

# 2011 Canola Variety Trials

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## Introduction

Canola is a major oil crop in the northern Great Plains, particularly in North Dakota. In 2011, North Dakota accounted for approximately 84 percent of the canola acreage harvested in the United States. This publication summarizes canola variety performance at the various North Dakota State University Research Extension Centers. The relative performance of the varieties and hybrids is presented in table form. Give special attention to yield results of those trials nearest to your production area when evaluating varieties or hybrids in these trials. Also, attempt to view yield averages of several years rather than using only one year's data as a determining factor. In addition, consider other agronomic characteristics, such as maturity, lodging score and oil percentages, if available. Research specialists and technicians helped with the field work and data compilation. The assistance given by many secretaries in typing respective portions of the document is very much appreciated. A special thank you goes to Lisa Johnson, Extension Plant Sciences secretary, for assisting in the compilation of this publication.

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**Table 1. Canola Production, North Dakota 1998-2011.**

Year	Acres Planted	Acres Harvested	Yield Per Acre	Production
	------(1,000 Acres)-----		(lb)	(1,000 lb)
1998	800	775	1,480	1,147,000
1999	855	835	1,300	1,085,500
2000	1,270	1,250	1,320	1,650,000
2001	1,300	1,285	1,400	1,799,000
2002	1,300	1,160	1,210	1,403,600
2003	970	960	1,410	1,353,600
2004	780	750	1,630	1,222,500
2005	1,040	1,015	1,440	1,461,600
2006	940	935	1,370	1,280,950
2007	1,080	1,070	1,240	1,375,500
2008	910	895	1,460	1,306,700
2009	730	725	1,840	1,334,000
2010	1,280	1,270	1,720	2,184,400
2011	890	880	1,460 <sup>1</sup>	1,241,000
Average	1,010	986	1,448	1,431,100

Source: North Dakota Agricultural Statistics Service – USDA.

<sup>1</sup>October 2011 estimate.

## 2011 Growing Season Update

Canola fieldwork began in May. Planting was slower than normal, and by May 22, only 20 percent of the acres had been planted, compared with the average (2006-2010) of 79 percent on the same date. The whole state started the growing season with abundant soil moisture. Early canola stands varied across the region, depending on soil moisture availability and rainfall after planting. In mid-July, the North Dakota Agricultural Statistics Service reported the canola crop condition as 67 percent “good” and 14 percent “excellent.” By July 17, 67 percent of the canola crop was flowering, which compared with the 2006-2010 average of 93.

Hot growing conditions during and after flowering, with adequate moisture for crop growth, moved the crop rapidly toward maturity. Fourteen percent of the canola acres were swathed on Aug. 14 and 69 percent of the crop was harvested by Sept. 11. The first frost of the season was observed by the middle of September. By Sept. 25, 95 percent of the canola was harvested.

**Table 2. April-September 2011 Average Temperature and Precipitation Rankings for Select North Dakota Locations.**

City	Temperature Ranking	Precipitation Ranking
Bowman	25th Warmest	6th Wettest
Bismarck	40th Coolest	12th Wettest
Carrington	22nd Warmest	4th Wettest
Fargo	29th Warmest	33rd Wettest
Minot Exp. Station	21st Warmest	3rd Wettest
Williston Exp. Station	53rd Coolest	11th Wettest
North Dakota Average	<b>57th Coolest (117 years)</b>	<b>12th Wettest (117 years)</b>

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

### About this publication

Variety trial data from all NDSU Research Extension Centers for all crops can be found at [www.ag.ndsu.edu/varietytrials](http://www.ag.ndsu.edu/varietytrials). The agronomic data presented in this publication are from replicated research plots using experimental designs that enable the use of statistical analysis. The LSD (Least Significant Difference) numbers beneath the columns in tables are derived from the statistical analyses and only apply to the numbers in the column in which they appear. If the difference between two varieties exceeds the LSD value, it means that with 95 percent probability, the higher-yielding variety has a significant yield advantage. If the difference between two varieties is less than the LSD value, then the variety yields are considered similar. NS is used to indicate no significant difference for that trait among any of the varieties. The CV is a measure of variability in the trial. The CV stands for coefficient of variation and is expressed as a percentage. Large CVs mean a large amount of variation that could not be attributed to differences in the varieties. In the tables, the mean indicates the average of the observations in the column. Only compare values within the table and look for trends for the desired trait among different experimental sites and years. Oil and harvest yield were adjusted to 8.5 percent moisture. Tables 4 and 5 are summary tables with yields expressed as an average of the various trials reported in subsequent tables.

Presentation of data for the varieties tested does not imply approval or endorsement by the authors or agencies conducting the tests. NDSU approves the reproduction of any table in this publication only if no portion is deleted, if appropriate footnotes are given, and if the order of the data is not rearranged and NDSU is credited for the data.

