

# OILSEED CROPS



## CANOLA

Canola (*Brassica napus* and *B. rapa*) is a crop developed from oilseed rape by Canadian plant breeders; the first canola variety was licensed in 1974. Canola is used for edible oil extraction and protein feed meal. Canola oil is considered one of the highest quality edible oils available. Considerable acreage of spring canola is grown in Canada. Minnesota acreage increased from about 8,000 acres in 1990 to more than 200,000 acres in 1998.

The oil in canola seed contains less than 2 percent erucic acid, compared with 20 to 40 percent found in oilseed rape. The canola meal remaining after oil extraction contains less than 0.1 percent glucosinolates (sulfur-containing compounds) compared with about 1 percent in rapeseed meal. Consequently, canola is also

referred to as “double low” or “00” rapeseed. High levels of erucic acid in oilseed rape are hazardous to human health, and high levels of glucosinolates are detrimental in livestock feeds.

The canola varieties described here are all spring-sown *Brassica napus* types. Fall-planted winter-type canola varieties were evaluated by University of Minnesota researchers over 10 years ago with limited success. Newer winter-type canola varieties planted in the fall of 2001 at Thief River Falls did not survive the winter. Another trial with winter-type canola varieties was seeded at multiple seeding dates in the fall of 2002 near St. Hilaire for 2003 harvest.

### Information Sources

The Minnesota Canola Council is a good source for information on canola. The Canola Council can be contacted by mail (4630 Churchill St., Suite 1, St. Paul, MN 55126), phone (651-638-9883) or fax (651-638-0756).

A complete and newly revised Canola Growers Manual on canola production will be available in early 2003 from the Canola Council of

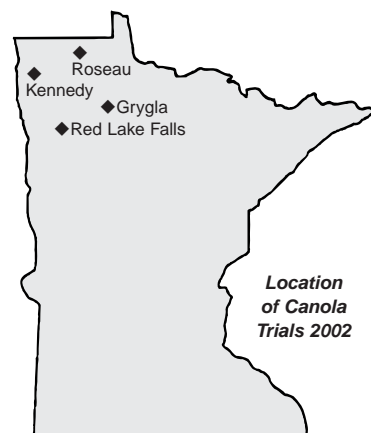
Canada, 400-167 Lombard Ave, Winnipeg, Manitoba, Canada R3B 0T6 (phone 204-982-2100, internet [www.canola-council.org](http://www.canola-council.org)). It contains detailed information on canola production practices and costs \$68.00 (U.S.). The Canola Grower's Manual is also available for viewing online at [www.canola-council.org](http://www.canola-council.org). Please keep in mind when using this manual that not all pesticides used in Canada are legal in the United States. Always confirm the clearance of a pesticide with your local dealer or county extension educator. Another management tool is a CD-ROM called the “Canola Growers Decision Support System” available from the Canola Council of Canada for \$250.00 (U.S.).

### Test Sites

Non-Roundup Ready and Roundup Ready variety trials were conducted at four sites in 2002. The Red Lake Falls testing site was on the Monte Casavan farm, the Roseau site was on the Braaten Farms, the Grygla site was on the Todd Stanley farm, and the Kennedy test site was on the Rob and Tim Rynning farm. Severe flooding in Roseau County destroyed the entire site at Braaten Farms. Heavy rains throughout the summer

### Canola Variety Name Changes

Old Name or Experimental Number	New Variety Name
Bumper	SP Bucky
D5099RR	BlazeRR
InVigor 2373	InVigor 4746
LiBred 4.99	LiBred 499RR
LiBred 799RR	HyCLASS 799 RR
S8071	HyLite 289 CL
SW D5113	SW 1898
SW-P 9828000	SP Admirable



### Canola Planting Rate and Date

Bushel Weight (Pounds).....	50
Seeds/Pound.....	80,000 to 160,000
Planting Rate, Pounds/Acre.....	3 to 7
Planting Rate, Seeds/Square Foot...	6 to 9
Planting Date .....	Early Spring

resulted in damage to numerous plots at Red Lake Falls, Grygla and Kennedy, making some data unreliable and thus discarded from those sites. The Red Lake Falls site was hit by heavy hailstorms twice, once at bolting on June 25 and secondly between combining dates on August

26. The later maturing varieties at the Red Lake Falls site were not harvested for yield due to excessive hail damage.

#### **Local Support**

Cenex-Harvest States of Kennedy provided sponsorship for the Kennedy site. Farmer's Union Oil of

Grygla provided support for the Grygla site.

