North Central Region Canola Research
FY 2007 Progress Report

Principal Investigators:

Dr. Paul Porter
Cropping Systems Agronomist
Department of Agronomy and Plant Genetics
411 Borlaug Hall
1991 St. Paul, MN 55108
612-625-6719
Fax: 612-625-1268
pporter@umn.edu

Dr. Derek Crompton
Local Extension Educator
Grass Seed and Canola Production
UM Ext Regional Center Roseau
1307 3rd st NE Suite 102
Roseau, MN 56751
218-463-0291 Fax: 218-463-0297
cromp006@umn.edu

History:

The Minnesota Canola Production Centre has been a public-private partnership between the Minnesota Canola Council and the University of Minnesota since 1998. The Canola Council of Canada initiated Canola Production Centres to address the ongoing need for canola production technology transfer. The Canola Production Centre is a joint effort between producer groups, industry representatives, and government and extension personnel. Field scale agronomic trials utilizing commercial farm equipment are conducted at the Centre, and the information generated is utilized for extension activities throughout the year.

2007 Season:

Due to the "earmark" funding delay at the federal level last season, the canola research conducted at Roseau, MN was somewhat reduced as a result. After hearing that funding might not be available, the anticipated trials that we believed to be essential were planted in May. Two days after planting was completed, the funding was realized, but due to the unavailability of additional land for research, we were unable to initiate the nitrogen and straight-harvest trials.

However, the variety trials and company products trials were very successful as a very nice growing season treated our research fairly in the 2007 season. A summary of the trials conducted in 2007 will be found in this Progress Report.

Variety and Systems Comparison Trial

Current Work:

In 2007, the Variety and Systems Comparison Trial at the Minnesota Canola Production Centre near Roseau included eleven varieties. Of these, all varieties were Roundup Ready. Included in the 2007 small plot trials were twenty varieties of Roundup Ready and ten Conventional varieties. Results can be found in the 2007 On-Farm Cropping Trials: Northwest and West Central Minnesota. (http://www.nwroc.umn.edu/Cropping_issues/NW_Crop_trials/On_Farm_Trials.htm)

2007 CPC Large Plot Company Variety Trial

Variety	Yield	Protein	Oil	Chlorophyll	Glucosinolate	Moisture	Date to Flower	Maturity	Height
CV1036	1728	19.43	51.21	0	15.81	6.61	22-Jun	4-Aug	120
P45H26	1728	20.27	49.27	0	17.83	6.69	22-Jun	4-Aug	110
357 Mag	1598	21.94	46.81	3.93	17.54	7.07	17-Jun	6-Aug	95
IS3057	1598	19.57	49.74	0	16.93	6.65	19-Jun	4-Aug	110
DK5241	1570	22.82	47.88	3.75	15.64	7.17	23-Jun	4-Aug	100
CV2010	1526	19.7	49.73	0	17.79	6.55	25-Jun	7-Aug	105
CV2018	1483	21.02	48.82	4.46	15.67	6.99	25-Jun	6-Aug	120
IS7145	1383	19.09	50.76	0	15.27	6.78	22-Jun	4-Aug	110
P45H21	1310	23.42	46.06	12.68	20.64	6.37	22-Jun	4-Aug	115
C04H70	1253	23.45	47.08	5.57	12.97	7.19	24-Jun	6-Aug	130
M1818	1238	20.78	47.39	2.38	15.03	7.13	25-Jun	6-Aug	100

