Ag. Report No. 31

Thirty-first Annual Western Dakota Crops Day Research Report 2014

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NDSU | HETTINGER RESEARCH EXTENSION CENTER

31th Annual Western Dakota Crops Day

December 18, 2014

Hettinger Armory

MST

9:00 am Registration

Coffee and doughnuts. Free time to view exhibits and visit with Program Sponsors.

10:00 Early Bird Drawing and Opening Announcements

10:15 Crop Variety Updates and Highlights of Ongoing Crop Production Research

Dr. Caleb Dalley, Weed Scientist, NDSU Hettinger Research Extension Center.
Dr. Pat Carr, Research Agronomist, NDSU Dickinson Research Extension Center.
Dr. Chris Graham, Extension Agronomist, SDSU West River Ag Center, Rapid City.
John Rickertsen, Research Agronomist, NDSU Hettinger Research Extension Center.

12:00 Lunch

Provided by Program Sponsors. Free time to visit with sponsors.

1:00 Ag Industry Update

1:30 Unmanned Aircraft Applications to Agriculture

John Nowatzki, Extension Ag Machine Systems Specialist, NDSU Department of Agricultural and Biosystems Engineering**.**

2:15 Carinata Production and Marketing in Western Dakotas.

John Rickertsen, Research Agronomist, NDSU Hettinger Research Extension Center.
Christine Bliss, University of Florida
Daryl Males & Garret Groves, Agrisoma Biosciences

3:00 Conclusion

Drawing for door prizes, coffee and opportunity to visit with sponsors.

Acknowledgments

The Hettinger Research Extension Center gratefully acknowledges and thanks the following companies and organizations for their financial support and participation in this year's Western Dakota Crops Day. Those listed below have provided for the noon meal and have made this event possible. We greatly appreciate their commitment and support.

2014 Western Dakota Crops Day Sponsors

Hettinger Area Chamber of Commerce
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Gartner Seed Farm
MinnDak Growers Ltd.
North Dakota Soybean Council
Nuseed
Southwest Grain
United Pulse Trading / AGT Foods
Quality Seed Genetics – NuTech & Legacy Seeds
Alliance Ag Cooperative
BASF
Farm Credit Services of Mandan
Helena Chemical Company
North Dakota Grain Growers Asso.
Northern Pulse Growers Asso.
Proseed
United Grain Corporation
Wheat Growers

We also acknowledge and thank the following individuals for their willingness to cooperate with us at off-station plot sites and in providing us with materials for this publication. Their participation has enabled us to compile the enclosed information which would not otherwise be possible.

Dr. Pat Carr and Glenn Martin, Dickinson Research Extension Center
Dr. Chris Graham and Bruce Swan, SDSU West River Ag Center, Rapid City
Dr. Joel Ransom, NDSU, Fargo
Jan Sprecher, New Leipzig
Neal and Justin Freitag, Scranton
August and Perry Kirschmann, Regent
Dan Christman, Hettinger
USDA – ARS Northern Great Plaines Research Center, Mandan
Keith Gietzen, Glen Ullin
Pat Doll, Hannover
Duane Shea, Bison SD
Chris and Jonas Lynch, McLaughlin, SD

Table of Contents

Oat

Oilseeds

Grain Legumes

Corn

Interpreting Statistical Analysis

Field research involves the testing of one or more variables such as crop varieties, fertilizer rates, weed control methods, planting dates, etc. Field testing of such variables is conducted in order to determine which variety, fertilizer rate, herbicide, date, etc. is best for the particular area of production. The main objectives of crop production research are to determine the best means of producing a crop and how to maximize yield and economic return from farming.

Agricultural researchers use statistics as a tool to help differentiate production variables so meaningful conclusions can be drawn from the data gathered from research trials. Attempts are made to control human error and environmental conditions such as soil variability by replicating the variable in question. For example, there were four plots (replications) of the every variety grown in the Hettinger HRSW variety trial. These plots are randomly placed throughout the trial to help eliminate differences that might be a result of soil or other variations.

The coefficient of variation (C.V.%) listed at the bottom of each data column is a relative measure of the amount of variation recorded for a particular trait expressed as a percentage of the mean for that trait. It is a measure of the precision or effectiveness of the trial and the procedures used in conducting it. The numbers that you see in the tables are an average of all four replications. The C.V. for yield in the 2014 Hettinger HRSW variety trial was 5.2 meaning that there was a 5.2 percent average variation between high and low yields among replications. In summation, a trial with a C.V. of 6 is more precise and reliable than a trial with a C.V. of 16. When looking at yield, trials with a C.V. less than 15% are generally considered reliable.

To determine if one variety, fertilizer rate, herbicide, planting date, etc. is better than another, use the least significant difference (LSD 10%) value at the bottom of each data column. The LSD 10% value is a statistical method of indicating if a trait like yield differs when comparing two hybrids. If the yield of hybrid A exceeds hybrid B by more than the LSD value, you can conclude that under like environmental conditions, hybrid A is expected to significantly out-yield hybrid B. The LSD value allows you to separate variety yields or any other variable and determine whether or not they are actually different.

For example, in the HRSW trial, the variety WB-Digger averaged 92.5 bu/a in 2014 compared to SY-Soren at 86.2 bu/a. Did the yield difference between these varieties differ significantly? Compare the yield difference of 6.3 bu/a between the varieties (92.5 – 86.2) to the LSD value of 5.2 bu/a. Since the 6.3 bu/a difference is more than the LSD value of 5.2 bu/a, the varieties do differ significantly in yield. If the difference between these two varieties would have been 3.5 bu/a, their difference would have been less than 5.2 bu/a; therefore, the yield difference between these varieties would not have been significant.

When selecting a variety or hybrid evaluate as much performance information as possible. Give more weight to information from trials close to home and look at relative performance over many locations and years. Performance averaged over many tests is called “yield stability.”
Good yield stability means that, while a variety may or may not be the best yielder at all locations, it ranks high in yielding potential at many locations and years. A hybrid that ranks in the upper 20% at all locations exhibits better yield stability than one that is the top variety at one location but ranks in the lower 40% at the other locations.

Weather Summary - Hettinger

Frost Free Days

	28°F	32°F	Normal 32°F
Date of Last Frost	May 15	May 15	May 18
Date of First Frost	September 12	September 12	September 20
Frost Free Days	**120**	**120**	**125**

Precipitation (inches)

Month	2009-10	2010-11	2011-12	2012-13	2013-14	59 Year Average
October	2.3	0.4	0.8	0.7	4.4	1.1
November	0.0	0.6	0.0	0.1	0.2	0.5
December	2.0	0.6	0.2	0.5	0.5	0.3
January	0.3	1.1	0.4	0.2	0.1	0.4
February	0.2	1.0	0.5	0.2	0.3	0.4
March	0.7	0.7	0.2	0.2	0.6	0.7
April	1.8	2.3	3.0	0.2	1.6	1.6
May	3.7	4.6	2.2	7.9	1.6	2.6
June	2.9	3.4	2.4	3.7	5.1	3.3
July	3.7	1.9	3.9	2.0	0.9	2.0
August	2.4	2.3	2.2	1.8	5.2	1.7
September	3.2	0.4	0.0	3.4	1.3	1.4
April-Sept.	**14.5**	**14.5**	**13.7**	**15.6**	**14.3**	**11.3**
Total	**23.2**	**19.2**	**15.7**	**20.7**	**21.7**	**16.2**

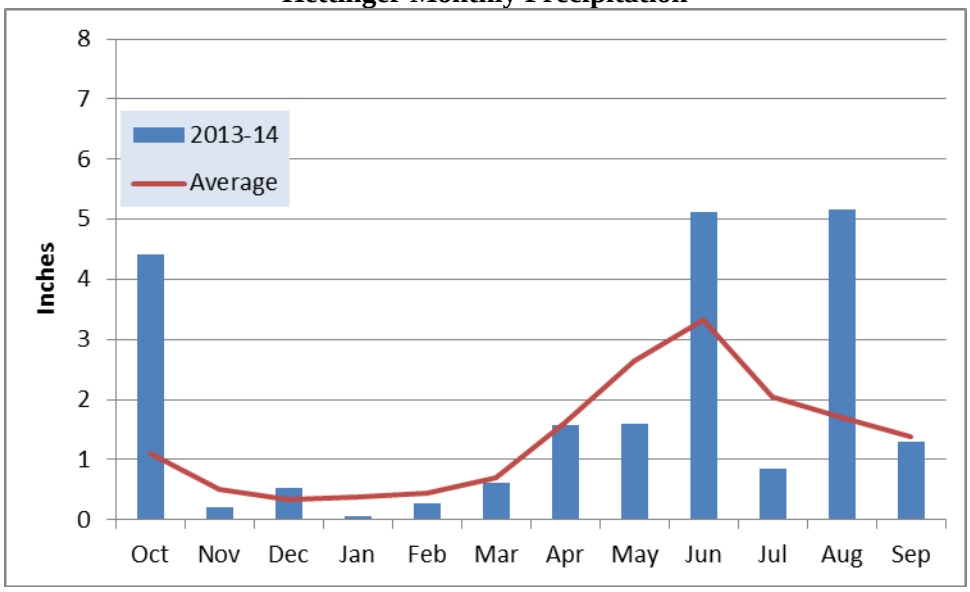
Air Temperature (°F)

Month	2009-10	2010-11	2011-12	2012-13	2013-14	59 Year Average
October	36.8	48.5	48.2	42.1	39.7	45.6
November	36.9	28.0	30.9	32.4	28.8	30.0
December	9.5	13.4	23.9	18.5	12.9	19.7
January	13.6	12.7	24.2	18.3	16.6	15.2
February	11.7	14.7	21.8	26.7	10.1	20.0
March	31.2	22.8	44.4	27.4	26.5	28.8
April	44.8	39.4	46.9	35.5	39.1	42.6
May	50.0	50.2	53.6	53.5	52.8	53.7
June	62.0	62.0	66.5	61.7	59.5	63.1
July	67.6	71.3	75.2	68.1	66.4	70.1
August	68.6	65.3	67.8	69.5	66.0	68.7
September	56.3	56.9	59.4	62.5	56.4	57.8
Average	**40.7**	**40.4**	**46.9**	**43.0**	**39.6**	**42.9**

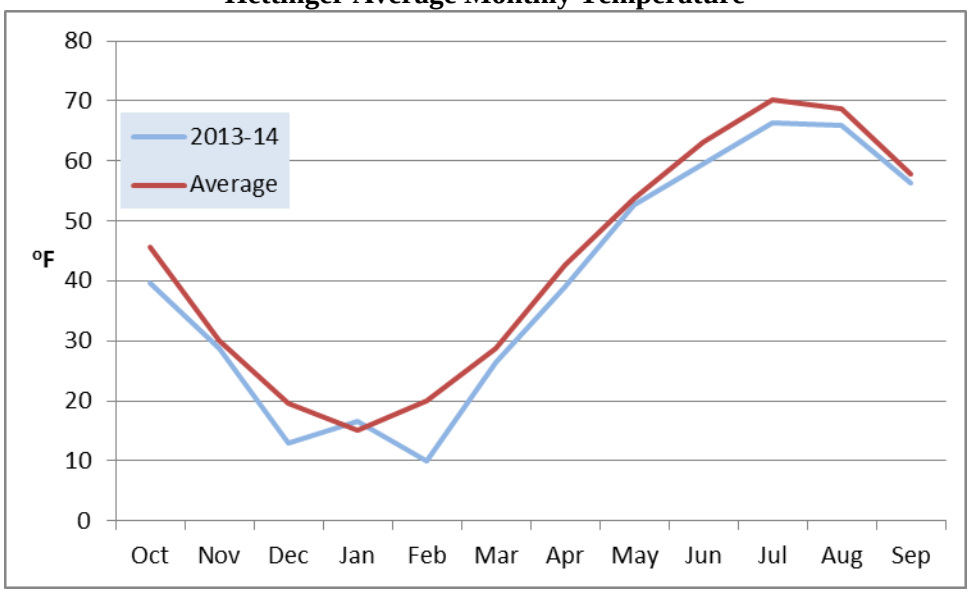
Corn Growing Degree Days (GDD)

Month	2010	2011	2012	2013	2014	42 Year Average
May	210	161	266	266	245	254
June	393	358	498	381	330	407
July	536	631	688	543	526	571
August	547	555	504	553	504	523
September	278	347	411	403	313	311
Total	**2032**	**2052**	**2367**	**2146**	**1918**	**2065**

Hettinger Monthly Precipitation



Hettinger Average Monthly Temperature



2014 Weather Summary for the Dickinson Research Extension Center Ranch Headquarters, Manning, ND.

	-----Maximum temp.----------		-----Minimum temp.-----		-----Precipitation -----		-----Small grains GDD[1]-----		-----Corn GDD[2] -----	
Month	Long Term 1983 - 2014	Current Year	Long Term 1983 - 2014	Current Year	Long Term 1983 - 2014	Current year	Long Term 1983 - 2014	Current year	Long Term 1983 - 2014	Current year
	----------°F ----------		---------- °F ----------		----- inches -----					
November - 13	39.6	37.7	18.8	17.3	0.57	0.09				
December - 13	26.6	20.4	7.2	0.2	0.43	1.21				
January	24.9	25.7	5.5	2.0	0.42	0.17				
February	29.1	21.3	9.5	-2.7	0.43	0.28				
March	39.8	35.5	18.9	14.2	0.80	0.75				
April	54.6	48.8	29.4	26.4	1.43	1.41	346	290		
May	66.3	64.7	40.9	40.8	2.75	3.73	669	649	253	250
June	75.6	71.9	50.5	49.7	3.21	3.38	932	864	404	363
July	83.5	79.7	55.7	54.1	2.32	0.37	1167	1082	609	530
August	82.8	77.7	54.1	54.2	1.95	8.84	1130	1053	572	502
September	71.5	69.5	43.8	43.5	1.45	1.03	770	737	324	305
October	56.4	69.5	31.3	34.2	1.21	0.59				
Mean	54.2	51.9	30.5	27.8						
Total					16.97	21.85	5014	4673	2161	1950

[1] Small grains GDD, is growing degree days calculated with 95°F as the maximum temperature and 32°F as the base temperature.

[2] Corn GDD, is growing degree days calculated with 86°F as the maxium temperature and 50°F as the base temperature.

Source: Dickinson Research Extension Center. Data compiled by Garry Ottmar, Ranch Manager; Roger Ashley, Extension Agronomist; and Sheri Schneider, Information Processing Specialist.

North Dakota hard red spring wheat variety descriptions, agronomic traits, 2014.

Variety	Agent or Origin[1]	Year Released	Height (inches)	Straw Strength[2]	Days to Head[3]	Reaction to Disease[4]				
						Stem Rust[5]	Leaf Rust	Leaf Spot[6]	Bact. Leaf Streak	Head Scab
Advance	SD	2012	32	6	64	R	MR/MS	M	MS	MS
Alpine[7]	AgriPro	2008	34	6	62	MS	S	MS	S	MS
Barlow	ND	2009	35	6	62	R	MS	MR	MS	M
Brennan	AgriPro	2009	30	4	62	R	MR	M	MS	MS
Brick	SD	2009	35	5	60	R	MS	MS/S	NA	MR
Duclair[8]	MT	2011	31	4	65	R	NA	NA	NA	NA
Elgin-ND	ND	2012	36	5	65	R	MS	M	MS/S	M
Faller	ND	2007	35	5	65	R	S	MR	MS	M
Forefront	SD	2012	37	5	61	R/MR	MR	MR	M	MR
Glenn	ND	2005	37	4	61	R	MS	M	M/MS	MR
HRS 3361	**Croplan**	**2013**	**33**	**3**	**65**	**NA**	**MS/MR**	**MR**	**NA**	**M**
HRS 3378	**Croplan**	**2013**	**32**	**4**	**64**	**NA**	**MR**	**M**	**NA**	**M**
HRS 3419	**Croplan**	**2014**	**32**	**2**	**68**	**NA**	**MR**	**MR**	**NA**	**MR**
Jenna	AgriPro	2009	32	4	66	R	MR	M	M/MS	M
Kelby	AgriPro	2006	30	4	62	R/MR	MR/MS	M	S	M
Kuntz	AgriPro	2007	31	4	65	NA	MS	MS	NA	M
LCS Albany	Limagrain	2008	32	5	67	NA	MR	MS	M	M
LCS Breakaway	Limagrain	2011	32	5	63	R	R	MS	MS	M
LCS Iguacu	**Limagrain**	**2014**	**33**	**3**	**66**	**NA**	**MS**	**M**	**M/MS**	**MR**
LCS Powerplay	Limagrain	2011	33	5	65	R	MS	MS	S	M
Linkert	MN	2013	31	2	63	R	MR/MS	M	MS	M
Mott[7]	ND	2009	36	3	66	R	MS	MS	MS	MS
MS Chevelle	**Meridian**	**2014**	**30**	**5**	**63**	**NA**	**R**	**NA**	**NA**	**M**
MS Stingray	Meridian	2013	35	NA	67	NA	MS	NA	NA	NA
ND901CL Plus[9]	ND	2010	36	4	60	MR	MS/MR	NA	NA	M
Norden	MN	2012	32	3	6	R	MR/MS	M	S	M
Pivot	WestBred	2010	27	3	67	NA	S	MR	NA	S
Prevail	**SD**	**2014**	**31**	**4**	**64**	**NA**	**MR**	**MS**	**NA**	**M**
Prosper	ND	2011	35	5	65	R	MS	M	MS	M
RB07	MN	2007	32	5	62	R	MS	MS	MS/S	MR
Rollag	MN	2011	32	3	63	R	MR/MS	MR	M	MR
Sabin	MN	2009	33	6	65	R	MR/MS	MS	NA	M
Samson	WestBred	2007	31	2	63	O	MR/MS	MS	MS	S
Select	SD	2010	35	6	60	R	MS	R/MR	S	MR
SY Ingmar	**Syngenta/AgriPro**	**2014**	**31**	**4**	**64**	**NA**	**MR**	**M**	**M**	**M**
SY Rowyn	Syngenta/AgriPro	2013	31	4	62	R	R	M	M	M
SY Soren	Syngenta/AgriPro	2011	30	4	63	R	R	M	S	M
SY Tyra[8]	Syngenta/AgriPro	2011	31	5	62	R	R	MS	S	S
Vantage	WestBred	2007	32	2	67	MR	R	MS	MS/S	MS
Velva	NDSU	2011	35	4	63	R	R	M	S	MS
WB9507	**WestBred**	**2013**	**32**	**5**	**61**	**NA**	**MR**	**R**	**NA**	**MR**
WB9879CLP[9]	**WestBred**	**2012**	**33**	**4**	**64**	**NA**	**MS**	**MR**	**NA**	**MS**
WB Digger	WestBred	2009	34	6	63	MR	R	M	NA	MS
WB Gunnison	WestBred	2013	31	NA	65	NA	MS	MS	M	MS
WB Mayville	WestBred	2011	30	4	63	R	R	MS	S	S

[1]Refers to agent or developer: MN = University of Minnesota; MT = Montana State University; ND = North Dakota State University; SD = South Dakota State University; **Bold** varieties are those recently released, so data are limited and rating values may change. NA indicates insufficient information is available to make an accurate assessment.