#### **Field Day Assistance**

County extension educators Nathan L. Johnson, Hans J. Kandel, Curtis W. Nyegaard, Bill Craig and Howard A. Person provided field day assistance.

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### ***Canola seed sources for 2003 planting, keyed to "Variety Information" column in seed yield table, page 56.***

#### **Developers**

- D1 Advanta Seeds, Unit 3, 75 Scurfield Blvd., Winnipeg, MB, Canada R3Y 1P6
- D2 Agriprogress, P.O. Box 2499, Morden, MB, Canada R6M 1C2
- D3 Bayer Crop Science, 203-407 Downey Rd., Saskatoon, SK, Canada S7N 4L8

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- D4 DSV/Brett-Young Seeds, Box 99, St. Norbert, P.O., Winnipeg, MB, Canada R3V 1L5
  - D5 Monsanto, 3100 Sycamore Rd., De Kalb, IL 60115, 815-758-9323
  - D6 Pioneer Hi-Bred International, Inc., 7200 NW 62nd Ave., Johnston, IA 50131
  - D7 Saskatchewan Wheat Pool/AgPro, 201-407 Downey Rd., Saskatoon, SK, Canada S7N 4L8

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- D8 Svalof Weibull Ltd., 2-411 Downey Rd., Saskatoon, SK, Canada S7N 4L8
  - D9 University of Alberta/Agricore, P.O. Box 2700, Station "M", Calgary, AB, Canada T2P 2P5
  - D10 Not Available

#### **Marketers**

- M1 Bayer Crop Science, 203-407 Downey Rd., Saskatoon, SK, Canada S7N 4L8, 701-775-2700
- M2 Canterra Seeds Ltd., 14-62 Scurfield Blvd, Winnipeg, MB, Canada R3Y 1M5, 204-988-9751
- M3 Croplan Genetics, P.O. Box 1291, Minot, ND 59702, 701-852-3556
- M4 Integra Seed Ltd., P.O. Box 40, Bozeman, MT 59771, 406-582-8375

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- M5 Interstate Seed Company, 1215 Parkway, West Fargo, ND 58078, 800-437-4120
  - M6 Monsanto, 3100 Sycamore Rd., De Kalb, IL 60115, 815-758-9323
  - M7 Pioneer Hi-Bred International, Inc., 7200 NW 62nd Ave., Johnston, IA 50131, 701-298-6894
  - M8 Proseed, 705 E. Brewster, Harvey, ND 58341, 701-324-4177

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- M9 Seeds 2000, Box 200, Breckenridge, MN 56520, 218-643-2410
  - M10 Van Seeds, Box 295, Bottineau, ND 58318, 888-325-7162
  - M11 Not Available

**Seed yield of Roundup Ready canola (*Brassica napus*) varieties (lb/acre at 8% moisture) at Kennedy, Grygla and Red Lake Falls, in 2002.**

**Variety information** includes Source Codes: (D# = Developer; M# = Marketer) keyed to listing, page 55, and these supplemental codes: H = Hybrid, Op = Open Pollinated, Syn = Synthetic, SP = Specialty Oil.

\*Average yields were analyzed using three replicates from each site.

\*\*Varieties without data at Red Lake Falls were hail damaged. The other plots were harvested before the August 26 hailstorm.

**Blackleg resistance** rating provided by seed companies: R = Resistant, MR = Moderately Resistant, MS = Moderately Susceptible, S = Susceptible, NA = Not Available.

