

North Dakota Dry Bean Variety Trial Results for 2012 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 decade. Acreage for the past 10 years is shown in Table 1, with production by classes in Table 2.

Table 1. North Dakota Dry Edible Bean¹ Planted Acreage, 2003 to 2012.

Year	Acreage
2003	540,000
2004	560,000
2005	620,000
2006	670,000
2007	690,000
2008	660,000
2009	610,000
2010	800,000
2011	410,000
2012	683,000

Source: North Dakota Agricultural Statistics Service – USDA.

¹Includes garbanzo beans.

Table 2. North Dakota Dry Edible Bean Production by Commercial Class, 2003 to 2011.

Year	Pinto (Cwt)	Navy (Cwt)
2003	5,864,000	1,164,000
2004	3,573,000	650,000
2005	6,584,000	1,343,000
2006	4,988,000	1,585,000
2007	7,606,000	1,611,000
2008	6,660,000	2,087,000
2009	5,950,000	1,255,000
2010	7,543,000	1,958,000
2011	2,683,000	1,142,000

Source: North Dakota Agricultural Statistics Service – USDA.

Table 3. North Dakota Dry Edible Bean Acreage and Production.

Market Class	Acres Planted		Acres Harvested	Yield Per Acre	Production
	2011	2012	2011	2011	2011
	----- (1,000s) -----		-- (1,000s) --	-- (lb) --	- (1,000 cwt) -
Navy	94	121.9	84	1,360	1,142
Great Northern	1.8	2.6	1.7	700	12
Pinto	225	444.8	208	1,290	2,683
Dark Red Kidney	1.5	1.3	1.4	1,300	18
Pink	10	12.5	9.5	1,670	159
Small Red	2.5	1.6	2.4	1,250	30
Black	69	84.4	62	1,250	775
Other	1.5	2	1.5	800	12
Total	405.3	671.1	370.5	---	4,831

Source: North Dakota Agricultural Statistics Service – USDA.

2012 Growing Season Weather Summary for North Dakota

Table 4. April-September 2012 Average Temperature and Precipitation Rankings for Selected North Dakota Locations.

City	Temperature Ranking	Precipitation Ranking
Bowman	The Warmest	21st Driest
Bismarck	23rd Warmest	52nd Driest
Cavalier	6th Warmest	28th Driest
Fargo	2nd Warmest	10th Driest
Minot Exp. Station	5th Warmest	14th Driest
Williston Exp. Station	21st Warmest	37th Driest
North Dakota Average	8th Warmest (118 years)	13th Driest (118 years)

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

2012 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 Research Extension Centers 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 percent probability, 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 want to express our thanks to dry bean growers who assisted with the on-farm variety testing.

Cooperators

Brian and Rod Shanilec	Forest River, N.D.
Mark Sletten and Tim Skjoiton	Hatton, N.D.
Jim Karley	Johnstown, N.D.
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Mark Dombeck	Perham, Minn.

Presentation of data for the entries 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 these trials.

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Research specialists and technicians helped with the field work and data compilation. The assistance given by many secretaries in typing respective portions of this document is very much appreciated. A special thank you is given to Lisa Johnson, Extension Plant Sciences secretary, for assisting in the compilation of this publication.

Table 5. 2012 Pinto Bean Variety Trial - Prosper and Hatton, N.D. (NDSU) - Authors, J. Osorno and J. VanderWal.

Variety	Days to Flowering	Plant Height	Days to Maturity	100 Seed Weight	Seed Yield
Prosper (Cass County)	(DAP) ¹	(inch)	(DAP) ¹	(gram)	(lb/a)
Buster	52	17	89	43.3	2,880
COB-816-03	57	24	91	41.7	2,920
Galeena	56	19	89	37.6	3,130
GTS-904	55	22	91	43.6	3,300
GTS-907	54	17	89	39.9	3,180
Island	51	16	89	37.4	2,340
La Paz	55	24	89	40.0	2,670
Lariat	54	25	91	40.8	2,350
Mariah	54	22	89	41.9	2,580
Maverick	54	20	88	40.5	2,610
Medicine Hat	52	21	89	37.3	2,560
ND-307	55	19	89	40.9	2,590
Quincy	52	17	91	42.7	3,000
Sequoia	57	21	91	37.8	2,270
Sinaloa	54	26	90	39.1	2,940
Sonora	53	19	88	33.0	2,690
Stampede	56	23	90	43.2	2,910
Windbreaker	56	18	89	42.9	2,930
Mean	54	21	90	40.2	2,769
CV %	--	9	2	7.9	11.9
LSD 0.10	--	2.0	1.7	3.7	376
Hatton² (Traill County)					
Buster		17	109	41.2	900
COB-816-03		22	110	41.8	1,400
Galeena		13	105	37.6	1,090
GTS-904		18	106	47.5	2,120
GTS-907		19	107	38.1	990
Island		16	109	34.9	860
La Paz		17	108	39.3	1,230
Lariat		22	110	42.5	1,530
Long's Peak		18	111	33.4	1,060
Mariah		15	104	41.6	1,330
Maverick		14	108	39.5	820
Medicine Hat		18	103	39.6	1,440
ND-307		17	105	38.3	1,460
Othello		15	106	39.1	810
Quincy		13	110	36.0	610
Sequoia		19	107	33.3	1,390
Sinaloa		19	108	37.5	1,430
Sonora		15	108	30.6	1,180
Stampede		19	111	40.7	1,040
Windbreaker		17	109	40.9	1,260
Mean		17	108	38.7	1,198
CV %		22	3	8.8	49.9
LSD 0.10		4.6	4.2	4.0	NS

Prosper - Planted: May 18. Harvested: Sept. 24. Previous crop: small grain.

