

Project title: 2010 – 2011 National Winter Canola Variety Evaluation
Project leader: Heather Mason
Project personnel: Brooke Bohannon
Objectives: To evaluate seed yield and agronomic performance of twenty-one winter canola varieties in northwestern Montana.

Results:

Twenty-one varieties (Table 1) were seeded into fine loam on August 23, 2010. The field was previously seeded to alfalfa and was prepared for planting with conventional tillage. Fertilizer (44-37-41) was broadcast and incorporated prior to seeding. No pesticides were applied and the trial was not irrigated.

Good fall stand establishment was achieved (4-6 leaf stage) prior to the first killing frost (< 24°F) on October 23, 2010. The average fall stand rating was 8.0 (on a scale of 0 = no stand, to 10 = excellent stand). The average winter survival was 95 percent and the average stand vigor received a score of 4 (on a scale of 1= no vigor to 5 = high vigor). The average flower and maturity dates were May 26, 2011 and August 9, 2011, respectively. Minimal lodging and shatter were observed in the entire evaluation.

Differences in seed yield and test weight were significant among varieties. On average, winter canola yielded 3,773 lb/ac with a test weight of 51.3 lb/bu. Six of the twenty-one varieties yielded statistically equivalent to the highest yielding variety 'Visby' (4,774 lb/ac or 51.2 lb/bu). Average oil content was 41.1 %, ranging from 45.8% (Durola) to 36.7% DKW4110.

Summary:

Although the 2010 – 2011 crop successfully wintered over, winter canola remains a marginal crop for this region.

Future Plans:

The National Winter Canola Variety Evaluations will be continued as long as interest in winter canola persists in northwestern Montana.

2010 - 2011 National Winter Canola Variety Evaluation, Kalispell, MT

Seed Date: 08/23/2010	Irrigation: None	Harvest Date: 08/17/2011
Seeding Rate: 5 lb/ac	Soil Test: 82-6-71-34 (07/07/2010)	Harvest Method: Direct Cut
Previous Crop: Alfalfa	Fertilizer: 44-37-40	
Herbicides: None	Soil Type: Fine loam	
Insecticides: None	Tillage: Conventional	

Table 1. Performance of winter canola varieties and breeding lines tested in the 2010-2011 National Winter Canola Variety Evaluation at Northwestern Agricultural Research Center, Kalispell, MT

Variety	Seed Yield	Test Weight	Seed Yield	Oil Content	Moisture content	Stand	Vigor	Survival	Days to Flower	Days to Maturity	Plant Height	Lodging	Shatter
	lb/ac	lb/bu	bu/ac	%	%	1-10	1-5	0-100%	dap	dap	in	1-100%	1-100%
Visby	4774 ^{**}	51.2	93	41.7	6.8	8.0	4	95	263	341	72.0	5	2
Baldur	4557	51.5	89	41.7	7.4	8.7	4	98	264	342	65.3	17	5
Dimension	4368	49.6	88	44.5	8.2	9.0	5	92	266	342	73.0	3	3
HyC154W	4328	51.5	84	40.2	7.4	8.3	4	100	267	343	67.0	5	5
Claremore CL	4300	51.1	84	40.5	6.8	7.7	4	95	271	342	72.0	5	3
Safran	4275	50.8	84	41.7	8.0	6.7	4	97	267	342	68.3	7	3
Durola	4078	50.4	81	45.8	7.9	8.0	3	100	263	341	67.0	7	7
Hornet	3888	52.4	74	41.5	6.8	6.7	4	93	267	341	68.7	18	7
Dynastie	3871	51.6	75	42.7	7.3	8.0	3	93	264	343	72.3	30	10
Wichita	3849	51.2	75	42.0	6.3	8.3	4	93	264	340	65.7	10	7
Athena	3838	51.2	75	41.3	7.5	8.7	4	100	264	341	68.0	3	2
Amanda	3767	52.5	72	41.4	7.2	6.3	4	98	272	341	63.3	12	3
Sitro	3720	52.0	72	41.3	7.3	7.0	4	95	263	340	67.0	18	7
DKW4410	3687	50.6	73	38.4	7.4	8.3	4	90	271	339	63.7	30	17
Flash	3537	47.8	74	40.8	9.9	9.0	4	90	271	344	70.3	12	5
DKW4715	3462	51.4	67	41.5	6.4	8.7	3	93	264	341	66.3	17	8
HPX7228	3436	52.0	66	38.1	6.7	8.3	4	97	264	340	68.0	37	22
HPX7341	3213	52.6	61	39.5	6.6	7.7	4	93	267	339	72.0	25	13
Riley	3071	51.6	60	40.9	6.1	8.7	4	90	264	341	70.3	17	8
DKW4615	2917	51.9	56	40.7	6.0	7.3	3	98	269	339	64.7	23	17
DKW4110	2292	52.3	44	36.7	6.7	7.7	4	85	263	340	63.3	8	7
Average	3773	51.3	73.7	41.1	7.2	8.0	4	95	266	341	68.0	15	8
LSD (0.05)	877.31	1.95	16.60	2.70	1.11	2.04 <i>ns</i>	1.4 <i>ns</i>	12.7 <i>ns</i>	3.6	3.1 <i>ns</i>	5.77	21.4 <i>ns</i>	12.3 <i>ns</i>

Seed and test weights are adjusted to 8% moisture content.

Seed oil content is reported on a dry matter basis.

** Indicates highest yielding variety.

bold indicates varieties yielding equal to highest yielding variety based on Fisher's protected LSD at P< 0.05.

ns denotes non-significant effects.

Lodging visually estimated on a score from 0 to 9 (0=none, 9=all plants laying flat).