Variety	Variety Information	Blackleg Resistance	Kennedy	Grygla	Average*		Average,* All Sites
					Kennedy, Grygla	Red Lake Falls**	
45A55	D6,M7,Op	R	1,501	1,750	1,633	1,585	1,617
45H21	D6,M7,H	R	1,581	2,100	1,876	1,773	1,842
BlazeRR	D8,M4,H	MR	1,429	1,655	1,539	1,708	1,596
Canterra 1812	D2,M2,Syn	MR	1,436	1,565	1,521	1,312	1,452
Crosby	D10,M3,Op	MR	1,596	1,759	1,677	–	–
Dakota	D9,M5,Op	R	1,197	1,379	1,331	1,034	1,232
DKL223	D1,M6,H	MS	1,597	1,848	1,766	1,548	1,693
DKL34-55	D5,M6,Op	MR	1,323	1,441	1,402	1,570	1,458
DKL35-85	D5,M6,Op	R	1,583	1,674	1,647	–	–
HyCLASS 2061	D2,M3,H	MR	1,690	1,843	1,766	1,473	1,668
HyCLASS 767 SW	D10,M3,Syn	MR	1,611	1,888	1,756	1,449	1,654
HyCLASS 799 RR	D4,M3,Syn	MR	1,277	1,647	1,444	1,671	1,520
HyCLASS 905	D10,M3,H	R	1,871	1,886	1,892	2,027	1,937
Hyola 357 Magnum	D1,M5,H	MR	1,560	1,892	1,764	1,700	1,743
Hyola 357 RR	D1,M5,H	MS	1,483	1,652	1,561	1,761	1,628
LiBred 499RR	D4,M10,H	R	1,308	1,516	1,453	1,429	1,445
LiBred 612RR	D4,M10,Op	R	1,300	1,352	1,349	1,491	1,397
Minot	D2,M3,Op	MR	1,484	1,722	1,604	–	–
NR00-1301	D7,M11,Op	R	1,390	1,396	1,407	1,462	1,425
NR00-4026	D7,M11,Op,SP	R	1,461	1,602	1,542	1,347	1,477
RaideRR	D8,M4,Op	MR	1,196	1,246	1,272	–	–
Razor	D8,M8,Syn	MR	1,419	1,838	1,652	1,430	1,578
Roughrider	D2,M8,Op	MR	1,403	1,387	1,420	–	–
RR Hyb 2013	D2,M8,H	R	1,595	1,993	1,845	1,852	1,848
RR Hyb 2066	D2,M8,H	MR	1,453	1,847	1,693	1,580	1,655
RuleRR	D8,M4,Syn	MR	1,255	1,798	1,595	1,785	1,658
SP Admirable	D8,M11,Syn	MR	1,371	1,813	1,602	1,269	1,491
SP Banner	D7,M11,Op	R	1,395	1,441	1,437	1,615	1,497
SP Bucky	D7,M11,Op	R	1,569	1,425	1,509	–	–
SW 1898	D8,M11,H	MR	1,467	1,706	1,606	1,719	1,644
SW Badger	D8,M9,H,Syn	MR	1,412	1,631	1,533	1,322	1,463
SW D5177 RR	D8,M5,Op	NA	1,170	1,566	1,405	1,205	1,338
SW Gladiator	D8,M5,Syn	MR	1,416	1,930	1,716	1,758	1,730
SW Peak	D8,M6,Syn	MS	1,368	1,944	1,661	1,735	1,686
Mean			1,446	1,680	1,585	1,558	1,585
LSD (0.05)			197	373	216	258	165
C.V.			9.7	13.6	11.9	10.1	11.2

**Growth characteristics and oil content of Roundup Ready canola varieties grown near Kennedy, seeded May 25, 2002.**

\*All data were analyzed using four replicates.