**Table 3. Company Name, Short Name Used in the Tables and URL With Company Information.**

Company/Brand	Short	URL
Bayer CropScience	Bayer	<a href="http://www.bayercropscience.us/products/seeds/invigor-canola/">www.bayercropscience.us/products/seeds/invigor-canola/</a>
BrettYoung	BrettYoung	<a href="http://www.brettyoung.ca/Western_Canada/Products/Canola/index.php">www.brettyoung.ca/Western_Canada/Products/Canola/index.php</a>
Cargill	Cargill	<a href="http://www.victorycanola.com/">www.victorycanola.com/</a>
Croplan Genetics	Croplan	<a href="http://www.croplangenetics.com/FINDSEED/CANOLA/default.aspx">www.croplangenetics.com/FINDSEED/CANOLA/default.aspx</a>
Dekalb	Dekalb	<a href="http://www.asgrowanddekalb.com/products/spring_canola/Pages/default.aspx">www.asgrowanddekalb.com/products/spring_canola/Pages/default.aspx</a>
DL Seeds Inc.	DL Seeds	<a href="http://www.dlseeds.ca">www.dlseeds.ca</a>
Integra Fortified Seed	Integra	<a href="http://www.integraseed.com/products/canola.aspx">www.integraseed.com/products/canola.aspx</a>
Mycogen Seeds	Mycogen	<a href="http://www.mycogen.com/canola/">www.mycogen.com/canola/</a>
Pioneer Hi-Bred International Inc.	Pioneer	<a href="http://www.pioneer.com/home/site/about/products/crops/canola">www.pioneer.com/home/site/about/products/crops/canola</a>
Proseed Inc.	Proseed	<a href="http://www.proseed.net/canola.php">www.proseed.net/canola.php</a>

**Table 4. 2011 Summary of Roundup Ready Canola Varieties in North Dakota.**

Company/ Brand	Variety	Type <sup>1</sup>	Blackleg Rating <sup>2</sup>	REC Carrington	REC Hettinger	REC Langdon	REC <sup>3</sup> Minot	REC Williston	State Trial
------(Yields Expressed as a Percentage of the Trial Mean)-----									
BrettYoung	6040 RR	H,TR	R	105	98	97	+	110	--
BrettYoung	6070 RR	H,TR	R	117	122	120	+	97	--
Cargill	07H874	H,HO	R	--	118	--	+	--	--
Cargill	V12-1	H,HO	R	112	--	118	--	--	--
Cargill	v2035	H,HO	R	101	92	88	+	--	--
Croplan	HyCLASS 940	H,TR	R	93	93	102	+	105	--
Croplan	HyCLASS 947	H,TR	R	102	--	101	+	--	--
Croplan	HyCLASS 955	H,TR	R	108	108	114	+	122	--
Croplan	HyCLASS 988	H,TR	R	104	108	112	+	--	--
Dekalb	DKL30-42	H,TR	R	94	107	94	+	99	93
Dekalb	DKL51-45	H,TR	R	102	--	101	+	96	--
Dekalb	DKL52-41	H,TR	R	98	--	109	+	101	103
Dekalb	DKL55-55	H,TR	R	104	--	77	+	106	--
Dekalb	DKL70-07	H,TR	R	102	--	104	+	101	--
Dekalb	DKL72-40	H,TR	R	100	99	98	+	101	--
Dekalb	DKL72-55	H,TR	R	95	--	95	+	97	98
Integra	7121R	H,TR	R	85	87	88	+	94	--
Integra	7150R	H,TR	R	92	99	87	+	96	--
Integra	7152R	H,TR	R	96	101	92	+	81	--
Mycogen	1012 RR	H,HO	R	93	108	99	+	--	--
Mycogen	1014 RR	H,HO	MR/R	82	99	103	+	--	--
Pioneer	45H26	H	NA	--	--	--	--	--	109
Pioneer	45H29	H,TR	R	111	--	105	+	--	--
Pioneer	45S51	H	NA	--	--	--	--	--	101
Pioneer	45S52	H,TR	MR	110	--	101	+	--	--
Pioneer	46S53	H,TR	R	82	--	100	--	--	--
Proseed	45 Caliber	H,TR	R	111	--	92	--	--	--
Proseed	Sprinter	H,WS	NA	--	60	--	--	--	--
Trial mean in lb/a				1,874	1,976	2,356	--	1,007	2,959

<sup>1</sup>H = Hybrid, TR = Traditional Oil Type, HO = High Oleic Oil Type, WS = Winter x Spring cross.

<sup>2</sup>Blackleg: R = Resistant, MR = Moderately Resistant. Blackleg rating provided by company. NA = Not Available.

