



Ontario Canola Growers
Association
2005 Crop Production Report

Jeff Kobe - Crop Production Chair

The Ontario Canola Growers Association would like to thank everyone who gave support to the CPC site as well as the CPC tour held in the summer. Without your help the CPC site and tour would not be possible.



Farm History and Plot Management

OWNERS	Kobe Farms
SOIL TYPE	Clay Loam
PREVIOUS CROP	Field #1 Corn Field #2 Soybeans
DATE PLANTED	May 17, 2005
FALL TILLAGE	Mow board Ploughed
SPRING TILLAGE	Two passes with the field disc, and one pass with the cultivator and packer
PLANTING EQUIPMENT	510 International Drill
FERTILITY PROGRAM	100 units of N 35 units of P 35 units of K
HERBICIDE PROGRAM	Treflan was applied with the fertilizer and incorporated

VARIETY TRIAL YIELD DATA

Overview of the plot:

1. All varieties were planted into conventional tillage
2. Seeding rate for all varieties was 5 lbs of seed per acre.
3. Seed treatments were Proper, Helix and Helix Extra.
4. Each variety was planted into a 1.1-acre area.
5. Herbicide control was Treflan preplant incorporated.
6. Yield data was collected by weigh wagon.

Company	Variety	Yield Lbs/ac	Moisture	Harvestibility 1=poor 10=excellent	Trait	Sclortenia Rating 1=poor 10=excellent	Heat Damage 1=A lot 10=very little
Bayer	5020	2000	10.5%	8	LL	10	7
Bayer	5030	2010	10.5%	8	LL	10	7
Dekalb	71-25	1925	9%	8	RR	10	7
Dekalb	357	2571	9%	8	RR	10	8
Dekalb	401	2476	9%	8	Con	10	8
Pioneer	46H02	2083	9%	8	Con	10	7
Pioneer	45H25	2047	9%	8	RR	10	7
Pioneer	45H21	1700	9%	8	RR	10	5

LL- Liberty Link
 RR-Roundup Ready
 Con-Conventional

1. Foliar Fertilizer Application Applied at 10% Bloom

Product Applied 2-litres/ac	Cost per acre	Yield in pounds	Gross income/ac \$275/mt canola	Net Return/ac
Green With Envy 16-8-3	\$ 7.22	1866 lbs/ac	\$232.76	\$ 225.53
Alpine 10-10-10	\$ 5.50	1551 lbs/ac	\$193.47	\$ 187.97
No Fertilizer	0	1895 lbs/ac	\$ 236.38	\$ 236.38

With applying Foliar Fertilizer timing is everything. Product should have been applied before plants start to bolt, some products can even be mixed with the chemical, be sure to check with manufacturer before doing so. This was not done before the plants bolted in this trial because the rain in June made the field too wet and by the time the field was dry and the sprayer could get in, the field had already started to bloom. On a dry year such as this, a little fertilizer at the right time can make a world of difference as seen with other crops this year, but again timing is everything.

2. Strip Trails Sprayed with Lance for Sclortenia control: 30% Bloom

Product Applied	Cost per acre	Yield in pounds	Gross income/ac \$275/mt canola	Net return/ac
Lance 141gm/ac	\$22.00	1895	\$ 236.39	\$ 214.38
No lance	\$ 0	1640	\$ 204.57	\$ 204.38

There was a response with the application of the Lance, even though white-mold was not a problem in the 2005 growing season. I believe that overall plant health was the increasing factor in yield.

3. Insecticide control for Tarnished Plant Bugs

Product Applied	Cost per acre	Yield in pounds	Gross income/ac \$ 275/mt canola	Net return/ac
Matador 34ml/ac	\$ 5.34	1925	\$ 240.12	\$ 234.78
No Control	\$ 0	1198	\$ 149.43	\$ 149.43

The Matador was applied when the canola was in full bloom, a little later than it should have been. I did not realize there was a problem until after the crop production tour in July.

Threshold #'s were 10 times the level of what they should have been.

Tarnished Plant Bugs Affect Ontario Canola

Brian Hall, Edible Beans & Canola Specialist, OMAFRA

Never heard of tarnished plant bugs? It is not surprising, because in most years, the population of the insect rarely reaches economic levels in Ontario canola.

