomino	Pinto	109	14	5	2,092	2,305	--
Stampede	Pinto	112	15	5	1,527	2,129	2,160
Windbreaker	Pinto	108	13	6	1,558	2,240	2,494
Merlot	Small Red	112	14	4	1,459	2,043	2,065
Mean		111	15	4	1,877	2,244	2,289
C.V. %		1.3	13.3	37	8.0	--	--
LSD 0.05		2	3.0	2.0	250	--	--
LSD 0.10		2	3.0	2.0	207	--	--

Planted: May 17. Harvested: Sept. 30. Previous crop: barley.

¹Days after planting.²Lodging: 0 = no lodging, 9 = lying flat on ground.

Table 24. Pinto Bean Variety Descriptions.

Class and Cultivar	Origin	RM ¹	Plant Type ²
PINTO			
Blackfoot	Univ. of Idaho	M	USV
Cowboy	Provita	--	--
El Diablo Fu	GenTec	ME	USV
La Paz	Provita	L	USV
Lariat	NDSU	L	USV
Maverick	NDSU	ME	V
Monterrey	Provita	ME	USV
ND-Palomino	NDSU	ML	USV
ND-307	NDSU	M	UV
Nez Perce	Univ. of Idaho	M	UV
Othello	USDA-Prosser	E	V
Radiant	Provita	ML	USV
Santa Cruz	Provita	M	USV
Sinaloa	Provita	ML	USV
StayBright	Colorado State Univ.	L	--
Stampede	NDSU	M	USV
SV6139GR	Seminis	--	--
Torreón	Provita	M	USV
Twin Falls	Univ. of Idaho	M	USV
Vibrant	Provita	E	USV
Windbreaker	Seminis	M	UV

¹RM = Relative Maturity; E = Early; ME = Medium Early; M = Medium; ML = Medium Late; L = Late.

²V = Vine; UV = Upright Vine; USV = Upright Short Vine; B = Bush.

Table 25. Navy Bean Variety Descriptions.

Class and Cultivar	Origin	RM ¹	Plant Type ²
NAVY			
Avalanche	NDSU	ME	USV
Blizzard	Provita	M	USV
DS105W0	Dow AgroSciences	ML	USV
Ensign	ADM-Seedwest	M	USV
HMS Medalist	AmeriSeed	M	UV
Mist	Ag. Can.	M	USV
Nautica	Ag. Can.	ML	USV
T9905	Hyland	M	USV
Vigilant	Provita	ME	USV
Vista	Ag. Can.	ML	USV

¹RM = Relative Maturity; E = Early; ME = Medium Early; M = Medium; ML = Medium Late; L = Late.

²V = Vine; UV = Upright Vine; USV = Upright Short Vine; B = Bush.

Table 26. Small Red, Black, and Pink Bean Variety Descriptions.

Class and Cultivar	Origin	RM ¹	Plant Type ²
<u>SMALL RED</u>			
Merlot	MSU	ME	USV
Ruby	Provita	M	USV
Viper	Provita	M	USV
<u>BLACK</u>			
Black Cat	Provita	ME	USV
CDC Blackstrap	U. Sask.	E	USV
Eclipse	NDSU	M	USV
GTS-1103	GenTec	M	USV
Jet	U. Sask.	E	USV
Knight Rider	Meridian Seeds	ML	USV
Loreto	Provita	M	USV
Super Jet	U. Sask.	ME	USV
T-39	U. Calif.	M	USV
Zenith	MSU	M	USV
Zorro	MSU	L	USV
<u>PINK</u>			
Floyd	Rogers	ML	V
Rosetta	MSU/ARS	M	USV
Sedona	MSU/ARS	M	USV

¹RM = Relative Maturity; E = Early; ME = Medium Early; M = Medium; ML = Medium Late; L = Late.

²V = Vine; UV = Upright Vine; USV = Upright Short Vine; B = Bush.

Table 27. Light Red, Dark Red and White Kidney, Great Northern and Cranberry Bean Variety Descriptions.

Class and Cultivar	Origin	RM ¹	Plant Type ²
<u>LIGHT RED KIDNEY</u>			
Big Red	Provita	ML	B
California Early (CELRK)	U. Calif.	E	B
Foxfire	Rogers	ME	B
OAC Inferno	U. of Guelph	ML	B
Pink Panther	Seminis	M	B
Ronnie's Red	Provita	ML	B
Rosie	NDSU	L	B
<u>DARK RED KIDNEY</u>			
Cabernet	Seminis	ML	B
Chaparral	Provita	ML	B
Dynasty	U. of Guelph	ML	B
Epic	Provita	ML	B
GTS-104	GenTec	M	B
Montcalm	MSU	ML	B
Red Rover	Seminis	ME	B
Redhawk	MSU	M	B
Talon	NDSU	M	B
<u>WHITE KIDNEY</u>			
Beluga	MSU	M	B
COB 212-03	GenTec	M	B
Snowdon	MSU	ME	B
<u>GREAT NORTHERN</u>			
Aries	Provita	ME	USV
Draco	Provita	M	USV
Matterhorn	MSU	ME	USV
Orion	Provita	E	V
Powderhorn	MSU	M	USV
Taurus	Kelly Bean Co.	L	USV
<u>CRANBERRY</u>			
CR 318-6	Meridian	M	B

¹RM = Relative Maturity; E = Early; ME = Medium Early; M = Medium; ML = Medium Late; L = Late.

²V = Vine; UV = Upright Vine; USV = Upright Short Vine; B = Bush.

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