Hatton - Planted: May 23. Harvested: Sept. 19. Previous crop sugarbeet.

¹Days after planting.²Trial site had high pressure of root rot diseases resulting in stand loss and higher variability in the data.

Table 6. 2012 Pinto Bean Variety Trial - Forest River, N.D. (NDSU) - Authors, J. Osorno and J. VanderWal.

Variety	Days to Flowering	Plant Height	Days to Maturity	100 Seed Weight	Seed Yield
Forest River (Walsh County)	(DAP) ¹	(inch)	(DAP) ¹	(gram)	(lb/a)
Buster	57	22	94	33.9	2,830
COB-816-03	60	24	95	33.1	2,490
Galeena	63	25	95	28.8	2,650
GTS-904	61	24	97	35.2	2,610
GTS-907	60	24	94	34.1	2,370
Island	57	22	93	31.9	2,370
La Paz	60	24	94	32.6	2,530
Lariat	57	22	94	32.1	2,150
Mariah	59	23	93	29.9	2,330
Maverick	54	21	94	31.0	2,470
Medicine Hat	60	24	95	30.4	2,320
ND-307	59	23	95	34.4	2,490
Quincy	57	22	94	34.2	2,410
Sequoia	59	23	94	27.6	1,960
Sinaloa	60	24	97	30.9	2,250
Sonora	59	23	95	26.0	2,510
Stampede	57	22	95	33.1	2,410
Windbreaker	60	24	93	35.6	2,220
Mean	59	23	95	31.9	2,409
CV %	--	10	2	7.4	15.7
LSD 0.10	--	2.6	NS	2.8	NS

Planted: May 15. Harvested: Aug. 29. Previous crop: small grain.

¹Days after planting.**Table 7. 2012 Navy Bean Variety Trial - Prosper, N.D. (NDSU) - Authors, J. Osorno and J. VanderWal.**

Variety	Days to Flowering	Plant Height	Days to Maturity	100 Seed Weight	Seed Yield
Prosper (Cass County)	(DAP) ¹	(inch)	(DAP) ¹	(gram)	(lb/a)
Avalanche	55	22	92	23.8	2650
Ensign	62	22	94	22.4	2,420
GTS-544	54	21	93	23.0	2,910
HMS Medalist	55	23	92	22.3	2,490
Merlin	57	24	94	19.7	2,860
Navigator	56	23	92	21.5	2,040
Norstar	54	17	93	21.4	1,340
OB-5551-99	62	25	95	25.2	2,810
T9905	57	23	93	25.6	2,690
Viscount	57	21	93	20.7	2,850
Vista	57	21	94	20.8	2,670
Mean	57	22	93	22.4	2,521
CV %	--	8	2	8.2	20.8
LSD 0.10	--	2.0	NS	2.1	661

Planted: May 18. Harvested: Sept. 24. Previous crop: small grain.

¹Days after planting.

Table 8. 2012 Navy Bean Variety Trial - Hatton and Forest River, N.D. (NDSU) - Authors, J. Osorno and J. VanderWal.

Variety	Plant Height	Days to Maturity	100 Seed Weight	Seed Yield
	(inch)	(DAP) ¹	(gram)	(lb/a)
Hatton² (Traill County)				
Avalanche	20	109	22.9	1,760
Ensign	20	106	21.4	2,160
GTS-544	20	109	21.8	1,810
HMS Medalist	19	112	21.9	1,730
Merlin	20	110	20.3	1,470
Navigator	17	108	20.0	1,320
Norstar	17	109	20.8	1,260
OB-5551-99	23	114	25.0	1,640
Rexeter	19	111	19.4	1,800
T9905	19	108	23.0	1,900
Viscount	20	110	21.1	2,000
Vista	18	110	19.4	1,200
Mean	19	110	21.4	1,671
CV %	11	2.0	5.5	24.2
LSD 0.10	2.6	2.5	1.3	477
Forest River (Walsh County)				
Avalanche	21	94	18.0	3,040
Ensign	19	96	18.6	2,350
GTS-544	20	93	18.1	2,540
HMS Medalist	23	95	15.8	2,720
Indi	20	96	15.5	2,880
Merlin	24	97	16.4	2,420
Navigator	22	95	16.9	1,860
Norstar	17	97	17.1	2,420
OB-5551-99	23	100	18.4	2,360
T9905	21	94	17.7	2,930
Viscount	22	93	14.3	2,770
Vista	21	93	15.4	2,400
Mean	21	95	16.9	2,558
CV %	10	4.0	6.7	23.5
LSD 0.10	2.3	NS	1.3	NS

Hatton - Planted: May 23. Harvested: Sept. 19. Previous crop sugarbeet.

Forest River - Planted: May 15. Harvested: Aug. 29. Previous crop: small grain.

¹Days after planting.

²Trial site had high pressure of root rot diseases resulting in stand loss and higher variability in the data.

Table 9. 2012 Dry Bean Variety Trial - Park Rapids, Minn. (NDSU) - Authors, J. Osorno and J. VanderWal.