[2]Straw Strength = 1 to 9 scale, with 1 the strongest and 9 the weakest. These values are based on recent data and may change as more data become available.

[3]Days to Head = the number of days from planting to head emergence from the boot averaged from several locations and years.

[4]R = resistant; MR = moderately resistant; M = intermediate; MS = moderately susceptible; NA = Not adequately tested; S = susceptible.

[5]Fargo stem rust nursery inoculated with *Puccinia graminis* f. sp. Tritici races TPMK, TMLK, RTQQ, QFCQ and QTHJ.

[6]Leaf spot refers to the leaf fungal diseases such as tan spot and septoria. It does not include bacterial leaf streak.

[7]Hard white wheat.

[8]Solid stemmed or semisolid stem, imparting resistance to sawfly.

[9]CL = refers to a Clearfield variety, with tolerance to the Beyond family of herbicides.

Hard Red Spring Wheat - 2014 **Hettinger, ND**

Variety	Days to Head	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	*	inches	0-9**	lbs/bu	%	---------- Bushels per acre ----------				
WB-Digger	73	38	1	59.9	12.7	83.5	75.8	92.5	84.2	83.9
Advance	72	36	2	61.5	12.7	84.9	67.8	89.0	78.4	80.6
SY Soren	72	33	0	61.3	13.4	82.2	72.2	86.2	79.2	80.2
Samson	72	33	0	59.2	11.8	79.2	70.4	90.1	80.3	79.9
SY Rowyn	71	35	2	60.3	12.0	83.7	69.5	85.0	77.3	79.4
Prevail	71	39	1	61.0	12.2	84.1	66.4	87.2	76.8	79.2
SY 605CL	71	38	0	62.0	14.1	80.3	71.8	83.1	77.5	78.4
SY Tyra	74	31	0	60.4	11.8	82.5	66.0	85.7	75.9	78.1
Velva	73	36	0	59.2	13.0	79.1	68.0	85.7	76.9	77.6
Elgin-ND	72	40	0	60.8	13.4	77.0	66.7	88.5	77.6	77.4
Brennan	72	34	0	60.0	12.5	79.9	69.8	80.4	75.1	76.7
Breaker	74	36	0	61.5	13.2	76.2	69.0	84.5	76.8	76.6
Sabin	73	38	3	60.3	13.8	82.7	65.4	81.2	73.3	76.4
Rollag	72	34	1	61.6	13.7	80.4	63.9	84.2	74.1	76.2
RB07	71	35	1	60.1	13.3	79.5	62.7	84.1	73.4	75.4
Jenna	74	35	1	60.0	13.0	72.0	67.7	86.5	77.1	75.4
Prosper	76	39	0	60.7	11.7	76.6	63.0	86.3	74.7	75.3
Forefront	69	41	2	61.2	13.2	75.7	64.9	85.2	75.1	75.3
Norden	72	34	0	62.3	12.5	76.5	65.8	83.5	74.7	75.3
Howard	73	38	1	61.5	12.9	73.0	69.9	80.3	75.1	74.4
Linkert	74	34	0	60.8	14.2	80.4	61.0	80.5	70.8	74.0
Select	68	39	1	62.7	12.7	73.1	66.0	82.6	74.3	73.9
Steele-ND	73	39	2	61.3	13.6	72.2	67.3	80.9	74.1	73.5
Barlow	71	39	0	60.9	13.8	71.5	68.2	80.1	74.2	73.3
WB-Mayville	71	33	0	59.6	13.2	76.6	62.6	79.7	71.2	73.0
Faller	74	38	1	61.1	11.9	68.8	54.4	94.1	74.3	72.4
Mott	75	39	0	60.8	12.9	73.2	65.0	78.9	72.0	72.4
Glenn	72	39	0	62.4	14.5	71.4	60.2	77.1	68.7	69.6
Vantage	77	35	0	61.1	14.9	67.6	60.0	75.4	67.7	67.7
ND 901 CL Plus	73	40	0	60.0	14.9	69.0	55.7	73.5	64.6	66.1
WB-Gunnison	71	35	3	60.0	12.6	70.3	51.8	73.4	62.6	65.2
LCS Albany	73	37	1	59.1	12.2	--	75.7	95.4	85.6	--
MS Stingray	75	38	0	58.7	10.5	--	70.9	95.9	83.4	--
LCS Iguacu	73	34	0	59.8	11.1	--	69.1	88.2	78.7	--
LCS Breakaway	71	34	0	62.2	13.5	--	69.6	86.4	78.0	--
LCS Powerplay	73	35	2	60.8	12.4	--	69.8	82.9	76.4	--

Table continues on next page.

NDSU Hettinger Research Extension Center

Hard Red Spring Wheat - 2014 **Hettinger, ND**

Variety	Days to Head	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	*	inches	0-9**	lbs/bu	%	---------- Bushels per acre ----------				
Croplan HRS 3419	75	35	0	60.2	11.8	--	--	97.9	--	--
WB-9507	71	37	2	58.7	12.2	--	--	92.8	--	--
MS Chevelle	71	34	2	60.2	10.7	--	--	91.3	--	--
Croplan HRS 3378	72	35	0	60.9	12.1	--	--	89.6	--	--
Croplan HRS 3361	73	36	0	60.1	11.7	--	--	88.2	--	--
WB-9879CLP+	72	34	1	59.5	12.3	--	--	83.4	--	--
SY Ingmar	72	33	0	61.3	13.2	--	--	82.1	--	--
Trial Mean	72	37	1	60.7	12.8	42.1	75.9	84.8	--	--
C.V. %	1.4	3.4	105.4	0.7	3.7	6.6	4.6	5.2	--	--
LSD 10%	1	1	1	0.5	0.5	3.5	4.1	5.2	--	--

* Days to Head = the number of days from planting to head emergence from the boot.

** 0 = no lodging, 9 = 100% lodged.

Planting Date: April 22

Harvest Date: August 21

Previous Crop: Spring Wheat Green Fallow

Hard Red Spring Wheat - 2014 **Scranton, ND**

Variety	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	inches	0-9*	lbs/bu	%	---------- Bushels per acre ----------				
Advance	33	6	59.3	12.2	--	54.3	58.1	56.2	--
Barlow	36	4	59.6	13.0	48.9	61.9	61.9	61.9	57.6
Brennan	30	3	59.0	12.8	--	--	62.3	--	--
Elgin-ND	37	3	59.0	12.6	58.2	61.6	60.2	60.9	60.0
Faller	36	2	58.8	11.7	41.1	55.1	67.7	61.4	54.6
Forefront	38	3	60.2	13.1	--	53.3	57.9	55.6	--
Glenn	37	2	61.4	13.3	50.7	55.2	54.6	54.9	53.5
LCS Albany	33	3	57.0	11.5	--	--	63.2	--	--
LCS Powerplay	32	4	58.8	11.6	--	--	57.7	--	--
Mott	37	2	59.3	13.0	43.3	63.7	62.2	63.0	56.4
Prevail	37	2	59.4	12.2	--	--	66.4	--	--
Prosper	35	2	58.3	12.3	44.0	57.3	56.6	57.0	52.6
RB07	32	4	58.6	13.0	51.3	57.1	55.8	56.5	54.7
Sabin	37	5	58.7	13.0	49.4	53.5	55.0	54.3	52.6
Select	37	5	60.3	12.1	51.2	56.4	56.7	56.6	54.8
SY Soren	30	6	59.1	12.8	53.1	55.7	62.6	59.2	57.1
SY Rowyn	32	5	58.2	12.4	--	--	56.8	--	--
Velva	35	2	57.9	12.6	50.1	66.4	59.7	63.1	58.7
WB-Digger	34	4	58.6	11.9	--	--	68.3	--	--
SY 605CL	35	3	59.8	12.8	--	--	65.7	--	--
Trial Mean	35	3	59.1	12.5	49.3	57.8	60.5	--	--
C.V. %	3.4	33.1	0.8	2.4	5.8	8.0	7.6	--	--
LSD 10%	2	2	0.6	0.4	3.4	5.5	6.3	--	--

* 0 = no lodging, 9 = 100% lodged.

Planting Date: April 24

Harvest Date: September 3

Previous Crop: Spring Wheat

Hard Red Spring Wheat - 2014 **Regent, ND**

Variety	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	inches	0-9*	lbs/bu	%	---------- Bushels per acre ----------				
Advance	35	6	57.4	13.5	--	65.1	61.8	63.5	--
Barlow	38	4	56.3	14.2	51.1	67.4	60.2	63.8	59.6
Brennan	34	4	57.3	14.1	--	--	58.1	--	--
Elgin-ND	39	3	56.4	14.1	60.9	73.8	64.4	69.1	66.4
Faller	37	2	56.7	13.2	43.0	68.3	64.3	66.3	58.5
Forefront	39	3	58.1	13.9	--	71.8	64.1	68.0	--
Glenn	39	3	60.2	14.5	53.0	62.5	56.0	59.3	57.2
LCS Albany	34	4	55.3	13.0	--	--	63.3	--	--
LCS Powerplay	36	4	57.4	14.2	--	--	57.5	--	--
Mott	40	2	56.2	14.3	45.2	69.9	57.8	63.9	57.6
Prevail	37	3	57.2	13.3	--	--	62.6	--	--
Prosper	38	2	56.4	13.7	46.0	71.4	58.9	65.2	58.8
RB07	33	4	56.5	14.0	53.6	69.0	55.2	62.1	59.3
Sabin	37	6	57.1	14.3	51.6	70.2	60.1	65.2	60.6
Select	37	5	57.9	13.4	53.5	72.1	60.6	66.4	62.1
SY Soren	33	6	57.1	14.1	55.5	72.6	60.8	66.7	63.0
SY Rowyn	34	6	56.3	13.9	--	--	54.5	--	--
Velva	37	3	55.5	13.7	52.4	73.3	61.1	67.2	62.3
WB-Digger	37	4	55.9	13.5	--	--	66.8	--	--
SY 605CL	36	3	58.3	14.5	--	--	65.9	--	--
Trial Mean	36	4	57.0	13.9	51.5	69.8	60.7	--	--
C.V. %	3.7	29.8	1.2	2.2	5.8	5.7	8.0	--	--
LSD 10%	2	1	0.8	0.4	3.5	4.8	5.7	--	--

* 0 = no lodging, 9 = 100% lodged.

Planting Date: April 24

Harvest Date: September 3

Previous Crop: Spring Wheat

Hard Red Spring Wheat - 2014 **New Leipzig, ND**

Variety	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012**	2013	2014	Average Yield 2 yr	3 yr
	inches	0-9*	lbs/bu	%	---------- Bushels per acre ----------				
Advance	34	4	56.7	11.8	--	55.5	62.0	58.8	--
Barlow	38	2	57.0	13.1	--	57.7	64.0	60.9	--
Brennan	30	4	57.1	12.9	--	--	65.3	--	--
Elgin-ND	38	3	55.9	12.8	--	59.2	65.6	62.4	--
Faller	36	2	56.1	12.1	--	53.5	67.5	60.5	--
Forefront	39	3	58.2	12.8	--	60.3	59.8	60.1	--
Glenn	36	2	57.0	13.8	--	57.6	53.3	55.5	--
LCS Albany	33	2	55.3	11.8	--	--	64.4	--	--
LCS Powerplay	34	4	56.0	12.2	--	--	62.6	--	--
Mott	37	1	56.5	13.2	--	64.4	55.7	60.1	--
Prevail	34	3	57.3	12.3	--	--	66.4	--	--
Prosper	34	2	56.3	12.5	--	56.7	60.3	58.5	--
RB07	33	3	56.5	13.3	--	56.2	60.4	58.3	--
Sabin	36	4	56.3	12.9	--	54.3	58.3	56.3	--
Select	35	4	58.1	12.3	--	63.2	62.0	62.6	--
SY Soren	30	1	57.4	13.1	--	59.4	65.2	62.3	--
SY Rowyn	31	2	55.7	12.4	--	--	58.3	--	--
Velva	35	1	55.2	13.0	--	65.9	67.9	66.9	--
WB-Digger	35	3	56.5	12.6	--	--	68.8	--	--
SY 605CL	35	2	57.8	13.8	--	--	65.6	--	--
Trial Mean	34	2	56.6	12.7	--	58.8	62.7	--	--
C.V. %	3.6	32.3	1.1	3.2	--	7.9	7.4	--	--
LSD 10%	1	1	0.7	0.5	--	5.5	5.5	--	--

* 0 = no lodging, 9 = 100% lodged.

** New Leipzig was not planted in 2012.

Planting Date: April 25

Harvest Date: August 29

Previous Crop: Spring Wheat

Hard Red Spring Wheat - 2014 **Mandan, ND**

Variety	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	inches	0-9*	lbs/bu	%	---------- Bushels per acre ----------				
Advance	34	4	54.4	12.2	--	70.3	76.8	73.6	--
Barlow	36	2	53.3	12.5	71.2	72.4	73.4	72.9	72.3
Brennan	32	2	52.7	12.8	--	--	72.3	--	--
Elgin-ND	36	1	52.4	12.1	69.1	78.1	76.9	77.5	74.7
Faller	36	2	54.4	11.1	64.5	76.9	85.4	81.2	75.6
Forefront	37	2	55.7	11.1	--	78.2	72.9	75.6	--
Glenn	37	1	55.4	12.3	65.4	70.8	69.7	70.3	68.6
LCS Albany	33	2	53.1	10.6	--	--	80.9	--	--
LCS Powerplay	32	2	53.3	11.1	--	--	71.1	--	--
Mott	37	1	54.1	12.2	69.1	75.0	76.0	75.5	73.4
Prevail	35	2	54.3	11.7	--	--	73.9	--	--
Prosper	35	1	54.1	10.8	68.1	71.9	76.1	74.0	72.0
RB07	31	1	53.2	12.6	69.0	72.3	72.2	72.3	71.2
Sabin	36	4	55.1	12.0	77.4	79.7	74.4	77.1	77.2
Select	37	2	55.5	11.5	75.7	70.9	74.7	72.8	73.8
SY Soren	31	1	54.2	12.6	77.1	76.9	72.5	74.7	75.5
SY Rowyn	30	2	53.7	11.2	--	--	74.7	--	--
Velva	34	1	52.0	11.7	70.2	71.9	72.9	72.4	71.7
WB-Digger	35	3	52.2	12.0	--	--	76.7	--	--
SY 605CL	35	2	53.9	12.2	--	--	72.8	--	--
Trial Mean	34	2	53.9	11.8	70.0	74.3	74.8	--	--
C.V. %	4.0	39.7	1.3	5.8	3.1	7.3	6.2	--	--
LSD 10%	2	1	0.8	0.8	2.6	6.5	5.5	--	--

* 0 = no lodging, 9 = 100% lodged.