Variety	Yield,* Lb/Acre at 8% Moisture	Oil, % of Seed Weight at 0% Moisture	Days After Planting to			Height, Inches	Lodging, 1 = Erect 9 = Flat
			95% Canopy Closure	Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme		
45A55	1,501	43.6	36	41	77	29	2.0
45H21	1,581	44.2	34	39	78	29	2.8
BlazeRR	1,429	40.3	35	41	82	37	1.0
Canterra 1812	1,436	41.2	33	41	82	37	1.0
Crosby	1,596	42.9	35	41	83	33	2.0
Dakota	1,197	43.0	36	40	76	26	1.8
DKL223	1,597	42.7	35	39	77	24	1.8
DKL34-55	1,323	44.5	35	41	80	33	1.0
DKL35-85	1,583	41.9	34	41	83	35	2.3
HyCLASS 2061	1,690	41.7	33	40	81	36	1.5
HyCLASS 767 SW	1,611	42.8	34	41	80	36	1.5
HyCLASS 799 RR	1,277	39.1	36	41	81	37	1.0
HyCLASS 905	1,871	43.0	33	42	83	41	1.0
Hyola 357 Magnum	1,560	44.6	34	39	78	27	1.5
Hyola 357 RR	1,483	43.6	32	39	79	25	1.8
LiBred 499RR	1,308	40.9	36	41	81	33	1.0
LiBred 612RR	1,300	42.6	35	41	81	35	2.0
Minot	1,484	42.9	34	40	81	30	2.3
NR00-1301	1,390	45.2	35	42	81	33	1.8
NR00-4026	1,461	43.8	35	42	81	36	1.8
RaideRR	1,196	43.6	35	42	82	36	1.0
Razor	1,419	42.2	34	40	80	29	1.8
Roughrider	1,403	48.1	35	41	81	34	1.8
RR Hyb 2013	1,595	44.3	34	42	80	38	1.3
RR Hyb 2066	1,453	44.2	35	41	79	31	2.3
RuleRR	1,255	43.4	34	40	79	33	1.8
SP Admirable	1,371	41.4	36	41	82	34	1.0
SP Banner	1,395	46.1	35	41	80	33	2.8
SP Bucky	1,569	45.9	33	40	80	28	3.5
SW 1898	1,467	45.4	35	41	80	33	2.0
SW Badger	1,412	41.4	34	41	81	35	1.3
SW D5177 RR	1,170	43.5	36	42	78	28	3.3
SW Gladiator	1,416	41.9	34	40	80	34	2.3
SW Peak	1,368	44.2	35	40	80	33	1.8
Mean	1,446	43.2	34	41	80	33	1.8
LSD (0.05)	197	2.18	1.6	0.7	1.5	3.4	0.89
C.V.	9.7	3.1	3.4	1.2	1.4	7.5	35.9

**Growth characteristics and oil content of Roundup Ready canola varieties grown near Grygla, seeded May 24, 2002.**

\*All data were analyzed using three replicates.