Variety	Market Class		Plant Height	Days to Maturity	100 Seed Weight	Seed Yield
Park Rapids (Hubbard County)		(DAP) ¹	(inch)	(DAP) ¹	(gram)	(lb/a)
Carman Black	Black	49	24	94	23.7	3,110
Eclipse	Black	51	26	97	21.2	3,750
GTS-1103	Black	53	23	96	20.9	2,300
Loreto	Black	51	25	95	20.7	2,370
GTS-104	Dark Red Kidney	46	23	99	49.5	2,230
GTS-106	Dark Red Kidney	46	24	99	47.4	1,910
Majesty	Dark Red Kidney	47	22	94	61.2	2,130
Montcalm	Dark Red Kidney	45	19	102	52.9	2,480
Red Rover	Dark Red Kidney	45	24	91	51.7	1,980
Redhawk	Dark Red Kidney	47	20	93	49.8	2,150
Celrk	Light Red Kidney	45	16	79	47.3	2,020
Clouseau	Light Red Kidney	45	23	89	58.9	2,140
Foxfire	Light Red Kidney	47	21	85	47.8	2,170
Pink Panther	Light Red Kidney	46	20	92	54.6	2,190
GTS-544	Navy	51	21	99	21.0	2,600
HMS Medalist	Navy	51	25	97	18.7	2,480
Merlin	Navy	53	23	98	19.2	2,320
OB-5551-99	Navy	53	23	103	22.7	2,240
Viscount	Navy	53	24	100	18.1	2,440
Galeena	Pinto	51	24	95	35.1	2,820
La Paz	Pinto	53	25	96	39.3	2,650
Lariat	Pinto	51	24	95	38.9	1,710
Sinaloa	Pinto	53	23	94	40.9	3,040
Sonora	Pinto	51	26	90	33.3	2,720
Windbreaker	Pinto	51	20	95	42.7	3,170
Merlot	Small Red	53	23	93	38.7	2,140
Rio Rojo	Small Red	51	22	98	34.7	3,040
Mean		50	23	95	37.4	2,456
CV %		--	8	3	7.7	18.6
LSD 0.10		--	2.3	3.3	3.9	502

Planted: May 30. Harvested: Sept. 20. Previous crop: potato.

¹Days after planting.

Table 10. 2012 Dry Bean Variety Trial - Perham, Minn. (NDSU) - Authors, J. Osorno and J. VanderWal.

Variety	Market Class	Plant Height	Days to Maturity	100 Seed Weight	Seed Yield
Perham		(inch)	(DAP) ¹	(gram)	(lb/a)
Erimo ²	Adzuki	23	108	8.4	990
Carman Black	Black	18	94	18.6	2,250
Eclipse	Black	19	94	16.3	2,520
GTS-1103	Black	20	93	17.7	2,960
Loreto	Black	18	96	17.2	2,460
GTS-104	Dark Red Kidney	19	97	39.7	2,000
GTS-106	Dark Red Kidney	20	96	37.5	1,940
Montcalm	Dark Red Kidney	16	96	42.5	1,530
Red Rover	Dark Red Kidney	19	90	39.3	1,450
Redhawk	Dark Red Kidney	17	90	36.7	1,690
Celrk	Light Red Kidney	16	90	42.0	1,270
Clouseau	Light Red Kidney	19	93	44.2	2,190
Foxfire	Light Red Kidney	17	93	42.0	1,230
Pink Panther	Light Red Kidney	18	91	43.3	1,990
GTS-544	Navy	19	99	24.1	2,870
HMS Medalist	Navy	19	96	19.0	1,980
Merlin	Navy	19	95	14.8	1,980
OB-5551-99	Navy	19	108	31.5	2,630
Viscount	Navy	17	99	19.4	2,710
Fuji	Otebo	17	93	21.0	1,900
Hime	Otebo	17	95	23.1	1,290
Galeena	Pinto	16	95	27.8	2,760
La Paz	Pinto	19	94	29.1	2,310
Lariat	Pinto	19	97	33.4	2,670
Sinaloa	Pinto	18	93	28.9	2,270
Sonora	Pinto	17	92	27.3	2,210
Windbreaker	Pinto	16	92	33.7	3,020
Merlot	Small Red	17	94	30.7	1,650
Rio Rojo	Small Red	17	95	30.3	3,510
Mean		18	95	28.9	2,150
CV %		9	3.0	17.2	21.9
LSD 0.10		2	3	6.3	527

Planted: May 17. Harvested: Aug. 27. Previous crop: corn.

¹Days after planting.

²Erimo (*Vigna angularis*) from SK Foods.

Table 11. 2012 Dry Bean Variety Trial - Prosper and Hatton, N.D. (NDSU) - Authors, J. Osorno and J. VanderWal.

Variety	Market Class	Plant Height	Days to Maturity	100 Seed Weight	Seed Yield
Prosper (Cass County)		(inch)	(DAP) ¹	(gram)	(lb/a)
Erimo ²	Adzuki	15	103	10.3	1,960
Eclipse	Black	23	95	21.4	2,470
GTS-1103	Black	23	92	22.8	2,610
Loreto	Black	22	95	20.9	2,240
T-39	Black	20	95	20.7	1,970
Zorro	Black	25	93	21.8	2,560
Matterhorn	Great Northern	19	94	37.4	2,920
Fuji	Otebo	19	96	27.0	2,420
Hime	Otebo	19	100	29.7	1,770
Sedona	Pink	25	93	39.0	2,110
Merlot	Small Red	25	94	40.3	3,070
Rio Rojo	Small Red	20	93	34.2	2,730
Mean		21	95	27.1	2,403
CV %		9	3	8.2	27.7
LSD 0.10		5.9	3.4	2.6	NS
Hatton³ (Traill County)					
CDC Super Jet	Black	20	107	23.7	2,200
Eclipse	Black	21	107	21.9	1,820
GTS-1103	Black	22	109	23.8	2,380
Loreto	Black	20	111	22.7	2,100
T-39	Black	19	106	20.6	1,300
Zorro	Black	20	109	23.1	1,920
Coyne	Great Northern	16	107	39.9	2,470
Gemini	Great Northern	13	105	35.1	2,220
Matterhorn	Great Northern	18	107	39.5	2,200
Orion	Great Northern	14	105	40.5	2,350
Rosetta	Pink	22	106	34.9	1,790
Sedona	Pink	24	110	38.6	1,930
Merlot	Small Red	22	112	39.9	1,450
Rio Rojo	Small Red	20	106	33.2	2,020
Mean		19	108	31.2	2,011
CV %		14	3	9.1	26.2
LSD 0.10		3.3	3.4	3.5	678

Prosper - Planted: May 18. Harvested: Sept. 24. Previous crop: small grain.

