

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.

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 DateEarly Spring

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. However, newer winter-type canola varieties, planted in the fall of 2001, are being evaluated at Thief River Falls for 2002 harvest.

Information Sources

The Minnesota Canola Council is a good source for information on canola. The 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 Canola Growers Manual on canola production is available from the Canola Council of Canada, 400-167 Lombard Ave, Winnipeg, Manitoba, Canada R3B 0T6

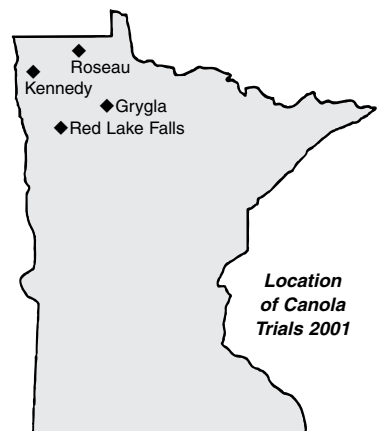
(phone 204-982-2100, internet www.canola-council.org). It contains detailed information on canola production practices and costs \$68.00 (U.S.). The Canola Grower’s Manual is also available for viewing online at www.canola-council.org. Please keep in mind when using this manual that not all pesticides 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 2001. The Red Lake Falls testing site (formerly called the Crookston 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 a Kennedy test site was on the Rob and Tim Rynning farm. Because of Raptor drift at the Grygla site, the non-Roundup Ready variety trial was compromised and the results are not

Canola Variety Name Changes

Old Name or Experimental Number	New Variety Name
B2674 RR	SW Badge RR
HySyn 5034 RR	Gladiator
LG 3455	DKL3455
SR-1671	Thunder
SR96279	LiBred-279
SW C5033	RuleRR



reported. High winds after swathing resulted in damage to numerous plots at Red Lake Falls, Grygla and Kennedy, resulting in some data being unreliable and thus discarded from those sites.

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.

Canola seed sources for 2001 planting, keyed to Variety Information column, seed yield tables, pages 54-62.

Developers

- D1 Advanta Seeds, Dijkwelsestraat 70, Kapelle, Netherlands
- D2 Agriprogress, P.O. Box 2499, Morden, MB, Canada R6M 1C2
- D3 Aventis Crop Science, 203-407 Downey Rd., Saskatoon, SK, Canada S7N 4L8
- D4 DSV/Brett-Young Seeds, Box 99 St. Norbert P.O., Winnipeg, MB, R3V 1L5
-
- D5 InterMountain Canola Cargill, 2300 N. Yellowstone Hwy., Suite 122, Idaho Falls, ID 83401
- D6 Limagrain Canada Seeds Inc. #4-411 Downey Rd, Saskatoon, SK, Canada S7N 4L8
- D7 Pioneer Hi-Bred International, Inc., 7200 N.W. 62nd Ave., Johnston, IA 50131
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- D8 Svalof Weibull Ltd., 2-411 Downey Road, Saskatoon, SK, Canada S7N 4L8
- D9 SWP, ARD, Saskatoon, SK, Canada S7N 4L8
- D10 University of Alberta/Agricore, P.O. Box 2700, Station "M", Calgary, AB, Canada T2P 2P5
- D11 Not available
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Marketers

- M1 Agri-tel Inc, 4111 30th Ave. S., Moorhead, MN 56560, 218-287-5510
- M2 Aventis Crop Science, 203-407 Downey Rd., Saskatoon, SK, Canada S7N 4L8, 701-775-2700
- M3 Canterra Seeds Ltd., 14-62 Scurfield Blvd, Winnipeg, MB, R3Y 1M5, 204-988-9751
- M4 Croplan Genetics, P.O. Box 1291, Minot, ND 59702, 701-852-3556
- M5 Integra Seed Ltd., P.O. Box 40, Bozeman, MT 59771, 406-582-8375
-
- M6 InterMountain Canola Cargill, 2300 N. Yellowstone Hwy., Suite 122, Idaho Falls, ID 83401, 208-522-4113
- M7 Interstate Seed Company, 1215 Parkway, West Fargo, ND 58078, 800-437-4120
- M8 LaCrosse Seeds, 2541 Commerce St., P.O. Box 995, LaCrosse, WI 54602, 800-328-1909
- M9 Limagrain Canada Seeds Inc., #4-411 Downey Road, Saskatoon, SK, Canada S7N 4L8, 306-249-4220
- M10 Monsanto, 3100 Sycamore Rd., De Kalb, IL 60115, 815-758-9323
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- M11 Pioneer Hi-Bred International, Inc., 7200 N.W. 62nd Ave., Johnston, IA 50131, 701-298-6894
- M12 Proseed, 705 E., Brewster, Harvey, ND 58341, 701-324-4177
- M13 Seeds 2000, Box 200, Breckenridge, MN 56520, 218-643-2410
- M14 Van Seeds, Box 295, Bottineau, ND 58318, 888-325-7162
- M15 Not Available
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Seed yield of Non-Roundup Ready canola varieties (lb/acre at 8% moisture) at Roseau, Kennedy and Red Lake Falls for 2001.