2007 Minnesota Canola non-Roundup Ready Variety Trial Results.

Brand	Cultivar	Blackleg Resistance	Bloom Date	Plant Lodge 0-9	Plant Height Cm	Oil Content %@8.5%M	Yield lb/ac
Croplan Gen.	Python CL	R	25-Jun	0	130	46.2	2206
Croplan Gen.	Freedom84S01LL	MR	22-Jun	0	125	48.4	2442
Interstate S.	Hyola 357 Mag.	MR	19-Jun	0	115	46.2	2090
Mycogen S.	CNX06	MR	22-Jun	3	140	47.6	2012
Mycogen S.	CNX11	MR	25-Jun	3	104	47.0	1723
Mycogen S.	CNX15	MR	22-Jun	3	145	48.1	2180
Mycogen S.	Nexera 828 CL	R	24-Jun	0	140	41.2	1563
Mycogen	Nexera 830 CL	R	23-Jun	0	135	44.1	1749
Mean						**45.8**	**1982.9**
LSD 0.05						**1.6**	**474**

2007 Minnesota Canola Roundup Ready Variety Trial Results.

Brand	Cultivar	Blackleg Resistance	Bloom Date	Plant Lodge 0-9	Plant Height inch	Oil Content %@8.5%M	Yield lb/ac
Proseed, Inc.	Proseed RR 2066	MR	24-Jun	0	100	43.6	1533
Proseed, Inc.	RR50 Caliber	R	26-Jun	0	100	45.9	1717
Proseed, Inc.	RR 30 Caliber	R	29-Jun	0	110	45.4	1835
Croplan Gen.	HyCLASS 410	R	29-Jun	0	115	44.2	1813
Croplan Gen.	HyCLASS 712	MR	29-Jun	0	100	44.4	1801
Croplan Gen.	HyCLASS 906	R	27-Jun	0	130	44.2	1827
Croplan Gen.	HyCLASS 924	R	23-Jun	0	110	47.4	1982
DeKalb	DKL 38-25	MR	25-Jun	0	100	45.9	2180
DeKalb	DKL 52-10	R	25-Jun	0	100	44.2	1573
DeKalb	DKL 52-41	R	25-Jun	0	100	45.8	1891
Monsanto	MB52140	R	23-Jun	0	105	46.9	2190
Monsanto	MB52142	R	24-Jun	0	115	48.1	1967
Monsanto	MB52155	R	24-Jun	0	105	45.7	1942
Monsanto	Z5395	R	24-Jun	0	110	46.6	1811
Interstate S.	IS 7145RR	MR	23-Jun	0	110	47.6	2386
Interstate S.	IS 3057RR	R	22-Jun	0	110	48.2	2144
Interstate S.	Hyola 357 Mag.	MR	19-Jun	0	100	44.0	1837
Meridan	Meridian RR	M	26-Jun	0	100	43.6	1765
Pioneer	PRR45H26	R	25-Jun	0	110	46.2	2094
Pioneer	PRR45H21	R	25-Jun	0	115	47.8	2246
Mean						**45.8**	**1927**
LSD 0.05						**2.6**	**467**

Product Evaluation Studies: Dynasty and BioBoost

Current Work:

A series of on-farm trials was conducted on the 2007 CPC near Roseau and on 2 other grower fields. Results were promising, and thus warrant replicated trials in 2008.

Site 1- Bioboost liquid on seed- with 1972 lbs, without 1512 lbs
Site 2- Bioboost liquid on seed- with 1492 lbs, without 1441 lbs
Site 3- Bioboost liquid on seed- with 1200 lbs, without 1220 lbs
Site 4- Bioboost spray- with 1320 lbs, without 1330 lbs

Variety Evaluation of Winter Canola

Current Work:

In fall of 2006, 50 winter canola varieties were seeded on a wheat stubble field north of Roseau, MN. The straw was light and was raked off of half of the plot area prior to seeding. The canola was seeded at 5 lb/ac with a Hege 1000 double disk small plot seeder with 40 lb/ac of seed placed fertilizer. Emergence was fairly erratic due to dry conditions and the canola was in a healthy 6 leaf stage going into the winter. Plots were 6 feet wide X 30 feet long and replicated 4 times. Ammonium nitrate was top dressed on May 1 at 100 lb/ac (34-0-0) when the canola was starting to regrow in the spring.