Hatton - Planted: May 23. Harvested: Sept. 19. Previous crop sugarbeet.

¹Days after planting.

²Erimo (*Vigna angularis*) from SK Foods.

³Trial site had high pressure of root rot diseases resulting in stand loss and higher variability in the data.

Table 12. 2012 Dry Bean Variety Trial - Forest River, N.D. (NDSU) - Authors, J. Osorno and J. VanderWal.

Variety	Market Class	Days to Flowering	Plant Height	Days to Maturity	100 Seed Weight	Seed Yield
Forest River (Walsh County)		(DAP) ¹	(inch)	(DAP) ¹	(gram)	(lb/a)
Erimo ²	Adzuki	66	17	102	9.4	1,510
Carman Black	Black	55	22	92	18.3	2,410
CDC Super Jet	Black	59	21	92	19.0	2,810
Eclipse	Black	60	21	92	15.3	2,240
GTS-1103	Black	58	21	94	18.1	3,440
Loreto	Black	60	22	93	17.2	2,560
T-39	Black	60	19	93	16.4	1,910
Zorro	Black	60	24	95	17.4	2,700
Fuji	Otebo	56	15	94	24.0	2,280
Hime	Otebo	57	20	94	24.3	2,510
Sedona	Pink	57	19	93	31.0	2,410
Merlot	Small Red	57	20	92	32.0	2,500
Rio Rojo	Small Red	56	20	93	26.6	2,930
Mean		59	20	94	20.7	2,478
CV %		--	11	2.0	6.9	15.1
LSD 0.10		--	3.0	1.7	1.6	477

Planted: May 15. Harvested: Aug. 29. Previous crop: small grain.

¹Days after planting.²Erimo (Vigna angularis) from SK Foods.**Table 13. 2012 Dry Bean Variety Trial - Dryland - Carrington - Authors, M. Ostlie, S. Schaubert and T. Indergaard.**

Variety	Market Class	Growth Maturity	Direct Harvest ²	100 Seed Weight	Seeds/ Pound	Seed Yield	
		(DAP) ³	Habit ¹ (1-9)	(gram)	(seeds)	2012	3-yr. Avg.
						----- (lb/a) -----	
Carman Black	Black	97	7.5	83	22.4	2,026	3,142
CDC Super Jet	Black	97	6.8	71	21.8	2,089	2,552
Eclipse	Black	96	6.8	64	22.7	2,001	3,098
Loreto	Black	100	4.0	55	23.0	1,982	2,616
Zorro	Black	98	7.0	69	23.8	1,910	3,405
Majesty	Dark Red Kidney	100	3.3	39	63.5	715	2,809
Avalanche	Navy	100	3.8	50	24.9	1,827	2,830
Ensign	Navy	99	4.5	55	22.4	2,028	3,450
HMS Medalist	Navy	100	5.5	60	22.5	2,023	3,217
Lightning	Navy	99	4.5	59	23.4	1,944	3,090
Navigator	Navy	101	7.0	66	20.9	2,176	3,193
Rexeter	Navy	100	5.8	65	21.3	2,130	2,838
T9905	Navy	100	5.5	56	24.3	1,869	3,340
Vista	Navy	100	5.0	58	20.4	2,225	2,977
Sedona	Pink	101	2.3	26	42.0	1,081	2,540
La Paz	Pinto	100	5.0	55	39.5	1,150	3,470
Lariat	Pinto	100	3.3	39	43.5	1,044	3,231
Maverick	Pinto	99	2.3	44	41.0	1,110	2,986
Medicine Hat	Pinto	96	5.3	56	38.3	1,189	2,964
ND-307	Pinto	98	4.0	50	44.6	1,017	3,212
Stampede	Pinto	98	5.3	58	40.3	1,130	3,222
Windbreaker	Pinto	98	3.3	39	41.9	1,083	3,179
Merlot	Small Red	101	2.8	34	39.7	1,144	2,846
Mean		99	4.8	54	32.2	1,578	3,052
CV %		1.1	13.1	13.0	3.7	4.1	8.8
LSD 0.10		1.2	0.7	8.0	1.4	76	311

Planted: May 21. Harvested: Sept. 14. Previous crop: spring wheat.

¹Growth Habit : Scored on scale of 1 to 9, with 1 = a vining plant type, pods low to ground, short stature; 9 = very upright plant upright structure, pods held off ground.²Direct Harvest: Relative score to estimate % beans that would be successfully harvested in a direct/straight harvest system.³Days after planting.

Table 14. 2012 Dry Bean Variety Trial - Irrigated - Carrington - Authors, M. Ostlie, B. Smith and T. Ingebretonson.

