

PROJECT TITLE: Canola Performance Evaluations near Moccasin, Sidney, Havre, Kalispell, Huntley and Conrad, Montana. (Exps. 10-CN07, 10-CN03, 10-CN02, 10-CN05, 10-CN08, 10-CN18)

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OBJECTIVES:

To provide canola growers in Montana with a reliable, unbiased, up-to-date source of information that will permit valid dryland and/or irrigated seed production comparisons among improved canola hybrids and experimental lines submitted for testing by participating commercial and university entities. Over time, this information should help canola producers in Montana select hybrids best suited to different regions of the state.

RESULTS and SUMMARY:

In 2010, four sponsors submitted twenty canola hybrids and experimental lines for testing near Moccasin, Sidney, Havre, Kalispell, Huntley and Conrad, MT (Table 1). Due to the timing of seed delivery from various sources and the importance of planting in a timely manner, not all entries were grown at all locations. Moccasin, Havre, Huntley and Conrad were dryland sites, while Sidney was an irrigated site and Kalispell was a high rainfall site. Genetic herbicide resistance and sponsor contact information is also presented in Table 1.

Statewide summaries of yield, percent oil and pounds of oil per acre are presented in Tables 2 through 4. 'InVigor 5440' and 'InVigor 5550', both Liberty Link canola hybrids from Bayer CropScience, along with 'DeKalb DKL 30-42' and 'DeKalb DKL 51-45', both Roundup Ready canola hybrids from Monsanto Company were the only entries to produce seed yield equal to the highest yielding entry at all six locations. Across sites tested, these four entries InVigor 5440 averaged over 1500 lb/ac seed (Table 2) and nearly 780 lb/ac of oil (Table 4).

Central Agricultural Research Center, Moccasin: In a recrop dryland environment, canola seed yield at CARC ranged from 938 to 1476 lb/ac. Seed yield averaged 1204 lb/ac with nine of seventeen entries yielding statistically equivalent to the highest yielding line 'InVigor 5440' from Bayer CropScience (1476 lb/ac). Canola test weight at CARC averaged 49.8 lb/bu and percent grain oil averaged 45.4. Canola ID, plant count, grain yield, grain test weight, grain moisture, grain protein, grain oil, oil yield, flowering date, and plant height data are summarized for CARC in Table 5.

Eastern Agricultural Research Center, Sidney: In an irrigated environment, overall canola seed yield at EARC averaged 1153 lb/ac. Ten of the eighteen entries tested were statistically equal to 'InVigor 8440', which was the highest yielding entry in the trial at 1630 lb/ac. Test weights of all entries averaged 50.3 lb/bu. Grain oil percent ranged from 38.0 to 49.4 with 'DeKalb DKL 30-42' producing the most oil per acre at 738 lbs. Canola ID, plant stand, grain yield, grain test weight, grain oil, oil yield, flowering date, plant height and pod shatter are summarized for EARC in Table 6.

Northern Agricultural Research Center, Havre: In a dryland environment, canola seed yield at NARC averaged 1207 lb/ac. Twelve of the 18 entries grown produced yields statistically equal to the highest yielding entry, 'HyClass 988-RR', at 1407 lb/ac. Test weights of all entries averaged 50.9 lb/bu. Grain oil averaged 47.5 percent with 'DeKalb DKL 51-45' producing the most oil per acre at 686 lbs. Canola ID, plant stand, plant count, grain yield, grain test weight, grain moisture, grain protein, grain oil, oil yield, flowering date, maturity date, plant height, pod shatter and lodging index are

summarized for NARC in Table 7.

Northwestern Agricultural Research Center, Kalispell: In a recrop, high rainfall environment, overall canola seed yield at NWARC averaged 1613 lb/ac. Thirteen of the 20 entries tested produced yields statistically equal to the highest yielding entry, 'Exp Line 624', at 2040 lb/ac. Test weights of all entries averaged nearly 48 lb/bu. Grain oil averaged 45 percent with 'DeKalb DKL 51-45' producing the most oil per acre at 967 lbs. Canola ID, plant count, grain yield, grain test weight, grain moisture, grain protein, grain oil, oil yield, flowering date, maturity date, plant height, pod shatter and lodging index are summarized for NWARC in Table 8.

Southern Agricultural Research Center, Huntley: In a dryland environment, canola seed yield at SARC averaged 1589 lb/ac. Six of the 16 entries grown yielded statistically equal to the highest yielding entry, 'Exp 8470-CL', at 1952 lb/ac. Test weights of all entries averaged just under 51 lb/bu. Grain oil ranged from 42.0% to 51.2% with 'DeKalb DKL 51-45' producing the most oil per acre at 888 lbs. Canola ID, plant count, grain yield, grain test weight, grain moisture, grain protein, grain oil, oil yield, flowering date, plant height, pod shatter and lodging index are summarized for SARC in Table 9.