Planting Date: April 25

Harvest Date: August 29

Previous Crop: Barley

2014 Hard Red Spring Wheat - Recrop **Dickinson, ND**

Variety	Days to Head	Seeds per Pound	Plant Height	Test Weight	Protein	Grain Yield 2012	Grain Yield 2013	Grain Yield 2014	Returns[1]	Average Yield 2 Year	Average Yield 3 Year
			in	lbs/bu	%	bu/ac	bu/ac	bu/ac	$/ac	bu/ac	bu/ac
Advance	66	12,442	33	57.6	11.7	71.1	43.1	88.1	204.65	65.6	67.4
Barlow	64	12,006	36	57.4	12.5	78.6	38.2	91.1	238.47	64.6	69.3
Breaker	66	12,022	33	58.8	11.8	68.3	46.1	88.4	211.50	67.3	67.6
Brennan	64	12,578	29	55.9	12.5	72.8	40.8	84.9	202.09	62.9	66.2
Croplan 3361	66	12,583	32	55.9	11.7	--	--	83.9	177.02	--	--
Croplan 3378	65	13,040	31	56.9	11.6	--	--	92.7	222.32	--	--
Croplan 3419	70	12,996	34	54.9	11.6	--	--	69.8	109.23	--	--
Duclair	65	11,799	33	54.6	12.1	--	42.9	88.5	202.88	65.7	--
Elgin-ND	66	12,306	37	55.8	12.7	69.5	48.5	88.9	226.23	68.7	69.0
Faller	67	11,348	36	55.9	11.9	76.5	48.0	95.1	233.46	71.6	73.2
Forefront	63	11,867	37	57.1	12.7	68.8	44.0	80.0	189.65	62.0	64.3
Glenn	65	11,992	36	55.2	11.7	77.8	39.9	86.0	183.73	62.9	67.9
Howard	65	12,040	36	55.4	12.7	73.4	43.4	91.2	234.66	67.3	69.3
Jenna	68	11,341	33	56.2	12.2	76.9	49.3	93.3	233.57	71.3	73.2
Kelby	63	12,926	30	56.8	13.8	65.5	37.3	81.3	224.08	59.3	61.4
LCS Albany	67	13,700	33	55.9	11.4	72.6	42.4	91.2	204.26	66.8	68.7
LCS Breakaway	64	12,068	31	58.0	12.3	70.1	40.8	88.9	224.34	64.8	66.6
LCS Iguacu	67	12,134	32	54.6	10.6	--	45.9	78.2	123.20	62.1	--
LCS Powerplay	64	11,826	31	56.5	12.4	75.2	50.0	92.2	239.37	71.1	72.5
LCS Pro	65	10,695	37	56.6	11.7	--	--	92.2	220.21	--	--
LCS Nitro	66	12,388	31	55.6	10.9	--	--	80.9	144.16	--	--
Linkert	66	11,226	30	57.0	13.7	66.1	41.2	87.2	249.44	64.2	64.8
MS Stingray	70	12,280	35	54.4	11.0	--	--	87.4	163.19	--	--
Mott	67	12,685	38	57.0	12.5	67.3	46.4	87.0	217.33	66.7	66.9
ND901CL Plus	66	12,458	38	55.9	13.0	69.8	42.3	79.5	190.73	60.9	63.9
Norden	66	12,806	32	58.1	12.1	69.9	45.0	87.4	211.95	66.2	67.4
Prevail	65	12,244	34	56.0	12.9	61.6	42.5	85.3	213.89	63.9	63.1
Prosper	67	11,693	35	56.4	11.5	68.0	46.6	88.7	196.08	67.7	67.8
RB07	63	12,841	30	50.6	13.1	75.3	39.6	61.1	79.07	50.3	58.7
Rolag	64	12,046	31	57.5	13.2	68.2	42.1	86.5	232.05	64.3	65.6
Samson	65	12,805	29	54.0	11.9	71.9	51.5	87.6	190.01	69.5	70.3
Select	62	12,532	38	58.5	12.3	63.6	44.3	82.4	193.24	63.3	63.4
Steele-ND	63	11,961	36	58.2	12.7	71.1	40.7	79.9	191.12	60.3	63.9
Sy 605 CL	64	12,979	36	55.1	13.2	78.0	35.5	89.8	243.97	62.7	67.8
Sy Ingmar	66	13,516	30	56.9	12.7	--	--	88.3	228.56	--	--
Sy Rowyn	64	13,743	32	57.0	12.7	69.9	39.2	87.0	222.20	63.1	65.4
Sy Soren	66	12,754	30	57.0	12.4	68.0	44.7	86.9	213.10	65.8	66.5
Sy Tyra	66	12,856	29	56.2	11.9	70.2	45.0	90.8	216.14	67.9	68.7

Table continues on next page.

2014 Hard Red Spring Wheat - Recrop **Dickinson, ND**

Variety	Days to Head	Seeds per Pound	Plant Height	Test Weight	Protein	Grain Yield 2012	Grain Yield 2013	Grain Yield 2014	Returns[1]	Average Yield 2 Year	Average Yield 3 Year
			in	lbs/bu	%	bu/ac	bu/ac	bu/ac	$/ac	bu/ac	bu/ac
Vantage	70	13,254	34	56.2	13.1	63.3	39.2	83.1	210.56	61.1	61.8
Velva	66	12,013	34	55.2	12.3	78.3	45.7	96.0	246.02	70.8	73.3
WB-Digger	65	12,113	34	56.8	10.9	73.7	48.4	96.0	214.47	72.2	72.7
WB-Gunnison	65	11,215	32	57.7	11.4	66.7	40.9	86.4	191.86	63.7	64.7
WB-Mayville	64	11,541	28	55.5	12.0	71.4	39.1	93.2	230.24	66.2	67.9
WB9507	66	11,072	34	54.1	11.8	--	--	89.0	191.07	--	--
WB-9879CLP	66	12,834	32	52.2	12.8	--	46.1	90.8	209.12	68.5	--
Alpine	67	12,202	34	55.9	12.6	71.8	39.6	92.6	238.62	66.1	68.0
Trial Mean	65	12,187	34	56.4	12.3	70.6	43.5	86.1	204.77	--	--
CV %	1.2	5.8	4.1	1.9	6.4	--	12.9	5.4	--	--	--
LSD 0.10	1	829	2	1.2	1.1	--	6.6	5.5	--	--	--

Planting Date: April 25, 2014

Harvest Date: August 28, 2014

Previous Crop: Oat

Seeding Rate: 1.2 million live seeds/ac

[1]Returns were calculated by multiplying the 2014 yield by protein premium or discount paid at the Southwest Grain Terminal located at Gladstone on August 19. The price paid on this date was $5.33/bu, for a grain protein concentration of 14%. An additional $.06/bu was paid for each additional 0.2% increase in grain protein up to 15%. An Additional $.04/bu was paid for each additional 0.2%increase in protein up to 17% above which an additional premium was not paid. Grain was discounted $0.06/bu for each 0.2% reduction in grain protein from 14% to 9%,below which no additional discount was assigned. Returns factored in discounts for grain with a test weight <58 lb/bu [-$0.02/bu for 0.5 lb/bu between 58 and 57 lb/bu; -$0.03/bu for 0.5 lb/bu between 57 and 55 lb/bu; -$0.04/bu for 0.5 lb/bu between 55 and 54 lb/bu; and -$0.05/bu for 0.5 lb/bu between 54 and 52 lb/bu]. Returns also deduct $201.37, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for spring wheat.

2014 Glen Ullin Spring Wheat - Recrop **Dickinson, ND**

Variety	Seeds per Pound	Test Weight	Protein	Grain Yield 2012	Grain Yield 2013	Grain Yield 2014	Returns[1]	Average Yield 2 Year	Average Yield 3 Year
		lbs/bu	%	bu/ac	bu/ac	bu/ac	$/ac	bu/ac	bu/ac
Advance	14,920	57.7	13.6	--	89.8	72.3	175.35	81.0	--
Barlow	14,614	57.9	14.5	61.8	88.1	71.5	188.23	79.8	73.8
Elgin-ND	14,646	57.3	14.7	65.2	94.4	73.3	201.01	83.9	77.6
Glenn	14,809	57.6	14.2	64.4	85.6	68.8	165.32	77.2	72.9
Mott	15,257	58.3	14.1	64.6	95.1	77.2	210.25	86.2	79.0
Prevail	13,696	58.8	13.5	--	--	75.0	184.99	--	--
Sy Soren	15,826	56.7	14.6	--	86.4	70.2	182.76	78.3	--
Velva	14,369	55.6	13.8	67.9	97.4	70.8	160.18	84.1	78.7
Trial Mean	14,704	57.6	14.1	62.6	91.8	72.4	183.64	--	--
CV %	3.0	1.2	3.1	--	4.6	6.8	--	--	--
LSD 0.10	624	0.8	0.6	--	5.1	NS	--	--	--

Planting Date: May 15, 2014

Harvest Date: September 8, 2014

Previous Crop: Spring Wheat

Seeding Rate: 1.2 million live seeds/ac

[1]Returns were calculated by multiplying the 2014 yield by protein premium or discount paid at the Southwest Grain Terminal located at Gladstone on August 19. The price paid on this date was $5.33/bu, for a grain protein concentration of 14%. An additional $.06/bu was paid for each additional 0.2% increase in grain protein up to 15%. An Additional $.04/bu was paid for each additional 0.2%increase in protein up to 17% above which an additional premium was not paid. Grain was discounted $0.06/bu for each 0.2% reduction in grain protein from 14% to 12%,below which no additional discount was assigned. Returns factored in discounts for grain with a test weight <58 lb/bu [-$0.02/bu for 0.5 lb/bu between 58 and 57 lb/bu; -$0.03/bu for 0.5 lb/bu between 57 and 55 lb/bu; -$0.04/bu for 0.5 lb/bu between 55 and 54 lb/bu; and -$0.05/bu for 0.5 lb/bu between 54 and 52 lb/bu]. Returns also deduct $201.37, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for spring wheat.

2014 Hannover Spring Wheat - Recrop **Dickinson, ND**

Variety	Seeds per Pound	Test Weight	Protein	Grain Yield 2012	Grain Yield 2013	Grain Yield 2014	Returns[1]	Average Yield 2 Year	Average Yield 3 Year
		lbs/bu	%	bu/ac	bu/ac	bu/ac	$/ac	bu/ac	bu/ac
Advance	14,007	59.2	13.5	--	60.6	76.4	191.95	68.5	--
Barlow	14,061	59.7	14.1	60.7	53.4	69.3	168.09	61.3	61.1
Elgin-ND	14,315	58.3	13.8	65.1	61.8	73.5	185.89	107.1	66.8
Glenn	13,838	58.9	14.4	60.4	47.5	64.9	148.30	56.2	57.6
Mott	14,995	58.7	13.7	57.4	64.1	74.1	184.47	69.1	65.2
Prevail	13,121	58.4	14.0	--	--	72.6	185.75	--	--
Sy Soren	14,672	59.0	14.3	--	52.1	68.3	166.80	60.2	--
Velva	13,102	57.4	13.6	56.2	60.0	77.4	200.26	68.7	64.5
Trial Mean	13,925	58.9	13.9	60.1	58.4	72.3	180.73	--	--
CV %	3.2	0.7	2.6	--	5.4	4.0	--	--	--
LSD 0.10	638	0.5	0.5	--	3.8	3.5	--	--	--

Planting Date: May 15, 2014

Harvest Date: September 8, 2014

Previous Crop: Lentil

Seeding Rate: 1.2 million live seeds/ac

[1]Returns were calculated by multiplying the 2014 yield by protein premium or discount paid at the Southwest Grain Terminal located at Gladstone on August 19. The price paid on this date was $5.63/bu, for a grain protein concentration of 14%. An additional $.06/bu was paid for each additional 0.2% increase in grain protein up to 15%. An Additional $.04/bu was paid for each additional 0.2%increase in protein up to 17% above which an additional premium was not paid. Grain was discounted $0.06/bu for each 0.2% reduction in grain protein from 14% to 12%,below which no additional discount was assigned. Returns factored in discounts for grain with a test weight <58 lb/bu [-$0.02/bu for 0.5 lb/bu between 58 and 57 lb/bu; -$0.03/bu for 0.5 lb/bu between 57 and 55 lb/bu; -$0.04/bu for 0.5 lb/bu between 55 and 54 lb/bu; and -$0.05/bu for 0.5 lb/bu between 54 and 52 lb/bu]. Returns also deduct $201.37, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for spring wheat.

2014 SDSU West River Spring Wheat Performance - Average Yield.										
	Draper		Wall		Bison		West River			
	Yield	Test Wt.	Yield	Test Wt.	Yield	Test Wt.	Yield	TYG %	Protein	Test Wt.
Advance	63	54.6	44	59.9	**27**	47.8	45	33	15.1	54.1
LCS Albany	**64**	57.0	48	57.6	25	49.9	46	33	15.2	54.8
Barlow	59	**60.3**	48	58.8	26	50.6	45	0	15.5	**56.6**
LCS Breakaway	63	57.9	48	59.9	26	51.0	46	0	15.4	**56.3**
Breaker	58	**58.9**	51	58.5	**27**	52.1	45	33	15.4	**56.5**
Brick	62	**59.2**	**52**	60.1	26	51.4	**47**	33	15.7	**56.9**
Briggs	**64**	56.0	51	60.2	**30**	48.9	**48**	**67**	15.9	55.0
MS Chevelle	60	56.6	**56**	58.3	**28**	52.5	**48**	**67**	14.0	**55.8**
WB-Digger	**65**	55.0	**63**	57.5	26	52.4	46	**67**	15.0	55.0
Elgin-ND	**64**	56.7	51	58.3	**30**	40.5	**48**	**67**	15.1	51.8
Faller	61	55.2	49	58.8	**28**	51.4	46	33	14.8	55.1
Forefront	**69**	**59.9**	**52**	**61.4**	**27**	50.3	**50**	**100**	15.1	**57.2**
Glenn	**67**	55.0	50	**60.7**	**31**	**53.3**	**49**	**67**	15.0	**56.3**
LCS Iguacu	**64**	58.2	47	59.8	22	47.0	45	33	14.6	55.0
SY Ingmar	56	56.5	47	58.8	25	49.1	43	0	15.3	54.8
Linkert	61	57.7	50	59.6	**28**	46.6	46	33	15.3	54.6
WB-Mayville	55	48.1	47	58.1	25	52.1	43	0	14.8	52.8
Mott	63	**59.0**	45	57.5	26	52.7	45	0	14.5	**56.4**
Norden	60	**59.5**	51	58.8	24	50.0	45	0	14.2	**56.1**
LCS Powerplay	**65**	58.0	49	59.3	26	**54.1**	**47**	33	14.5	**57.1**
Prevail	**73**	57.8	49	60.1	**29**	50.6	**49**	**67**	14.9	**56.2**
Prosper	62	55.7	**54**	57.7	**33**	50.9	**49**	**67**	15.0	54.8
RB07	63	57.7	47	60.1	**29**	47.1	46	33	14.9	55.0
Rollag	59	**59.0**	41	59.7	**28**	**54.4**	42	33	15.6	**57.7**
SY Rowyn	62	58.2	42	58.1	24	48.9	43	0	14.9	55.1
Sabin	**66**	**58.9**	48	59.2	26	49.5	46	33	15.2	**55.9**
Samson	**65**	56.5	**52**	58.8	**28**	50.0	**48**	**100**	14.5	55.1
Select	**66**	**59.1**	47	**61.0**	24	52.2	46	33	13.9	**57.4**
MS Stingray	**69**	56.8	51	57.6	**30**	45.9	**50**	**67**	13.9	53.4
Traverse	59	55.9	**58**	58.4	**29**	51.0	**49**	**67**	15.2	55.1
Velva	56	54.6	**59**	57.1	**28**	50.6	**48**	**67**	15.0	54.1
WB9507	60	56.2	**53**	59.0	**27**	51.3	**52**	**67**	15.0	**55.5**
WB9879Clp	59	57.2	46	58.4	24	50.0	42	0	14.9	55.2
HRS 3361	60	56.8	46	58.3	**27**	50.2	44	33	14.2	55.1
HRS 3378	**64**	57.0	46	59.9	24	47.8	45	33	14.1	54.9
HRS 3419	58	57.3	**56**	56.4	20	50.9	46	33	13.9	54.9
SD 4362	63	**59.7**	**56**	**61.5**	**30**	41.7	**50**	**67**	15.2	54.3
Trial Average	62	57.1	50	59.0	27	49.9	46	-	15.0	55.4
LSD(0.05)	9	2.1	11	1.3	7	7.7	5	-	-	2.7
TPG value§	64	58.9	52	60.3	27	53.1	47	-	-	55.6
C.V.	11	4.2	16	10.6	18	10.7	14.4	-	-	9.3

§ Minimum value required for a variety to qualify for the top yield group (TYG).

2014 North Dakota hard winter wheat variety description and agronomic traits.

Variety	Agent or Origin[2]	Year	Reaction to Disease[1]				Maturity[3]	Straw[4] Strength	Height[5] (inches)	Winter[6] Hardiness
			Stripe Rust	Leaf Rust	Stem Rust	Scab				
AAC Gateway	A.Can.	2012	R	MR/MS	R	MS	0	3	30	3
Accipiter	CDC	2008	NA	MS	R	S	-2	4	36	2
Alice[7]	SD	2006	NA	S	MR	S	-4	5	33	5
Art	Agripro	2008	R	R	R	MS	-6	4	33	8
Boomer	WB	2009	MS	MR	R	S	-2	4	34	3
Broadview	A.Can.	2008	MS	R	R	S/VS	-2	5	32	4
Carter	WB	2010	S	NA	NA	S	-2	4	32	6
CDC Falcon	WB	2000	MS	MS	NA	S	-2	5	34	4
Darrell	SD	2006	NA	S	R	MS	-4	4	35	6
Decade	MT/ND	2010	S	VS	R	VS	-4	4	35	2
Emerson	A.Can.	2011	R	MS	R	MR	-2	4	33	3
Flourish	A.Can.	2010	MR	MS	MS	S	-4	5	35	2
Freeman	ARS-NE	2013	MR/S	MR/MS	MR/MS	MS	-5	4	33	6
Hawken	Agripro	2007	S	MR	MR	S	-5	4	28	7
Ideal	SD	2011	NA	R	MR	S	-3	5	33	5
Jagalene	Agripro	2002	MS	S	MR	VS	-4	4	33	6
Jerry	ND	2001	MR	MR	R	S	0	4	37	3
Lyman	SD	2008	MS	R	R	MR	-4	7	35	5
McGill	ARS-NE	2010	MS	MS	MR	MS	-5	4	36	4
Millennium	NE/SD	1999	MR	MR	MR	S	-4	4	37	6
Moats	A.Can.	2010	NA	R	R	MR	0	5	38	2
Overland	NE	2006	MR	MR/R	MR	S	-4	4	35	5
Peregrine	CDC	2008	R	MR	R	MS	+1	4	39	2
Radiant[8]	A.Can.	2001	R	S	S	S	+1	2	36	2
Robidoux	ARS-NE	2010	MR	MS	MR	S	-3	4	34	6
Roughrider	ND	1975	NA	S	R	MS	0	5	42	2
Smoky Hill	WB	2007	S	R	R	S	0	5	35	7
Striker	WB	2009	MS	MR	R	S	-4	4	32	5
SY Wolf	Agripro	2010	MS	MR	R	MS	-4	4	33	6
WB Grainfield	WB	2013	MS	MS	NA	S	-5	6	33	6
WB Matlock	WB	2010	MS	MS	R	MS	+1	4	36	2
Wesley	NE/SD/WY	2000	MR	MS	R	S	-5	5	32	6
Yellowstone	MT	2005	R	S	S	VS	+2	6	33	5

[1]R = resistant; MR = moderately resistant; MS = moderately susceptible; S = susceptible; VS = very susceptible; NA = not available.
[2]A.Can. = Agriculture and Agri-Food Canada; CDC = Crop Development Centre, University of Saskatchewan; WB = WestBred; SD = South Dakota State University; MT = Montana State University; ND = North Dakota State University; ARS = USDA Agricultural Research Service; NE = University of Nebraska; WY = Wyoming.
[3]Days to heading relative to Jerry.
[4]Straw strength = 1 to 9 scale, with 1 strongest and 9 weakest. These ratings may change as additional data become available.
[5]Based on the average of several environments, and should be used for comparing varieties. The environment can impact the height of varieties.
[6]Relative winter hardiness rating: 1 = excellent, 10 = very poor. These values are subject to change as additional information becomes available.
[7]White wheat.
[8]Curl mite resistant.