Variety	Market Class	Days to Maturity	Growth Habit	Direct Harvest	Seeds/ Pound	100 Seed Weight	Seed Yield	
							2012	3-yr. Avg.
		(DAP) ¹	(1-9) ²	(%)	(seeds)	(gram)	-----lb/a)-----	
Carman Black	Black	98	5.0	63	1,900	23.9	3,193	--
CDC Super Jet	Black	97	5.0	55	2,020	22.5	2,580	--
Eclipse	Black	99	5.8	61	2,147	21.1	3,155	2,190
Loreto	Black	99	4.0	50	2,143	21.2	3,015	2,248
Zorro	Black	100	5.0	60	2,101	21.6	3,053	1,942
Majesty	Dark Red Kidney	101	3.3	36	674	67.4	2,753	--
Avalanche	Navy	100	3.0	35	2,030	22.4	3,180	2,263
Ensign	Navy	100	3.3	43	2,113	21.5	3,782	2,482
HMS Medalist	Navy	100	4.8	53	2,301	19.7	4,001	2,482
Lightning	Navy	100	3.8	48	2,100	21.7	2,925	1,853
Navigator	Navy	100	5.8	64	2,213	20.5	3,296	--
Rexeter	Navy	102	3.5	41	2,197	20.7	3,313	--
T9905	Navy	100	4.3	55	2,023	22.5	3,859	--
Vista	Navy	101	3.5	46	2,361	19.3	3,054	2,341
Sedona	Pink	101	2.0	28	1,153	39.4	3,083	2,327
La Paz	Pinto	100	3.5	46	1,203	37.9	3,982	2,772
Lariat	Pinto	100	3.0	38	1,070	42.5	4,398	3,078
Maverick	Pinto	99	2.0	28	1,387	35.8	3,270	2,394
Medicine Hat	Pinto	96	3.0	36	1,074	42.3	3,205	2,171
ND-307	Pinto	99	3.3	38	1,089	41.9	3,337	2,416
Stampede	Pinto	99	3.0	38	1,141	39.8	3,911	2,568
Windbreaker	Pinto	97	3.0	38	1,145	39.8	4,132	2,769
Merlot	Small Red	103	2.5	26	1,179	38.5	2,777	2,175
Mean		100	3.7	44	16	31.5	3,380	2,381
CV %		0.6	16.3	14.5	7.8	8	11.3	--
LSD 0.10		0.8	0.7	7.6	150	3	452	--

Planted: May 21. Harvested: Sept. 12. Previous crop: soybean.

¹Days after planting.²Growth Habit : Scored on scale of 1 to 9. 1 = vining plant, pods low to ground, short stature; to 9 = very upright plant stature, pods held off ground.³Direct Harvest: A relative score to estimate % bean that would be successfully harvested in a direct/straight harvest system.**Table 15. 2012 Pinto Bean Variety Trial - Irrigated - Oakes - Authors, W. Albus and L. Besemann.**

Variety	Maturity	100 Seed Weight	Test Weight	Seed Yield			2-yr. Avg.	3-yr. Avg.
				2012	2011	2010		
	(DAP) ¹	(gram)	(lb/bu)	-----lb/a)-----				
La Paz	87	37.4	63.2	3,340	1,119	2,747	2,230	2,402
Lariat	90	42.8	61.7	3,411	1,744	3,062	2,578	2,739
Maverick	88	42.0	61.5	3,002	1,970	2,682	2,486	2,551
Medicine Hat	78	35.2	61.3	2,274	1,312	2,962	1,793	2,183
ND-307	86	43.0	60.1	3,258	1,066	--	2,162	--
Stampede	82	36.6	61.3	2,923	1,461	2,822	2,192	2,402
Windbreaker	84	39.4	61.1	3,125	1,532	3,490	2,329	2,716
Mean	85	39.2	61.3	3,008	1,458	2,961	2,253	2,499
CV %	2.4	5.2	1.1	15.0	--	--	--	--
LSD 0.10	2.5	3	0.8	555	--	--	--	--

Planted: May 29. Harvested: Aug. 27. Previous crop: corn.

¹Days after planting.

Table 16. 2012 Dry Bean Variety Trial - Langdon - Authors, B. Hanson and R. Wilhelmi.

	Market		100 Seed	Seed Yield				
Variety	Class	Maturity	Weight	2010	2011	2012	2-yr. Avg.	3-yr. Avg.
		(DAP) ¹	(gram)	-----lb/a-----				
Majesty	Dark Red Kidney	102	65.5	--	--	2,270	--	--
Sedona	Pink	103	40.2	2,856	2,628	2,587	2,607	2,690
La Paz	Pinto	99	36.0	3,100	3,172	3,510	3,341	3,261
Lariat	Pinto	100	41.9	3,208	3,124	3,697	3,411	3,343
Maverick	Pinto	99	41.4	2,976	--	3,079	--	--
Medicine Hat	Pinto	96	41.4	2,804	3,024	2,823	2,923	2,884
ND-307	Pinto	104	42.6	2,520	2,428	3,257	2,842	2,735
Stampede	Pinto	98	37.9	2,384	3,032	3,423	3,228	2,946
Windbreaker	Pinto	96	43.6	2,880	3,076	3,457	3,266	3,138
Mean		100	43.4	2,841	2,926	3,123	3,088	3,000
CV %		1	3.6	8.2	14.3	10	--	--
LSD 0.10		1.4	2.2	--	604	439	--	--
Eclipse	Black	102	21.7	3,016	3,664	2,503	3084	3061
Loreto	Black	101	20.6	--	--	2,788	--	--
Zorro	Black	103	21.0	3,336	3,080	2,166	2623	2861
Avalanche	Navy	99	22.3	3,020	2,868	3,092	2980	2993
Ensign	Navy	100	21.7	2,816	3,472	3,524	3498	3271
HMS Medalist	Navy	98	18.6	3,512	3,268	2,996	3132	3259
Lightning	Navy	99	21.9	3,172	3,168	1,981	2574	2774
Navigator	Navy	99	19.8	2,952	--	2,980	--	--
Rexeter	Navy	107	20.6	--	--	2,224	--	--
T9905	Navy	99	21.2	--	--	3,208	--	--
Vista	Navy	100	19.4	3,052	2,564	2,094	2329	2570
Mean		101	20.8	3,110	3,155	2,687	2,889	2,970
CV %		1.9	2.4	8.2	14.3	10.1	--	--
LSD 0.10		2.7	0.7	--	604	381	--	--

Planted: May 22. Harvested: Sept. 11.