Variety information includes Source Codes: (D# = Developer; M# = Marketer) keyed to listing, page 53, 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.

**Note - Minot is a Roundup Ready check variety for the non-Roundup Ready and Roundup Ready trials.

***YNA = Yield not available due to wind damage after swathing.

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 3 Sites
			Roseau	Red Lake Falls	Roseau, Red Lake Falls	Kennedy	
46A76	D7,M11,Op	R	1,352	1,792	1,558	1,212	1,442
Canterra 1492	D2,M12,H	MR	1,442	1,817	1,500	1,269	1,423
CL 2070	D2,M4,H	MR	1,362	1,482	1,456	1,114	1,342
Cracker Jack	D8,M5,Syn	MR	1,143	1,267	1,238	831	1,102
Ebony	D6,M1,Op	MR	1,410	1,719	1,605	1,275	1,495
Hudson	D2,M4,Op	MR	1,387	1,453	1,396	YNA ***	—
HyClass 601	D4,M4,H	MR	1,449	1,587	1,585	1,245	1,472
Hylite 243	D1,M7,Op,C	MR	927	1,687	1,203	776	1,061
Hyola 330	D1,M7,H	MS	1,584	2,007	1,732	YNA	—
Hyola 401	D1,M7,H	S	1,958	2,015	1,881	YNA	—
IMC 205	D5,M6,Op,Sp	MS	1,472	1,738	1,607	YNA	—
IMC 207	D5,M6,Op,Sp	MR	1,403	1,780	1,581	1,155	1,439
IMC 302	D5,M6,Op,Sp	MS	1,368	1,687	1,549	923	1,340
InVigor 2573	D3,M2,H,LL	R	1,701	1,848	1,723	1,688	1,711
InVigor 2643	D3,M2,H,LL	R	1,614	1,668	1,613	1,231	1,486
InVigor 2663	D3,M2,H,LL	R	1,655	1,982	1,827	YNA	—
KAB 36	D2,M4,Op,C	MR	1,365	1,925	1,638	1,178	1,484
LG 3366	D6,M1,Op	R	1,362	1,773	1,559	1,206	1,441
LiBred-279	D4,M14,Op	MR	1,385	1,608	1,468	1,120	1,352
Minot **	D2,M4,Op	MR	1,306	1,763	1,529	950	1,336
N000-0079	D9,M15,Exp.	NA	1,300	1,596	1,457	1,430	1,448
N000-0346	D9,M15,Exp.	NA	1,430	1,786	1,596	YNA	—
N000-0369	D9,M15,Exp.	NA	1,399	1,473	1,421	1,232	1,358
N000-0403	D9,M15,Exp.	NA	1,426	1,667	1,514	1,318	1,449
N000-0725	D9,M15,Exp.	NA	1,201	1,753	1,363	1,146	1,291
N000-0741	D9,M15,Exp.	NA	1,474	1,770	1,599	YNA	—
NL97-0219	D9,M15,Exp.	MR	1,261	1,192	1,203	911	1,106
NL98-0944	D9,M15,Exp.	R	1,588	1,637	1,603	1,330	1,512
PHS00-833	D3,M2,Exp	R	1,682	1,846	1,779	1,617	1,725
PHS00-842	D3,M2,Exp	R	1,748	1,898	1,738	1,595	1,690
PHS00-858	D3,M2,Exp	R	1,612	1,779	1,694	YNA	—
PHS00-915	D3,M2,Exp	R	1,387	1,668	1,494	1,507	1,498
Thunder	D4,M8,Op	MR	1,437	1,715	1,480	930	1,297
Mean			1,442	1,708	1,551	1,208	1,412
LSD (0.05)			208.9	232.5	189.4	229.2	149.9
C.V.			8.9	9.7	10.7	11.6	11.4

Growth characteristics and oil content of Non-Roundup Ready canola varieties grown near Roseau, seeded May 14, 2001.

*Yield was analyzed using three replicates.