Hard Red Winter Wheat - 2014 **Hettinger, ND**

Variety	Spring Stand	Heading Date	Plant Height	Plant Lodge*	Test Weight	Grain Protein	----- Grain Yield ----- 2010	2012	2014	Average Yield 2 yr	3 yr
	%		inches	0-9	lbs/bu	%	---------- Bushels per acre ----------				
Decade	78	6/19	35	0.0	62.0	12.3	75.3	68.4	102.9	85.6	82.2
Overland	70	6/19	36	2.3	62.3	11.6	80.2	73.8	91.6	82.7	81.9
AC Radiant	74	6/22	37	0.5	61.5	11.1	83.1	72.9	87.5	80.2	81.2
Ideal	71	6/21	35	3.0	62.1	11.1	76.6	66.3	95.8	81.0	79.6
Lyman	67	6/18	36	3.8	62.6	12.6	72.3	73.7	91.0	82.3	79.0
Jerry	83	6/22	40	3.3	61.5	11.5	78.5	66.3	85.2	75.7	76.7
Accipiter	76	6/24	35	3.0	60.7	10.9	84.3	58.3	81.2	69.8	74.6
Art	64	6/18	33	0.5	62.1	11.8	74.5	59.7	83.6	71.7	72.6
Peregrine	80	6/23	40	3.3	62.6	10.7	68.5	46.9	96.2	71.6	70.5
SY Wolf	70	6/20	32	0.0	60.6	11.9		62.2	95.7	78.9	--
WB Matlock	74	6/22	36	3.0	62.3	11.6		67.2	86.6	76.9	--
McGill	75	6/19	37	3.3	61.0	10.8		61.8	85.8	73.8	--
AC Emerson	68	6/22	36	0.0	62.4	12.3			94.9	--	--
Freeman	71	6/17	33	2.8	60.3	11.6			93.6	--	--
Flourish	79	6/21	33	1.0	59.9	11.0			88.8	--	--
WB Grainfield	59	6/16	33	1.5	61.4	11.5			88.1	--	--
Redfield	71	6/19	34	3.5	61.5	11.3			88.0	--	--
AC Gateway	68	6/22	33	0.0	61.6	12.0			87.9	--	--
Moats	68	6/22	38	1.8	62.4	11.3			85.6	--	--
CDC Falcon	79	6/21	34	2.8	60.4	10.9			85.2	--	--
AC Broadview	69	6/21	34	4.8	60.7	10.8			84.9	--	--
Alice (white)	65	6/18	30	4.8	60.3	11.3			72.7	--	--
Robidoux	59	6/20	34	4.0	59.7	11.3			71.5	--	--
Trial Mean	71	6/20	35	2.2	61.4	11.4	74.5	63.7	88.1	--	--
C.V. %	13.3	0.5	3.6	53.6	0.8	2.0	5.4	7.7	4.9	--	--
LSD 10%	11	1	1	1.4	0.6	0.3	5.7	5.8	5.9	--	--

* 0 = no lodging, 9 = 100% lodged.

Planting Date: September 25

Harvest Date: August 13

Seeding Rate: 1 million live seeds / acre

Previous Crop: Spring Wheat Green Fallow

2014 Winter Wheat - Recrop **Dickinson, ND**

Variety	Heading Date	Seeds per Pound	Plant Height	Test Weight	Protein	Grain Yield 2012	Grain Yield 2013	Grain Yield 2014	Returns[1]	Average Yield 2 Year	Average Yield 3 Year
	June		in	lbs/bu	%	-----bu/ac-----			$/ac	bu/ac	bu/ac
AC Broadview	21	14,672	30	56.0	11.9	70.3	64.8	104.1	249.20	139.4	79.7
AC Emerson	22	14,455	31	58.0	12.3	--	75.0	93.1	204.22	124.1	--
AC Gateway	22	13,928	27	56.9	13.0	--	--	91.2	199.34	--	--
Accipiter	23	15,283	31	56.5	12.4	60.3	65.0	102.8	249.51	83.9	76.0
Art	20	14,461	27	57.1	12.9	60.3	61.9	87.6	181.97	74.8	70.0
Coulter	23	12,473	31	55.0	11.2		--	105.4	242.74	--	--
Decade	20	13,352	30	57.8	12.1	70.1	75.6	102.2	244.86	88.9	82.6
Falcon	22	15,034	28	56.3	11.2	68.3	66.1	99.7	217.52	82.9	78.0
Flourish	20	13,030	29	55.4	12.1	--	68.0	99.5	232.69	133.4	--
Freeman	19	13,731	28	53.9	11.7	--	65.1	84.7	158.25	102.7	--
Ideal	21	13,383	30	57.1	11.6	62.7	71.1	96.2	209.63	83.6	76.7
Jerry	22	11,847	37	57.0	11.5	66.0	63.5	99.9	222.60	81.7	76.5
Lyman	19	10,864	31	58.0	13.1	67.9	64.5	87.0	179.79	75.7	73.1
McGill	19	13,469	33	56.6	11.7	60.0	55.5	91.1	187.11	111.3	68.9
Moats	23	14,809	36	56.1	12.9	--	66.1	87.8	182.85	112.3	--
Overland	20	12,111	31	57.6	12.4	75.4	63.5	94.4	210.01	78.9	77.8
Peregrine	23	13,608	36	57.2	12.1	54.9	72.0	96.5	218.96	84.3	74.5
Robidoux	22	14,722	29	56.4	11.2	66.4	45.3	88.8	166.18	100.1	66.8
SY Wolf	20	12,497	27	56.9	12.1	65.8	72.0	96.5	218.69	84.2	78.1
WB Grainfield	18	13,169	28	57.4	12.3	--	50.0	88.1	181.57	106.6	--
WB-Matlock	22	12,996	33	57.4	12.1	70.6	64.3	100.6	237.75	82.4	78.5
Warhorse	22	13,768	29	55.8	12.9	--	--	85.0	169.97	--	--
Trial Mean	21	13,498	31	56.6	12.1	64.6	64.7	94.9	208.76	--	--
CV %	0.0	4.2	4.7	1.4	4.7	9.5	10.1	9.4	--	--	--
LSD 0.10	1	672	2	0.9	0.8	7.3	7.7	10.6	--	--	--

Planting Date: September 30, 2013

Harvest Date: August 12, 2014

Previous Crop: Oat

Seeding Rate: 1 million live seeds/ac

[1]Returns were calculated by multiplying the 2014 yield by protein premium or discount paid at the Southwest Grain Terminal located at Gladstone on August 19. The price paid on this date was $5.04/bu for a grain protein concentration of 12%. $.01/bu was paid for each additional 0.2% increase in grain protein up to 15%, above which an additional premium was not paid. Grain was discounted $0.04/bu for each 0.2% reduction in grain protein from 12% to 9%, below which no additional discount was assigned. Returns factored in discounts for grain with a test weight < 60 lb/bu [-$0.01/bu for 0.5 lb/bu between 60 and 58 lb/bu; -$0.02/bu for 0.5 lb/bu between 58 and 57 lb/bu; -$0.03/bu for 0.5 lb/bu between 57 and 55 lb/bu; -$0.04/bu for 0.5 lb/bu between 55 and 54 lb/bu; and -$0.05/bu for 0.5 lb/bu between 54 and 52 lb/bu]. Returns also deduct $221.18, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for winter wheat.

2014 SDSU West River Winter Wheat Performance - Average Yield

	Bison		McLaughlin		West River Average			
Variety	Yield	Test Wt.	Yield	Test Wt.	Yield	TYG%	Protein	Test Wt.
1863†	30	54.8	40	55.4	55	0	11.3	**60.6**
Alice (White)	29	54.1	**54**	**58.6**	55	20	12.4	**59.7**
Arapahoe	30	51.4	49	54.4	56	0	12.9	58.8
Brawl CL Plus†	30	55.6	35	54.7	48	0	13.0	**59.7**
Byrd†	28	54.6	39	54.0	56	0	11.6	**59.7**
WB-Cedar	28	51.8	35	52.7	51	0	12.5	58.6
Decade†	38	55.9	46	52.2	**67**	60	13.4	59.4
Denali†	**39**	54.7	43	52.0	**63**	60	11.5	**59.8**
Everest	29	51.4	40	55.7	53	0	13.0	**60.2**
Expedition	32	55.3	46	**56.1**	56	0	12.4	**59.5**
Freeman	34	53.3	47	54.7	**64**	40	12.5	58.6
WB-Grainfield	27	55.0	42	53.9	59	0	12.5	59.4
Ideal	**39**	54.7	**61**	**56.0**	**71**	100	12.0	**60.6**
Jagalene-Check	30	55.1	42	51.4	60	0	12.5	**59.9**
Jerry	30	53.3	**54**	**56.7**	57	40	12.7	**60.2**
Lyman	**40**	56.3	**56**	54.0	**64**	40	13.2	**61.2**
WB-Matlock	36	55.3	**55**	**57.1**	60	40	12.8	**60.7**
Millenium	37	52.8	**52**	**57.1**	**63**	40	12.3	**60.6**
LCS Mint	36	55.4	45	54.0	**64**	40	12.4	**59.8**
Overland	38	55.9	**52**	**56.8**	**62**	40	12.1	**60.2**
Redfield	34	54.3	**51**	55.9	**63**	40	12.4	**60.1**
WB-Redhawk	27	52.6	24	52.1	49	0	13.3	58.4
Robidoux	26	53.0	36	52.8	54	20	12.1	58.0
Settler CL	**41**	53.2	42	53.3	59	40	12.2	59.1
T158	29	53.9	42	52.4	54	0	11.8	58.5
Wesley	35	53.3	43	52.1	61	20	13.3	58.9
SY-Wolf	**44**	53.7	**57**	53.7	**66**	60	12.9	58.6
Trial Average	34	54	49	54.6	59	-	12.5	59.4
LSD (0.05)	5	NS	10	2.6	9	-	-	1.7
TPG value§	39	NA	51	56.0	62	-	-	59.5
C.V.	21.5	6.1	18.6	4.1	-	-	-	-

† New entry in 2014, not previously tested.

§ Minimum value required for a variety to qualify for the top yield group (TYG).

Descriptions and agronomic traits of durum wheat varieties grown in North Dakota, 2014.

Variety	Agent or Origin[1]	Year Released	Height (inches)	Straw Strength[2]	Days to Heading[3]	Reaction to Disease[4]				
						Stem Rust	Leaf Rust	Foliar Disease	Bact. Leaf Streak	Head Scab
AC Commander	Can.	2002	32	5	68	R	R	MS	NA	NA
AC Napoleon	Can.	2001	40	5	68	R	R	S	NA	NA
AC Navigator	Can.	1999	32	5	66	R	R	M	NA	S
Alkabo	ND	2005	36	2	67	R	R	M	MS	MS
Alzada[5]	WB	2004	30	6	63	R	R	S	NA	VS
Belzer	ND	1997	39	5	66	R	R	M	NA	MR
Ben	ND	1996	39	3	67	R	R	MR	MS	S[6]
CDC Verona	Can.	2010	38	4	69	R	R	MR	NA	S
Carpio	ND	2012	37	5	69	R	R	M	MS/S	M
DG Max	DGP	2008	38	5	66	R	MR	MR	NA	MS
DG Star	DGP	2007	37	4	64	R	R	M	NA	NA
Dilse	ND	2002	37	5	68	R	R	M	M	MS
Divide	ND	2005	38	5	68	R	R	M	MS/S	MR
Grande D'Oro	WB/DGP	2005	37	4	68	R	R	M	NA	NA
Grenora	ND	2005	35	5	67	R	R	M	MS/S	MS
Joppa	ND	2013	39	5	68	R	R	M	MS	MS
Kyle	Can.	1984	39	7	68	R	MR	M	NA	NA
Lebsock	ND	1999	37	3	67	R	R	M	MS	MS
Maier	ND	1998	37	5	67	R	R	M	NA	S[6]
Mountrail	ND	1998	37	5	68	R	R	M	MS	S[6]
Pierce	ND	2001	38	5	67	R	R	MS	MS	S
Plaza	ND	1999	29	7	68	R	R	M	NA	MS
Rugby	ND	1973	38	5	64	R	R	MR	NA	S[6]
Strongfield	Can.	2004	37	6	68	R	R	MS	NA	S
Tioga	ND	2010	39	4	68	R	R	M	MS	MS
VT Peak	Viterra	2010	37	6	68	NA	NA	NA	NA	NA
Wales	WB	2008	36	3	67	R	R	M	NA	S[6]
WB-Belfield	WB	2011	30	2	62	R	R	S	NA	S
Westhope	WB	2009	36	3	67	R	R	MS	NA	S

[1]Refers to agent or developer: Can. = Agriculture Canada, WB = Westbred, ND = North Dakota State University, DGP = Dakota Growers Pasta.
[2]Straw Strength = 1-9 scale, with 1 the strongest and 9 the weakest. Based on recent data. These values may change as more data become available.
[3]Days to Heading = the number of days from planting to head emergence from the boot. Averaged from several locations and years.
[4]R = resistant; MR = moderately resistant; M = intermediate; MS = moderately susceptible; S = susceptible; VS = very susceptible; NA = Not adequately tested. Foliar Disease = reaction to tan spot and septoria leaf spot complex.
[5]Alzada has a disease-resistance package that makes it more adapted to drier growing conditions (western North Dakota).
[6] Indicates yields and/or quality often have been higher than would be expected based on visual symptoms. NA = Not adequately tested.

NDSU Hettinger Research Extension Center

Durum Wheat - 2014 **Hettinger, ND**

Variety	Days to Head	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	*	inches	0-9**	lbs/bu	%	---------- Bushels per acre ----------				
Tioga	74	42	4	59.3	10.9	64.2	59.9	79.8	69.9	68.0
Joppa	76	41	3	60.7	10.9	66.8	51.1	85.7	68.4	67.9
Alkabo	74	41	2	59.9	10.7	64.9	50.5	82.6	66.6	66.0
CDC Verona	75	39	3	59.4	11.9	60.5	55.6	79.1	67.4	65.1
Strongfield	76	38	3	58.9	12.8	66.4	52.4	75.7	64.1	64.8
Divide	75	40	4	60.3	10.6	56.7	55.1	81.6	68.4	64.5
Mountrail	74	41	3	60.1	11.0	53.6	55.3	83.3	69.3	64.1
Carpio	77	41	3	59.9	11.5	59.6	50.3	80.5	65.4	63.5
Ben	75	42	3	60.1	12.0	62.5	53.2	73.0	63.1	62.9
Rugby	74	45	4	60.3	11.3	60.3	51.3	74.9	63.1	62.2
AC Commander	76	30	2	56.7	12.5	72.9	43.7	69.7	56.7	62.1
Lebsock	74	39	2	60.3	11.7	63.4	49.5	71.8	60.7	61.6
AC Navigator	74	31	2	57.9	12.3	73.2	42.3	65.1	53.7	60.2
Grenora	77	37	3	57.3	12.6	58.3	52.6	68.1	60.4	59.7
Pierce	77	40	2	58.9	12.3	62.9	47.2	64.3	55.8	58.1
Maier	77	37	2	58.5	13.0	64.8	42.3	66.3	54.3	57.8
Alzada	73	31	4	56.4	12.5	69.6	35.0	56.8	45.9	53.8
VT Peak	73	37	4	61.4	11.6	--	63.3	80.4	71.9	--
Trial Mean	75	40	3	59.6	11.6	64.5	56.0	78.2	--	--
C.V. %	0.9	3.5	29.9	0.7	3.4	4.9	7.0	4.5	--	--
LSD 10%	1	2	1	0.5	0.5	3.7	4.6	4.1	--	--

* Days to Head = the number of days from planting to head emergence from the boot.

** 0 = no lodging, 9 = 100% lodged.

Planting Date: April 22

Harvest Date: August 27

Previous Crop: Spring Wheat Green Fallow

Durum Wheat - 2014 **Scranton, ND**

Variety	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	inches	0-9*	lbs/bu	%	---------- Bushels per acre ----------				
Alkabo	39	4	58.2	11.9	49.5	57.5	64.9	61.2	57.3
Carpio	40	7	58.1	11.9	39.6	55.3	57.8	56.6	50.9
Divide	39	6	58.9	11.6	50.2	54.6	61.5	58.1	55.4
Joppa	37	6	57.3	12.0	50.4	60.7	63.5	62.1	58.2
Mountrail	39	5	57.7	11.4	50.4	52.9	67.6	60.3	57.0
Tioga	41	5	56.2	11.8	51.5	61.2	61.1	61.2	57.9
Trial Mean	39	5	57.7	11.8	48.2	56.5	62.7	--	--
C.V. %	2.9	9.0	0.7	3.8	4.7	5.8	6.3	--	--
LSD 10%	2	2	0.5	0.5	2.7	4.0	4.8	--	--

* 0 = no lodging, 9 = 100% lodged.