However in 2005, the hot, dry weather that started early in the growing season favoured high populations of plant bugs in general. 'Stinging' Plant bugs include tarnished plant bug and Lygus bug, both of which can be found in a number of field and vegetable crops including alfalfa, edible beans, strawberries, peppers, potato, flax, tree fruits, canola and several weeds including pigweed, stinkweed, wild mustard and lambsquarter. Both insects have piercing sucking mouthparts, which they use to suck juices from the plant causing flower loss, and later they will feed on the pod sucking out the contents of the seed and reducing yield.

Hot, dry weather promotes development of the insect and damage will be more severe as canola is less able to compensate under these conditions. Populations this summer varied tremendously between fields, from less than 1 per sweep, to over 10 per sweep. Control is warranted when populations reach 1.5 bugs per sweep during flowering and the crop is under stress.

Using a sweep net is the only practical way to survey for both insects since they fly readily when disturbed. Apple orchards and alfalfa fields are good hosts for tarnished plant bugs, and cutting of alfalfa can cause them to migrate to nearby canola fields. The population found at the OCGA demonstration site were some of the highest found this summer.

Tarnished plant bugs over winter under plant litter and emerge soon after the snow melts. The adults look for host plants like alfalfa or canola to lay eggs throughout May and June. In alfalfa, a new generation can mature about the time the first cut of forage is harvested. There are several generations per year. Canola fields should be monitored from early bud through to pod fill. Control measures rely on insecticide applications along with some suppression by parasitic wasps. For information on control, consult the OMAFRA Field Crop Protection Guide (Publication 811)

FARM INFORMATION

OWNERS: Tom and Jim Caley
LIVESTOCK: Hogs
SOIL TYPE: Clay Loam
LAST CROP: Soybeans
FALL TILLAGE: Chisel Ploughed
SPRING TILLAGE: Conventional tilled with cultivator.
PLANTING EQUIPMENT: John Deer Air Seeder.
PLANTING DATE: May 7, 2005.

Manure Vs Conventional Fertilizer

Nutrients applied from manure 4500gal liquid hog manure.

N=32 per1000

P=20 per 1000

K=15 per 1000

Total 144 units of Nitrogen

90 units of Phosphorus

67 units of Potassium

Nutrients applied from Conventional fertilizer program.

120 units of Nitrogen applied as 28%

39 units of Phosphorus Applied as starter seed placed.

Yield from the area where the manure was applied was 1650 lbs/ac

Yield from the area where the conventional program was used 1550 lbs/ac

These strips were 2 acres in size and were a straight side-by-side comparison of manure vs conventional fertilizer.

There was no potash added in the conventional program, since K levels were high on this farm already.

Starter Trials

Starter Trails were preformed using a blend of Map and a mix of Map and Ammonium Sulphate. All plots used for the starter trails had 130 units of nitrogen applied to them in the form of 28%

Amount of starter	Cost per acre	Yield in pounds	Gross income/ac	Net return/ac
0 lbs of starter	\$ 0	1300	\$162.16	\$162.12
75lbs of Map	\$ 14.82	1600	\$199.58	\$ 184.76
100lbs/ac				
13-39-0-5.25sulfur	\$ 18.40	1630	\$203.32	\$ 184.92
150lbs/ac				
13-39-0-5.25sulfur	\$ 27.00	1690	\$210.00	\$183.80

The most cost effective starter rate was the 75lbs of Map.

With the fertility levels of this farm and the lack of moisture that was received this year, this trial did not show the results that I thought there would have been.

Jumpstart Side By Side

OWNER: Don Grant
 SOIL TYPE: Sandy Loam
 LAST CROP: Alfalfa Hay
 FALL TILLAGE: Offset Disc.
 SPRING TILLAGE: Two passes with a disc, 1 passes with field cultivator and packed before planting.
 PLANTING EQUIPMENT: International 510 Conventional Drill
 PLANTING DATE: May 9,2005.

Product Allied	Cost per ac	Yield in Pounds	Gross income/acre Using \$275/mt	Net Return
No Jumpstart	\$ 0	1025	\$ 127.85	\$ 127.85
Jumpstart	\$7.50	1200	\$ 149.69	\$ 142.19

There was a 175lbs increase per acre by using the Jumpstart inoculant. Visually, the area that was treated with Jumpstart had bigger, bushier plants with more pods than that of the area of which was untreated.