**Note – Minot is a Roundup Ready check variety for the non-Roundup Ready and Roundup Ready trials.

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	Sclerotinia, % Incidence
			95% Canopy Closure	Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme			
46A76	1,352	46.3	36	47	86	51	1.3	10
Canterra 1492	1,442	46.0	35	45	86	46	2.0	13
CL 2070	1,362	45.2	36	47	86	48	2.0	10
Cracker Jack	1,143	45.6	36	47	87	51	2.0	20
Ebony	1,410	47.2	36	46	86	48	2.3	13
Hudson	1,387	46.6	36	45	83	43	2.7	27
HyClass 601	1,449	46.4	35	46	87	51	2.0	13
Hylite 243	927	45.5	36	49	86	50	3.0	17
Hyola 330	1,584	47.6	35	44	85	41	3.7	17
Hyola 401	1,958	46.6	34	44	86	43	3.3	10
IMC 205	1,472	48.9	36	46	86	47	1.7	13
IMC 207	1,403	47.0	36	45	86	46	4.0	10
IMC 302	1,368	44.5	36	46	86	50	3.0	17
InVigor 2573	1,701	45.2	35	46	86	50	2.0	20
InVigor 2643	1,614	45.9	36	46	85	48	2.7	10
InVigor 2663	1,655	46.4	34	47	85	54	2.3	17
KAB 36	1,365	47.4	36	45	85	52	3.3	20
LG 3366	1,362	45.2	36	46	85	50	1.7	10
LiBred-279	1,385	49.3	36	43	85	47	3.0	23
Minot **	1,306	47.1	36	45	86	44	3.0	20
N000-0079	1,300	45.8	35	45	87	46	4.0	17
N000-0346	1,430	45.0	35	46	86	52	2.3	10
N000-0369	1,399	47.0	35	45	85	45	2.0	17
N000-0403	1,426	46.5	35	45	85	41	2.0	17
N000-0725	1,201	46.2	36	45	84	47	2.6	17
N000-0741	1,474	47.7	36	45	85	46	3.0	23
NL97-0219	1,261	45.7	36	45	85	46	3.3	10
NL98-0944	1,588	47.3	35	44	86	47	2.0	10
PHS00-833	1,682	44.2	35	46	86	52	1.7	13
PHS00-842	1,748	46.1	34	48	86	53	2.7	13
PHS00-858	1,612	45.4	35	45	85	48	2.7	17
PHS00-915	1,387	46.6	34	46	85	48	2.7	27
Thunder	1,437	47.6	36	44	84	44	3.0	23
Mean	1,442	46.4	35.2	46	86	48	2.6	16
LSD (0.05)	208.9	2.05	0.93	1.6	1.6	4.2	1.09	9.9
C.V.	8.9	3.2	1.9	2.1	1.1	5.4	25.9	38.1

Growth characteristics and oil content of Non-Roundup Ready canola varieties grown near Red Lake Falls, seeded May 12, 2001.

*Note – Minot is a Roundup Ready check variety for the non-Roundup Ready and Roundup Ready trials.

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
			Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme		
46A76	1,792	44.5	48	87	47	1.0
Canterra 1492	1,817	43.8	45	85	45	1.3
CL 2070	1,482	42.5	48	87	47	1.0
Cracker Jack	1,267	41.2	47	87	46	1.0
Ebony	1,719	45.1	48	86	46	1.0
Hudson	1,453	42.1	44	84	43	1.3
HyClass 601	1,587	42.6	47	87	48	1.0
Hyllite 243	1,687	42.9	48	85	45	1.5
Hyola 330	2,007	45.2	44	83	39	2.0
Hyola 401	2,015	43.5	44	86	39	2.0
IMC 205	1,738	45.8	46	84	42	1.5
IMC 207	1,780	44.4	45	85	41	3.5
IMC 302	1,687	41.4	47	87	47	1.5
InVigor 2573	1,848	44.0	47	85	51	1.3
InVigor 2643	1,668	44.6	46	85	45	1.3
InVigor 2663	1,982	44.0	47	85	47	1.8
KAB 36	1,925	46.1	46	85	45	1.3
LG 3366	1,773	44.1	45	86	45	1.0
LiBred-279	1,608	45.0	43	84	41	2.3
Minot *	1,763	45.1	46	85	42	1.5
N000-0079	1,596	46.6	47	86	45	2.5
N000-0346	1,786	42.9	47	86	45	1.0
N000-0369	1,473	43.9	45	85	41	1.3
N000-0403	1,667	43.0	45	85	39	1.0
N000-0725	1,753	43.0	45	84	44	1.8
N000-0741	1,770	44.4	45	84	43	2.0
NL97-0219	1,192	41.3	45	86	41	1.8
NL98-0944	1,637	46.1	45	84	43	1.8
PHS00-833	1,846	43.4	46	85	47	1.3
PHS00-842	1,898	43.8	47	85	49	1.8
PHS00-858	1,779	43.2	45	85	45	1.5
PHS00-915	1,668	45.2	47	85	44	1.0
Thunder	1,715	45.2	42	83	41	3.0
Mean	1,708	43.9	46	85	44	1.6
LSD (0.05)	232.5	1.11	0.8	0.9	2.4	0.74
C.V.	9.7	1.8	1.2	0.7	3.8	33.8

Growth characteristics and oil content of Non-Roundup Ready canola varieties grown near Kennedy, seeded May 19, 2001.