Variety	Yield,* Lb/Acre at 8% Moisture	Oil, % of Seed Weight at 0% Moisture	Days After Planting to		Height, Inches	Lodging, 1 = Erect 9 = Flat	Aster Yellows, % Infection
			Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme			
45A55	1,750	42.6	48	90	36	3.0	33
45H21	2,100	44.9	47	90	34	3.3	15
BlazeRR	1,655	41.0	48	92	39	2.3	30
Canterra 1812	1,565	41.6	49	92	38	2.0	20
Crosby	1,759	44.1	50	90	38	3.5	33
Dakota	1,379	41.9	46	85	27	3.3	18
DKL223	1,848	42.9	46	86	33	3.3	20
DKL34-55	1,441	43.2	48	91	35	2.0	23
DKL35-85	1,674	41.3	48	91	34	3.5	20
HyCLASS 2061	1,843	42.7	48	92	41	1.8	28
HyCLASS 767 SW	1,888	42.9	48	92	41	3.5	20
HyCLASS 799 RR	1,647	40.7	49	93	37	1.8	20
HyCLASS 905	1,886	44.6	49	92	41	1.5	28
Hyola 357 Magnum	1,892	41.7	45	90	32	2.8	28
Hyola 357 RR	1,652	42.0	46	89	30	3.3	20
LiBred 499RR	1,516	42.7	49	92	38	1.3	23
LiBred 612RR	1,352	42.7	48	91	35	2.8	20
Minot	1,722	40.8	48	91	34	3.3	20
NR00-1301	1,396	42.5	48	91	36	3.0	25
NR00-4026	1,602	41.4	49	92	34	4.0	18
RaideRR	1,246	40.5	49	91	43	2.3	30
Razor	1,838	42.0	47	90	36	3.3	23
Roughrider	1,387	44.5	49	91	38	3.0	18
RR Hyb 2013	1,993	44.9	48	90	40	1.8	30
RR Hyb 2066	1,847	45.1	47	89	36	3.0	20
RuleRR	1,798	43.6	46	88	36	2.5	23
SP Admirable	1,813	41.5	48	92	40	2.5	25
SP Banner	1,441	43.5	48	90	35	3.0	15
SP Bucky	1,425	44.1	47	90	32	3.5	33
SW 1898	1,706	42.1	48	92	37	2.0	25
SW Badger	1,631	40.4	48	91	42	2.3	25
SW D5177 RR	1,566	43.1	48	89	31	3.3	20
SW Gladiator	1,930	42.2	48	90	36	2.3	18
SW Peak	1,944	42.0	48	91	36	2.5	28
Mean	1,680	42.6	48	90	36	2.7	23
LSD (0.05)	373	2.17	1.1	2.0	4.2	0.90	19.8
C.V.	13.6	3.1	1.7	1.5	8.3	23.7	38.1

**Growth characteristics and oil content of Roundup Ready canola varieties grown near Red Lake Falls, seeded May 20, 2002.**

Note: This site was severely hailed upon on June 25 (35 days after planting) and again on August 26 after the first combining date.

\*Yield and oil were analyzed using three replicates.

\*\*Plots labeled "Hailed" were too damaged to take yield. The other plots were harvested before the August 26 hailstorm.

Variety	Yield,* Lb/Acre at 8% Moisture	Oil, % of Seed Weight at 0% Moisture	Days After Planting to		Height, Inches
			Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme	
45A55	1,585	43.1	48	85	25
45H21	1,773	45.0	45	82	27
BlazeRR	1,708	43.4	46	85	26
Canterra 1812	1,312	42.8	47	86	31
Crosby	Hailed**	–	51	90	27
Dakota	1,034	41.6	47	83	18
DKL223	1,548	42.4	45	82	22
DKL34-55	1,570	44.6	47	84	26
DKL35-85	Hailed	–	48	88	29
HyCLASS 2061	1,473	43.6	47	83	26
HyCLASS 767 SW	1,449	42.7	47	85	28
HyCLASS 799 RR	1,671	42.5	47	85	31
HyCLASS 905	2,027	44.5	47	84	31
Hyola 357 Magnum	1,700	42.6	46	85	24
Hyola 357 RR	1,761	43.3	46	84	23
LiBred 499RR	1,429	41.8	47	84	28
LiBred 612RR	1,491	44.0	47	85	27
Minot	Hailed	–	48	89	26
NR00-1301	1,462	45.1	47	85	26
NR00-4026	1,347	42.6	48	85	25
RaideRR	Hailed	–	48	87	29
Razor	1,430	40.9	46	86	28
Roughrider	Hailed	–	48	88	25
RR Hyb 2013	1,852	45.6	47	82	30
RR Hyb 2066	1,580	44.7	46	83	25
RuleRR	1,785	43.9	46	84	29
SP Admirable	1,269	42.7	47	86	28
SP Banner	1,615	47.4	46	83	25
SP Bucky	Hailed	–	47	88	23
SW 1898	1,719	43.5	47	85	27
SW Badger	1,322	40.9	47	87	30
SW D5177 RR	1,205	42.1	46	83	21
SW Gladiator	1,758	43.5	45	83	28
SW Peak	1,735	43.7	46	83	28
Mean	1,558	43.4	47	85	26
LSD (0.05)	258	2.14	0.9	2.4	4.0
C.V.	10.1	3.0	1.4	2.0	10.7