¹Days after planting.**Table 17. 2012 Navy Bean Variety Trial - Irrigated - Oakes - Authors, W. Albus and L. Besemann.**

Variety	Maturity	100 Seed Weight	Test Weight	Seed Yield				
				2012	2011	2010	2-yr. Avg.	3-yr. Avg.
	(DAP) ¹	(gram)	(lb/bu)	-----lb/a-----				
Avalanche	85	18.4	65.5	2,341	529	3,170	1,435	2,013
Ensign	83	17.2	66.1	2,478	945	3,205	1,711	2,209
HMS Medalist	90	16.2	65.6	2,205	1,089	3,404	1,647	2,233
Navigator	87	16.3	64.4	2,254	--	3,109	--	--
Norstar	87	16.5	66.3	1,573	--	3,007	--	--
T9905	90	20.5	65.8	2,855	--	--	--	--
Vista	91	17.4	66.1	2,327	1,062	3,563	1,695	2,317
Mean	87	17.5	65.7	2,290	906	3,243	1,622	2,193
CV %	1.9	3.7	1.4	9.2	--	--	--	--
LSD 0.10	2	0.8	NS	262	--	--	--	--

Planted: May 29. Harvested: Aug. 28. Previous crop: corn.

¹Days after planting.

Table 18. 2012 Dry Bean Variety Trial - Cavalier - (Langdon REC) - Authors, B. Hanson and R. Wilhelmi.

Variety	Market Class	100 Seed Weight (gram)	Yield ¹ 2012 ------(lb/a)-----	2-Yr. Avg.
Sedona	Pink	36.6	1,816	2,244
La Paz	Pinto	36.0	2,104	2,305
Maverick	Pinto	39.7	1,824	2,363
Medicine Hat	Pinto	40.5	1,768	2,292
ND-307	Pinto	40.3	1,720	2,355
Stampede	Pinto	37.9	2,012	2,498
Windbreaker	Pinto	42.7	2,256	2,570
Merlot	Small Red	33.2	1,212	1,736
Mean		38.4	1,839	2,295
CV %		5.6	13.6	--
LSD 0.10		3.0	319	--
Eclipse	Black	20.5	1,904	2,181
Loreto	Black	21.8	2,304	2,591
Zorro	Black	21.2	2,244	2,402
Avalanche	Navy	21.2	2,412	2,463
Ensign	Navy	23.1	2,164	2,354
HMS Medalist	Navy	19.7	2,696	2,728
Lightning	Navy	19.8	1,324	1,838
Navigator	Navy	19.2	1,516	--
Rexeter	Navy	18.8	1,760	--
T9905	Navy	22.9	2,220	--
Vista	Navy	19.1	2,164	2,403
Mean		20.7	2,064	2,370
CV %		4.1	9.6	--
LSD 0.10		1.2	280	--

Planted: May 15. Harvested: Sept. 18.

¹A fairly significant hail storm occurred on July 4 causing some damage. Drybeans were mostly in the R1 stage. Drybeans recovered nicely but were later maturing than normal.

Table 19. 2012 Dry Bean Variety Trial - Minot - Authors, E. Eriksmoen, A. Sebelius and J. Tarasenko.

Variety	Market Class	Days to Flowering	Canopy Height	Vine Length	Lodging	100 Seed Weight	Test Weight	Seed Yield	
								2012	2-yr. Avg.
		(DAP) ¹	(inch)	(inch)	(0-9)	(gram)	(lb/bu)	----- (lb/a) -----	
Eclipse	Black	58	21	24	2	21.1	50.9	2,491	2,508
Loreto	Black	58	17	19	4	21.4	50.2	3,006	--
Zorro	Black	58	23	23	2	21.9	50.0	2,663	2,794
Majesty	Dark Red Kidney	57	17	19	4	58.4	49.9	2,355	--
Avalanche	Navy	57	18	20	3	21.7	50.6	3,223	2,944
Ensign	Navy	58	18	20	7	21.2	50.4	2,662	2,774
Lightning	Navy	57	23	31	2	20.9	48.5	2,704	--
HMS Medalist	Navy	58	23	27	3	18.0	51.1	3,027	--
Navigator	Navy	58	26	34	1	19.0	50.9	2,926	2,776
Norstar	Navy	58	15	19	7	19.4	50.8	2,456	2,380
Rexeter	Navy	58	22	23	4	19.4	50.5	2,824	--
T9905	Navy	57	20	22	3	21.3	51.4	3,265	--
Vista	Navy	58	23	28	4	19.2	50.5	3,117	2,968
Sedona	Pink	56	22	24	7	38.0	49.7	2,177	2,346
La Paz	Pinto	58	21	24	2	39.8	50.4	3,008	3,178
Lariat	Pinto	57	19	26	6	39.5	50.6	2,827	3,011
Maverick	Pinto	56	16	21	7	37.5	51.1	2,486	2,616
Medicine Hat	Pinto	56	17	23	3	36.2	51.1	2,538	2,787
Stampede	Pinto	58	21	24	1	37.8	50.8	2,632	2,676
Windbreaker	Pinto	57	16	20	2	40.6	51.1	2,574	2,673
Merlot	Small Red	56	21	24	6	38.8	49.9	2,378	2,504
Mean		57	20	24	4	29.1	50.5	2,730	2,729
CV %		1.3	12.3	13	31.7	5.1	1.6	6.8	--
LSD 0.10		1	10	16	2	1.8	0.7	210	--

Planted: May 15. Harvested: Sept. 7.