*YNA = Yield not available due to wind damage after swathing. Three replicates were analyzed for the remainder of the varieties.

**Note – Minot is a Roundup Ready check variety for the non-Roundup Ready and Roundup Ready trials.

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	Sclerotinia, % Incidence
			95% Canopy Closure	Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme			
46A76	1,212	43.6	35	47	86	42	1.0	10
Canterra 1492	1,269	43.3	35	43	85	41	1.3	13
CL 2070	1,114	41.7	36	45	85	40	1.3	10
Cracker Jack	831	43.5	36	46	86	39	1.3	10
Ebony	1,275	46.3	36	45	85	40	1.0	10
Hudson	YNA*	43.0	36	43	83	37	1.5	13
HyClass 601	1,245	43.1	35	45	86	41	1.3	10
Hylite 243	776	42.4	36	48	84	37	2.0	10
Hyola 330	YNA*	44.3	34	42	82	32	2.0	23
Hyola 401	YNA*	NA	34	42	84	32	2.0	10
IMC 205	YNA*	45.3	35	45	84	37	1.0	10
IMC 207	1,155	43.5	35	43	86	34	2.8	10
IMC 302	923	43.0	36	47	85	38	1.3	15
InVigor 2573	1,688	44.2	34	44	84	44	1.8	18
InVigor 2643	1,231	43.8	35	44	83	40	2.0	15
InVigor 2663	YNA*	44.8	34	44	83	41	1.5	15
KAB 36	1,178	46.4	35	43	83	38	2.0	10
LG 3366	1,206	43.7	36	46	86	40	1.0	10
LiBred-279	1,120	45.6	35	43	84	34	2.3	13
Minot **	950	44.8	36	45	85	32	1.8	10
N000-0079	1,430	44.9	35	43	85	35	2.5	10
N000-0346	YNA*	43.6	35	43	84	38	1.0	10
N000-0369	1,232	44.6	34	43	84	36	1.8	10
N000-0403	1,318	43.3	35	43	83	34	1.8	13
N000-0725	1,146	42.1	35	43	84	37	2.3	13
N000-0741	YNA*	44.2	35	44	82	35	2.3	20
NL97-0219	911	44.0	36	43	83	35	2.3	15
NL98-0944	1,330	45.3	35	43	82	37	1.3	15
PHS00-833	1,617	43.5	35	44	83	42	1.8	15
PHS00-842	1,595	44.1	34	45	82	42	2.0	20
PHS00-858	YNA*	43.0	34	43	82	36	1.8	28
PHS00-915	1,507	44.6	35	43	82	38	1.3	15
Thunder	930	43.5	35	42	84	36	1.8	10
Mean	1,208	44.0	35	44	84	37	1.7	13
LSD (0.05)	229.2	1.01	0.5	0.8	1.0	3.7	0.73	7.4
C.V.	11.6	1.6	1.4	1.3	0.8	7.1	31.2	39.8

Seed yield of Roundup Ready canola varieties, lb/acre at 8% moisture, at Roseau, Kennedy, Red Lake Falls and Grygla in 2001.

Variety information includes Source Codes: (D#=Developer; M#=Marketer) keyed to listing, page 53, and these supplemental codes: H=Hybrid,

Op=Open Pollinated, Syn=Synthetic.

*Average yields were analyzed using three replicates from each site. **Note – Minot is a Roundup Ready check variety for the non-Roundup Ready and Roundup Ready trials. ***YNA=Yield not available due to wind damage after swathing.

Blackleg Resistance rating provided by seed companies: R = Resistant, MR = Moderately Resistant, MS = Moderately Susceptible, S = Susceptible.