Western Triangle Agricultural Research Center, Conrad: In a dryland environment, canola seed yield at WTARC averaged 1517 lb/ac. Twelve of the 16 entries grown produced yields statistically equal to the highest yielding entry, 'InVigor 8440', at 1709 lb/ac. Grain oil averaged just over 48 percent with 'HyClass 921-RR' producing the most oil per acre at 848 lbs. Canola ID, plant count, grain yield, test weight, grain protein, grain oil, oil yield, flowering date and plant height are summarized for WTARC in Table 10.

FUTURE PLANS:

With continued support from the canola industry and research center personnel, multi-location canola evaluations will continue in 2011 at selected sites across Montana.

Table 1. Contact Information for Seed Sources of Twenty Commercial and Experimental Hybrid Canola Entries Tested near Moccasin, Sidney, Havre, Kalispell, Huntley and Conrad, MT. 2010. (Exps. 10-CN07, 10-CN03, 10-CN02, 10-CN05, 10-CN08, 10-CN18)

SPONSOR	HYBRIDS TESTED	HERBICIDE RESISTANCE	CONTACT
Bayer CropScience	InVigor 5440 InVigor 624 InVigor 642 InVigor 8440	Liberty Link Liberty Link Liberty Link Liberty Link	Mr. Jordan Varberg Bayer CropScience 1524 Walnut Street Grand Forks, ND 58201 PH: 701-775-2700 FX: 701-795-5118 EM: jordan.varberg@bayercropscience.com
Croplan Genetics	Exp 8470-CL Xceed 8571-CL HyClass 988-RR HyClass 921-RR HyClass 940-RR HyClass 947-RR	Clearfield Clearfield Roundup Ready Roundup Ready Roundup Ready Roundup Ready	Mr. Monte Reiner Winfield Solution, LLC 525 55th ST SE Minot, ND 58701 PH: 701-852-3556 FX: 701-852-3036 EM: mrreiner@landolakes.com
DeKalb	DeKalb DKL30-42 DeKalb DKL51-45	Roundup Ready Roundup Ready	Ms. Diane Freeman Monsanto Company 800 N. Lindbergh Blvd Mail Zone - NC3K St. Louis, MO 63167 PH: 800-768-6387 FX: 314-694-5557 EM: diane.freeman@monsanto.com
MSU Research Centers These commercial hybrids and university entries were paid for by Central Ag Research Center and included in the trials in order to complete a multi-year, multi-location dataset.	InVigor 5550 DeKalb DKL 52-41 DeKalb DKL 72-55 Hyola 357 Magnum 03IL1561 UISC003117 UISC0038DE UISC0135	Liberty Link Roundup Ready Roundup Ready Roundup Ready none none none none	

Table 2. 10CNxx: Montana Statewide Industry and University Canola Trial Grain Yield Summary. 2010.

Entry	ID	Moccasin dryland lb/ac	Sidney irrigated lb/ac	Have dryland lb/ac	Kalispell high rainfall lb/ac	Huntley dryland lb/ac	Conrad dryland lb/ac
1	Exp Line 624	-	1,212	-	2,040	-	-
2	Exp Line 642	-	1,246	-	1,786	-	-
3	InVigor 5440	1,476	1,232	1,355	1,893	1,772	1,702
4	InVigor 5550	1,404	1,279	1,372	1,599	1,724	1,484
5	InVigor 8440	1,168	1,630	1,235	1,540	1,576	1,709
6	Exp 8470-CL	1,210	472	955	638	1,952	1,219
7	Xceed 8571-CL	938	828	1,120	846	1,099	1,380
8	HyClass 921-RR	1,341	1,352	1,202	1,381	1,553	1,681
9	HyClass 940-RR	1,179	1,016	979	1,718	1,385	1,466
10	HyClass 947-RR	-	1,370	1,288	1,841	1,569	1,557
11	HyClass 988-RR	1,244	1,057	1,407	1,756	1,529	1,575
12	DeKalb DKL 52-41	1,218	1,077	1,146	1,642	1,285	1,637
13	DeKalb DKL 30-42	1,235	1,533	1,250	2,011	1,747	1,553
14	DeKalb DKL 51-45	1,382	1,218	1,403	1,940	1,887	1,606
15	DeKalb DKL 72-55	1,176	1,268	1,343	1,954	1,644	1,540
16	Hyola 357 Magnum	1,071	1,037	1,222	1,996	1,937	1,612
17	UISC0135	1,141	1,112	1,295	1,354	1,358	1,255
18	UISC003117	1,006	807	1,200	1,756	1,404	1,293
19	UISC0038DE	1,069	-	919	1,183	-	-
20	03IL1561	1,217	-	1,038	1,388	-	-
Average		1,204	1,153	1,207	1,613	1,589	1,517
LSD (p=0.05)		291	452	253	450	265	266
CV%		17.0	23.6	12.6	19.7	11.7	12.3

bold Indicates cultivars yielding equal to the highest yielding entry in each column based on Fischer's Protected LSD at the 0.05 probability level.