Planting Date: April 24

Harvest Date: September 3

Previous Crop: Spring Wheat

Durum Wheat - 2014 **Regent, ND**

Variety	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	inches	0-9*	lbs/bu	%	---------- Bushels per acre ----------				
Alkabo	42	4	53.9	13.6	33.5	65.5	46.9	56.2	48.6
Carpio	43	5	52.5	14.5	28.8	64.9	46.9	55.9	46.9
Divide	44	4	54.7	14.3	30.1	64.5	46.9	55.7	47.2
Joppa	41	4	52.7	13.8	40.6	67.1	49.9	58.5	52.5
Mountrail	42	4	50.8	14.1	37.1	61.9	47.2	54.6	48.7
Tioga	44	4	52.6	14.3	40.7	69.7	46.3	58.0	52.2
Trial Mean	42	4	52.8	14.1	36.0	65.8	47.4	--	--
C.V. %	3.4	19.7	2.9	4.8	5.4	5.9	9.3	--	--
LSD 10%	2	1	1.9	0.8	2.4	4.8	5.5	--	--

* 0 = no lodging, 9 = 100% lodged.

Planting Date: April 24

Harvest Date: September 3

Previous Crop: Spring Wheat

NDSU Hettinger Research Extension Center

Durum Wheat - 2014 **Mandan, ND**

Variety	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	inches	0-9*	lbs/bu	%	---------- Bushels per acre ----------				
Alkabo	39	4	54.2	10.8	76.9	77.1	74.2	75.7	76.1
Carpio	41	6	54.2	11.0	57.1	84.6	67.6	76.1	69.8
Divide	41	7	54.8	11.0	80.2	79.8	69.3	74.6	76.4
Joppa	41	5	52.3	10.8	82.4	85.3	74.9	80.1	80.9
Mountrail	40	4	52.4	10.6	78.2	80.4	76.0	78.2	78.2
Tioga	42	6	53.6	11.0	82.0	86.4	68.7	77.6	79.0
Trial Mean	41	5	53.6	10.9	75.4	82.1	71.8	--	--
C.V. %	3.2	19.7	1.5	4.4	3.3	4.1	7.4	--	--
LSD 10%	2	1	1.0	0.6	3.0	4.1	6.6	--	--

* 0 = no lodging, 9 = 100% lodged.

Planting Date: April 25

Harvest Date: August 29

Previous Crop: Barley

2014 Durum - Recrop **Dickinson, ND**

Variety	Days to Head	Seeds per Pound	Plant Height	Test Weight	Protein	Grain Yield 2012	Grain Yield 2013	Grain Yield 2014	Returns[1]	Average Yield 2 Year	Average Yield 3 Year
			in	lbs/bu	%	bu/ac	bu/ac	bu/ac	$/ac	bu/ac	bu/ac
AC Commander	69	9,145	32	56.1	14.0	61.2	35.6	72.5	211.05	54.1	56.5
AC Navigator	70	9,455	33	57.6	14.9	52.0	34.5	68.4	196.08	51.5	51.6
Alkabo	71	9,259	37	59.3	13.1	52.8	39.9	74.3	236.87	57.1	55.7
Alzada	64	9,376	30	56.7	13.8	49.3	35.2	56.7	123.06	46.0	47.1
Ben	70	9,023	39	58.3	14.1	59.7	36.7	71.5	217.38	54.1	56.0
CDC Verona	72	9,581	39	59.9	13.8	52.2	39.5	70.7	217.10	55.1	54.1
Carpio	72	8,925	39	61.1	13.5	56.4	43.9	67.0	195.72	55.4	55.8
Divide	71	9,390	39	59.4	12.7	59.1	40.3	77.3	254.80	58.8	58.9
Grenora	70	8,936	36	57.5	13.7	61.2	35.1	78.1	251.77	56.6	58.1
Joppa	71	9,664	38	59.6	12.3	57.4	41.1	80.4	273.09	60.7	59.6
Lebsock	70	9,888	38	59.0	13.0	64.8	32.2	72.6	225.79	52.4	56.5
Maier	70	9,868	38	59.2	13.5	60.3	36.3	75.5	244.41	55.9	57.4
Mountrail	71	9,736	40	58.8	13.1	59.1	44.6	83.2	288.59	63.9	62.3
Pierce	70	10,489	39	60.0	13.2	58.5	31.7	74.3	239.61	53.0	54.9
Rugby	71	10,365	44	59.5	13.5	54.1	32.6	70.5	215.11	51.5	52.4
Strongfield	70	9,592	39	56.1	13.7	55.1	37.6	72.2	209.41	54.9	55.0
Tioga	71	9,066	32	57.5	13.1	56.0	37.5	78.3	253.16	57.9	57.3
Trial Mean	70	9,496	39	58.5	13.5	56.5	38.2	76.7	247.52	--	--
CV %	0.8	4.3	8.7	1.5	4.2	--	17.9	6.9	--	--	--
LSD 0.10	1	480	4	1.0	0.8	--	8.0	6.2	--	--	--

Planting Date: April 25, 2014

Harvest Date: September 2, 2014

Previous Crop: Oat

Seeding Rate: 1.2 million live seeds/ac

[1]Returns were calculated by multiplying the 2014 yield by the test weight discount paid at the Southwest Grain Terminal located at Gladstone on August 19. The price paid on this date was $6.00/bu for grain with a minimum test weight of 60 lb/bu. Grain was discounted $.02/bu for each 0.5 lb reduction in test weight between 60 and 58 lb/bu,$.04/bu per 0.5 lb reduction between 58 and 54 lb/bu, and $0.05/bu per 0.5 lb/bu reduction between 54 and 50 lb/bu. Returns also deduct $205.58, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for durum.

2014 Glen Ullin Durum - Recrop **Dickinson, ND**

Variety	Seeds per Pound	Test Weight	Protein	------Grain Yield------ 2012	2013	2014	Returns[1]	Average Yield 2 Year	3 Year
		lbs/bu	%	-------bu/ac-------			$/ac	----bu/ac----	
Alkabo	11,784	57.4	11.8	65.9	83.2	73.2	221.92	78.2	74.1
Carpio	12,001	57.9	11.9	64.7	87.5	69.3	202.36	78.4	73.8
Divide	11,619	57.0	12.2	63.6	87.0	69.6	198.52	78.3	73.4
Grenora	11,556	55.9	11.8	63.5	85.4	74.5	220.60	80.0	74.5
Joppa	11,502	56.4	11.5	69.4	91.9	76.3	234.86	84.1	79.2
Tioga	11,155	53.8	11.9	66.2	88.8	66.3	162.24	77.5	73.8
Trial Mean	11,603	56.4	11.8	65.6	87.3	71.5	206.75	--	--
CV %	2.4	1.8	3.8	--	6.4	5.1	--	--	--
LSD 0.10	407	1.3	0.7	--	NS	4.5	--	--	--

Planting Date: May 15, 2014

Harvest Date: September 8, 2014

Previous Crop: Spring Wheat

Seeding Rate: 1.2 million live seeds/ac

[1]Returns were calculated by multiplying the 2014 yield by the test weight discount paid at the Southwest Grain Terminal located at Gladstone on August 19. The price paid on this date was $6.00/bu for grain with a minimum test weight of 60 lb/bu. Grain was discounted $.02/bu for each 0.5 lb reduction in test weight between 60 and 58 lb/bu,$.04/bu per 0.5 lb reduction between 58 and 54 lb/bu, and $0.05/bu per 0.5 lb/bu reduction between 54 and 50 lb/bu. Returns also deduct $205.58, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for durum.

2014 Hannover Durum - Recrop **Dickinson, ND**

Variety	Seeds per Pound	Test Weight	Protein	------Grain Yield------ 2012	2013	2014	Returns[1]	Average Yield 2 Year	3 Year
		lbs/bu	%	-------bu/ac-------			$/ac	----bu/ac----	
Alkabo	11,734	57.3	13.1	53.0	56.9	71.4	212.13	64.1	60.4
Carpio	11,213	58.6	13.9	53.1	67.8	64.6	175.00	66.2	61.8
Divide	11,725	53.9	13.4	54.8	61.8	57.8	116.98	59.8	58.1
Grenora	11,154	55.6	12.9	53.7	62.9	71.4	202.39	67.1	62.6
Joppa	11,573	55.0	12.4	55.1	70.6	64.5	160.27	67.6	63.4
Tioga	10,863	52.4	13.4	52.7	69.1	62.1	133.59	65.6	61.3
Trial Mean	11,377	55.5	13.2	53.7	64.8	65.3	166.73	--	--
CV %	2.9	4.6	3.7	--	7.2	10.3	--	--	--
LSD 0.10	486	3.2	0.7	--	6.9	8.3	--	--	--

Planting Date: May 15, 2014

Harvest Date: September 8, 2014

Previous Crop: Lentil

Seeding Rate: 1.2 million live seeds/ac

[1]Returns were calculated by multiplying the 2014 yield by the test weight discount paid at the Southwest Grain Terminal located at Gladstone on August 19. The price paid on this date was $6.00/bu for grain with a minimum test weight of 60 lb/bu. Grain was discounted $.02/bu for each 0.5 lb reduction in test weight between 60 and 58 lb/bu,$.04/bu per 0.5 lb reduction between 58 and 54 lb/bu, and $0.05/bu per 0.5 lb/bu reduction between 54 and 50 lb/bu. Returns also deduct $205.58, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for durum.

2014 North Dakota barley variety descriptions.

Variety	Use[1]	Origin[2]	Year Released	Awn Type[3]	Rachilla Hair Length[4]	Aleurone Color	Height	Straw Strength	Relative Maturity	Reaction to Disease[5]			
										Stem Rust	Spot-form Net Blotch	Spot Blotch	Net Blotch
Six-rowed													
Celebration	M/F	BARI	2008	S	S	White	M.short	Strg.	Med.	S	MS	MR/R	MS/S
Drummond	M/F	ND	2000	S	L	White	M.short	V.strg.	Med.	S	MR	MR/R	MS/S
Innovation	MT	BARI	2009	S	L	White	M.short	Strg.	Med.	S	MS	MR/R	MS/S
Lacey	M/F	MN	1999	S	S	White	M.short	Strg.	Med.	S	MR	MR/R	MS/S
Legacy	M/F	BARI	2000	S	L	White	Med.	Strg.	M.late	S	MS	MR/R	MS/S
Quest[6,8]	M/F	MN	2010	S	L	White	M.short	V.strg.	Med.	S	MR	MR/R	MS/S
Rasmusson	M/F	MN	2008	S	S	White	M.short	Strg.	Med.	S	MS	MR/R	MS/S
Robust	M/F	MN	1983	S	S	White	Med.	M.strg.	Med.	S	MS/S	MR/R	MS/S
Stellar-ND	M/F	ND	2005	S	L	White	M.short	V.strg.	Med.	S	MS	MR/R	MS/S
Tradition	M/F	BARI	2003	S	L	White	M.short	V.strg.	Med.	S	MS	MR/R	MS/S
Two-rowed													
AC Metcalfe	M	Canada	1997	R	L	White	Med.	Med.	Late	S	MS	MS	MS
CDC Copeland	M	Canada	1999	R	L	White	Tall	Med.	Late	S	MS	MS	MR
Conlon[7]	M/F	ND	1996	S	L	White	M.short	Med.	M.early	S	MR	MS	MR/R
Conrad	M	BARI	2007	R	L	White	Tall	M.weak	Late	S	MS	NA[8]	NA
Eslick	F	MT	2003	R	L	White	Med.	M.weak	M.late	S	NA	MS	NA
Harrington[9]	F	Canada	1981	R	L	White	Med.	M.weak	Late	S	S	S	MS
Haxby	F	MT	2003	R	L	White	Med.	Med.	Med.	S	MS	MS	NA
Hockett	M/F	MT	2008	R	L	White	Med.	Med.	Med.	S	NA	NA	NA
Lilly	F	Germany	NA	R	L	White	Short	M.strg.	Late	S	MS/S	S	MR/R
Pinnacle	M/F	ND	2006	S	L	White	Med.	Strg.	M.late	S	S	MR	MS
Rawson	F	ND	2005	R	L	White	Med.	Med.	Med.	S	MS	MR	MS
Scarlett	M	Germany	1995	R	L	White	Short	Med.	Late	S	NA	S	MR
Sunshine	F	Germany	NA	R	L	White	Short	M.strg.	Late	S	S	S	MS
Specialty													
Wanubet	SP	MT	1990	H	L	White	Med.	Weak	Late	S	NA	S	S

[1] M = malting; MT = being tested in plant-scale tests for malting and brewing quality; F = feed; SP = special uses (hull-less).
[2] BARI = Busch Agricultural Resources Inc.; MN = University of Minnesota; MT = Montana State University; ND = North Dakota State University.
[3] R = rough; S = smooth; H = hull-less.
[4] S = short; L = long.
[5] R = resistant; MR = moderately resistant; MS = moderately susceptible; S = susceptible; NA = not available.
[6] Moderately resistant to Fusarium head blight.
[7] Lower DON accumulations than other varieties tested.
[8] NA = not available.
[9] Recommended as a malting barley in western U.S.

Barley - 2014 **Hettinger, ND**

Variety	Days to Head	Plant Height	Plant Lodge	Plump	Test Weight	Grain Protein	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	*	inches	0-9**	%	lbs/bu	%	---------- Bushels per acre ----------				
TWO ROW											
Rawson	69	37	1	95	50.4	11.7	87.3	116.1	102.1	109.1	101.8
Conrad	74	34	2	96	51.4	11.9	91.0	102.7	109.3	106.0	101.0
Conlon	64	36	4	98	52.9	12.6	80.2	102.1	118.2	110.2	100.2
Pinnacle	70	36	1	96	52.3	10.6	71.7	110.5	115.1	112.8	99.1
CDC Copeland	77	41	1	97	50.4	11.7	79.0	103.5	110.0	106.8	97.5
AC Metcalfe	78	39	6	96	50.4	13.9	54.7	87.4	86.9	87.2	76.3
SIX ROW											
Innovation	70	37	2	97	50.8	12.5	102.5	122.4	122.3	122.4	115.7
Tradition	69	38	2	97	50.7	12.9	93.5	124.1	120.2	122.2	112.6
Celebration	69	37	3	97	50.0	13.1	99.5	110.7	115.3	113.0	108.5
Stellar-ND	68	37	5	98	50.3	12.3	94.3	107.9	122.2	115.1	108.1
Lacey	70	36	4	98	51.3	12.6	91.0	116.5	114.2	115.4	107.2
Quest	70	38	3	94	49.8	12.6	90.6	114.0	110.4	112.2	105.0
Trial Mean	70	37	2	96	50.9	12.1	91.0	115.5	115.5	--	--
C.V. %	1.1	3.8	40.5	0.8	0.7	4.8	5.1	5.6	3.0	--	--
LSD 10%	1	2	1	1	0.4	0.7	5.5	7.6	4.1	--	--

* Days to Head = the number of days from planting to head emergence from the boot.

** 0 = no lodging, 9 = 100% lodged.

Planting Date: April 22

Harvest Date: August 11

Previous Crop: Spring Wheat Green Fallow

Barley - 2014 **Scranton, ND**

Variety	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	inches	0-9*	lbs/bu	%	---------- Bushels per acre ----------				
TWO ROW									
Conlon	34	4	46.7	12.4	86.7	81.0	74.0	77.5	80.6
Rawson	36	0	44.8	11.2	81.1	92.5	90.0	91.3	87.9
Pinnacle	36	2	45.6	10.6	80.4	93.5	81.3	87.4	85.1
SIX ROW									
Celebration	36	3	44.3	13.3	85.1	82.6	75.3	79.0	81.0
Quest	35	3	44.9	12.7	72.5	94.6	80.6	87.6	82.6
Innovation	34	2	44.0	12.5	88.4	80.3	83.0	81.7	83.9
Trial Mean	35	2	45.0	12.1	82.4	87.4	80.7	--	--
C.V. %	4.0	22.7	0.7	4.8	5.0	9.6	7.3	--	--
LSD 10%	2	1	0.4	0.7	5.1	10.4	7.3	--	--

* 0 = no lodging, 9 = 100% lodged.

Planting Date: April 24

Harvest Date: September 3

Previous Crop: Spring Wheat

Barley - 2014 **Regent, ND**

Variety	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	inches	0-9*	lbs/bu	%	---------- Bushels per acre ----------				
TWO ROW									
Conlon	33	3	46.7	13.2	69.1	88.4	71.0	79.7	76.2
Rawson	34	0	45.5	11.5	48.8	107.6	84.8	96.2	80.4
Pinnacle	38	1	44.9	11.3	65.3	106.3	73.2	89.8	81.6
SIX ROW									
Celebration	37	2	44.2	13.9	52.4	98.9	87.9	93.4	79.7
Quest	36	2	44.5	13.3	50.9	95.9	84.1	90.0	77.0
Innovation	36	1	43.3	13.1	67.2	104.8	77.1	91.0	83.0
Trial Mean	36	1	44.8	12.7	58.9	100.3	79.0	--	--
C.V. %	3.8	34.4	1.3	4.7	6.2	4.5	12.5	--	--
LSD 10%	2	2	0.7	1.8	4.5	5.5	12.3	--	--

* 0 = no lodging, 9 = 100% lodged.