¹Days after planting.**Table 20. 2012 Dry Bean Variety Trial - Irrigated - Oakes - Authors, W. Albus and L. Besemann.**

Variety	Market Class	Maturity	100 Seed Weight	Test Weight	Seed Yield
		(DAP) ¹	(gram)	(lb/bu)	2012
Erimo ²	Adzuki	96	11.1	66.3	3,193
Carman Black	Black	86	22.6	61.7	3,292
Eclipse	Black	86	22.1	64.0	3,764
Loreto	Black	90	20.3	65.6	3,851
Zorro	Black	86	22.1	65.4	3,999
Fuji	Otebo	87	30.0	66.2	4,520
Hime	Otebo	92	30.3	67.2	3,960
Sedona	Pink	103	43.1	58.6	4,330
Merlot	Small Red	100	43.9	63.4	4,072
MEAN		92	27.3	64.3	3,887
CV %		3.3	2.5	1.0	7.9
LSD 0.10		3	0.8	0.8	376

Planted: May 29. Harvested: Aug. 27. Previous crop: corn.

¹Days after planting.²Erimo (*Vigna angularis*) from SK Foods.

Table 21. 2012 Pinto Bean Variety Trial - Irrigated - Williston - Authors, T. Tjelde and C. Wahlstrom.

Variety	Days to Flowering	Plant Height	100 Seed Weight	Seeds/ Pound	Test Weight	Yield	
						2012	3-yr. Avg.
	(DAP) ¹	(inch)	(gms)	(seeds)	(lb/bu)	----- (lb/a) -----	
LaPaz	47	14	37.5	1,211	62.5	2,290	2,577
Lariat	47	8	39.2	1,156	60.0	2,622	2,775
Maverick	44	10	40.1	1,132	59.2	2,590	2,452
Medicine Hat	43	13	38.0	1,194	60.2	1,776	2,612
ND020351-R	47	11	38.7	1,174	58.2	1,840	2,367
ND-307	44	8	40.0	1,134	58.5	2,245	2,061
Stampede	44	15	38.4	1,181	59.1	1,614	2,686
Windbreaker	44	8	39.9	1,139	58.7	2,507	1,840
Mean	45	11	39.0	1,165	59.6	2,186	2,421
CV %	--	22	3.1	3.0	0.7	20	--
LSD 0.10	--	--	--	--	--	--	--

Planted: May 30. Harvested: Sep. 27. Previous crop: wheat.

¹Days after planting.**Table 22. 2012 Navy Bean Variety Trial - Irrigated - Williston - Authors, T. Tjelde and C. Wahlstrom.**

Variety	Days to Flowering	Plant Height	100 Seed Weight	Seeds/ Pound	Test Weight	Yield	
						2012	3-yr. Avg.
	(DAP) ¹	(inch)	(gms)	(seeds)	(lb/bu)	----- (lb/a) -----	
Avalanche	48	13	21.7	2,093	64.9	2,354	2,490
Ensign	48	13	23.2	1,957	64.8	2,878	2,610
HMS Medalist	48	15	19.1	2,377	64.9	2,789	2,484
Navigator	48	15	19.0	2,395	64.7	2,867	2,867
Norstar	47	12	19.6	2,325	65.6	2,130	2,130
T9905	48	16	21.8	2,082	64.4	3,449	3,449
Vista	48	17	18.7	2,423	64.5	2,829	2,416
Mean	48	14	20.4	2,236	64.8	2,757	2,635
CV %	--	18	4.3	4.6	0.7	14.0	--
LSD 0.10	--	5.2	1.8	209	0.9	476	--

Planted: May 30. Harvested: Sep. 27. Previous crop: wheat.

¹Days after planting.**Table 23. 2012 Dry Bean Variety Trial - Irrigated - Williston - Authors, T. Tjelde and C. Wahlstrom.**

Variety	Market Class	Days to Flowering	Plant Height	100 Seed Weight	Seeds/ Pound	Test Weight	Yield	
							2012	3-yr. Avg.
		(DAP) ¹	(inch)	(gms)	(seeds)	(lb/bu)	----- (lb/a) -----	
Eclipse	Black	49	19	20.7	2,190	64.6	3,245	2,962
Loreto	Black	49	14	20.9	2,169	64.2	3,182	2,767
Zorro	Black	49	19	21.1	2,153	65.0	3,451	2,855
Merlot	Small Red	49	11	38.4	1,180	61.7	2,516	2,428
Sedona	Pink	49	11	40.1	1,132	59.8	2,735	2,665
Mean		49	15	28.2	1,765	63.1	3,026	2,735
CV %		--	16	1.8	3.2	0.4	11.0	--
LSD 0.10		--	5.3	1.2	129	0.6	415.0	--

Planted: May 30. Harvested: Sept. 27. Previous crop: wheat.

¹Days after planting.

Table 24. Pinto Bean Variety Descriptions.