Variety	Variety Information	Blackleg Resistance	Average				Average,* All 4 Sites
			Roseau	Red Lake Falls	Roseau, Red Lake Falls	Kennedy Grygla	
45A55	D7,M11,Op	R	1,491	1,973	1,732	1,198 1,540	1,565
A99-46NR	D10,M7,Op	R	1,512	1,410	1,461	YNA*** 1,558	–
Canterra 1812	D2,M3,Syn	R	1,070	1,454	1,262	714 1,081	1,065
Canterra 1867	D5,M3,Op	MR	1,285	1,769	1,527	1,088 1,145	1,310
Conquest	D10,M7,Op	R	1,219	1,446	1,333	YNA YNA	–
DKL 223	D1,M7,H	MS	1,475	1,701	1,588	1,286 1,550	1,497
DKL 23-38	D6,M10,Op	MR	1,298	1,563	1,431	1,218 1,156	1,314
DKL3455	D6,M10,Op	MR	1,211	1,559	1,385	742 1,089	1,155
LG3525	D6,M9,Op	MR	1,437	1,833	1,635	1,049 1,403	1,432
DS Roughrider	D2,M12,Op	MR	1,471	1,629	1,550	1,363 YNA	–
Gladiator	D8,M7,Syn	MR	1,533	1,833	1,683	1,092 1,456	1,468
GoldenReady RR	D6,M13,Op	MR	1,523	1,658	1,591	1,030 1,071	1,324
Hybrid 104	D2,M12,H	MR	1,416	1,797	1,607	1,392 1,060	1,411
HyClass 2061	D2,M4,H	MR	1,544	1,836	1,690	1,398 1,367	1,538
HyClass 799	D4,M4,Syn	R	1,245	1,766	1,505	1,163 929	1,258
Hyola 357	D1,M7,H	MS	1,722	1,629	1,675	1,243 1,782	1,583
IMC 203 RR	D5,M6,Op,Sp	S	1,298	YNA	–	1,238 765	–
IMC 206 RR	D5,M6,Op,Sp	MS	1,246	1,435	1,340	1,091 YNA	–
LiBred 399	D4,M14,Syn	MR	1,257	1,506	1,382	917 1,248	1,257
LiBred 449	D4,M14,Op	R	1,184	1,637	1,411	1,039 1,038	1,211
LiBred 499	D4,M14,H	R	1,465	1,704	1,584	1,135 1,176	1,377
LiBred 5445	D4,M14,Op	R	1,073	1,384	1,229	919 933	1,084
LiBred 5610	D4,M14,Op	R	1,367	1,807	1,587	1,030 1,357	1,372
Minot **	D2,M4,Op	MR	1,424	1,759	1,591	1,101 802	1,263
OHKA139	D5,M6,H,Sp	MS	1,196	1,464	1,330	YNA 1,327	–
PR 5631	D6,M10,Op	R	1,427	1,674	1,550	1,259 1,330	1,418
PR 5671	D6,M10,Op	R	1,370	1,796	1,583	1,311 976	1,369
RideR	D8,M10,Syn	MR	1,257	1,643	1,450	YNA 1,431	–
RuleRR	D8,M5,H,Syn	MR	1,571	1,661	1,616	955 1,344	1,365
SW BadgeRR	D8,M13,Syn	MS	1,325	1,713	1,519	1,230 YNA	–
SW C5015 RR	D8,M15,Syn	MS	1,570	1,653	1,612	1,087 1,428	1,431
SW C5031 RR	D8,M15,Syn	MS	1,436	1,853	1,645	YNA 1,275	–
SW D 5113 RR	D8,M7,H	MR	1,630	1,845	1,737	1,298 1,365	1,567
SW D5066 RR	D8,M15,Syn	MR	1,465	1,616	1,540	1,219 1,278	1,382
SW D5099 RR	D8,M5,H,Syn	MR	1,373	1,670	1,521	929 1,288	1,319
SW RaideRR	D8,M5,Op	MR	1,448	1,759	1,604	1,216 961	1,348
SW Razor	D8,M12,Op	MR	1,179	YNA	–	967 1,255	–
SW WaRRior	D8,M15,Syn	MR	1,249	1,639	1,444	YNA 1,217	–
SW-P 98-0029	D9,M15,Syn	MR	1,298	1,618	1,458	YNA 1,327	–
SW-P 98-5884	D9,M15,Syn	MR	1,432	1,758	1,595	1,272 1,524	1,497
SW-P 98-6468	D9,M15,Syn	MR	1,237	1,683	1,460	996 1,335	1,312
SW-P 98-6653	D9,M15,Syn	MR	1,439	1,666	1,552	1,147 YNA	–
SW-P9828000	D9,M15,Syn	MR	1,403	YNA	–	1,145 1,416	–
Mean			1,374	1,670	1,525	1124 1,252	1,362
LSD (0.05)			194.9	178.3	130.9	249.5 401.7	143.4
C.V.			10.1	7.6	8.7	13.6 19.7	13.1

Growth characteristics and oil content of Roundup Ready canola varieties grown near Roseau, seeded May 14, 2001.