Planting Date: April 24

Harvest Date: September 3

Previous Crop: Spring Wheat

Barley - 2014 **New Leipzig, ND**

Variety	Plant Height	Plant Lodge	Test Weight	Grain Protein	----- Grain Yield ----- 2012**	2013	2014	Average Yield 2 yr	3 yr
	inches	0-9*	lbs/bu	%	---------- Bushels per acre ----------				
TWO ROW									
Conlon	34	4	45.9	12.0	--	76.0	69.3	72.7	--
Rawson	35	2	45.1	10.9	--	90.5	83.9	87.2	--
Pinnacle	36	3	44.9	10.3	--	81.9	81.8	81.9	--
SIX ROW									
Celebration	35	4	43.3	13.2	--	90.1	81.6	85.9	--
Quest	36	4	44.1	12.3	--	92.4	83.8	88.1	--
Innovation	34	3	42.8	12.2	--	93.0	78.5	85.8	--
Trial Mean	35	3	44.3	11.8	--	87.3	79.8	--	--
C.V. %	3.2	37.5	1.1	3.5	--	7.9	7.6	--	--
LSD 10%	1	2	0.6	0.5	--	8.5	7.5	--	--

* 0 = no lodging, 9 = 100% lodged.

** New Liepzig was not planted in 2012.

Planting Date: April 25

Harvest Date: August 29

Previous Crop: Spring Wheat

2014 Barley - Recrop **Dickinson, ND**

Variety	Days to Head	Seeds per Pound	Plant Height	Test Weight	Protein	% Plump	------- Grain Yield-------- 2012	2013	2014	Returns[1]	Average Yield 2 Year	3 Year
			in	lbs/bu	%	>6/64	----------bu/ac----------			$/ac	----bu/ac----	
Six Row												
Celebration	63	12,091	33	44.7	11.7	99.1	95.7	78.6	124.1	68.14	101.4	99.5
Innovation	63	11,159	34	44.9	11.8	99.5	97.2	76.3	135.7	95.39	106.0	103.0
Lacey	63	11,019	34	46.2	11.8	98.8	93.9	82.3	133.9	93.30	108.1	103.4
Quest	63	11,577	37	44.9	11.9	98.5	91.4	84.9	133.2	89.94	109.1	103.2
Stellar-ND	62	10,725	35	44.0	11.3	99.3	101.7	79.0	142.6	105.56	110.8	107.7
Tradition	63	11,082	36	45.5	12.8	99.3	78.5	74.4	140.6	108.23	107.5	97.8
Two Row												
AC Metcalfe	66	9,625	32	47.5	11.2	98.9	71.9	70.9	122.8	68.99	96.8	88.5
CDC Copeland	67	10,324	35	45.1	11.2	98.7	81.0	87.0	130.7	83.48	108.9	99.6
Conlon	62	8,549	33	46.6	11.8	99.3	72.8	62.8	106.8	33.75	84.8	80.8
Conrad	67	9,760	32	48.2	12.4	99.0	86.6	84.4	144.0	115.60	114.2	105.0
Pinnacle	64	8,569	34	47.5	11.9	99.0	89.1	76.3	130.3	85.42	103.3	98.6
Rawson	64	8,208	34	46.2	12.0	99.2	93.2	83.5	120.4	63.71	102.0	99.0
Trial Mean	64	10,208	34	45.9	11.6	99.1	89.5	81.4	133.1	90.05	--	--
CV %	0.9	3.9	5.8	1.1	7.3	0.3	--	10.7	9.5	--	--	--
LSD 0.10	1	468	2	0.6	NS	0.3	--	10.3	14.9	--	--	--

Planting Date: April 25, 2014
Harvest Date: August 11, 2014
Previous Crop: Oat
Seeding Rate: 1.2 million live seeds/ac

[1]Returns were calculated by multiplying the 2014 yields by the price paid for feed barley minus the test weight discount paid at the Southwest Grain Terminal located at Gladstone on August 19. The price paid on this date was $2.20/bu for grain with test weights heavier than 45 lb/bu. Grain with a test weight of 45 lb/bu was discounted $.03/bu, with an additional discount of $.04/bu per pound down to 42 lb/bu. Below 42 lb/bu, an additional discount of $.05/bu occurred per pound. Returns also deduct $201.20, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for barley.

2014 Glen Ullin Barley - Recrop **Dickinson, ND**

Variety	Seeds per Pound	Test Weight	% Plump	Protein	------Grain Yield------ 2012	2013	2014	Returns[1]	Average Yield 2 Year	3 Year
		lbs/bu	>6/64	%	--------bu/ac--------			$/ac	----bu/ac----	
Six Row										
Innovation	12,245	45.5	98	12.6	69.1	105.8	125.4	74.08	115.6	100.1
Quest	12,377	45.7	95	12.9	67.1	107.0	127.1	77.46	117.1	100.4
Two Row										
Pinnacle	9,658	45.2	96	11.7	68.1	106.5	123.3	70.00	114.9	99.3
Rawson	9,209	52.6	97	12.4	58.0	104.7	98.3	15.00	101.5	87.0
Trial Mean	10,905	45.6	97	12.3	65.5	99.5	123.0	69.18	--	--
CV %	3.3	2.5	0.7	1.8	--	6.5	4.8	--	--	--
LSD 0.10	526	1.5	1	0.3	--	8.0	7.3	--	--	--

Planting Date: May 15, 2014

Harvest Date: August 19, 2014

Previous Crop: Spring Wheat

Seeding Rate: 1.2 million live seeds/ac

[1]Returns were calculated by multiplying the 2014 yields by the price paid for feed barley minus the test weight discount paid at the Southwest Grain Terminal located at Gladstone on August 19. The price paid on this date was $2.20/bu for grain with test weights heavier than 45 lb/bu. Grain with a test weight of 45 lb/bu was discounted $.03/bu, with an additional discount of $.04/bu per pound down to 42 lb/bu. Below 42 lb/bu, an additional discount of $.05/bu occurred per pound. Returns also deduct $201.20, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for barley.

2014 Hannover Barley - Recrop **Dickinson, ND**

Variety	Seeds per Pound	Test Weight	% Plump	Protein	------Grain Yield------ 2012	2013	2014	Returns[1]	Average Yield 2 Year	3 Year
		lbs/bu	>6/64	%	--------bu/ac--------			$/ac	----bu/ac----	
Six Row										
Innovation	12,400	43.2	99	12.8	90.2	82.7	111.4	34.67	97.1	94.8
Quest	13,167	42.4	97	12.2	78.7	74.3	97.0	1.87	85.7	83.3
Two Row										
Pinnacle	10,011	47.0	99	11.8	88.1	78.7	111.2	43.53	95.0	92.7
Rawson	9,265	50.8	99	12.6	79.8	76.2	91.1	-0.80	83.7	82.4
Trial Mean	11,210	46.2	99	12.2	83.4	69.8	104.3	24.49	--	--
CV %	2.9	1.5	0.3	2.3	--	15.2	5.3	--	--	--
LSD 0.10	485	1.1	0	0.4	--	21.4	8.2	--	--	--

Planting Date: May 15, 2014

Harvest Date: August 19, 2014

Previous Crop: Lentil

Seeding Rate: 1.2 million live seeds/ac

[1]Returns were calculated by multiplying the 2014 yields by the price paid for feed barley minus the test weight discount paid at the Southwest Grain Terminal located at Gladstone on September 19. The price paid on this date was $2.20/bu for grain with test weights heavier than 45 lb/bu. Grain with a test weight of 45 lb/bu was discounted $.03/bu, with an additional discount of $.04/bu per pound down to 42 lb/bu. Below 42 lb/bu, an additional discount of $.05/bu occurred per pound. Returns also deduct $201.20, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for barley.

2014 North Dakota oat variety descriptions.

Variety	Origin[1]	Year Released	Grain Color	Height	Straw Strength	Maturity[2]	Reaction to Diseases: Stem Rust[3]	Reaction to Diseases: Crown Rust[3]	Reaction to Diseases: Barley Y.Dwf[4]	Bu/Wt.	Protein[5]
AAC Justice	**Can.**	**2015**	**White**	**Tall**	**Strong**	**L**	**MS**	**R**	**NA**	**V.good**	**NA**
AC Assiniboia	Can. Proven Seed	1997	Red	Med.	Strong	L	S	S	T	Good	ML
AC Kaufman	Can.	2000	Yellow	Tall	Strong	L	S	S	MT	V.good	ML
AC Pinnacle	Can. QAS	1999	White	Tall	Med.	L	S	S	S	V.good	L
Beach	ND	2004	White	Tall	M.strg.	ML	S	MR/MS	MS	V.good	M
Buff	SD	2002	Hull-less	Med.	M.strg.	L	S	MR/MS	MT	Good	H
CDC Dancer	Can. Cargill	2000	White	Tall	Strong	L	S	MS	S	V.good	M
CDC Minstrel	Sask.	2006	White	Tall	M.strg.	L	S	S	S	Good	M
CDC Weaver	Can.	2005	Yellow	Med.	M.strg.	L	S	S	S	Good	M
Deon	**MN**	**2013**	**Yellow**	**Tall**	**Strong**	**L**	**S**	**R**	**T**	**V.good**	
Furlong	AAFC Winnipeg	2003	Red	Tall	M.strg.	L	S	S	T	V.good	M
Goliath	**SD**	**2013**	**White**	**Tall**	**Med.**	**L**	**NA**	**NA**	**NA**	**Good**	**M**
HiFi	ND	2001	White	Tall	Strong	L	MR/MS	S	T	Good	M
Horsepower	SD	2012	White	Short	Strong	EM	MS	S	MT	V.good	MH
Hytest	SD	1986	White	Tall	M.strg.	E	S	MS	S	V.good	H
Jury	ND	2012	White	Tall	M.strg.	M	R	S	MT	V.good	M
Killdeer	ND	2000	White	Med.	Strong	M	S	MS	MT	Good	M
Leggett	AAFC Winnipeg	2005	White	Tall	Strong	L	MR	R	S	Good	M
Loyal	SD	2000	Ivory	Tall	M.strg.	L	S	MR	T	Good	MH
Maida	ND	2005	Yellow	Med.	Strong	M	R	S	MS	V.good	MH
Morton	ND	2001	White	Tall	V.strg.	L	S	S	MT	V.good	M
Newburg	ND	2011	White	Tall	Med.	L	R	S	MT	Good	M
Otana	MT	1977	White	M.tall	M.weak	L	S	S	S	V.good	ML
Paul	ND	1994	Hull-less	V.tall	Strong	L	R	MR/MS	T	Good	H
Rockford	ND	2008	White	Tall	Strong	L	S	S	MT	V.good	M
Sesqui	MN	2001	Yellow	M.tall	Strong	L	S	S	T	Good	M
Shelby 427	SD	2008	White	Med.	Strong	E	S	S	NA	V.good	NA
Souris	ND	2006	White	Med.	Strong	M	MS	S	MS	V.good	M
Stallion	SD	2006	White	Tall	Med.	L	S	MR	NA	V.good	M
Stark	ND	2004	Hull-less	Tall	M.strg.	L	R	MR/MS	T	V.good	M
Streaker	SD	2008	Hull-less	Tall	M.weak	M	S	R/MR	NA	V.good	MH
Summit	AAFC Winnipeg	2008	White	Med.	Strong	L	S	S	MT	Good	M

[1]Can = Canada; ND = North Dakota State University; SD = South Dakota State University; MT = Montana State University; Sask. = Saskatchewan.
[2]E = early; M = medium; L = late.
[3]R = resistant; MR = moderately resistant; MS = moderately susceptible; S = susceptible.
[4]Barley Yellow Dwarf Virus; S = susceptible; MS = moderately susceptible; MT = moderately tolerant; T = tolerant; NA = not available.
Varieties rated MT or T have a relatively good degree of protection against barley yellow dwarf virus.
[5]H = high; M = medium; L = low.
Bolded varieties are new releases.

NDSU Hettinger Research Extension Center

Oat - 2014 **Hettinger, ND**

Variety	Days to Head	Plant Height	Plant Lodge	Test Weight	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	*	inches	0-9**	lbs/bu	---------- Bushels per acre ----------				
CDC Minstrel	77	54	0	33.1	140.4	167.9	191.5	179.7	166.6
Jury	74	47	5	37.5	135.3	163.1	196.0	179.6	164.8
Newburg	73	50	5	36.0	126.2	172.5	192.7	182.6	163.8
Otana	75	49	5	37.2	141.6	167.6	181.3	174.5	163.5
Furlong	77	48	0	33.5	131.1	162.2	192.8	177.5	162.0
Horsepower	72	50	1	37.2	132.9	159.5	192.0	175.8	161.5
Rockford	75	47	0	37.8	126.9	156.1	199.8	178.0	160.9
Killdeer	75	50	0	35.3	131.0	164.0	185.5	174.8	160.2
Leggett	77	46	0	35.5	124.6	162.4	193.2	177.8	160.1
AC Pinnacle	80	44	0	32.6	133.0	148.8	173.5	161.2	151.8
Stallion	75	46	4	37.7	139.0	150.8	157.1	154.0	149.0
Beach	78	49	1	35.9	120.3	152.2	171.0	161.6	147.8
CDC Dancer	79	48	0	32.9	118.9	151.5	165.2	158.4	145.2
Souris	77	51	0	32.6	118.3	136.7	128.9	132.8	128.0
HiFi	77	53	0	32.8	111.5	135.6	130.1	132.9	125.7
Hytest	76	48	5	37.5	120.5	130.2	109.0	119.6	119.9
Goliath	74	53	4	36.5	--	161.0	195.8	178.4	--
Deon	78	53	0	36.0	--	--	200.9	--	--
Paul (hull-less)	78	50	0	39.4	--	--	131.7	--	--
Trial Mean	76	50	2	35.8	124.3	157.0	175.8	--	--
C.V. %	1.0	7.9	62.6	2.4	3.8	5.0	6.3	--	--
LSD 10%	1	5	2	1.0	5.6	9.3	13.0	--	--

* Days to Head = the number of days from planting to head emergence from the boot.

** 0 = no lodging, 9 = 100% lodged.

Planting Date: April 22

Harvest Date: August 19

Previous Crop: Chemical Fallow

2014 Oat - Recrop **Dickinson, ND**

Variety	Days to Head	Seeds per Pound	Plant Height	Test Weight	Grain Yield 2012	Grain Yield 2013	Grain Yield 2014	Returns[1]	Average Yield 2 Year	Average Yield 3 Year
			in	lbs/bu	bu/ac	bu/ac	bu/ac	$/ac	bu/ac	bu/ac
AC Pinnacle	63	11,937	42	34.3	111.9	150.7	216.2	222.09	183.5	159.6
Beach	63	13,459	44	36.9	118.0	142.4	169.9	152.26	156.2	143.4
CDC Dancer	62	12,287	41	34.5	114.2	132.5	170.9	139.30	151.7	139.2
CDC Minstrel	62	11,911	37	32.8	133.3	112.7	193.7	166.32	153.2	146.6
Deon	63	12,322	41	35.0	--	--	175.4	150.76	--	--
Furlong	65	11,099	40	32.1	130.3	131.0	165.7	112.82	148.3	142.3
Goliath	62	12,574	48	35.6	--	116.3	160.3	125.59	138.3	--
HiFi	62	13,439	41	34.3	117.5	117.3	162.9	123.97	140.1	132.6
Horsepower	59	14,438	33	35.1	93.0	111.7	141.2	85.94	126.4	115.3
Hytest	63	13,819	43	34.8	132.8	124.0	178.8	155.87	151.4	145.2
Jury	61	13,202	45	35.0	131.9	124.1	151.2	105.13	137.6	135.7
Killdeer	60	13,350	34	33.9	124.8	135.1	152.0	100.06	143.6	137.3
Leggett	62	12,315	40	35.7	117.8	118.7	197.1	198.08	157.9	144.5
Newburg	61	13,710	44	33.7	139.8	143.9	178.0	145.18	160.9	153.9
Otana	63	14,481	43	35.4	133.4	139.5	178.5	158.66	159.0	150.5
Paul	63	17,493	42	39.1	--	--	132.3	82.27	--	--
Rockford	61	13,348	42	36.8	129.7	136.2	174.4	159.54	155.3	146.8
Souris	61	13,691	36	34.6	127.7	131.2	173.5	143.85	152.3	144.1
Stallion	62	14,044	43	37.6	147.5	129.5	176.1	169.88	152.8	151.0
Trial Mean	62	13,013	41	35.1	122.9	126.5	168.6	137.89	--	--
CV %	1.0	5.1	4.5	1.5	--	10.4	7.7	--	--	--
LSD 0.10	1	782	2	0.6	--	15.4	15.2	--	--	--

Planting Date: May 5, 2014

Harvest Date: August 18, 2014

* Hulless

Previous Crop: Spring Wheat

Seeding Rate: 1 million live seeds/ac

[1]Returns were calculated by multiplying the 2014 yield by the test weight discount paid at the Southwest Grain Terminal located in Gladstone on August 19. The price paid was $2.00/bu for grain with a test weight greater than 37 lb/bu. Grain with a test weight of 37 lb/bu was discounted $.04/bu, with an additional discount of $.04/bu per pound to 30 lb/bu. Below 30 lb/bu, an additional discount of $.07/bu occurred per pound. Returns also deduct $182.34, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for oats.

Safflower - 2014 **Hettinger, ND**

Variety	Days to Flower	Plant Height	Test Weight	-------Grain Yield--------			Average Yield	
				2012	2013	2014	2-Yr	3-Yr
	DAP*	inches	lbs/bu	---------- lbs per acre ----------				
Cardinal	90	37	36.0	2381	2394	1043	1719	1939
Finch	88	33	36.9	2073	2272	897	1585	1747
MonDak	90	35	35.5	2358	2303	1070	1687	1910
Montola 2003	92	32	34.7	2060	2186	991	1589	1746
Morlin	92	31	32.3	--	1776	735	1256	--
Nutrasaff	89	34	35.1	1366	2124	867	1496	1452
Hybrid 9049	90	36	32.5	2601	2978	1063	2021	2214
Hybrid 1601	89	31	37.0	2993	2182	1195	1689	2123
Trial Mean	90	34	35.0	2272	2277	983	1630	1876
C.V. %	0.8	3.7	3.2	10.6	8.8	21.7	--	--
LSD 10%	1	2	1.6	320	244	NS	--	--

* Days after planting.