Class and Cultivar	Origin	RM¹	Plant Type²
<u>PINTO</u>			
AC Island	Ag. Can.	ME	V
Apache	Idaho Seed Bean	E	V
Baja	Provita	E	V
Bill-Z	CSU	M	V
Buster	Seminis	ME	UV
Croissant	CSU	L	V
Durango	Provita	E	V
Galeena	Provita	L	V
GTS-900	GenTec	L	UV
GTS-903	GenTec	L	UV
GTS-904	GenTec	L	UV
GTS-907	GenTec	M	UV
Island	Ag. Can.	E	V
Kimberly	U. Idaho	M	V
La Paz	Rogers	L	USV
Lariat	NDSU	L	USV
Long's Peak	CSU	L	USV
Mariah	Seminis	ME	UV
Maverick	NDSU	ME	V
Max	Idaho Seed Bean	E	V
Medicine Hat	Seminis	ME	UV
Montrose	CSU	E	V
ND-307	NDSU	M	UV
Odyssey	Idaho Seed Bean	ME	V
Othello	USDA-Prosser	E	V
Pinata	Idaho Seed Bean	VE	V
Quincy	WSU/USDA	M	V
Rally	GenTec	L	UV
Remington	Rogers	ME	UV
Santa Fe	MSU	M	USV
Sequoia	Idaho Seed Bean	ML	USV
Shoshone	U. Idaho	ML	V
Sinaloa	Provita	ML	USV
Sonora	Provita	E	V
Stampede	NDSU	M	USV
Topaz	Rogers	E	V
Topaz R	Rogers	E	V
Winchester	Rogers	ME	UV
Windbreaker	Seminis	M	UV

Not all entries appear in the table due to lack of information.

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	RM¹	Plant Type²
<u>NAVY</u>			
Avalanche	NDSU	ME	USV
CDC Whitecap	U. Sask	M	USV
Cirrus	Hyland	ME	USV
Envoy	GenTec	M	B
Ensign	Roger	M	USV
GTS-544	GenTec	M	USV
GTS-564	GenTec	M	USV
HMS Medalist	Provita	M	UV
HY 4181	Hyland	E	USV
Indi	ADM-Seedwest	M	USV
Lightning	U. of Guelph	M	UV
Mayflower	MSU	ML	USV
Merlin	Provita	M	USV
Navigator	Rogers	M	USV
Norstar	NDSU	ME	USV
Octane	United Pulse	E	B
Premiere	Ag. Can.	M	UV
Regent	Ag. Can.	ME	UV
Reliant	GenTec	ME/M	-
Rexeter	U. of Guelph	-	USV
ROG 331	Rogers	M	UV
Schooner	Rogers	ML	USV
Seabiskit	ADM	ME	USV
Seahawk	MSU	ML	USV
Skyline	United Pulse	E	B
T9903	Hyland	ME	USV
T9905	Hyland	ME	USV
Viscount	GenTec	L	USV
Vista	Ag. Can.	ML	USV

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

Class and Cultivar	Origin	RM¹	Plant Type²
<u>SMALL RED</u>			
AC Earlired	Ag. Can.	E	V
AC Scarlet	Ag. Can.	ME	USV
Cajun	Rogers	E	UV
Carman	Idaho Seed Bean	E	V
Garnet	Rogers	M	V
Merlot	MSU	ME	USV
Rio Rojo	NDSU	ME	USV
Ryder	Rogers	M	USV
UI-259	U. Idaho	M	V
<u>BLACK</u>			
Black Jack	GenTec	ML	USV
Black Magic	GenTec	L	USV
Black Velvet	Seminis	-	USV
Blackhawk	MSU	L	USV
Carman Black		E	USV
CDC Jet	U. Sask.	ME	USV
CDC Super Jet	U. Sask.	ME	USV
Condor	MSU	ML	USV
Domino	MSU	L	USV
Eclipse	NDSU	M	USV
GTS-1103	GenTec	M	USV
Jaguar	MSU	M	USV
Loreto	Provita	M	USV
Shania	ADM-Seed West	-	UV
T-39	U. Calif.	M	USV
Zorro	MSU	L	USV
<u>PINK</u>			
Alberta Pink	U. Alberta	E	V
Flamingo	Idaho Seed Bean	E	V
Floyd	Rogers	ML	V
ROG 922	Rogers	M	V
Rosalee	U. Sask.	E	V
Sedona	MSU/ARS	M	USV
UI-537	U. Idaho	E	V
Viva	USDA-Prosser	M	V

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

Class and Cultivar	Origin	RM¹	Plant Type²
<u>LT RED KIDNEY</u>			
Blush	WSU/USDA	ML	B
California Early (Celrk)	U. Calif.	E	B
Chinook 2000	MSU	M	B
Clouseau	Seminis	M	B
Foxfire	Rogers	ME	B
OAC Inferno	U. of Guelph	-	-
OAC Lyrik	U. of Guelph	ME	B
Pink Panther	Seminis	M	B
Sacramento	Agri-Sales	E	B
<u>DK RED KIDNEY</u>			
Cabernet	Rogers	ML	B
Drake	Seminis	M	B
GTS-104	GenTec	M	B
GTS-106	GenTec	M	B
Majesty	Ag. Can.	ML	B
Montcalm	MSU	ML	B
Redhawk	MSU	M	B
Red Rover	Seminis	ME	B
<u>WHITE KIDNEY</u>			
Beluga	MSU	M	B
Lassen	Agri-Sales	E	B
Silvercloud	WSU/USDA	E	B
<u>GREAT NORTHERN</u>			
Beryl	Rogers	M	V
Coyne	U. Nebraska	ML	V
Gemini	Provita	E	-
Hungerford	U. Idaho	M	V
Matterhorn	MSU	ME	USV
Orion	Provita	E	V
Sawtooth	U. Idaho	L	V
UI-465	U. Idaho	M	V
<u>CRANBERRY</u>			
Bellagio	MSU	ML	V
<u>OTEBO</u>			
Fuji	MSU	E	B
Hime	SK Foods	ME	B

Not all entries appear in the table due to lack of information.

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.

For more information on this and other topics, see: www.ag.ndsu.edu

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