<sup>3</sup>Due to challenging field conditions, no 2011 yield data available. + = hybrid was tested, -- = hybrid not tested.

**Table 5. 2011 Summary of Liberty Link and Clearfield Canola Varieties in North Dakota.**

Company/ Brand	Variety	Type <sup>1</sup>	Blackleg Rating <sup>2</sup>	REC Carrington	REC Langdon	REC Minot <sup>3</sup>	REC Williston
(Yields Expressed as a Percentage of the Trial Mean)							
Bayer	InVigor 5440	H,LL,TR	R	118	116	+	107
Bayer	InVigor 8440	H,LL,TR	R	122	92	+	--
Bayer	InVigor L120	H,LL,TR	R	117	104	--	--
Bayer	InVigor L130	H,LL,TR	R	102	96	+	--
Bayer	InVigor L150	H,LL,TR	R	108	102	+	--
Croplan	XCEED Oasis CL <sup>4</sup>	OP,CL,TR	R	83	49	+	86
Croplan <sup>5</sup>	HyCLASS 940	H,RR,TR	R	--	111	--	--
Dekalb <sup>5</sup>	DKL 30-42	H,RR,TR	R	--	--	--	113
Dekalb <sup>5</sup>	DKL 52-41	H,RR,TR	R	--	--	--	94
Dekalb <sup>5</sup>	DKL72-55	H,RR,TR	R	--	128	--	--
Mycogen	2012 CL	H,CL,HO	R	87	103	+	--
Mycogen	2014 CL	H,CL,HO	MR	77	103	+	--
Mycogen	CL166102H	H,CL,HO	R	88	86	+	--
Mycogen	CL166103H	H,CL,HO	R	92	94	+	--
Pioneer	45H73	H,CL,TR	R	116	106	--	--
Pioneer	46H75	H,CL,TR	R	90	111	--	--
Trial mean in lb/a				1,630	1,877	--	1,066

<sup>1</sup>H = Hybrid, OP = Open-pollinated, LL = Liberty Link, CL = Clearfield System, RR = Roundup Ready, TR = Traditional Oil Type, HO = High Oleic Oil Type.

<sup>2</sup>Blackleg: R = Resistant, MR = Moderately Resistant. Blackleg rating provided by company.

<sup>3</sup>Due to challenging field conditions, no 2011 yield data available. + = hybrid was tested, -- = hybrid not tested.

<sup>4</sup>Brassica juncea.

<sup>5</sup>Roundup Ready Check in the trial.

**Table 6. 2011 Canola - Roundup Ready - Carrington - Authors, B. Schatz and K. Bjerke.**

Company/Brand	Variety	Type <sup>1</sup>	First	Flower		1000 Seed	Test	Oil	Seed Yield	
			Flower (DAP) <sup>2</sup>	Duration (days)	Maturity (DAP) <sup>2</sup>	Weight (gram)	Weight (lb/bu)	Content (%)	2011	3-yr Avg.
									-----lb/a-----	
BrettYoung	6040 RR	H,TR	49	17	85	2.5	51.7	39.6	1,977	2,263
BrettYoung	6070 RR	H,TR	47	17	85	2.6	51.2	42.0	2,200	--
Cargill	V12-1	H,HO	49	18	86	2.3	51.2	39.1	2,102	--
Cargill	v2035	H,HO	48	15	84	2.6	51.7	44.0	1,900	--
Croplan	HyCLASS 940	H,TR	47	17	84	2.6	51.9	42.2	1,736	2,255
Croplan	HyCLASS 947	H,TR	48	17	85	2.5	51.3	43.5	1,917	--
Croplan	HyCLASS 955	H,TR	48	16	84	2.5	51.8	43.7	2,018	--
Croplan	HyCLASS 988	H,TR	49	19	86	2.4	50.0	41.4	1,944	--
Dekalb	DKL30-42	H,TR	48	15	84	2.8	51.3	43.0	1,762	2,147
Dekalb	DKL51-45	H,TR	47	15	83	2.6	51.6	44.0	1,911	--
Dekalb	DKL52-41	H,TR	48	17	84	2.6	51.6	41.8	1,838	--
Dekalb	DKL55-55	H,TR	47	15	83	2.6	51.4	44.1	1,948	--
Dekalb	DKL70-07	H,TR	48	17	85	2.5	51.7	43.5	1,906	--
Dekalb	DKL72-40	H,TR	48	15	84	2.5	51.2	44.3	1,874	--
Dekalb	DKL72-55	H,TR	48	17	85	2.6	52.0	42.6	1,772	2,186
Integra	7121R	H,TR	48	18	85	2.6	51.9	40.8	1,602	2,268
Integra	7150R	H,TR	46	16	83	2.6	51.3	44.5	1,727	--
Integra	7152R	H,TR	47	16	84	2.9	51.1	42.2	1,800	--
Mycogen	1012 RR	H,HO	53	17	87	2.3	52.4	38.9	1,738	--
Mycogen	1014 RR	H,HO	53	17	87	2.1	51.7	38.7	1,534	--
Pioneer	45H29	H,TR	48	17	85	2.3	51.7	41.1	2,078	--
Pioneer	45S52	H,TR	48	17	85	2.7	51.4	42.4	2,057	--
Pioneer	46S53	H,TR	49	17	85	2.3	52.4	41.0	1,546	--
Proseed	45 Caliber	H,TR	49	20	86	2.6	50.8	40.5	2,080	--
Mean			48	17	85	2.5	51.5	42.0	1,874	2,224
CV %			0.7	5.4	0.8	6.6	0.6	2.4	9.2	--
LSD 0.05			0.5	1.2	1.0	0.2	0.5	1.4	233	--