Table 3. 10CNxx: MT Statewide Industry and University Canola Trial Grain Oil Content Summary. 2010.

Entry	ID	Moccasin dryland	Sidney irrigated	Havre dryland	Kalispell high rainfall	Huntley dryland	Conrad dryland
		%	%	%	%	%	%
1	Exp Line 624	-	46.9	-	44.9	-	-
2	Exp Line 642	-	45.5	-	44.4	-	-
3	InVigor 5440	45.2	44.7	46.8	43.5	46.3	47.7
4	InVigor 5550	46.7	45.1	47.5	44.7	48.1	48.4
5	InVigor 8440	45.2	44.2	46.6	45.1	47.2	47.3
6	Exp 8470-CL	44.1	43.3	46.1	40.9	46.1	47.5
7	Xceed 8571-CL	41.2	38.0	43.7	37.6	42.0	43.7
8	HyClass 921-RR	47.7	47.7	49.9	45.8	49.8	50.5
9	HyClass 940-RR	47.1	46.7	49.1	46.2	48.4	48.8
10	HyClass 947-RR	-	49.4	48.5	48.5	48.8	50.6
11	HyClass 988-RR	46.8	47.1	47.1	45.1	48.6	49.6
12	DeKalb DKL 52-41	46.6	46.4	46.8	46.2	48.5	46.9
13	DeKalb DKL 30-42	45.6	48.1	46.9	48.0	49.1	49.0
14	DeKalb DKL 51-45	46.7	48.6	48.9	48.4	51.2	51.4
15	DeKalb DKL 72-55	47.1	47.5	49.9	48.4	49.6	49.9
16	Hyola 357 Magnum	43.0	44.1	45.3	43.4	47.2	46.1
17	UISC0135	43.6	44.0	46.1	44.3	46.1	46.8
18	UISC003117	45.4	45.9	48.2	46.7	47.0	49.0
19	UISC0038DE	44.4	-	49.1	44.2	-	-
20	03IL1561	44.6	-	48.5	44.4	-	-
	Average	45.4	45.7	47.5	45.0	47.8	48.3
	LSD (p=0.05)	1.6	0.9	1.9	1.3	2.6	1.2
	CV%	2.5	1.2	2.5	2.0	3.8	1.7

Grain oil is reported on a dry matter basis.

Table 4. 10CNxx: MT Statewide Industry and University Canola Trial Grain Oil Yield Summary. 2010.

Entry	ID	Moccasin dryland lb/ac	Sidney irrigated lb/ac	Havre dryland lb/ac	Kalispell high rainfall lb/ac	Huntley dryland lb/ac	Conrad dryland lb/ac
1	Exp Line 624	-	570	-	919	-	-
2	Exp Line 642	-	565	-	795	-	-
3	InVigor 5440	668	550	633	822	753	812
4	InVigor 5550	658	576	652	714	762	718
5	InVigor 8440	528	723	573	696	684	808
6	Exp 8470-CL	530	204	441	262	827	580
7	Xceed 8571-CL	387	313	489	321	435	598
8	HyClass 921-RR	643	645	600	633	712	848
9	HyClass 940-RR	557	475	481	795	617	716
10	HyClass 947-RR	-	676	624	895	705	787
11	HyClass 988-RR	583	498	664	795	685	781
12	DeKalb DKL 52-41	567	501	537	761	574	768
13	DeKalb DKL 30-42	564	738	586	967	791	761
14	DeKalb DKL 51-45	646	593	686	938	888	825
15	DeKalb DKL 72-55	558	603	668	947	754	768
16	Hyola 357 Magnum	463	458	551	869	842	743
17	UISC0135	498	489	596	600	577	588
18	UISC003117	457	370	578	822	612	633
19	UISC0038DE	475	-	450	526	-	-
20	03IL1561	546	-	503	623	-	-
Average		549	530	573	735	701	733
LSD (p=0.05)		142	208	111	207	128	121
CV%		18.1	23.6	11.7	19.9	12.8	11.6

bold Indicates cultivars yielding equal to the highest yielding entry in each column based on Fischer's Protected LSD at the 0.05 probability level.
Grain oil yield is reported on a dry matter basis.

Table 5. 10CN07: Statewide Industry and University Canola Trial - Dryland.
Central Agricultural Research Center. Moccasin, MT. 2010.