Winter survivability was a problem in portions of the plots where there was excess wheat residue which hampered stand establishment and in compacted areas from tire-tracks during small-grain harvest. Average yield of the canola varieties across all 50 entries was 1,200 lbs/acre, with the best yielding variety averaging over 2,100 lbs/acre.

Results from the individual entries in the trial can be found in the National Winter Canola Variety Trials 2007, found at Kansas State University.
(http://www.oznet.ksu.edu/library/crps12/section/SRP990_.pdf)

Roseau, Minnesota

Derek Crompton, Extension Regional Center,
University of Minnesota

Planted: 8/30/06 at 5 lbs/a in 6-in. rows
Harvested: 7/25/2007
Herbicides:
Previous Crop: Spring wheat
Fertility: 120-40-60 lbs. N-P-K fertilizer

Soil Type: Sandy loam
Elevation: 1060 ft
Comments: Plot experienced drought conditions in the fall and a hard winter.

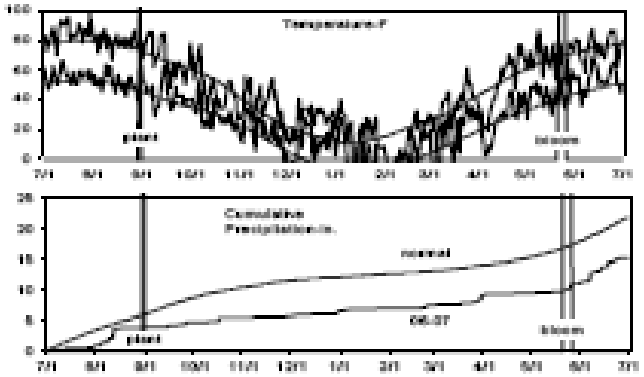

Table 10. Results of the 2007 National Winter Canola Variety Trial at Roseau, MN

	Yield (lbs/a)			Yield % of test avg	Winter Survival (%)			Fall Stand	Bloom	Plant Height	Total Oil
Name	2007	2006	2-Yr. Avg.	2007	2007	2006	2-Yr. Avg.	(0-10)	(d)	(in.)	(%)
Taurus	1374	---	---	147	67	---	---	2.7	143	46	38.9
Jetton	1366	---	---	147	53	---	---	6.0	143	47	39.4
KS9135	1336	---	---	143	80	---	---	5.0	144	49	35.4
KS3132	1327	---	---	142	33	---	---	4.7	144	49	36.4
SLM0402	1310	---	---	141	70	---	---	1.7	143	44	40.0
KS3018	1262	---	---	135	60	---	---	7.7	142	44	37.3
KS3077	1248	---	---	134	72	---	---	4.3	143	47	34.4
Kadore	1221	---	---	131	72	---	---	2.7	143	44	36.1
Hybristar	1210	---	---	130	85	---	---	5.3	143	41	39.1
Trabant	1178	---	---	126	53	---	---	4.3	143	39	39.2
Ceres	1175	---	---	126	68	---	---	6.7	143	49	38.3
Ovation	1139	---	---	122	63	---	---	4.3	142	49	38.8
NPZ0404	1109	---	---	119	78	---	---	3.3	---	44	42.6
KS4085	1077	---	---	116	38	---	---	5.3	144	43	35.6
Sumner	1012	---	---	109	80	---	---	5.7	143	43	38.2
KS3017	996	---	---	107	67	---	---	3.0	144	49	37.5
KS3248	994	---	---	107	70	---	---	3.0	142	49	37.7
Baros	988	---	---	106	62	---	---	3.7	144	39	38.5
KS3068	985	---	---	106	70	---	---	4.7	145	48	35.0
Abilene	974	---	---	105	33	---	---	7.3	143	41	37.5
KS4022	957	---	---	103	47	---	---	4.3	143	46	35.8
Kronos	949	---	---	102	43	---	---	1.7	143	47	35.7
KS3302	912	---	---	98	37	---	---	4.0	144	39	36.5
KS3074	902	---	---	97	82	---	---	2.0	144	43	35.3
KS4160	898	---	---	96	77	---	---	3.0	143	43	32.4
KS3357	875	---	---	94	80	---	---	1.7	144	48	32.3
Baldur	871	---	---	93	62	---	---	5.0	141	51	37.7
KS2002	870	---	---	93	47	---	---	4.3	144	43	37.2
Casino	866	---	---	93	72	---	---	4.0	141	49	37.0
Wichita	861	---	---	92	73	---	---	3.0	143	39	38.1
KS3073	852	---	---	91	73	---	---	6.3	143	45	39.9
KS3254	845	---	---	91	40	---	---	4.7	145	49	37.4
KS4322	845	---	---	91	70	---	---	4.3	144	47	35.6
KS7436	823	---	---	88	60	---	---	4.3	143	47	35.2
Virginia	822	---	---	88	62	---	---	4.0	144	39	37.0
ARC98015	797	---	---	85	55	---	---	3.3	143	45	37.9
XD1W692C	792	---	---	85	57	---	---	4.7	142	42	38.4
Satori	788	---	---	85	73	---	---	3.7	143	41	37.7
KS4114	786	---	---	84	55	---	---	3.3	143	43	35.5
ARC97018	756	---	---	81	65	---	---	1.3	143	40	37.1