Trial was planted on May 9 and harvested on Aug. 9. Previous crop was spring wheat.

<sup>1</sup>H = Hybrid, TR = Traditional Oil Type, HO = High Oleic Oil Type.

<sup>2</sup>DAP = Days after planting.

**Table 7. 2011 Canola - Liberty Link and Clearfield - Carrington - Authors, B. Schatz and K. Bjerke.**

Company/ Brand	Variety	Type <sup>1</sup>	First Flower (DAP) <sup>2</sup>	Flower Duration (days)	Maturity (DAP) <sup>2</sup>	Plant Height (inch)	Plant Lodge (0-9)	Test Weight (lb/bu)	Oil Content (%)	Seed Yield	
										2011	3-yr Avg. -----lb/a-----
Bayer	InVigor 5440	H,LL,TR	47	16	84	46.6	2	52.1	41.3	1,926	1,915
Bayer	InVigor 8440	H,LL,TR	45	16	82	44.9	3	51.1	41.4	1,984	1,898
Bayer	InVigor L120	H,LL,TR	46	15	81	49.3	3	51.2	41.6	1,901	--
Bayer	InVigor L130	H,LL,TR	44	16	79	46.9	4	51.9	42.0	1,657	--
Bayer	InVigor L150	H,LL,TR	47	15	85	48.7	4	51.9	42.6	1,759	--
Croplan	XCEED Oasis CL <sup>3</sup>	OP,CL,TR	37	22	75	45.7	5	51.3	40.3	1,361	--
Mycogen	2012 CL	H,CL,HO	45	17	84	45.5	4	51.6	40.6	1,422	--
Mycogen	2014 CL	H,CL,HO	47	17	83	46.3	3	52.1	41.3	1,257	--
Mycogen	CL166102H	H,CL,HO	46	17	81	47.7	5	51.5	41.7	1,434	--
Mycogen	CL166103H	H,CL,HO	46	17	83	49.5	3	51.6	41.4	1,502	--
Pioneer	45H73	H,CL,TR	44	16	77	47.9	3	51.3	42.2	1,891	--
Pioneer	46H75	H,CL,TR	48	17	85	49.8	4	51.8	40.0	1,468	--
Mean			45	17	81	47.0	3	51.6	41.3	1,630	1,907
CV %			1.3	5.3	3.4	4.8	29.9	0.6	2.6	12.2	--
LSD 0.05			0.7	1.2	4.0	3.3	1.5	0.4	NS	288	--

Trial was planted on May 17 and harvested on Aug. 16. Previous crop was spring wheat.

<sup>1</sup>H = Hybrid, OP = Open-pollinated, LL = Liberty Link, CL = Clearfield System, HO = Heigh Oleic Oil Type, TR = Traditional Oil Type.

<sup>2</sup>DAP = Days after planting.

<sup>3</sup>Brassica juncea.

**Table 8. 2011 Canola - Roundup Ready - Carrington, Drake, Langdon, Minot, Hettinger and Williston - Author, M. Rahman.**