Entry	ID	Plant	Plant	Grain	Test	Grain	Grain	Grain	Oil	Flowering Date		Maturity Date		Plant	Pod	Lodging
		Stand	Count	Yield	Weight	Moisture	Protein	Oil	Yield	Julian	Calendar	Julian	Calendar	Height	Shatter	Index
		%	no/ft2	lb/ac	lb/bu	%	%	%	lb/ac	day	date	day	date	inches	%	rating
3	InVigor 5440		6.5	1,476 **	51.0	9.5	23.1	45.2	668 **	171.3	20-Jun			41.1		
4	InVigor 5550		6.4	1,404 *	50.3	6.3	22.3	46.7	658 *	172.8	22-Jun			43.8		
5	InVigor 8440		7.2	1,168	49.0	9.7	23.0	45.2	528 *	171.0	20-Jun			38.2		
6	Exp 8470-CL		7.2	1,210 *	49.1	8.4	24.7	44.1	530 *	170.0	19-Jun			44.6		
7	Xceed 8571-CL		7.9	938	49.1	6.8	24.7	41.2	387	171.8	21-Jun			48.0		
8	HyClass 921-RR		6.5	1,341 *	50.3	8.7	21.4	47.7	643 *	169.8	19-Jun			37.2		
9	HyClass 940-RR		5.7	1,179	50.1	7.1	22.2	47.1	557 *	171.8	21-Jun			40.0		
11	HyClass 988-RR		5.5	1,244 *	47.3	8.8	22.2	46.8	583 *	172.5	22-Jun			43.3		
12	DeKalb DKL 52-41		5.2	1,218 *	49.5	9.1	23.8	46.6	567 *	170.8	20-Jun			40.0		
13	DeKalb DKL 30-42		5.3	1,235 *	51.0	9.3	23.0	45.6	564 *	170.5	20-Jun			40.1		
14	DeKalb DKL 51-45		6.8	1,382 *	50.3	7.7	21.6	46.7	646 *	169.3	18-Jun			38.3		
15	DeKalb DKL 72-55		4.2	1,176	50.2	8.0	23.0	47.1	558 *	172.8	22-Jun			40.8		
16	Hyola 357 Magnum		2.7	1,071	48.9	9.7	24.7	43.0	463	170.0	19-Jun			36.8		
17	UISC0135		6.1	1,141	49.7	8.9	24.1	43.6	498	171.8	21-Jun			42.1		
18	UISC003117		7.0	1,006	50.3	8.2	23.2	45.4	457	170.3	19-Jun			37.2		
19	UISC0038DE		7.3	1,069	50.6	8.5	24.0	44.4	475	170.3	19-Jun			36.4		
20	03IL1561		5.0	1,217 *	50.5	6.8	23.0	44.6	546 *	169.8	19-Jun			38.2		
Average			6.0	1,204	49.8	8.3	23.2	45.4	549	170.9	20-Jun			40.4		
LSD (p=0.05)			2.3	291	1.5	ns	1.3	1.6	142	1.1	-			3.3		
CV%			26.7	17.0	2.1	21.4	3.9	2.5	18.1	0.5	-			5.8		

Grain yield is adjusted to 8 percent grain moisture content.

** Indicates highest yielding cultivar within a column.

* Indicates cultivars yielding equal to the highest yielding entry based on Fisher's Protected LSD at the 0.05 probability level.

Grain protein, grain oil and oil yeild are reported on a dry matter basis.

Seeding Date: March 31, 2010

Harvest Date: August 16, 2010

Table 6. 10CN03: Statewide Industry and University Canola Trial - Irrigated.
Eastern Agricultural Research Center. Sidney, MT. 2010.