Winter Canola Nitrogen Trials

FARM INFORMATION

OWNERS: Tom and Jim Caley
SOIL TYPE: Sand
LAST CROP: Winter Wheat
FALL TILLAGE: One pass with disc
PLANTING EQUIPMENT: John Deer Air seeder
PLANTING DATE: August 26, 2004.

1. Nitrogen trails were performed using 250lbs of Urea and 100lbs of Potash

Units of Actual	Cost per ac	Yield in Pounds	Gross income/ac 275/mt canola	Net return
112-0-60	\$ 70	500	\$ 62	\$- 8
56-0-30	\$ 35	900	\$ 74	\$ 112
168-0-90	\$105	500	\$62	\$ -43

The winter canola trails at Tom and Jim Caley's Farm suffered from sulphur deficiency. By the time symptoms appeared the yield loss had already occurred.

Does Winter Canola Need Extra Sulphur?

Brian Hall, Edible Bean & Canola Specialist, OMAFRA

Canola takes up double the amount of sulphur (or more) of corn, wheat or soybeans. Sulphur is important for photosynthesis and in the formation of protein. The organic matter in the soil is the major source of sulphur for plants while acid rain can also provide some. Sulphur is very mobile in the soil, and moves with soil water, so it is subject to leaching. Under extremely wet soil conditions, sulphur can be lost to the air as hydrogen sulphide.

In 2005, there were more reports of sulphur deficiency in spring and winter canola. In winter canola, this had not been seen before in Ontario. What happened can be related back to weather and soil conditions. 2005 was a year of extremes in weather. Warm weather early in April resulted in rapid growth of winter canola, along with release of sulphate from the organic matter for plant uptake. In late April, heavy rain and a large snowfall, likely contributed to some leaching of sulphate down and out of reach of canola plants. In June & July a rapid change to a long period of hot, dry conditions reduced the release and movement of sulphur, limiting plant uptake.

At a couple of sites where sulphur deficiency was very evident and confirmed with plant tissue analysis, the soil type was very sandy at one site, and a shallow loam on the other. The very sandy soil site was in northern Bruce County, with extremely dry conditions. A nitrogen rate strip trial (50, 100, 150 kg/ha N) at the site produced very striking differences in sulphur deficiency symptoms. The higher the N rate, the more severe the deficiency and the lower the resulting yield. The 50-kg/ha nitrogen rate yielded 900 lbs/ac while the 150 kg/ha N rate yielded 450 kg/ha. Tissue tests confirmed wide Nitrogen: Sulphur ratio on the high N rate plot. The other location in Grey county had dairy manure fall applied to part of the field. Sulphur deficiency symptoms were much less severe where the manure was applied, and had a much lower N: S ratio than the non-manured strip.

Nitrogen and sulphur work together in the plant, and canola normally requires a nitrogen sulphur ratio of 5:1 to 7:1 to function properly.

The sulphur deficiency experienced in 2005 may or may not be part of the new reality in the need to fertilize winter canola with sulphur. Soil type and weather strongly affect sulphur supply. As an 'insurance factor' against sulphur deficiency in winter canola, Keith Reid, Soil Fertility specialist, OMAFRA suggests the least costly approach for providing sulphur is to replace part of the spring urea application with ammonium sulphate. Replacing 50 pounds of urea with 100 pounds of ammonium sulphate will supply the same amount of nitrogen and 24 lbs of sulphate -S.

Management of the Cabbage Seed Pod Weevil and Swede Midge in Spring And Winter Canola

Tracey Baute, Field Crop Entomologist, OMAFRA

M. Sears, R. Hallett, H. Earl, D. Hume (University of Guelph), P. Mason (AAFC) and T. Baute (OMAFRA) are working on cabbage seedpod weevil (CSW) and Swede midge research in canola in Ontario.

Preliminary results from foliar work on CSW control have shown that two applications of insecticide may be necessary in winter canola and that timing of applications is critical. Work will continue this coming season in both winter and spring canola to refine management recommendations.

Sticky traps are proving to work well for indicating when weevil populations move into the crop from their overwintering sites, which will help growers determine when to time their spray applications. An application to OMAFRA's New Directions Research Program 2006 on trap cropping and monitoring with traps has been put forward.