Company/ Brand	Hybrid	Type <sup>1</sup>	2011 Seed Yield						Oil Content		Seed Yield	
			Carrington	Drake	Langdon	Minot	Hettinger	Williston	2010 <sup>2</sup>	2011 <sup>3</sup>	2010 <sup>2</sup>	2011 <sup>3</sup>
									-----lb/a-----			
									(%)	(%)	(lb/a)	(lb/a)
Dekalb	DKL30-42	H,TR	2,831	2,618	2,413	3,152	--	--	44.4	43.2	2,339	2,754
Dekalb	DKL52-41	H,TR	2,894	3,138	3,172	2,937	1,396	1,330	43.3	42.8	2,198	3,035
Dekalb	DKL72-55	H,TR	2,779	2,836	2,901	3,039	1,386	1,462	43.8	43.8	2,514	2,889
Dekalb	IS7145	H,TR	3,125	2,595	3,165	2,678	1,545	1,059	43.1	42.8	2,140	2,891
Pioneer	45H26	H,TR	3,707	2,925	3,419	2,793	1,678	1,298	44.0	43.4	2,202	3,211
Pioneer	45S51	H,TR	3,251	2,803	3,138	2,710	--	--	42.5	43.8	2,436	2,976
Mean			3,098	2,819	3,035	2,885	1,501	1,287	43.4	43.3	2,268	2,959
CV %			--	--	--	--	--	--	2.9	0.9	13.7	9.2
LSD 0.05			--	--	--	--	--	--	1.1	0.6	270	409

<sup>1</sup>H = Hybrid, TR = Traditional Oil Type.

<sup>2</sup>2010 average for Prosper, Langdon, Carrington, Minot and Garrison.

<sup>3</sup>2011 average for Carrington, Drake, Langdon and Minot.

**Table 9. 2011 Canola - Roundup Ready - Hettinger - Authors, E. Eriksmoen and R. Olson.**

Company/Brand	Variety	Type <sup>1</sup>	First	Flower	Maturity	Plant	Lodging	Test	Oil	Seed
			Flower (DAP) <sup>2</sup>	Duration (days)		Height (inch)		Weight (lb/bu)	Content (%)	Yield (lb/a)
BrettYoung	6040 RR	H,TR	56	16	86	45	1	52.5	43.4	1,937
BrettYoung	6070 RR	H,TR	50	20	89	42	2	51.6	44.1	2,417
Cargill	07H874	H,HO	55	16	90	43	0	52.3	43.1	2,322
Cargill	v2035	H,HO	54	18	90	41	3	53.8	45.4	1,825
Croplan	HyCLASS 940	H,TR	51	19	85	44	2	53.2	43.2	1,842
Croplan	HyCLASS 955	H,TR	52	18	89	42	3	53.0	45.9	2,140
Croplan	HyCLASS 988	H,TR	53	20	94	47	1	51.8	44.5	2,142
Dekalb	DKL30-42	H,TR	50	20	85	39	2	52.8	43.4	2,106
Dekalb	DKL72-40	H,TR	52	17	89	39	3	53.1	45.7	1,955
Integra	7121R	H,TR	52	20	88	46	2	53.6	41.4	1,719
Integra	7150R	H,TR	50	19	87	41	3	52.6	44.5	1,951
Integra	7152R	H,TR	52	18	88	41	2	52.5	43.6	2,002
Mycogen	1012 RR	H,HO	57	18	94	49	0	55.6	42.8	2,130
Mycogen	1014 RR	H,HO	57	18	93	46	0	54.2	43.2	1,964
Proseed	Sprinter	H,WS	52	27	96	54	0	58.2	41.3	1,193
Mean			53	19	90	44	2	53.4	43.7	1,976
CV %			0.9	2.9	2.1	8.3	56	1.6	2.7	7.3
LSD 0.05			1	1	3	5	1	1.2	1.7	189

Trial was planted on May 3 and harvested on Aug. 9. Previous crop was spring wheat.

<sup>1</sup>H = Hybrid, TR = Traditional Oil Type, HO = High Oleic Oil Type, WS = Winter x Spring Cross.

<sup>2</sup>DAP = Days after planting.

<sup>3</sup>Lodging 0 = none, 9 = lying flat on ground.

**Table 10. 2011 Canola - Conventional - Williston - Author, G. Bradbury.**

Company/Brand	Variety	Type <sup>1</sup>	First	Flower	Maturity	Plant	Lodging	Test	Oil	Seed
			Flower (DAP) <sup>2</sup>	Duration (days)		Height (inch)		Weight (lb/bu)	Content (%)	Yield (lb/a)
Bayer	InVigor 5440	H,LL,TR	46	17		38.5		52.7	40.9	1,146
Croplan	XCEED Oasis CL <sup>3</sup>	OP,CL,TR	42	21		36.3		51.6	42.7	912
Dekalb <sup>4</sup>	DKL30-42	H,RR,TR	43	18		36.2		52.3	42.7	1,203
Dekalb <sup>4</sup>	DKL52-41	H,RR,TR	44	18		37.2		52.0	42.4	1,005
Mean			44	18		37.1		52.2	42.2	1,066
CV %			1.1	3.6		3.9		0.2	2.4	11.6
LSD 0.05			0.7	1		2.2		0.2	NS	186

Planted May 14 directly into durum stubble residue from 2010. Harvested Aug. 10.