Entry	ID	Plant	Plant	Grain	Test	Grain	Grain	Grain	Oil	Flowering Date		Maturity Date		Plant	Pod	Lodging
		Stand	Count	Yield	Weight	Moisture	Protein	Oil	Yield	Julian	Calendar	Julian	Calendar	Height	Shatter	Index
		%	no/ft2	lb/ac	lb/bu	%	%	%	lb/ac	day	date	day	date	inches	%	rating
1	InVigor 624	90.0		1,212 *	51.5			46.9	570 *	183.0	2-Jul			40.4	26.7	
2	InVigor 642	91.7		1,246 *	51.0			45.5	565 *	181.3	30-Jun			40.7	28.3	
3	InVigor 5440	86.7		1,232 *	51.5			44.7	550 *	182.3	1-Jul			39.7	35.0	
4	InVigor 5550	90.0		1,279 *	51.5			45.1	576 *	179.0	28-Jun			40.8	28.3	
5	InVigor 8440	90.0		1,630 **	49.8			44.2	723 *	180.0	29-Jun			36.6	18.3	
6	Exp 8470-CL	80.0		472	50.7			43.3	204	176.3	25-Jun			35.4	76.7	
7	Xceed 8571-CL	85.0		828	50.5			38.0	313	177.7	27-Jun			39.5	70.0	
8	HyClass 921-RR	90.0		1,352 *	51.0			47.7	645 *	179.7	29-Jun			39.6	28.3	
9	Hyclass 940-RR	91.7		1,016	49.7			46.7	475	177.0	26-Jun			36.7	56.7	
10	Hyclass 947-RR	90.0		1,370 *	49.3			49.4	676 *	178.7	28-Jun			36.3	36.7	
11	HyClass 988-RR	91.7		1,057	49.3			47.1	498	178.0	27-Jun			37.4	35.0	
12	DeKalb DKL 52-41	90.0		1,077	49.5			46.4	501	177.3	26-Jun			36.5	38.3	
13	DeKalb DKL 30-42	93.3		1,533 *	49.8			48.1	738 **	176.3	25-Jun			35.6	46.7	
14	DeKalb DKL 51-45	95.0		1,218 *	49.8			48.6	593 *	175.7	25-Jun			34.6	23.3	
15	DeKalb DKL 72-55	93.3		1,268 *	49.5			47.5	603 *	179.0	28-Jun			34.6	31.7	
16	Hyola 357 Magnum	88.3		1,037	49.7			44.1	458	177.7	27-Jun			31.8	20.0	
17	UISC0135	90.0		1,112	50.7			44.0	489	182.0	1-Jul			35.4	36.7	
18	UISC003117	91.7		807	50.2			45.9	370	176.3	25-Jun			32.7	50.0	
Average		89.9		1,153	50.3			45.7	530	178.7	28-Jun			36.9	38.1	
LSD (p=0.05)		5.5		452	0.5			0.9	208	2.9	-			ns	20.5	
CV%		3.7		23.6	0.7			1.2	23.6	6.6	-			10.0	32.4	

Grain yield is reported "as was" at harvest - not adjusted to a uniform moisture content.

** Indicates highest yielding cultivar within a column.

* Indicates cultivars yielding equal to the highest yielding entry based on Fisher's Protected LSD at the 0.05 probability level.

Grain oil and oil yield are reported on a dry matter basis.

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Table 7. 10CN02: Statewide Industry and University Canola Trial - Dryland.
Northern Agricultural Research Center. Havre, MT. 2010.

Entry	ID	Plant	Plant	Grain	Test	Grain	Grain	Grain	Oil	Flowering Date		Maturity Date		Plant	Pod	Lodging
		Stand	Count	Yield	Weight	Moisture	Protein	Oil	Yield	Julian	Calendar	Julian	Calendar	Height	Shatter	Index
		%	no/ft2	lb/ac	lb/bu	%	%	%	lb/ac	day	date	day	date	inches	%	rating
3	InVigor 5440	91.7	8.0	1,355 *	51.3	7.2	22.6	46.8	633 *	173.7	23-Jun	214.7	3-Aug	36.3	2.3	0.0
4	InVigor 5550	88.9	8.0	1,372 *	50.7	6.7	22.9	47.5	652 *	173.0	22-Jun	215.3	3-Aug	39.1	2.3	0.0
5	InVigor 8440	93.3	9.7	1,235 *	50.5	7.1	23.3	46.6	573	173.0	22-Jun	214.7	3-Aug	34.3	11.7	0.0
6	Exp 8470-CL	93.1	8.1	955	50.9	7.4	24.9	46.1	441	169.0	18-Jun	215.3	3-Aug	30.8	0.3	0.0
7	Xceed 8571-CL	95.1	10.5	1,120	50.7	6.9	25.1	43.7	489	172.0	21-Jun	215.3	3-Aug	37.3	0.3	0.0
8	HyClass 921-RR	94.4	9.9	1,202 *	50.2	6.7	21.4	49.9	600 *	172.7	22-Jun	216.0	4-Aug	35.3	10.0	0.0
9	HyClass 940-RR	88.4	7.9	979	50.8	7.5	21.5	49.1	481	174.7	24-Jun	215.7	4-Aug	35.3	16.7	0.0
10	HyClass 947-RR	95.6	11.6	1,288 *	51.2	7.1	22.6	48.5	624 *	173.0	22-Jun	215.3	3-Aug	38.1	11.7	0.0
11	HyClass 988-RR	92.6	9.8	1,407 **	51.2	7.1	22.9	47.1	664 *	174.7	24-Jun	218.0	6-Aug	38.9	7.0	0.0
12	DeKalb DKL 52-41	94.0	9.3	1,146	50.7	7.3	24.4	46.8	537	172.7	22-Jun	215.3	3-Aug	39.7	16.7	0.0
13	DeKalb DKL 30-42	88.4	6.5	1,250 *	53.8	7.0	23.8	46.9	586 *	172.7	22-Jun	215.0	3-Aug	33.3	3.7	0.0
14	DeKalb DKL 51-45	95.1	10.0	1,403 *	50.3	7.4	22.1	48.9	686 **	171.3	20-Jun	215.3	3-Aug	35.2	10.0	0.0
15	DeKalb DKL 72-55	89.4	5.7	1,343 *	50.6	6.9	21.4	49.9	668 *	174.0	23-Jun	216.0	4-Aug	36.9	10.0	0.0
16	Hyola 357 Magnum	91.7	7.6	1,222 *	50.9	6.6	24.3	45.3	551	172.3	21-Jun	215.7	4-Aug	33.7	1.0	0.0
17	UISC0135	92.4	12.7	1,295 *	50.9	6.4	23.9	46.1	596 *	171.7	21-Jun	214.7	3-Aug	37.1	3.7	0.0
18	UISC003117	94.0	9.3	1,200 *	50.1	7.1	22.7	48.2	578	172.0	21-Jun	216.0	4-Aug	34.8	5.3	0.0
19	UISC0038DE	91.9	9.7	919	50.2	7.0	21.0	49.1	450	171.7	21-Jun	215.7	4-Aug	27.4	4.0	0.0
20	03IL1561	92.1	8.2	1,038	50.8	6.7	21.7	48.5	503	171.7	21-Jun	216.3	4-Aug	29.7	7.0	0.0
Average		92.3	9.0	1,207	50.9	7.0	22.9	47.5	573	172.5	23-Jun	215.6	4-Aug	35.2	6.9	0.0
LSD (p=0.05)		ns	1.8	253	ns	ns	2.0	1.9	111	1.3	-	1.6	-	6.8	6.2	-
CV%		4.2	11.9	12.6	2.9	6.6	5.1	2.5	11.7	0.5	-	0.4	-	11.7	54.6	-