Planting Date: May 6

Harvest Date: September 22

Previous Crop: Spring Wheat

Oil Type Sunflower - 2014 **Hettinger, ND**

Company/Brand	Hybrid	Oil Type & Traits	Days to Bloom	Plant Height	Lodging	Test Weight	Oil Content	Yield 2014	Yield 2-Year
		*	**	inches	%	lbs/bu	%	lbs/ac	lbs/ac
AgVenture	3N93 DM	HO, CL ,DM	72	50	0	26.6	***	983	1200
AgVenture	3N94DM	NS, CL, DM	74	54	11	28.3		1281	1937
AgVenture	AF3H681ES	HO, EX, DM	74	60	1	26.5		853	--
AgVenture	AF3N692ES	NS, EX, DM	76	56	1	26.1		594	--
AgVenture	EXF4N14		79	53	2	26.6		1401	--
AgVenture	EXF4N15DM		75	51	2	27.2		1544	--
Croplan	432 E	NS, EX, DM	71	50	5	26.6		989	1484
Croplan	545 CL	NS, EX, DM	76	56	3	26.3		1536	--
Geonosys	11G08	NS	76	63	3	28.7		935	1451
Geonosys	12G20	HO, CL	74	53	10	27.9		1710	1932
Geonosys	12G25	HO, CL	74	54	5	28.4		1501	--
Geonosys	12E06	HO, DM	73	60	4	28.7		1255	1678
Geonosys	12E12	HO, CL ,DM	74	62	4	27.2		741	1304
Geonosys	12E13	HO, CL ,DM	74	60	7	26.4		1111	1373
Geonosys	12E14	HO, CL ,DM	75	65	1	25.4		1226	1575
Mycogen Seeds	8H449CLDM	NS, CL, DM	75	50	3	30.2		1533	1731
Mycogen Seeds	8D310CL	NS, CL	74	59	3	26.8		1429	1533
Nuseed	Falcon	NS, EX	75	51	1	27.0		1223	1808
Nuseed	Camaro II	NS, CL, DM	75	57	8	27.7		1305	1676
Nuseed	Talon	NS, EX	71	52	2	26.3		1039	--
Nuseed	Cobalt II	HO, CL, DM	72	54	5	26.3		892	1253
Nuseed	Hornet	HO, CL, DM	78	59	8	26.3		1711	2055
Nuseed	Badger	TR, CL	73	58	8	26.1		1253	--
Nuseed	Badger DMR	TR, CL, DM	71	55	4	26.2		1101	--
Nuseed	Badger HO	HO, CL, DM	68	53	2	25.7		796	--
Proseed	E-21 CL	HO, CL	74	60	5	26.3		653	1150
Proseed	E-31 CL	HO, CL	74	60	3	25.1		1024	1466
Proseed	E-85 CL	HO, CL	75	66	4	25.7		1111	1379
Proseed	E-362436	HO	73	63	11	28.7		1115	1531
Syngenta	7111 HO/CL/DM	HO, CL, DM	71	48	6	27.6		963	1201
Syngenta	7717 HO/CL/DM	HO, CL ,DM	72	52	0	28.1		1857	--
Syngenta	3495 NS/CL/DM	NS, CL ,DM	75	57	6	30.6		1394	--
Syngenta	NX34420 HO/CL/DM	HO, CL ,DM	75	58	13	27.5		1781	--
USDA	Hybrid 894	TR	72	55	4	26.3		1093	--
Trial Mean			74	56	4	27.1		1204	1912
C.V. %			4.9	1.2	107.4	2.8		15	--
LSD 10%			1	3	7	0.9		219	--

* Type: TR-Traditonal, NS-NuSun, HO-High Oleic, CL=Clearfield, EX=ExpressSun, DM=Downy Mildew Resistant

** Days after planting.

*** Oil data was not available at time of printing, results will be updated on the HREC website.
http://www.ag.ndsu.edu/HettingerREC/agronomy

Planting Date: May 22

Harvest Date: November 6

Previous Crop: Wheat

NDSU Hettinger Reserach Extension Center

Canola - Clearfield - 2014 **Hettinger, ND**

Brand	Variety	Oil Type	Days to Bloom	Bloom Duration	Days to Mature	Plant Height	Lodging	Test Weight	Oil Content	Seed Yield 2013	Seed Yield 2-Yr. Avg.
		*	**	days	**	inches	0 - 9***	lbs/bu	%	-------lbs/a-------	
Mycogen	Nexera 2012 CL	TR	49	21	88	43	2	50.3	40.3	1412	950
Mycogen	Nexera 2020 CL	HO	51	21	90	44	2	50.8	41.0	1507	--
Mycogen	CL2537382H	HO	51	20	89	45	1	50.8	41.9	1642	--
Mycogen	CL2537385H	HO	49	23	90	45	2	49.3	39.6	1596	--
Trial Mean			50	21	89	44	2	50.3	40.7	1539	--
C.V. %			0.5	2.0	0.5	3.7	31.4	1.1	3.8	11.3	--
LSD 10%			1	1	1	2	1	0.7	2.0	225	--

* Type: TR-Traditional Oil Type, HO-High Oleic Oil Type.

** Days after planting.

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

Planting Date: May 6

Harvest Date: August 20

Previous Crop: Durum Wheat

NDSU Hettinger Reserch Extension Center

Canola - Roundup Ready - 2014 **Hettinger, ND**

Brand	Variety	Oil Type	Days to Bloom	Bloom Duration	Days to Mature	Plant Height	Lodging	Test Weight	Oil Content	Seed Yield 2014	Seed Yield 3-Yr. Avg.
		*	**	days	**	inches	0 - 9***	lbs/bu	%	-------lbs/a-------	
Mycogen	Nexera 1012 RR	HO	50	25	93	46	1	50.3	40.2	1748	1385
Mycogen	Nexera 1016 RR	HO	49	21	88	42	2	49.9	42.1	1347	1161
Mycogen	G2537736H	HO	49	22	88	40	2	50.2	39.4	1684	--
Star Specialty Seed	Star 402	TR	45	22	85	39	2	51.1	45.9	1886	1491
Cargill	V12-1	HO	49	21	89	39	1	50.1	42.3	1997	1611
Cargill	09H7757	TR	51	22	90	44	1	50.2	41.6	2103	--
Cargill	08H0004	HO	54	20	92	45	2	48.8	41.5	2148	--
Cargill	09H7763	TR	49	21	87	37	2	51.0	42.5	1893	--
Croplan	HyClass 930	TR	46	19	83	35	2	51.2	46.3	1641	1405
Croplan	HyClass 955	TR	47	20	85	39	2	51.4	44.6	1793	1622
Croplan	HyClass 969	TR	48	21	87	38	2	51.2	43.5	1775	--
BrettYoung	6044 RR	TR	48	22	88	39	1	52.0	42.5	1787	--
BrettYoung	6070 RR	TR	46	23	87	39	2	50.5	42.2	1851	1500
Integra	7150	TR	46	20	84	34	2	50.9	45.3	1637	--
Proseed	300 Mag	TR	47	22	87	39	1	50.8	44.2	1664	--
Proseed	44 Mag	TR	49	22	89	37	2	49.9	42.8	1705	--
Trial Mean			48	21	88	40	2	50.6	42.9	1791	--
C.V. %			2.8	4.8	0.8	5.2	34	0.9	2.7	12.5	--
LSD 10%			1	1	1	3	1	0.5	1.4	265	--

* Type: TR-Traditional Oil Type, HO-High Oleic Oil Type.

** Days after planting.

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

Planting Date: May 6

Harvest Date: August 20

Previous Crop: Durum Wheat

Flax - 2014 **Hettinger, ND**

Variety	Days to Bloom	Plant Height	Test Weight	Oil Content	Seed Yield 2014	Seed Yield 3-Yr. Avg.
	**	inches	lbs/bu	%	-------bu/a-------	
Bison	53	26	54.3	41.2	30.7	--
Carter*	53	25	55.2	41.1	29.5	22.7
CDC Arras	53	27	54.7	40.0	30.3	24.4
CDC Bethume	53	28	55.1	40.7	30.4	24.7
CDC Glas	54	25	53.2	41.7	35.2	--
CDC Santuary	54	26	54.0	42.0	35.6	--
CDC Sorrel	54	28	54.5	41.7	32.8	--
GoldND*	55	27	54.5	41.8	32.8	--
Hanley	53	27	54.4	40.8	32.0	23.7
Lightning	54	26	55.1	40.7	31.8	22.6
Linott	54	28	55.7	39.7	32.0	--
McGregor	54	27	55.0	40.7	34.6	--
Neche	54	26	55.0	41.1	30.3	--
Nekoma	53	26	55.0	41.1	32.8	24.9
Omega*	55	26	55.1	40.6	31.2	--
Pembina	53	26	54.4	40.5	31.5	24.4
Praire Blue	54	25	54.5	41.9	34.4	26.2
Prairie Grande	53	24	52.7	41.5	32.8	25.7
Prairie Sapphire	54	26	54.1	43.3	33.7	26.8
Prairie Thunder	54	26	54.7	40.4	33.1	--
Rahab 94	53	24	53.6	41.5	34.4	--
Shape	54	26	54.0	43.0	33.2	--
Webster	54	27	55.3	41.3	31.7	24.7
York	54	25	53.7	40.7	31.7	27.5
Neela	53	26	54.8	41.2	37.6	--
Trial Mean	54	26	54.3	41.6	32.2	--
C.V. %	4.9	1.0	1.0	1.2	10.0	--
LSD 10%	0.6	1	0.6	0.6	3.8	--

* Yellow seed type.

** Days after planting.

Lodging notes were taken at harvest, however no lodging was observed.

Planting Date: May 6

Harvest Date: August 29

Previous Crop: Durum Wheat

Dry Bean - 2014 **Hettinger, ND**

Variety	Type	Days to Flowering	Plant Height	Plant Lodge	Test Weight	Grain Yield 2011	Grain Yield 2013	Grain Yield 2014	Average Yield 2 yr	Average Yield 3 yr
		DAP*	inches	0-9**	lbs/bu	lbs per acre	lbs per acre	lbs per acre	lbs per acre	lbs per acre
LaPaz	Pinto	52	21	5	60.0	1916	2779	2140	2460	2278
Lariat	Pinto	54	19	7	56.9	2068	2571	2081	2326	2240
Maverick	Pinto	50	17	7	59.2	1791	2152	1824	1988	1922
Sinaloa	Pinto	51	21	4	59.3	--	--	2125	--	--
Stampede	Pinto	51	19	5	59.1	1914	2552	1922	2237	2129
Windbreaker	Pinto	48	16	5	57.8	1645	2216	1833	2025	1898
ND-307	Pinto	49	17	5	58.0	2184	2813	1892	2353	2296
ND020351-R	Pinto	48	20	5	59.0	--	2786	2057	2422	--
SF103-8	Pinto	47	18	4	58.1	--	--	1727	--	--
23ST27	Pinto	49	17	7	60.9	--	--	2003	--	--
ND060197	Pinto	50	18	6	59.8	--	--	1930	--	--
Avalanche	Navy	51	18	3	62.4	1549	2571	1583	2077	1901
Ensign	Navy	52	19	6	60.7	1401	2780	1682	2231	1954
HMS Medalist	Navy	52	18	3	62.8	1253	2562	1658	2110	1824
Norstar	Navy	51	15	5	64.0	--	1653	1701	1677	--
Vista	Navy	51	19	3	61.8	1370	1994	1809	1902	1724
T9905	Navy	51	18	4	61.7	--	3082	1913	2498	--
Merlot	Sm Red	51	19	5	60.2	1496	1961	1752	1857	1736
Rio Rojo	Sm Red	49	18	6	61.8	--	2548	2075	2312	--
Sedona	Pink	50	19	6	58.2	612	1533	1437	1485	1194
Rosetta	Pink	51	20	4	61.0	--	--	1839	--	--
Eclipse	Black	50	18	4	60.7	1707	2246	2098	2172	2017
Loreto	Black	51	18	5	60.2	1502	2190	1855	2023	1849
Trial Mean		50	18	5	60.2	1656	2402	1867	--	--
C.V. %		--	6.9	15.8	1.2	7.5	7.7	8.2	--	--
LSD 10%		--	2	1	0.8	177	217	180	--	--

* Days after planting.

** 0 = no lodging, 9 = lying flat on ground.

Planting Date: June 4

Harvest Date: September 26

Seeding Rate: 100,000 live seeds / acre.

Previous Crop: Winter Wheat

Chickpea - 2014 **Hettinger, ND**

Variety	Days to Flower	Height	Lodging	1,000 Seed Wt.	Seeds Lb	--------Seed Size (mm)--------				Test Weight	----- Grain Yield -----			Average Yield	
						<8	8-9	9-10	>10		2012	2013	2014	2 yr	3 yr
	DAP*	inches	0 - 9**	gm	seeds	----------%----------				lb/bu	----------lb/a----------				
Kabuli Type															
CDC Alma	54	15	0	422	1075	5	45	47	4	54.4	--	2131	3386	2759	--
CDC Frontier	53	23	0	378	1200	7	71	20	2	55.0	2855	2380	4719	3550	3318
CDC Luna	54	16	0	399	1139	8	49	40	3	51.1	3134	1976	3844	2910	2985
CDC Orion	53	20	0	479	948	2	20	48	30	53.0	--	2202	3998	3100	--
Dylan	53	21	0	497	914	23	14	14	50	51.7	1445	1214	2406	1810	1688
Sawyer	53	19	0	450	1009	3	29	48	21	55.9	2242	1781	3223	2502	2415
Sierra	54	23	0	549	827	3	7	22	68	53.7	1457	610	1936	1273	1334
BGC090017	53	22	0	455	997	5	33	47	16	56.7	--	2322	4164	3243	--
BGC090018	54	21	0	487	932	4	23	44	29	56.5	--	2180	4204	3192	--
BGC090024	53	22	0	483	940	2	20	44	34	56.5	--	2093	3446	2770	--
Small Kabuli Type															
B-90	54	22	0	305	1493	62	37	1	0	50.3	2813	1914	4204	3059	2977
Desi Type															
CDC Anna	52	23	0	207	2195	80	19	0	0	49.1	2651	2281	4718	3500	3217
Mean	53	21	0	455	1170	13	24	30	32	53.3	2227	1924	3369	--	--
C.V. %	1.0	8.0	0.0	3.4	4.9	24.8	18.0	12.1	14.7	2.3	6.6	11.4	11.1	--	--
LSD 10%	1	2	0	19	61	4	5	4	6	1.5	180	262	443	--	--

* Days after planting.

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

Planting Date: May 8

Harvest Date: September 16

Previous Crop: Oat

NDSU Hettinger Research Extension Center

Field Pea - 2014 **Hettinger, ND**

Variety	Days to Flower	Flower Duration	Days to Mature	Vine Length	Canopy Height	Height Index	Lodging	Seed Protein	1,000 Seed Wt.	Seeds Lb	Test Weight	Seed Yield 2014	Seed Yield 2-Yr. Avg.	Seed Yield 3-Yr. Avg.
	DAP[1]	days	DAP[1]	inches	inches	%[2]	0 - 9[3]	%	gm	seeds	lb/bu	bu/a	bu/a	bu/a
Yellow Cotyledon Type														
Abarth	52	23	88	30	21	70	4	25.6	234	1942	59.8	54.8	--	--
DS Admiral	53	22	89	26	19	73	4	24.6	226	2008	61.2	55.5	54.8	52.7
Agassiz	53	27	94	28	20	71	5	26.7	227	2003	60.6	52.8	52.7	50.1
Bridger	52	21	87	26	19	72	4	24.9	216	2103	60.7	59.8	56.4	55.0
Durwood	54	22	90	32	26	80	4	25.9	224	2031	61.1	53.2	--	--
Gunner	55	22	90	32	22	68	5	25.4	210	2163	60.8	56.6	52.2	50.8
Korando	50	24	88	27	21	77	4	28.0	237	1913	59.7	51.6	50.4	51.3
CDC Meadow	53	24	91	27	22	81	4	24.6	198	2296	60.7	54.4	52.5	--
SW Midas	54	23	91	28	17	61	6	24.9	196	2320	61.5	51.0	51.0	50.3
Mystique	54	23	91	29	23	78	4	25.6	234	1946	60.6	56.4	--	--
Nette	52	20	86	27	21	77	5	24.4	207	2195	61.7	56.9	52.7	--
Torch	57	16	87	25	22	89	3	26.5	247	1840	61.4	54.9	--	--
Quantim	54	19	87	33	19	60	6	25.1	273	1665	61.1	58.5	--	--
PUSA 11002	51	21	86	22	18	81	5	26.8	175	2596	60.8	45.2	46.5	47.9
Green Cotyledon Type														
Aragorn	52	22	87	25	17	69	6	24.9	191	2374	60.2	46.4	--	--
Arcadia	54	19	87	25	15	61	8	24.3	196	2317	60.3	56.9	55.6	54.4
Cruiser	53	23	91	25	17	66	6	24.7	188	2419	60.8	46.5	45.7	45.4
Majoret	54	20	88	28	16	56	5	27.5	221	2055	61.6	47.7	49.3	46.6
Shamrock	54	19	87	30	19	65	5	25.0	231	1963	60.7	58.3	--	--
CDC Striker	54	22	90	25	16	67	7	24.7	194	2340	61.1	53.4	53.0	51.9
Mean	53	22	89	27	19	71	5	25.5	215	2139	60.9	53.6	--	--
C.V. %	1.1	5.1	1.1	7.8	8.8	11.0	20.0	2.4	3.9	3.9	1.0	6.7	--	--
LSD 10%	1	1	1	3	2	9	1	0.7	10	98	0.7	4.3	--	--

[1] Days after planting.

[2] Harvest Index; Plant height at time of harvest relative to plant height at end of bloom.

