Project Title: Statewide Canola Variety Evaluation

Project Leader: Heather Mason

Project personnel: Louise Strang, James Thompson

Project Objective: To evaluate seed yield and agronomic performance of 15 canola varieties in northwestern Montana

Results:

Fifteen varieties of canola (Table 1) were seeded at a rate of 5 lb/a and a depth of 0.5 in on May 1, 2009 under conventional tillage and dryland conditions. The plots were combine harvested on August 21, 2009.

The average time to flowering for canola varieties was 50 days after planting (June 20), with the crop reaching average harvest maturity approximately 50 days later (August 9), a total of 100 days after planting. Average plant height was 39.9 in, but varied widely from 33.8 in (Hyola 357 Magnum) to 43.5 in (InVigor 5550). Little to no lodging or pod shatter was observed, which is atypical for this shatter-prone crop.

Differences in seed yield and test weight were significant among varieties included in this year's evaluation. On average, canola yielded 2,489 lb/a, and test weights were 49.9 lb/bu. The three highest yielding varieties were Hyola 357 Magnum (52.9 lb/bu), HyClass 940-RR (52.8 lb/bu) and DKL52-41 (52.6 lb/bu). Average oil content of canola seed was 40.1%, ranging from 36.9 to 42.2%. Differences in oil yield among varieties were also significant. Oil yields ranged from 760 lb/a (UISC3117) to 1,095 lb/a (DKL72-55), with an average of 999 lb/a.

Summary:

Canola yields were relatively high, with over half the varieties reaching over 50 bu/a seed yield. In this crop year, flea beetles were the only pest observed and no disease problems were noted.

Future Plans:

With continued variety development and release, further canola evaluations will be conducted in order to identify varieties best suited to our growing region.

Table 1. 2009 Statewide Canola Variety Evaluation results, Northwestern Agricultural Research Center, Kalispell, MT

Variety	Seed Yield	Seed Yield	Oil Yield	Test Weight	Protein Content	Oil Content	Moisture	Shatter	Days to Flower *days after planting*	Harvest Maturity *days after planting*	Plant Height	Lodging
	bu/a	*lb/a*	*lb/a*	*lb/bu*	*%*	*%*	*%*	*%*			*in*	*0 to 9*
Hyola 357 Magnum	**52.9****	2571	981	48.6	21.7	38.1	6.1	1.3	47	101	33.8	3
HyClass 940-RR	**52.8***	2640	1079	50.0	20.0	40.8	5.5	2.5	50	100	39.0	1
DKL52-41	**52.6***	2603	1047	49.5	21.6	40.2	5.5	5.0	50	100	41.3	1
DKL30-42	**52.5***	2651	1089	50.5	20.2	41.1	5.1	2.5	49	100	37.8	1
DKL72-55	**51.8***	2590	1095	50.0	18.7	42.2	5.1	2.5	50	100	37.5	1
InVigor 5550	**50.8***	2578	1012	50.7	21.4	39.3	5.8	3.8	52	100	43.8	1
InVigor 5440	**50.8***	2567	998	50.6	21.5	38.8	6.0	1.3	53	101	43.5	0
InVigor 8440	**50.7***	2495	999	49.2	20.1	40.1	5.8	5.0	51	100	40.8	1
IS 3057 RR	**50.2***	2500	1052	49.8	19.2	42.1	5.3	5.0	47	99	36.3	1
HyClass 924-RR	46.9	2371	927	50.6	22.5	39.1	5.3	2.5	49	100	40.3	1
IS 7145 RR	46.9	2367	956	50.5	21.0	40.4	5.5	6.3	53	101	40.0	0
InVigor 5630	46.3	2275	930	49.2	19.6	40.9	5.8	5.0	53	101	43.5	1
UISC0135	43.3	2149	820	49.7	22.5	38.1	5.7	3.8	49	99	41.3	1
Oscar	41.1	2071	764	50.4	22.1	36.9	7.3	3.8	51	102	41.5	1
UISC3117	37.8	1875	760	49.6	19.2	40.5	5.8	5.0	50	100	40.8	3
Average	48.5	2489	999	49.9	20.8	40.1	5.6	3.6	50	100	39.9	1
LSD (α =0.05)	5.40	261.6	113.8	0.41	1.10	0.80	0.40	5.80	1.1	0.8	2.80	0.9

Seed and oil yields are adjusted to 8% grain moisture content.

**Indicates highest yielding variety.

*Indicates varieties yielding equal to the highest yielding variety based on Fisher's protected LSD at the 0.05 probability level.