Grain yield is adjusted to 8 percent grain moisture content.

** Indicates highest yielding cultivar within a column.

* Indicates cultivars yielding equal to the highest yielding entry based on Fisher's Protected LSD at the 0.05 probability level.

Grain protein, grain oil and oil yeild are reported on a dry matter basis.

Seeding Date: April 21, 2010

Harvest Date: August 15, 2010

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Table 8. 10CN05: Statewide Industry and University Canola Trial - High Rainfall.
Northwestern Agricultural Research Center. Kalispell, MT. 2010.

Entry	ID	Plant	Plant	Grain	Test	Grain	Grain	Grain	Oil	Flowering Date		Maturity Date		Plant	Pod	Lodging
		Stand	Count	Yield	Weight	Moisture	Protein	Oil	Yield	Julian	Calendar	Julian	Calendar	Height	Shatter	Index
		%	no/ft2	lb/ac	lb/bu	%	%	%	lb/ac	day	date	day	date	inches	%	rating
1	Exp Line 624		15.6	2,040 **	49.2	14.2	25.9	44.9	919 *	186.8	6-Jul	243.0	31-Aug	49.0	0.5	0.5
2	Exp Line 642		12.9	1,786 *	46.8	15.5	26.1	44.4	795 *	186.0	5-Jul	235.0	23-Aug	45.3	0.0	0.0
3	InVigor 5440		10.5	1,893 *	48.4	15.2	25.7	43.5	822 *	186.0	5-Jul	240.5	29-Aug	48.8	0.0	0.0
4	InVigor 5550		14.1	1,599 *	48.5	15.2	25.8	44.7	714	182.8	2-Jul	236.0	24-Aug	46.5	0.0	0.0
5	InVigor 8440		15.8	1,540	46.5	14.0	25.3	45.1	696	183.0	2-Jul	243.0	31-Aug	45.0	0.0	0.0
6	Exp 8470-CL		9.9	638	45.8	10.7	28.6	40.9	262	180.3	29-Jun	-	-	52.3	2.0	2.0
7	Xceed 8571-CL		15.4	846	46.2	14.2	27.5	37.6	321	180.3	29-Jun	-	-	54.0	0.0	0.0
8	HyClass 921-RR		12.8	1,381	47.8	15.6	24.9	45.8	633	182.0	1-Jul	240.5	29-Aug	41.8	1.0	1.0
9	HyClass 940-RR		13.8	1,718 *	48.9	10.4	25.2	46.2	795 *	181.3	30-Jun	236.0	24-Aug	45.8	0.0	0.0
10	HyClass 947-RR		14.7	1,841 *	49.0	11.3	23.4	48.5	895 *	181.5	1-Jul	235.0	23-Aug	43.8	1.0	1.0
11	HyClass 988-RR		16.2	1,756 *	44.7	16.7	24.3	45.1	795 *	186.0	5-Jul	243.0	31-Aug	46.0	1.0	1.0
12	DeKalb DKL 52-41		12.6	1,642 *	48.1	11.6	26.1	46.2	761 *	181.8	1-Jul	238.5	27-Aug	46.8	2.0	2.0
13	DeKalb DKL 30-42		10.4	2,011 *	50.0	9.8	24.0	48.0	967 **	180.8	30-Jun	235.0	23-Aug	45.5	1.0	1.0
14	DeKalb DKL 51-45		14.6	1,940 *	49.7	9.5	23.7	48.4	938 *	181.0	30-Jun	235.0	23-Aug	45.3	1.0	1.0
15	DeKalb DKL 72-55		9.8	1,954 *	49.8	9.8	24.5	48.4	947 *	182.3	1-Jul	239.5	28-Aug	47.5	0.0	0.0
16	Hyola 357 Magnum		11.6	1,996 *	46.7	11.8	26.4	43.4	869 *	180.8	30-Jun	237.0	25-Aug	40.3	1.0	1.0
17	UISC0135		14.3	1,354	47.3	13.3	26.3	44.3	600	181.8	1-Jul	237.0	25-Aug	45.3	1.5	1.5
18	UISC003117		12.3	1,756 *	48.6	10.5	24.5	46.7	822 *	181.0	30-Jun	240.5	29-Aug	46.3	2.0	2.0
19	UISC0038DE		17.3	1,183	46.1	11.8	25.5	44.2	526	181.8	1-Jul	235.0	23-Aug	43.5	4.0	4.0
20	03IL1561		11.4	1,388	48.4	11.8	25.3	44.4	623	182.5	2-Jul	239.5	28-Aug	47.0	2.5	2.5
Average			13.3	1,613	47.8	12.6	25.5	45.0	735	182.5	2-Jul	238.3	26-Aug	46.3	1.0	1.0
LSD (p=0.05)			4.4	450	1.8	2.7	0.6	1.3	207	0.6	-	5.8	-	4.5	18.3	1.5
CV%			23.6	19.7	2.7	14.9	1.7	2.0	19.9	0.2	-	1.1	-	6.9	37.2	70.3