CSW and other insects may have contributed to the brown seed damage experienced by the canola industry this year.

Swede midge work was undertaken with seed treatments and foliar insecticides being tested. Some products look promising and will be tested again next year.

Eastern Spring Canola Co-op Variety Trials

Single year yield summary for 2005

Entry	Name	Sponsor	Traits	Elora yield kg / ha	Wartburg yield kg / ha	Douglas yield kg / ha	Mean yield kg / ha	rank	% of check
1	Hyola 401 (C1)	Monsanto	hybrid	1251	980	2259	1496	9	
2	Senator (C2)	Bonis		557	1096	1546	1067	18	
3	Hyola 357 RR	Monsanto	hybrid, RR	1311	1613	1903	1609	5	
4	OAC Tornado	Bonis		607	1277	2040	1308	13	
5	Canterra 1492CA	Advantage	hybrid	786	1011	1594	1130	16	
6	45H21	Pioneer	hybrid, RR	1134	1854	2601	1863	1	
7	5020	Bayer CropScience	hybrid, LL	954	1784	2266	1668	4	
8	5030	Bayer CropScience	hybrid, LL	1111	1904	2356	1791	3	
9	AP 7978 RR	Agriprogress	hybrid, RR	940	1375	2487	1601	6	
10	AP 7554 RR (2)	Agriprogress	hybrid, RR	1094	1615	2027	1579	8	123
11	Z2409 (2)	Monsanto	hybrid, RR	1052	2085	2324	1820	2	142
12	AV9525 (1)	Monsanto	hybrid, RR	801	1230	2103	1378	11	107
13	AP3.32.22 RR (1)	Agriprogress	hybrid, RR	617	1197	1468	1094	17	85
14	AP3.39.26 RR (1)	Agriprogress	hybrid, RR	888	1531	1375	1264	14	99
15	APS 3.06.50 RR (1)	Agriprogress	synthetic, RR	777	1518	1678	1325	12	103
16	CD5083 (1)	Monsanto	hybrid, RR	435	1252	2007	1231	15	96
17	CD5251 (1)	Monsanto	hybrid, RR	633	1766	1879	1426	10	111
18	45H25 (1)	Pioneer	hybrid, RR	1059	1707	1976	1581	7	123
Test Mean				883	1471	2000			
LSD 0.05				222	505	593			
CV (%)				16.9	22.9	17.1			

¹Numbers in parentheses indicate first or second year entries. C1 and C2 are check varieties.
Yields are reported at 8.5% moisture

Winter Canola Co-op 2004/2005 Single Year Yield Summary

Entry No.	Variety	Sponsor	Traits	Elora Yield (kg / ha)	Harriston Yield (kg / ha)	Mean Yield (kg / ha)	Rank	% of check
1	Arctic			1504	2816	2160	12	
2	Baldur	AgriProgress & NPZ	hybrid	1775	3229	2502	6	
3	Kronos	AgriProgress & NPZ	hybrid	1681	3472	2577	4	
4	NPZ 0325 (2)	AgriProgress & NPZ	hybrid	1581	3122	2352	10	91
5	NPZ 0326 (2)	AgriProgress & NPZ	hybrid	1704	3030	2367	9	92
6	NPZ 0327 (2)	AgriProgress & NPZ	hybrid	1682	3569	2626	3	102
7	NPZ 0391 (2)	AgriProgress & NPZ	hybrid, RR	1272	3152	2212	11	86
8	PR36W09 (X01W692C) (2)	Pioneer	hybrid	1731	3535	2633	2	102
9	PR45D01 (semi-dwarf) (1)	Pioneer	hybrid	1775	3032	2404	8	93
10	X03W621C (1)	Pioneer	hybrid	2005	3750	2878	1	112
11	X03W627C (1)	Pioneer	hybrid	1826	3258	2542	5	99
12	983-01 (1)	OAC		1575	3243	2409	7	93
	LSD (5%)			336	433	313		
	Test Mean			1676	3267	2471		
	CV (%)			13.9	9.2	12.7		

¹Numbers in parentheses indicate first or second year entries. Check variety is Kronos.
Yields are reported at 8.5% moisture