**Note – Minot is a Roundup Ready check variety for the non-Roundup Ready and Roundup Ready trials.

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	Sclerotinia, % Incidence
			95% Canopy Closure	Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme			
45A55	1,491	45.8	35	46	84	42	2.5	0
A99-46NR	1,512	45.5	35	45	84	40	2.8	10
Canterra 1812	1,070	46.5	36	47	86	45	2.0	30
Canterra 1867	1,285	46.4	36	48	86	47	2.8	20
Conquest	1,219	45.7	35	48	87	46	2.3	13
DKL 223	1,475	44.8	35	44	85	39	4.0	0
DKL 23-38	1,298	46.7	35	45	85	40	2.8	15
DKL3455	1,211	46.3	36	46	86	44	2.5	20
LG3525	1,437	46.4	36	47	86	45	2.8	13
DS Roughrider	1,471	48.6	35	47	87	48	3.0	23
Gladiator	1,533	47.5	35	45	84	45	2.0	10
GoldenReady	1,523	45.5	36	46	87	45	3.3	15
Hybrid 104	1,416	46.1	35	47	87	48	2.0	15
HyClass 2061	1,544	47.4	35	46	86	47	1.5	23
HyClass 799	1,245	45.4	35	47	85	46	1.3	15
Hyola 357	1,722	45.7	35	44	86	40	3.8	20
IMC 203	1,298	44.0	35	48	86	49	3.8	23
IMC 206	1,246	44.4	35	47	84	44	3.3	20
LiBred 399	1,257	45.2	36	47	86	47	2.3	13
LiBred 449	1,184	43.8	35	46	84	45	3.5	23
LiBred 499	1,465	45.5	35	46	86	47	2.5	8
LiBred 5445	1,073	43.9	36	47	86	49	2.5	0
LiBred 5610	1,367	46.5	36	47	86	48	3.0	0
Minot **	1,424	47.0	36	46	86	41	2.8	0
OHKA139	1,196	44.5	35	47	86	49	2.3	0
PR 5631	1,427	45.7	36	45	86	41	3.5	0
PR 5671	1,370	45.2	36	47	87	46	2.8	20
RideR	1,257	45.5	35	46	85	47	2.5	15
RuleRR	1,571	47.6	34	45	86	45	2.0	13
SW BadgeRR	1,325	46.0	35	47	86	46	2.3	18
SW C5015	1,570	46.5	36	46	86	47	2.3	13
SW C5031	1,436	45.3	34	45	85	46	2.0	13
SW D 5113	1,630	48.0	35	45	86	47	2.0	18
SW D5066	1,465	45.8	36	47	86	47	2.8	18
SW D5099	1,373	46.3	36	46	86	47	2.0	20
SW RaideRR	1,448	45.4	36	47	86	37	2.0	25
SW Razor	1,179	45.4	35	46	85	45	2.3	23
SW WaRRior	1,249	45.4	36	47	86	49	2.3	18
SW-P 98-0029	1,298	47.5	35	47	87	45	2.3	20
SW-P 98-5884	1,432	47.5	35	47	86	46	2.3	20
SW-P 98-6468	1,237	45.8	35	46	87	45	1.3	25
SW-P 98-6653	1,439	45.8	35	46	86	47	1.5	20
SW-P9828000	1,403	45.6	36	47	86	48	1.5	20
Mean	1,374	45.9	35	46	86	45	2.5	15
LSD (0.05)	194.9	1.24	0.8	0.879	0.923	6.4	0.73	9.2
C.V.	10.1	1.9	1.6	1.4	0.8	10.1	21.1	44.2

Growth characteristics and oil content of Roundup Ready canola varieties grown near Red Lake Falls, seeded May 12, 2001.

*YNA=Yield not available due to wind damage after swathing.