Grain yield is adjusted to 8 percent grain moisture content.

** Indicates highest yielding cultivar within a column.

* Indicates cultivars yielding equal to the highest yielding entry based on Fisher's Protected LSD at the 0.05 probability level.

Grain protein, grain oil and oil yield are reported on a dry matter basis.

Seeding Date: May 10, 2010

Harvest Date: September 14, 2010

Table 9. 10CN08: Statewide Industry and University Canola Trial - Dryland.
Southern Agricultural Research Center. Huntley, MT. 2010.

Entry	ID	Plant	Plant	Grain	Test	Grain	Grain	Grain	Oil	Flowering Date		Maturity Date		Plant	Pod	Lodging
		Stand	Count	Yield	Weight	Moisture	Protein	Oil	Yield	Julian	Calendar	Julian	Calendar	Height	Shatter	Index
		%	no/ft2	lb/ac	lb/bu	%	%	%	lb/ac	day	date	day	date	inches	%	rating
3	InVigor 5440		16.8	1,772 *	52.1	5.7	23.4	46.3	753	168.8	16-Jun			57.1	8.8	0.0
4	InVigor 5550		15.2	1,724 *	51.8	5.2	22.7	48.1	762 *	169.0	17-Jun			60.2	12.5	0.0
5	InVigor 8440		18.3	1,576	50.7	5.7	22.7	47.2	684	168.8	16-Jun			55.1	10.0	0.0
6	Exp 8470-CL		16.8	1,952 **	50.5	5.0	24.1	46.1	827 *	164.3	12-Jun			58.7	6.3	0.0
7	Xceed 8571-CL		20.0	1,099	51.3	5.3	25.5	42.0	435	168.0	16-Jun			61.9	30.0	0.0
8	HyClass 921-RR		17.0	1,553	51.2	5.1	21.3	49.8	712	168.5	16-Jun			55.3	11.3	0.0
9	HyClass 940-RR		15.1	1,385	51.2	5.5	22.5	48.4	617	167.3	15-Jun			54.0	18.8	0.0
10	HyClass 947-RR		22.3	1,569	51.1	5.2	22.4	48.8	705	168.8	16-Jun			53.9	8.8	0.0
11	HyClass 988-RR		19.4	1,529	50.0	5.5	21.8	48.6	685	168.3	16-Jun			57.2	16.3	0.0
12	DeKalb DKL 52-41		16.5	1,285	50.8	5.4	22.8	48.5	574	167.5	15-Jun			54.3	21.3	0.0
13	DeKalb DKL 30-42		13.2	1,747 *	51.0	5.0	21.7	49.1	791 *	166.8	14-Jun			53.7	6.3	0.0
14	DeKalb DKL 51-45		18.9	1,887 *	50.7	5.2	19.7	51.2	888 **	166.0	14-Jun			51.9	6.3	0.0
15	DeKalb DKL 72-55		15.9	1,644	51.2	5.1	22.2	49.6	754	168.0	16-Jun			55.3	13.8	0.0
16	Hyola 357 Magnum		14.5	1,937 *	50.6	5.6	21.8	47.2	842 *	166.3	14-Jun			51.4	6.3	0.0
17	UISC0135		18.9	1,358	50.8	5.7	23.8	46.1	577	168.3	16-Jun			56.4	25.0	0.0
18	UISC003117		18.9	1,404	49.8	5.2	23.2	47.0	612	167.8	15-Jun			53.6	10.0	6.2
Average			17.3	1,589	50.9	5.3	22.6	47.8	701	167.6	15-Jun			55.6	13.2	0.4
LSD (p=0.05)			2.8	265	0.6	0.2	2.6	2.6	128	0.8	-			3.1	10.0	1.2
CV%			11.5	11.7	0.8	2.4	8.0	3.8	12.8	0.3	-			4.0	53.4	218.8

