

Project Title: 2007-2008 National Winter Canola Variety Trial

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Objective: Evaluate and compare experimental and commercial winter canola varieties for their production potential in a northwest Montana environment.

Results: Twenty-one varieties of canola were seeded at 5 lbs/acre and 0.5 inch depth on 19 Sept. 2007 in a randomized complete block design with 4 replicates. Plots were seeded in seven 15-ft long rows with 6 inch row spacing. Fertilizer (30 lbs/a N, P₂O₅, K₂O, & S) was applied pre-plant. No irrigation was used. The previous crop was fallow.

Fall stands were rated on Oct.30, 2007 and again on Apr.28, 2008 to determine winter survival. Although differences were not significant, survival ranged from 21% to 80% ('Sitro'). Bloom date (when 50% of the plants had started to flower) and maturity date (when 90% of the plants had lost their green color) were recorded. Lodging was variable but not extreme. Significant differences in seed yield, moisture content, and test weight were determined. Yields ranged from 1389 lbs/a to 2611 lbs/acre (Table 1).

Summary: We were able to identify cultivars with good winter hardiness and yield potential for this location. There is germplasm available which may make winter canola a viable rotation crop for this area.

Future Plans: We hope to further investigate the effects of seeding date and fertilizer on Winter survival, seed and oil yield and oil quality of winter canola.

Table 1. Winter survival and yield comparisons of winter canola cultivars.

	FALL	SPRING								TEST
<u>Entry</u>	<u>STAND</u>	<u>STAND</u>	<u>SURVIVAL</u>	<u>BLOOM</u>	<u>MATURITY</u>	<u>HEIGHT</u>	<u>LODGING</u>	<u>YIELD</u>	<u>MOISTURE</u>	<u>WEIGHT</u>
	(0-10)	pl/sqft	%	date	date	in	%plot	lbs/a	%	lbs/bu
Sitro	3.9	5.6	80	5/23	7/28	54	17	2611	8.8	49.1
Kadore	4.8	3.0	40	5/29	8/5	53	3	1902	10.4	49.7
Baldur	4.1	2.6	55	5/25	7/30	57	9	1796	9.0	43.5
Ceres	6.9	3.1	26	5/26	7/30	60	15	1573	10.7	47.1
Kronos	5.2	4.5	52	5/25	7/29	57	4	1747	9.0	42.7
Virginia	6.5	4.9	43	5/24	7/29	57	9	1735	9.9	42.8
CWH630	5.2	5.0	58	5/24	7/29	54	4	1600	6.2	46.4
CWH633	7.0	3.2	28	5/27	7/30	57	4	1636	8.2	44.6
CWH686	3.7	1.9	28	5/25	7/29	57	5	1435	7.8	49.9
CWH687	6.3	3.2	30	5/26	7/30	59	1	1808	7.4	46.2
CWH688	5.2	3.1	35	5/27	7/29	56	43	1406	7.5	48.4
DKW13-69	5.7	2.7	31	5/29	8/6	58	1	2081	9.4	45.2
KS3018	6.5	5.8	54	5/24	7/28	57	4	1788	7.5	49.2
KS3074	7.4	5.0	41	5/26	7/29	59	10	1769	6.9	47.6
KS3077	7.9	5.7	40	5/26	7/29	54	22	1914	7.4	44.0
KS3254	6.9	2.5	21	5/27	8/4	58	5	1941	12.7	43.6
KS3302	7.2	5.7	47	5/26	7/28	56	30	1759	8.7	44.0
KS4022	5.7	3.2	30	5/28	7/28	57	22	2270	8.1	46.4
KS4158	6.3	6.0	53	5/25	7/30	60	7	1481	7.1	48.4
KS9135	6.5	5.3	50	5/26	8/3	57	10	1931	9.1	44.0
Wichita	6.5	4.0	35	5/28	7/30	58	7	1389	7.4	45.6
mean	6.0	4.1	42			57	11	1789	8.5	46.1
F	1.4	1.7	1.0			0.5	1.4	2.9	1.9	2.6
Pr>F	0.1537	0.0710	0.5112			0.9688	0.1689	0.0017	0.0447	0.0043
LSD(0.05)	NS	NS	NS			NS	NS	472	3.2	5.3
CV(%)	27.7	44.5	58.0			8.2	137.1	16.0	22.6	7.0
MSE	2.7	3.6	585.0			21.6	229.6	81886.7	3.7	10.3
R ²	0.44	0.48	0.35			0.21	0.44	0.61	0.50	0.59