**Note – Minot is a Roundup Ready check variety for the non-Roundup Ready and Roundup Ready trials.

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
			Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme		
45A55	1,973	45.4	46	82	43	2.3
A99-46NR	1,410	44.4	45	81	43	2.3
Canterra 1812	1,454	45.8	45	85	44	1.0
Canterra 1867	1,769	45.9	46	85	43	1.5
Conquest	1,446	46.2	48	85	45	1.0
DKL 223	1,701	45.1	43	83	40	3.3
DKL 23-38	1,563	46.5	44	84	42	1.8
DKL3455	1,559	46.7	45	85	45	1.3
LG3525	1,833	47.4	46	85	44	2.3
DS Roughrider	1,629	48.6	46	85	42	2.0
Gladiator	1,833	47.1	45	83	44	1.5
GoldenReady	1,658	45.5	45	85	43	2.5
Hybrid 104	1,797	47.4	46	86	46	1.0
HyClass 2061	1,836	47.3	45	85	46	1.0
HyClass 799	1,766	45.9	46	85	46	1.0
Hyola 357	1,629	44.2	44	84	40	2.5
IMC 203	YNA*	44.5	47	83	42	4.3
IMC 206	1,435	43.4	47	84	41	3.0
LiBred 399	1,506	46.0	46	85	44	1.0
LiBred 449	1,637	45.8	45	82	40	2.5
LiBred 499	1,704	46.3	46	84	45	1.8
LiBred 5445	1,384	45.1	47	85	45	1.0
LiBred 5610	1,807	47.1	46	85	42	1.8
Minot **	1,759	46.8	45	84	44	1.5
OHKA139	1,464	44.7	47	86	46	1.5
PR 5631	1,674	45.9	44	84	39	2.8
PR 5671	1,796	45.7	45	86	44	1.0
RideR	1,643	46.4	45	84	44	1.3
RuleRR	1,661	47.8	45	85	45	1.0
SW BadgeRR	1,713	46.2	46	85	46	1.0
SW C5015	1,653	47.0	45	84	42	1.3
SW C5031	1,853	46.6	45	84	45	1.0
SW D 5113	1,845	47.3	45	85	44	1.8
SW D5066	1,616	46.5	47	84	44	1.3
SW D5099	1,670	46.7	45	84	45	1.3
SW RaideRR	1,759	45.8	47	86	47	1.3
SW Razor	YNA*	45.0	45	83	43	1.8
SW WaRRior	1,639	46.1	46	85	44	1.0
SW-P 98-0029	1,618	47.7	46	85	43	1.0
SW-P 98-5884	1,758	47.5	46	85	45	1.3
SW-P 98-6468	1,683	45.3	46	86	44	1.0
SW-P 98-6653	1,666	46.3	46	83	46	1.3
SW-P9828000	YNA*	46.2	47	86	44	1.8
Mean	1,670	46.2	46	84	44	1.6
LSD (0.05)	178.3	0.99	0.9	1.0	2.6	0.80
C.V.	7.6	1.5	1.5	0.9	4.3	35.1

Growth characteristics and oil content of Roundup Ready canola varieties grown near Kennedy, seeded May 19, 2001.

*YNA = Yield not available due to wind damage after swathing. Three replicates were analyzed for the remainder of the varieties.

**Note – Minot is a Roundup Ready check variety for the non-Roundup Ready and Roundup Ready trials.

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	Sclerotinia, % Incidence
			95% Canopy Closure	Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme			
45A55	1,198	45.4	35	45	80	34	2.5	38
A99-46NR	YNA*	44.4	35	43	80	30	2.5	33
Canterra 1812	714	45.8	39	46	84	37	1.5	13
Canterra 1867	1,088	45.9	36	46	82	38	2.3	25
Conquest	YNA*	46.2	35	46	83	41	2.0	25
DKL 223	1,286	45.1	34	42	81	32	3.0	38
DKL 23-38	1,218	46.5	36	44	82	33	2.8	30
DKL3455	742	46.7	36	44	82	36	1.8	40
LG3525	1,049	47.4	36	45	82	37	2.0	35
DS Roughrider	1,363	48.6	36	44	85	38	2.3	13
Gladiator	1,092	47.1	35	44	80	40	2.0	65
GoldenReady	1,030	45.5	36	44	83	37	2.8	23
Hybrid 104	1,392	47.4	36	44	85	41	1.5	20
HyClass 2061	1,398	47.3	35	44	83	38	1.8	23
HyClass 799	1,163	45.9	35	45	82	42	1.5	28
Hyola 357	1,243	44.2	34	42	82	33	3.0	20
IMC 203	1,238	44.5	35	47	83	37	3.0	25
IMC 206	1,091	43.4	35	45	82	36	2.8	15
LiBred 399	917	46.0	36	45	82	41	1.5	45
LiBred 449	1,039	45.8	35	44	79	36	2.5	70
LiBred 499	1,135	46.3	35	44	81	39	1.8	33
LiBred 5445	919	45.1	36	47	85	41	1.3	15
LiBred 5610	1,030	47.1	36	45	84	41	2.0	20
Minot **	1,101	46.8	36	44	83	34	2.0	15
OHKA139	YNA*	44.7	35	46	84	43	2.3	20
PR 5631	1,259	45.9	35	44	82	33	2.5	23
PR 5671	1,311	45.7	35	44	84	40	2.0	13
RideR	YNA*	46.4	35	44	81	40	1.8	55
RuleRR	955	47.8	35	44	82	35	1.8	23
SW BadgeRR	1,230	46.2	35	44	82	38	2.0	35
SW C5015	1,087	47.0	36	44	82	38	1.5	38
SW C5031	YNA*	46.6	35	44	82	42	1.3	33
SW D 5113	1,298	47.3	35	43	82	38	1.3	58
SW D5066	1,219	46.5	35	44	82	41	1.5	30
SW D5099	929	46.7	36	44	81	40	1.8	38
SW RaideRR	1,216	45.8	36	47	85	44	1.0	18
SW Razor	967	45.0	35	44	81	37	1.5	38
SW WaRRior	YNA*	46.1	35	44	82	40	1.8	30
SW-P 98-0029	YNA*	47.7	35	45	83	41	2.3	20
SW-P 98-5884	1,272	47.5	35	45	84	41	1.8	15
SW-P 98-6468	996	45.3	35	44	83	43	1.8	25
SW-P 98-6653	1,147	46.3	35	44	82	42	1.5	30
SW-P9828000	1,145	46.2	36	45	84	41	1.5	20
Mean	1,124	46.2	35	44	82	38	2.0	29
LSD (0.05)	249.5	0.99	0.5	0.8	1.3	3.0	0.70	15.7
C.V.	13.6	1.5	1.1	1.3	1.1	5.6	25.8	38.2