Grain yield is adjusted to 8 percent grain moisture content.

** Indicates highest yielding cultivar within a column.

* Indicates cultivars yielding equal to the highest yielding entry based on Fisher's Protected LSD at the 0.05 probability level.

Grain protein, grain oil and oil yeild are reported on a dry matter basis.

Seeding Date: April 22, 2010

Harvest Date: August 17, 2010

Table 10. 10CN18: Statewide Industry and University Canola Trial - Dryland.
Western Triangle Agricultural Research Center. Conrad, MT. 2010.

Entry	ID	Plant	Plant	Grain	Test	Grain	Grain	Grain	Oil	Flowering Date		Maturity Date		Plant	Pod	Lodging
		Stand	Count	Yield	Weight	Moisture	Protein	Oil	Yield	Julian	Calendar	Julian	Calendar	Height	Shatter	Index
		%	no/ft2	lb/ac	lb/bu	%	%	%	lb/ac	day	date	day	date	inches	%	rating
3	InVigor 5440		8.3	1,702 *	50.5		21.2	47.7	812 *	176.0	25-Jun			42.5		
4	InVigor 5550		8.3	1,484 *	50.4		21.8	48.4	718	178.0	30-Jun			42.8		
5	InVigor 8440		10.8	1,709 **	48.9		21.1	47.3	808 *	176.0	25-Jun			39.0		
6	Exp 8470-CL		10.0	1,219	48.0		23.1	47.5	580	173.0	22-Jun			40.5		
7	Xceed 8571-CL		11.3	1,380	47.3		23.5	43.7	598	176.0	25-Jun			52.5		
8	HyClass 921-RR		8.5	1,681 *	50.0		19.9	50.5	848 **	176.0	25-Jun			40.8		
9	HyClass 940-RR		9.5	1,466 *	49.1		20.6	48.8	716	178.0	29-Jun			38.8		
10	HyClass 947-RR		10.0	1,557 *	49.2		19.7	50.6	787 *	177.0	27-Jun			41.0		
11	HyClass 988-RR		9.8	1,575 *	48.5		19.6	49.6	781 *	178.0	28-Jun			40.8		
12	DeKalb DKL 52-41		6.5	1,637 *	48.7		23.1	46.9	768 *	177.0	26-Jun			40.8		
13	DeKalb DKL 30-42		6.8	1,553 *	49.6		20.7	49.0	761 *	175.0	24-Jun			38.0		
14	DeKalb DKL 51-45		12.8	1,606 *	49.2		19.0	51.4	825 *	173.0	22-Jun			38.0		
15	DeKalb DKL 72-55		10.5	1,540 *	49.5		21.1	49.9	768 *	178.0	27-Jun			39.3		
16	Hyola 357 Magnum		8.8	1,612 *	48.7		21.5	46.1	743 *	173.0	22-Jun			35.3		
17	UISC0135		11.3	1,255	47.8		21.8	46.8	588	178.0	1-Jul			39.8		
18	UISC003117		10.0	1,293	48.7		21.1	49.0	633	176.0	25-Jun			38.0		
Average			9.5	1,517	49.0		21.2	48.3	733	176.1	25-Jun			40.5		
LSD (p=0.05)			ns	266	1.4		1.0	1.2	121	-	-			3.0		
CV%			27.9	12.3	2.1		3.2	1.7	11.6	-	-			5.2		

Grain yield is reported "as was" at harvest - not adjusted to a uniform moisture content.

** Indicates highest yielding cultivar within a column.

* Indicates cultivars yielding equal to the highest yielding entry based on Fisher's Protected LSD at the 0.05 probability level.

Grain protein, grain oil and oil yeild are reported on a dry matter basis.

Seeding Date: April 22, 2010

Swathing Date: August 11, 2010

Harvest Date: August 20, 2010