**Seed yield of Non-Roundup Ready canola (*Brassica napus*) varieties (lb/acre at 8% moisture) at Kennedy, Grygla and Red Lake Falls in 2002.**

**Variety information** includes Source Codes: (D# = Developer; M# = Marketer) keyed to listing, page 55, and these supplemental codes: H = Hybrid,

SP = Specialty Oil, OP = Open Pollinated, Syn = Synthetic, LL= Liberty Link, C = Clearfield (Raptor tolerant).

\*Average yields were analyzed using three replicates from each site.

\*\*Varieties without data at Red Lake Falls were hail damaged. The other plots were harvested before the August 26 hailstorm.

**Blackleg Resistance** rating provided by seed companies: R = Resistant, MR = Moderately Resistant, MS = Moderately Susceptible, S = Susceptible, NA = Not Available.

Variety	Variety Information	Blackleg Resistance	Average*			Average,* All Sites
			Kennedy	Grygla	Kennedy, Grygla	
46A76	D6,M7,Op,C	R	909	1,169	1,039	-
46H02	D6,M7,H	R	1,377	1,791	1,584	1,259
Canterra 1604	D2,M2,Op,C	R	922	1,625	1,273	-
Canterra 1670	D2,M2,Op,C	R	970	1,298	1,134	-
Hyb 9387	D2,M8,H	MR	1,117	1,524	1,321	1,368
HyCLASS 601	D4,M3,H	R	1,169	1,403	1,286	-
HyLite 289 CL	D1,M5,Op,C	MR	981	1,305	1,143	1,138
Hyola 330	D1,M5,H	MS	1,072	1,497	1,285	1,303
Hyola 401	D1,M5,H	S	1,271	1,376	1,324	-
InVigor 2573	D3,M1,H,LL	R	1,366	1,813	1,590	1,611
InVigor 2663	D3,M1,H,LL	R	1,338	1,760	1,549	-
InVigor 2733	D3,M1,H,LL	MR	1,343	1,816	1,580	1,454
InVigor 4746	D3,M1,H,LL	MS	1,276	1,501	1,388	1,498
KAB 36	D2,M3,Op,C	R	1,298	1,495	1,396	-
LiBred 2393LL	D4,M10,Op	MS	862	1,069	965	-
N000-0488	D7,M11,Op,C	R	1,140	1,304	1,222	-
Mean			1,138	1,443	1,317	1,376
LSD (0.05)			227	276	175	305
C.V.			12.0	11.5	11.5	12.7

**Growth characteristics and oil content of Non-Roundup Ready canola varieties grown near Kennedy, seeded May 25, 2002.**

\*Yield and oil data were analyzed using three replicates.

Variety	Yield,* Lb/Acre at 8% Moisture	Oil, % of Seed Weight at 0% Moisture	Days After Planting to			Height, Inches	Lodging, 1 = Erect 9 = Flat
			95% Canopy Closure	Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme		
46A76	909	41.8	34	43	82	32	1.0
46H02	1,377	45.6	35	40	79	30	2.0
Canterra 1604	922	42.8	35	42	82	31	1.0
Canterra 1670	970	43.0	34	40	80	30	1.3
Hyb 9387	1,117	41.7	34	40	81	32	1.0
HyCLASS 601	1,169	40.8	34	41	82	36	1.0
HyLite 289 CL	981	45.7	34	42	78	30	2.5
Hyola 330	1,072	43.5	34	38	74	23	1.3
Hyola 401	1,271	41.9	34	39	78	23	1.3
InVigor 2573	1,366	42.7	36	41	79	32	1.8
InVigor 2663	1,338	43.8	35	42	78	33	1.3
InVigor 2733	1,343	43.5	33	39	76	28	1.8
InVigor 4746	1,276	46.8	34	41	80	31	2.0
KAB 36	1,298	43.2	34	41	80	31	2.0
LiBred 2393LL	862	40.6	37	48	82	33	1.0
N000-0488	1,140	44.5	35	40	79	30	1.8
Mean	1,138	43.1	34	41	79	30	1.5
LSD (0.05)	227	1.66	1.6	1.0	2.0	3.2	0.70
C.V.	12.0	2.3	3.3	1.8	1.8	7.6	33.2