<sup>1</sup>H = Hybrid, OP = Open-pollinated, LL = Liberty Link, CL = Clearfield System, RR = Roundup Ready, TR = Traditional Oil Type.

<sup>2</sup>DAP = Days after planting.

<sup>3</sup>Brassica juncea.

<sup>4</sup>RR = Roundup Ready check in the trial.

**Table 11. 2011 Canola - Roundup Ready - Langdon - Authors, B. Hanson and R. Wilhelmi.**

Company/ Brand		Variety	Type <sup>1</sup>	First Flower (DAP) <sup>3</sup>	Flower Duration (days)	Maturity (DAP) <sup>3</sup>	Plant Height (inch)	Cover <sup>2</sup> (%)	Oil Content (%)	Seed Yield -----lb/a----- 2011    3-yr Avg.	
BrettYoung	6040 RR	H,TR	44	16	85	40	92	49.5	2,297	2,730	
BrettYoung	6070 RR	H,TR	40	17	85	41	97	50.2	2,820	--	
Cargill	V12-1	H,HO	44	17	85	42	98	49.3	2,777	--	
Cargill	v2035	H,HO	44	14	84	36	90	51.9	2,084	--	
Croplan	HyCLASS 940	H,TR	41	16	82	37	94	47.8	2,412	2,865	
Croplan	HyCLASS 947	H,TR	43	17	85	41	96	52.3	2,386	--	
Croplan	HyCLASS 955	H,TR	43	14	84	38	94	52.5	2,686	--	
Croplan	HyCLASS 988	H,TR	43	17	88	42	97	50.0	2,650	--	
Dekalb	DKL30-42	H,TR	41	15	83	36	95	51.3	2,217	3,000	
Dekalb	DKL51-45	H,TR	41	14	84	35	93	51.0	2,385	--	
Dekalb	DKL52-41	H,TR	43	15	84	39	96	49.3	2,576	--	
Dekalb	DKL55-55	H,TR	41	15	92	37	91	52.7	1,824	--	
Dekalb	DKL70-07	H,TR	42	16	84	36	93	51.9	2,447	--	
Dekalb	DKL72-40	H,TR	43	15	84	39	92	51.8	2,320	--	
Dekalb	DKL72-55	H,TR	43	15	84	38	94	52.4	2,239	2,956	
Integra	7121R	H,TR	43	16	85	37	88	48.8	2,084	2,851	
Integra	7150R	H,TR	41	15	83	37	92	51.9	2,057	2,946	
Integra	7152R	H,TR	41	16	83	37	95	51.5	2,159	--	
Mycogen	1012 RR	H,HO	46	17	86	44	97	48.9	2,332	--	
Mycogen	1014 RR	H,HO	47	16	87	40	90	48.8	2,434	--	
Pioneer	45H29	H,TR	43	17	85	42	93	50.7	2,473	--	
Pioneer	45S52	H,TR	43	18	86	39	89	50.2	2,369	--	
Pioneer	46S53	H,TR	44	17	85	44	89	51.2	2,355	--	
Proseed	45 Caliber	H,TR	43	18	85	40	96	50.0	2,168	--	
Mean			43	16	85	39	93	50.7	2,356	2,891	
CV %			1.6	8.3	1.3	5.3	5.3	1.8	12.3	--	
LSD 0.05			0.9	1.8	1.6	2.9	6.8	1.3	396	--	

Trial was planted on May 25 and harvested on Aug. 31.

<sup>1</sup>H = Hybrid, TR = Traditional Oil Type, HO = High Oleic Oil Type.

<sup>2</sup>Cover - visual rating of percent area of plot covered by plant growth. This is a measure of stand and vigor. Plants were at 5-to 6-leaf stage.