[3] Lodging: 0 = none, 9 = lying flat on ground.

Planting Date: May 6

Harvest Date: August 18

Previous Crop: Oats

2014 Field Pea - Recrop **Dickinson, ND**

Variety	Days to Bloom	Bloom Duration	Seeds per Pound	Plant Height	Test Weight	Protein	--Grain Yield-- 2012	2013	2014	Returns[1]	Average Yield 2 Year	3 Year
				in	lbs/bu	%	--------bu/ac--------			$/ac	--bu/ac--	
Yellow Types												
Agassiz	51	20	1,821	25	63.3	23.5	38.4	37.6	56.0	329.67	46.8	44.0
DS Admiral	52	17	1,855	25	63.4	23.4	39.0	40.9	50.0	272.13	45.4	43.3
CDC Meadow	52	19	2,041	25	63.9	24.5	--	38.0	49.1	263.49	43.6	--
Green Types												
Cruiser	52	19	2,177	25	63.0	23.9	33.8	29.9	45.5	380.49	37.7	36.4
CDC Striker	52	17	1,895	22	62.9	24.5	38.2	27.2	48.0	412.79	37.6	37.8
Majoret	53	16	1,771	24	63.4	26.2	37.7	34.8	44.6	368.86	39.7	39.0
Trial Mean	52	18	1,326	24	63.3	24.3	37.8	35.5	48.9	337.91	--	--
CV %	1.5	6.0	5.0	6.5	0.8	1.4	--	11.4	6.0	--	--	--
LSD 0.10	NS	1	120	NS	NS	0.4	--	4.9	3.6	--	--	--

Planting Date: May 5, 2014
Harvest Date: August 11, 2014
Previous Crop: Barley
Seeding Rate: 325,000 live seeds/ac
Grain protein percentages reported on a 0% moisture basis

[1]Returns were calculated by multiplying the 2014 yield by the average price for yellow ($9.59/bu) and green ($12.92/bu) peas listed on the Northern Pulse Growers Association web site (http://northernpulse.com/) on September 16, 2014. Returns also deduct $207.37, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for Field Pea.

NDSU Hettinger Reserach Extension Center

Lentil - 2014 **Hettinger, ND**

Variety	Days to Flower	Height	Lodging	Seed Protein	1,000 Seed Wt.	Seeds Lb	Test Weight	----- Grain Yield ----- 2011	2012	2013	Average Yield 2 yr	3 yr
	DAP*	inches	0 - 9**	%	gm	seeds	lb/bu	----------	----------	lb/a ----------	----------	----------
Large Green Type												
CDC Greenland	57	15	6	23.7	71	6404	56.3	1928	1789	2182	1986	1966
Pennell	57	16	6	23.9	63	7168	58.6	1698	1457	2269	1863	1808
Riveland	56	15	6	23.4	76	6009	56.2	1388	1580	2075	1828	1681
Medium Green Type												
Avondale	57	17	6	21.9	58	7852	59.4	--	2171	2700	2436	--
CDC Richlea	57	15	6	23.5	59	7722	57.0	1986	1890	2084	1987	1987
Merrit	55	14	6	24.5	67	6811	58.0	--	--	2244	--	--
Small Green Type												
CDC Viceroy	58	16	6	25.8	34	13268	61.8	1962	3046	2388	2717	2465
Essex	57	17	7	23.1	49	9276	58.3	1875	2171	2031	2101	2026
Eston	57	15	6	25.1	37	12353	60.9	--	2273	2601	2437	--
French Green Type												
CDC Lemay	58	16	8	23.7	36	12612	61.2	1689	2393	2603	2498	2228
Small Red Type											--	--
CDC Red Rider	58	16	5	24.7	50	9117	58.0	--	3133	2475	2804	--
CDC Redberry	57	17	2	24.8	42	10720	61.2	1876	2919	2731	2825	2509
CDC Redcoat	58	18	5	23.0	42	10908	60.8	--	--	2846	--	--
CDC Rosetown	58	18	5	24.8	37	12401	61.8	2130	2942	2319	2631	2464
CDC Rouleau	57	17	5	23.1	42	10765	59.8	1776	1926	2842	2384	2181
Crimson	56	14	9	23.6	35	12972	62.4	--	--	2465	--	--
Spanish Brown Type												
Morena	57	16	6	24.0	39	11597	61.2	2094	2478	1929	2204	2167
Pardina	56	15	8	23.7	41	11118	60.8	--	--	2602	--	--
Mean	57	16	6	24	50	9621	59.6	1932	2283	2394	--	--
C.V. %	0.7	6.0	12.7	2.6	5.4	4.7	1.1	5.8	12.3	10.2	--	--
LSD 10%	1	1	1	0.7	3	529	0.8	133	332	289	--	--

* Days after planting.

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

Planting Date: May 6

Harvest Date: August 18

Previous Crop: No-till Green Fallow Spring Wheat

2014 Lentil - Recrop **Dickinson, ND**

Variety	Days to Bloom	Bloom Duration	Seeds per Pound	Test Weight	Protein	----Grain Yield---- 2012	2013	2014	Returns[1]	Average Yield 2 Year	3 Year
				lbs/bu	%	-----lbs/ac-----			$/ac	---lbs/ac---	
Large Green Types											
CDC Greenland	53	24	6,847	54.6	23.1	1,616	1,743	2,259	432.92	2,001	1,873
Pennell	53	25	6,860	55.4	23.2	1,708	1,548	2,666	547.01	2,107	1,974
Riveland	52	25	6,080	53.6	24.3	1,430	1,451	2,188	412.96	1,819	1,690
Medium Green Type											
CDC Richlea	53	24	8,031	56.9	22.7	1,907	1,872	2,799	584.13	2,335	2,193
Small Green Type											
CDC Viceroy	53	24	12,905	59.6	24.6	1,736	1,920	3,047	653.56	2,483	2,234
Small French Green Type											
CDC Lemay	52	22	12,588	57.3	23.2	1,627	1,571	2,042	372.28	1,807	1,747
Medium Red Type											
CDC Red Rider	53	25	9,424	58.6	23.9	1,899	1,837	2,796	583.31	2,316	2,177
Small Red Types											
CDC Redberry	53	25	9,752	58.9	24.8	1,856	1,567	2,339	455.32	1,953	1,920
CDC Rouleau	53	24	11,071	58.0	22.6	1,780	1,755	2,679	550.67	2,217	2,071
Extra Small Red Type											
CDC Rosetown	53	25	14,795	59.5	25.6	1,738	1,725	2,577	521.97	2,151	2,013
Trial Mean	53	24	9,835	57.2	23.8	1,706	1,673	2,539	511.41	--	--
CV %	0.6	2.5	3.0	0.7	2.2	9.8	13.5	8.8	--	--	--
LSD 0.10	0	1	356	0.5	0.6	198	268	268	--	--	--

Planting Date: May 5, 2014
Harvest Date: August 21, 2014
Previous Crop: Barley
Seeding Rate: 600,000 live seeds/ac
Grain protein percentages reported on a 0% moisture basis

[1]Returns were calculated by multiplying the 2014 yield by the average price for lentils ($28.00/cwt) listed on the Northern Pulse Growers Association web site (http://northernpulse.com/) on September 23, 2014. Returns also deduct $199.55, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for Lentil.

NDSU Hettinger Resarch Extension Center

Clearfield Lentil - 2014 **Hettinger, ND**

Variety	Days to Flower	Height	Lodging	1,000 Seed Wt.	Seeds Lb	Test Weight	----- Grain Yield ----- 2012	2013	2014	Average Yield 2 yr	3 yr
	DAP*	inches	0 - 9**	gm	seeds	lb/bu					
Medium Green Type											
CDC Imigreen CL	57	16	5	59	7694	51.3	1212	2640	2311	2476	2054
CDC Impress CL	56	14	7	57	7996	48.5	1795	3260	2635	2948	2563
Small Red Type											
CDC Maxim CL	56	17	3	44	10294	53.1	2039	3132	3566	3349	2912
CDC Impala CL	59	16	7	41	11048	54.3	1807	3086	2754	2920	2549
Mean	57	16	5	50	9258	51.8	1663	3029	2817	--	--
C.V. %	1.0	5.9	5.4	5.3	5.8	1.2	5.5	8.2	6.6	--	--
LSD 10%	1	1	1	3	697	0.8	112	322	240	--	--

* Days after planting.

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

Planting Date: May 6

Harvest Date: August 25

Previous Crop: No-till Green Fallow Spring Wheat

2014 Clearfield Lentil - Recrop **Dickinson, ND**

Variety	Days to Bloom	Bloom Duration	Seeds per Pound	Plant Height	Test Weight	Protein	---Grain Yield--- 2013	2014	Returns[1]	Average Yield
				in	lbs/bu	%			$/ac	lbs/ac
Large Green Type										
CDC Imigreen-CL	53	23	7,312	15	57.3	25.5	1,527	2,311	447.46	1,919
Medium Green Type										
CDC Impress-CL	53	20	8,364	15	58.0	23.6	1,945	2,604	529.45	2,274
Small Red Type										
CDC Maxim-CL	53	22	10,798	12	59.5	24.1	1,428	2,431	481.17	1,930
Extra Small Red Type										
CDC Impala-CL	54	22	14,886	13	60.6	25.8	1,912	2,802	584.99	2,357
Trial Mean	53	21	10,340	14	58.8	24.8	1,703	2,537	510.77	--
CV %	0.0	3.2	1.9	8.7	0.8	1.3	12.2	8.4	--	--
LSD 0.10	0	1	259	2	0.6	0.4	269	275	--	--

Planting Date: May 5, 2014
Harvest Date: August 21, 2014
Previous Crop: Barley
Seeding Rate: 600,000 live seeds/ac
Grain protein percentages reported on a 0% moisture basis

[1]Returns were calculated by multiplying the 2014 yield by the average price for lentils ($28.00/cwt) listed on the Northern Pulse Growers Association web site (http://northernpulse.com/) on September 23, 2014. Returns also deduct $199.55, the sum of all listed costs from the December 2013 Farm Management Planning Guide Projected 2014 Crop Budgets South West North Dakota for Lentil.

NDSU Hettinger Reaserch Extension Center

Soybean - Conventional - 2014 **Hettinger, ND**

Company/ Brand	Variety	Maturity	Plant Height	Test Weight	Seed Oil	Seed Protein	Grain Yield			Average Yield	
							2012	2013	2014	2-Yr	3-Yr
			inches	lbs/bu	%	%	Bushels per acre				
NDSU	Traill	00.0	31	55.0	15.0	36.9	22.6	44.4	42.5	43.5	36.5
NDSU	Cavalier	00.9	32	53.5	15.7	34.8	30.5	42.6	41.9	42.3	38.3
NDSU	Ashtbula	0.4	31	54.6	16.6	33.5	33.6	46.1	48.0	47.1	42.6
NDSU	Sheyenne	0.7	31	55.6	15.8	33.7	38.5	47.1	50.8	49.0	45.5
Trial Mean		--	32	54.7	15.6	35.3	31.6	44.1	44.4	45.4	40.7
C.V. %		--	2.7	1.2	1.8	1.5	4.9	5.9	5.5	--	--
LSD 10%		--	1	0.8	0.3	0.7	1.9	1.7	3.0	--	--

Planting Date: May 21
Harvest Date: October 7
Previous Crop: Winter Wheat

Soybean - Roundup Ready - 2014 **Hettinger, ND**

Company/Brand	Variety	Maturity	Plant Height	Test Weight	Seed Oil	Seed Protein	Grain Yield 2013	Grain Yield 2014	Average 2-Yr
			inches	lbs/bu	%	%	Bushels per acre		
Legacy Seeds	LS-0134	0.1	25	54.8	14.5	35.3	--	49.5	--
Legacy Seeds	LS-0214	0.2	30	53.0	15.6	35.1	--	50.6	--
Proseed	30-20	0.2	31	53.0	15.8	35.0	--	53.4	--
Legacy Seeds	LS-0334	0.3	29	53.8	14.7	35.7	--	49.5	--
Integra	20300	0.3	27	54.0	14.4	35.3	40.5	46.4	43.5
Integra	20456	0.4	28	54.5	15.1	34.5	--	49.9	--
Peterson FS	15R04	0.4	29	54.6	14.9	34.9	--	48.3	--
AgVenture	04E4RR	0.4	28	53.2	15.2	34.2	--	47.0	--
Proseed	11-50	0.5	32	53.7	14.8	33.9	--	51.2	--
AgVenture	05B5RR	0.5	28	53.5	16.4	32.4	--	50.0	--
Legacy Seeds	LS-0634N	0.6	28	53.9	14.6	35.3	--	46.3	--
NuTech Seed	7063	0.6	28	53.7	15.9	33.1	--	46.6	--
Integra	20600	0.6	31	53.7	14.9	33.8	43.1	50.4	46.8
Integra	20646N	0.6	30	53.8	14.3	36.1	--	48.5	--
Peterson FS	14R06N	0.6	28	53.9	14.1	36.2	--	47.3	--
Legacy Seeds	LS-0833N	0.8	31	54.3	14.6	34.6	--	46.6	--
NuTech Seed	6084R	0.8	26	54.4	14.6	35.5	--	42.3	--
AgVenture	08E5RR	0.8	27	55.2	15.5	33.5	--	41.6	--
AgVenture	09E1RR	0.9	30	54.5	15.1	34.8	--	38.2	--
Legacy Seeds	LS-1134N	1.1	31	54.5	14.6	34.5	--	39.6	--
AgVenture	12B2RR	1.2	30	54.9	14.6	33.5	--	41.4	--
		--	29	54.0	15.0	34.6	43.6	46.9	45.2
C.V. %		--	5.4	0.9	2.6	2.0	6.2	5.7	--
LSD 10%		--	2	0.6	0.5	0.8	3.3	3.2	--

Planting Date: May 21
Harvest Date: October 7
Previous Crop: Winter Wheat

Corn - 2014 **Hettinger, ND**

Company	Hybrid	Traits*	Relavtive Maturity*	Plant Height	Ear Height	Stalk Lodge	Moisture Content	Test Weight	Yield 2014
			days	inches	inches	%	%	lbs/bu	bu/ac
Integra	9333	RR, VT2P	83	94	38	0	13.4	53.7	103.6
Integra	9352	RR, VT3P	85	88	33	1	11.9	50.7	116.5
Integra	3537	RR, VT3P	85	91	35	0	11.6	51.1	118.0
Proseed	1283 VT2P	RR, VT2P	83	84	34	0	13.5	53.0	104.0
Proseed	1083 GT3000	GT, LL, 3000GT	83	93	34	0	12.5	49.2	120.5
Proseed	1384 VT2P	RR, VT2P	84	91	33	0	13.0	54.5	110.2
Proseed	PX85VT2PR	RR, VT2P	85	93	37	0	11.6	50.8	104.6
Proseed	1185 RR	RR	85	93	37	0	11.6	50.3	116.6
Proseed	1286 VT2P	RR, VT2P	86	91	37	1	12.5	51.7	124.3
Legacy Seeds	L2213 VT2P	RR, VT2P	82	85	32	0	13.0	53.4	114.6
Legacy Seeds	L2314 VT2P	RR, VT2P	83	90	35	2	11.5	51.9	120.1
Legacy Seeds	L2413 VT2PRO RIB	RR, VT2P	84	92	35	0	13.2	55.4	111.3
Legacy Seeds	L2643 VT2PRO RIB	RR, VT2P	86	95	37	0	12.0	51.9	122.5
Legacy Seeds	L2813 VT2PRO RIB	RR, VT2P	87	96	37	0	12.5	51.7	123.5
Legacy Seeds	L2914 VT2PRO	RR, VT2P	88	99	37	0	13.2	52.0	115.3
Legacy Seeds	L3011 VT3PRO RIB	RR, VT3P	91	98	38	1	14.5	49.9	127.0
Peterson FS	71N78	RR	78	91	37	0	12.3	53.2	110.6
Peterson FS	71D83	RR, VT2P	83	86	34	1	13.5	53.4	110.7
Peterson FS	75K85	RR, VT2P	85	94	35	0	11.6	51.9	118.1
Nuseed	8202 VP3220	RR, VIP	82	97	36	0	12.4	47.3	93.3
Nuseed	2852 GTCBLL	GT, CB, LL	85	97	35	1	16.1	47.1	103.7
Nuseed	8504 VT2P	RR, VT2P	85	90	33	0	12.0	51.5	111.6
AgVenture	RL2289AM	RR, CB	82	92	36	0	11.1	50.9	118.7
AgVenture	GL2949ABW	GT, CBRW, LL	84	96	36	0	11.5	48.5	105.3
AgVenture	GL2932AB	GT, LL, 3000GT	85	95	38	0	11.7	46.3	103.7
AgVenture	Exp N980x939	RR	90	94	36	0	15.7	44.4	95.8
REA Hybrids	1B820-RIB	RR, VT2P	82	88	34	0	12.9	52.8	117.1
REA Hybrids	2B550-RIB	RR, VT2P	85	89	33	1	11.5	51.9	117.4
REA Hybrids	2B850-RIB	RR, VT2P	85	84	30	0	12.4	51.0	110.2
REA Hybrids	2B870-RIB	RR, VT2P	87	102	37	0	11.4	49.7	115.6
REA Hybrids	2A871-RIB	RR, SS	87	88	34	0	15.1	50.9	106.0
REA Hybrids	3A377-RIB	RR, SS	89	96	35	0	12.2	48.2	119.6
Trial Mean				92	35	0	12.7	50.9	112.8
C.V. %				3.1	5.3	219.0	4.9	2.0	7.7
LSD 10%				3	2	1	0.7	1.2	10.1

* Traits and relavtive maturity provided by the company.

Planting Date: May 22

Harvest Date: October 23

Previous Crop: Wheat

Trial was hit with a hard freeze on September 10.