Table 10. Results of the 2007 National Winter Canola Variety Trial at Roseau, MN

	Yield (lbs/a)			Yield % of test avg	Winter Survival (%)			Fall Stand	Bloom	Plant Height	Total Oil
Name	2007	2008	2-Yr. Avg.	2007	2007	2008	2-Yr. Avg.	(0-10)	(d)	(in.)	(%)
ARC98007	744	---	---	80	67	---	---	2.3	143	49	34.0
X02W534C	724	---	---	78	65	---	---	4.7	143	43	39.1
ARC2180-1	721	---	---	77	62	---	---	3.7	143	43	34.6
ARC97019	705	---	---	76	70	---	---	4.3	142	46	36.1
Rasmus	621	---	---	67	63	---	---	4.0	144	41	37.1
MH604001	598	---	---	64	23	---	---	5.0	145	44	36.7
Kalif	596	---	---	64	53	---	---	5.0	142	38	34.0
X01W522C	591	---	---	63	45	---	---	3.0	144	41	34.9
Viking	487	---	---	53	53	---	---	5.0	141	41	38.3
Plainsman	479	---	---	51	80	---	---	2.0	143	52	34.5
Mean	932	---	---	---	62	---	---	4.1	143	44	36.9
CV (%)	38	---	---	---	40	---	---	54.8	1	8	7.3
LSD (0.05)	NS	---	---	---	NS	---	---	NS	NS	5	NS

Bold - Superior LSD Group - Unless two entries differ by more than the LSD, little confidence can be placed in one being superior to the other.

2007-2008 Winter Canola Fungicide Trial

Current Work:

Additionally, a study has been established to investigate the use of a family of fungicides, commonly known as triazols, that have been known to increase the winter hardiness of winter rapeseed grown in Germany.

In the fall of 2007, three varieties of winter canola planted north of Wannaska, MN were treated with two fungicides with two rates (4oz/acre, and 8 oz/acre) of applications for each fungicide. The fungicides used were Folicur and Proline, which are both triazol containing products. The plots will be examined in the spring of 2008 and evaluated for winter survival differences.

Site: 2007-2008 Minnesota CPC, Kraig Lee Farm, Wannaska, MN
Treatments:
1 Proline 4.5 oz
2 Proline 9.0 oz
3 Folicur 4.0 oz
4 Folicur 9.0 oz
5 Untreated
Varieties:
1 KS3248
2 KS7436
3 Sumner

Replicated treatments 3 times per variety
Plot size 5 ft x 9 ft
Sprayed with hand sprayer @ 12 gallons per acre
Date sprayed, October 30, 2007
Plant stage 4-6 leaves