**Growth characteristics and oil content of Non-Roundup Ready canola varieties grown near Grygla, seeded May 24, 2002.**

\*All data were analyzed using three replicates.

Variety	Yield,* Lb/Acre at 8% Moisture	Oil, % of Seed Weight at 0% Moisture	Days After Planting to			Lodging, 1 = Erect 9 = Flat	Aster Yellows, % Infection
			Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme	Height, Inches		
46A76	1,169	41.2	50	92	39	2.0	23
46H02	1,791	46.2	47	86	35	2.7	17
Canterra 1604	1,625	42.9	50	93	37	3.0	20
Canterra 1670	1,298	41.0	49	92	41	4.0	23
Hyb 9387	1,524	43.5	48	92	39	2.3	20
HyCLASS 601	1,403	43.5	49	93	41	2.0	23
HyLite 289 CL	1,305	44.0	51	91	34	4.3	17
Hyola 330	1,497	44.4	46	88	27	3.7	37
Hyola 401	1,376	41.7	47	92	32	2.3	37
InVigor 2573	1,813	42.9	49	90	40	3.0	27
InVigor 2663	1,760	44.2	50	92	39	2.7	20
InVigor 2733	1,816	43.6	44	86	31	3.0	23
InVigor 4746	1,501	42.8	50	92	35	3.3	17
KAB 36	1,495	42.6	50	91	35	3.0	20
LiBred 2393LL	1,069	41.3	50	93	39	1.7	27
N000-0488	1,304	42.5	47	90	36	3.3	27
Mean	1,443	42.8	49	91	36	2.9	24
LSD (0.05)	276	2.76	2.6	3.8	4.9	0.80	11.9
C.V.	11.5	3.9	3.2	2.4	8.2	16.5	30.2

**Growth characteristics and oil content of Non-Roundup Ready canola varieties grown near Red Lake Falls, seeded May 20, 2002.**

Note: This site was severely hailed upon on June 25 (35 days after planting) and again on August 26 after the first combining date.

\*Yield and oil were analyzed using three replicates.

\*\*Plots labeled "Hailed" were too damaged to take yield. The other plots were harvested before the August 26 hailstorm.

Variety	Yield,* Lb/Acre at 8% Moisture	Oil, % of Seed Weight at 0% Moisture	Days After Planting to		
			Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme	Height, Inches
46A76	Hailed**	–	51	89	29
46H02	1,259	45.4	47	85	25
Canterra 1604	Hailed	–	49	89	27
Canterra 1670	Hailed	–	49	88	25
Hyb 9387	1,368	42.2	48	87	30
HyCLASS 601	Hailed	–	49	88	28
HyLite 289 CL	1,138	41.9	47	83	20
Hyola 330	1,303	42.8	45	83	20
Hyola 401	Hailed	–	45	86	23
InVigor 2573	1,611	43.6	47	85	28
InVigor 2663	Hailed	–	46	85	28
InVigor 2733	1,454	43.8	44	84	22
InVigor 4746	1,498	44.5	46	84	23
KAB 36	Hailed	–	47	87	25
LiBred 2393LL	Hailed	–	53	90	33
N000-0488	Hailed	–	48	86	24
Mean	1,558	43.4	47	85	26
LSD (0.05)	258	2.14	0.9	2.4	4.0
C.V.	10.1	3.0	1.4	2.0	10.7