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

**Table 12. 2011 Canola - Liberty Link and Clearfield - Langdon - Authors, B. Hanson and R. Wilhelm.**

Company/ Brand	Variety	Type <sup>1</sup>	First Flower (DAP) <sup>3</sup>	Flower Duration (days)	Plant Maturity (DAP) <sup>3</sup>	Plant Height (inch)	Cover <sup>2</sup> (%)	Oil Content (%)	Seed Yield	
									2011	3-yr Avg.
Bayer	InVigor 5440	H,LL,TR	43	15	84	39	92	48.9	2,177	2,916
Bayer	InVigor 8440	H,LL,TR	44	12	83	37	91	49.2	1,731	2,873
Bayer	InVigor L130	H,LL,TR	42	15	82	38	90	49.1	1,802	--
Bayer	InVigor L150	H,LL,TR	45	15	85	39	88	51.2	1,910	--
Bayer	InVigor L120	H,LL,TR	43	14	83	37	92	49.8	1,946	--
Croplan	XCEED Oasis CL <sup>4</sup>	OP,CL,TR	38	16	81	33	69	46.1	925	--
Croplan <sup>5</sup>	HyCLASS 940	H,RR,TR	41	15	83	35	94	48.9	2,085	2,767
Dekalb <sup>5</sup>	DKL72-55	H,RR,TR	42	15	84	37	91	51.2	2,408	2,896
Mycogen	2012 CL	H,CL,HO	43	14	84	36	96	48.6	1,928	--
Mycogen	2014 CL	H,CL,HO	45	15	85	40	91	51.0	1,927	--
Mycogen	CL166102H	H,CL,HO	44	13	85	35	86	51.0	1,608	--
Mycogen	CL166103H	H,CL,HO	45	14	85	36	91	50.7	1,757	--
Pioneer	45H73	H,CL,TR	42	14	83	36	91	49.5	1,988	--
Pioneer	46H75	H,CL,TR	45	16	86	40	92	50.2	2,089	--
Mean			43	15	84	37	90	49.7	1,877	2,863
CV %			3.1	8.6	1.4	5.9	5.1	2.4	16	--
LSD 0.05			2	2	2	3	6.4	1.6	387	--

Trial was planted on May 25 and harvested on Aug. 31-Sept. 9.

<sup>1</sup>H = Hybrid, OP = Open-pollinated, LL = Liberty Link, CL = Clearfield System, RR = Roundup Ready.

TR = Traditional Oil Type, HO = High Oleic Oil Type.

<sup>2</sup>Cover - visual rating of percent area of plot covered by plant growth. This is a measure of stand and vigor. Plants were at 5-to 6-leaf stage.

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

<sup>4</sup>Brassica juncea.

<sup>5</sup>RR = Roundup Ready check in the trial.

**Table 13. 2011 Canola - Liberty Link and Clearfield - Minot - Authors, M. Halvorson and A. Sebelius.**

Company/ Brand	Variety	Type <sup>1</sup>	Early Vigor (1-5) <sup>3</sup>	Percent Cover (%)	First Flower (DAP) <sup>4</sup>	Plant Height (inch)	Test Weight (lb/bu)	1000 Seed Weight (gram)	Oil Content (%)	Seed Yield <sup>2</sup>	
										2-yr Avg.	3-yr Avg.
Bayer	InVigor 5440	H,LL,TR	5	89	25	33	50.7	3.0	44.8	3,616	3,950
Bayer	InVigor 8440	H,LL,TR	7	87	24	34	49.9	3.0	44.1	2,836	3,437
Bayer	InVigor L130	H,LL,TR	7	96	24	35	50.8	2.9	44.6	3,895	--
Bayer	InVigor L150	H,LL,TR	4	73	25	31	50.6	3.1	45.7	2,804	--
Croplan	XCEED Oasis CL <sup>5</sup>	OP,CL,TR	4	70	24	28	50.5	2.9	44.3	--	--
Mycogen	2012 CL	H,CL,HO	7	96	25	33	50.7	3.4	44.5	--	--
Mycogen	2014 CL	H,CL,HO	5	89	26	31	50.9	3.2	45.6	--	--
Mycogen	CL166102H	H,CL,HO	5	84	25	33	50.8	3.4	45.0	--	--
Mycogen	CL166103H	H,CL,HO	5	86	18	31	50.9	3.4	45.2	--	--
Mean			5	86	24	32	50.6	3.1	44.8	3,288	3,694
CV %			23.9	8.7	12.8	6.6	1.2	7.1	1.9	--	--
LSD 0.05			1.7	11	4	3	0.9	0.3	1.2	--	--

Trial was planted on May 19 with a seeding rate of 685,000 PLS and harvested on Aug. 24.

<sup>1</sup>H = Hybrid, OP = Open-pollinated, LL = Liberty Link, CL = Clearfield System, Conv = Conventional, HO = High Oleic,

TR = Traditional Oil Type.

<sup>2</sup>Due to challenging field conditions, no 2011 yield data available. 2-yr = 2009-2010 and 3-yr = 2008-2010.

<sup>3</sup>Early Vigor = Vigor of plants 4 weeks after planting where 1 = poor and 5 = excellent.

<sup>4</sup>DAP = Days after planting.

<sup>5</sup>Brassica juncea.