Growth characteristics and oil content of Non-Roundup Ready canola varieties grown near Grygla, seeded May 14, 2001.

*YNA = Yield not available due to wind damage after swathing. Three replicates were analyzed for the remainder of the varieties.

**Note – Minot is a Roundup Ready check variety for the non-Roundup Ready and Roundup Ready trials.

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	Sclerotinia, % Incidence
			95% Canopy Closure	Beginning Bloom	Maturity: 30% Seed Color Change on Main Raceme			
45A55	1,540	40.2	34	45	87	43	7.5	58
A99-46NR	1,558	39.9	34	45	87	43	6.5	40
Canterra 1812	1,081	41.0	36	46	89	46	2.0	35
Canterra 1867	1,145	39.5	34	46	89	45	6.0	43
Conquest	YNA*	40.0	33	46	89	49	3.3	48
DKL 223	1,550	39.8	32	45	88	45	7.3	45
DKL 23-38	1,156	41.4	35	46	89	43	5.8	50
DKL3455	1,089	42.0	34	47	89	45	3.0	40
LG3525	1,403	41.4	34	46	88	46	5.5	50
DS Roughrider	YNA*	NA	35	46	89	46	6.8	40
Gladiator	1,456	39.8	32	45	88	51	4.5	43
GoldenReady	1,071	40.3	35	46	89	44	6.5	40
Hybrid 104	1,060	40.9	34	46	89	48	4.8	35
HyClass 2061	1,367	41.9	33	46	89	46	4.0	38
HyClass 799	929	40.8	34	46	88	48	2.3	48
Hyola 357	1,782	40.4	32	44	89	46	5.3	25
IMC 203	765	38.0	33	47	90	47	6.8	55
IMC 206	YNA*	NA	32	46	89	48	8.0	50
LiBred 399	1,248	40.3	35	46	89	45	5.3	45
LiBred 449	1,038	41.1	34	46	89	43	6.5	45
LiBred 499	1,176	40.8	34	45	89	50	5.5	38
LiBred 5445	933	39.9	35	46	88	45	4.0	40
LiBred 5610	1,357	41.7	33	46	89	47	4.3	45
Minot **	802	42.1	35	47	89	42	4.5	40
OHKA139	1,327	39.0	33	47	89	53	5.3	43
PR 5631	1,330	40.8	34	45	89	42	6.5	30
PR 5671	976	39.8	34	46	89	49	5.5	33
RideR	1,431	39.9	34	46	89	47	7.5	40
RuleRR	1,344	42.4	34	46	90	47	4.0	28
SW BadgeRR	YNA*	40.9	33	46	89	48	6.5	30
SW C5015	1,428	41.1	33	44	89	47	4.5	48
SW C5031	1,275	40.1	34	45	88	48	5.5	45
SW D 5113	1,365	40.7	33	46	89	47	5.3	45
SW D5066	1,278	40.7	34	46	89	47	6.0	38
SW D5099	1,288	40.5	34	45	89	49	3.5	43
SW RaideRR	961	40.7	33	47	89	49	2.8	35
SW Razor	1,255	38.7	34	46	89	46	8.0	43
SW WaRRior	1,217	40.5	35	46	89	47	6.0	38
SW-P 98-0029	1,327	41.9	34	45	89	48	5.3	35
SW-P 98-5884	1,524	41.4	33	46	89	46	3.0	25
SW-P 98-6468	1,335	40.0	34	45	89	48	2.8	35
SW-P 98-6653	YNA*	40.1	33	46	89	48	5.0	23
SW-P9828000	1,416	39.9	35	46	89	48	4.3	33
Mean	1,252	40.5	34	46	89	46	5.2	40
LSD (0.05)	401.7	1.29	0.9	0.9	0.7	4.3	2.36	13.5
C.V.	19.7	2.3	1.8	1.4	0.6	6.6	32.5	24.2