**Table 14. 2011 Canola - Roundup Ready - Minot - Authors, M. Halvorson and A. Sebelius.**

Company/ Brand	Variety	Type <sup>1</sup>	First Flower (DAP) <sup>2</sup>	Flower Duration (days)	Plant Maturity (DAP) <sup>2</sup>	1000 Seed Weight (gram)	Test Weight (lb/bu)	Oil Content (%)	Seed Yield 2010 <sup>3</sup> (lb/a)
BrettYoung	6040 RR	H,TR	43	15	80	3.1	50.1	44.4	3,098
BrettYoung	6070 RR	H,TR	39	16	79	3.4	50.2	45.5	--
Cargill	07H874	H,HO	43	13	81	3.6	50.0	43.8	--
Cargill	v2035	H,HO	43	15	82	3.6	49.8	42.4	2,635
Croplan	HyCLASS 940	H,TR	38	15	78	3.3	50.3	44.7	3,261
Croplan	HyCLASS 947	H,TR	40	15	79	3.1	50.4	45.8	3,360
Croplan	HyCLASS 955	H,TR	39	16	77	3.4	51.0	46.9	--
Croplan	HyCLASS 988	H,TR	42	16	84	3.8	48.9	45.5	3,662
Dekalb	DKL30-42	H,TR	39	18	76	3.5	51.1	44.8	3,358
Dekalb	DKL51-45	H,TR	39	14	75	3.6	51.2	45.8	3,342
Dekalb	DKL52-41	H,TR	40	16	80	3.3	50.3	44.6	--
Dekalb	DKL55-55	H,TR	38	16	77	3.6	51.1	46.5	--
Dekalb	DKL70-07	H,TR	40	14	79	3.6	51.4	45.1	--
Dekalb	DKL72-40	H,TR	38	15	81	3.3	50.7	45.2	3,446
Dekalb	DKL72-55	H,TR	39	15	79	3.6	51.1	44.6	3,012
Integra	7121R	H,TR	42	16	79	3.2	50.6	44.1	3,135
Integra	7150R	H,TR	40	16	79	3.2	50.3	45.3	3,231
Integra	7152R	H,TR	40	17	78	3.5	50.9	45.2	--
Mycogen	1012 RR	H,HO	44	16	84	3.2	50.6	43.5	--
Mycogen	1014 RR	H,HO	44	16	82	3.3	49.8	42.9	--
Pioneer	45H29	H,TR	40	14	79	3.1	50.7	44.5	--
Pioneer	45S52	H,TR	41	15	79	3.4	49.9	44.6	--
Mean			41	15	79	3.4	50.5	44.8	3,231
CV %			2.9	10.4	1.9	11.4	1.4	3.1	--
LSD 0.05			2	3	2	0.6	1.2	2.3	--

Trial was planted on May 18 with a seeding rate of 685,000 PLS and harvested on Aug. 24.

<sup>1</sup>H = Hybrid, TR = Traditional Oil Type, HO = High Oleic Oil Type.

<sup>2</sup>DAP = Days after planting.

<sup>3</sup>Due to challenging field conditions, no 2011 yield data available.

**Table 15. 2011 Canola - Roundup Ready - Williston - Author, G. Bradbury.**

Company/ Brand	Variety	Type <sup>1</sup>	First Flower (DAP) <sup>2</sup>	Flower Duration (days)	Plant Height (inch)	Test Weight (lb/bu)	Oil Content (%)	Seed Yield	
								2011	3-yr Avg.
								-----(lb/a)----	
BrettYoung	6040 RR	H,TR	61	17	35.6	51.5	45.1	1,110	--
BrettYoung	6070 RR	H,TR	58	19	35.0	51.6	45.8	912	--
Croplan	HyCLASS 940	H,TR	58	18	32.6	52.0	46.4	1,056	964
Croplan	HyCLASS 955	H,TR	58	16	34.4	51.9	48.8	1,225	--
Dekalb	DKL30-42	H,TR	58	18	32.1	52.3	46.8	997	893
Dekalb	DKL51-45	H,TR	57	17	33.3	51.9	48.4	967	--
Dekalb	DKL52-41	H,TR	58	18	34.0	52.0	46.1	1,021	902
Dekalb	DKL55-55	H,TR	58	18	35.1	51.8	48.6	1,070	--
Dekalb	DKL70-07	H,TR	58	19	30.1	52.2	47.6	1,020	--
Dekalb	DKL72-40	H,TR	59	17	34.6	51.8	48.2	1,014	--
Dekalb	DKL72-55	H,TR	58	20	32.4	52.0	47.7	976	968
Integra	7121R	H,TR	59	19	33.7	52.2	46.1	951	--
Integra	7150R	H,TR	57	17	32.6	51.7	48.7	963	--
Integra	7152R	H,TR	59	19	30.4	52.0	45.5	815	--
Mean			58	18	33.3	51.9	47.1	1,007	932
CV %			1.3	6.9	6.5	0.4	1.9	11.3	--
LSD 0.05			1.1	1.7	NS	0.4	1.8	161	--

Trial was planted on April 27 directly into durum stubble residue from 2010 and harvested on Aug. 10.

<sup>1</sup>H = Hybrid, TR = Traditional Oil Type.

<sup>2</sup>DAP = Days after planting.

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