

**PROJECT TITLE:** Camelina Performance Evaluations near Moccasin, Sidney, Havre, Kalispell, Huntley and Conrad, Montana and Williston, North Dakota. (Exps. 10-CM07, 10-CM70, 10-CM03, 10-CM02, 10-CM05, 10-CM08, 10-CM18, 10-CM30)

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**OBJECTIVES:**

To provide camelina growers in Montana and western North Dakota with a reliable, unbiased, up-to-date source of information that will facilitate valid dryland seed production comparisons among improved camelina varieties and experimental lines submitted for testing by participating commercial and university entities. Over time, these trials will help determine the yield potential of camelina in the various cropping environments which will assist producers in determining the economic viability of camelina in their region.

**RESULTS and SUMMARY:**

In 2010, two industry sponsors submitted fourteen camelina entries that were included in trials with four named camelina check varieties for testing near Moccasin, Sidney, Havre, Kalispell, Huntley and Conrad, MT, and Williston, ND (Table 1). Moccasin, Sidney, Havre, Huntley, Conrad and Williston were dryland sites, while Kalispell was a high rainfall site. Two trials were grown at Moccasin; one seeded into tilled fallow and one seeded into no-till recrop. The trial at Kalispell was also seeded into recrop. Summaries of yield, percent oil and pounds of oil per acre are presented in Tables 2, 3 and 4. Seed yields across the state were variable, but in general very good, ranging from a low of 779 lb/ac at Sidney, following several hail storms, to 2347 lb/ac at Kalispell which is designated as high rainfall. Across all trials, the 18 camelina entries produced an average of just over 500 lbs of oil per acre.

Central Agricultural Research Center, Moccasin: Rainfall during the 2010 crop year was more than two inches above average. Fallow seeded camelina seed yield at CARC ranged from 1401 to 1774 lb/ac, with no statistical difference among entries (Table 5). Test weight for fallow seeded camelina at CARC averaged over 52.5 lb/bu and percent grain oil averaged 35. Camelina ID, plant count, grain yield, grain test weight, grain moisture, grain protein, grain oil, oil yield and plant height data are summarized for CARC fallow seeded camelina in Table 5. Fatty acid composition data are summarized for CARC fallow seeded camelina in Table 13.

Recrop seeded camelina seed yield at CARC ranged from 939 lb/ac to 1444 lb/ac, again with no statistical difference among entries (Table 6). Test weight for recrop seeded camelina at CARC averaged 52 lb/bu and percent grain oil averaged 36. Camelina ID, plant count, grain yield, grain test weight, grain protein, grain oil, oil yield and plant height data are summarized for CARC recrop seeded camelina in Table 6. Fatty acid composition data are summarized for CARC recrop seeded camelina in Table 14.

Eastern Agricultural Research Center, Sidney: In a dryland environment, fallow seeded camelina at EARC produced an overall average seed yield of 779 lb/ac, with no statistical between entries. Test weights of all entries averaged just over 51 lb/bu and grain oil ranged from 33.9 to 36.4 percent. Camelina 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 7.

Northern Agricultural Research Center, Havre: In a dryland environment, fallow seeded camelina seed yield at NARC averaged 1595 lb/ac. Six of the 18 entries grown, produced yields statistically equal to the highest yielding entry, 'Calena' (1908 lb/ac) which was a check variety (Table 8). Test weights averaged nearly 52 lb/bu. Grain oil averaged 35.6 percent and six of the 18 entries produced over 600 pounds of oil per acre. Camelina 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 8. Fatty acid composition data are summarized for NARC fallow seeded camelina in Table 15.

Northwestern Agricultural Research Center, Kalispell: In a high rainfall environment, recrop camelina seed yield averaged 2347 lb/ac. Eight of the 18 entries grown, produced yields statistically equal to the highest yielding entry, 'SO-9', (2662 lb/ac) which was an entry from Sustainable Oils (Table 9). Test weights averaged nearly 52 lb/bu. Grain oil averaged 32.6 percent with SO-9 also producing the most oil per acre at 868 lbs. Camelina 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 9. Fatty acid composition data are summarized for NWARC high rainfall, recrop seeded camelina, in Table 16.

Southern Agricultural Research Center, Huntley: In a dryland environment, fallow seeded camelina seed yield at SARC averaged 1588 lb/ac (Table 10). The highest yielding entry was Calena, at 1839 lb/ac, with three entries from Great Plains, two entries from Sustainable Oils, LLC, and two check varieties yielding statistically equal to the top variety. Test weights averaged over 52 lb/bu. Grain oil ranged from 37.5 to 39.3 percent and average oil per acre for the 18 entries was 609 lbs. Camelina 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 SARC in Table 10. Fatty acid composition data are summarized for SARC fallow seeded camelina in Table 17.

Western Triangle Agricultural Research Center, Conrad: In a dryland environment, fallow seeded camelina seed yield at WTARC averaged 813 lb/ac. Seven of the 18 entries grown, produced yields statistically equal to the highest yielding entry, 'Ligena', at 1113 lb/ac (Table 11). Grain oil averaged just over 36 percent with Ligena producing the most oil per acre at 413 lbs. Camelina ID, plant count, grain yield, grain test weight, grain protein, grain oil, oil yield, flowering date and plant height are summarized for WTARC in Table 11. Fatty acid composition data are summarized for WTARC fallow seeded camelina in Table 18.

Western Research Extension Center, Williston: In a dryland environment, fallow seeded camelina seed yield at WREC averaged 1644 lb/ac. Ten of the 18 entries grown, produced yields statistically equal to the highest yielding entry, 'Blaine Creek', at 1754 lb/ac (Table 12). Grain oil averaged just under 31 percent with Blaine Creek producing the most oil per acre at 545 lbs. Camelina ID, plant count, grain yield, grain test weight, grain oil, oil yield, flowering date and plant height are summarized for WREC in Table 12.

#### **FUTURE PLANS:**

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

**Table 1. Contact Information for Industry Seed Sources of Eleven Camelina Lines Tested near Moccasin, Sidney, Havre, Kalispell, Huntley and Conrad, MT and Williston, ND. 2010.**  
(Exps. 10-CM07, 10-CM70, 10-CM03, 10-CM02, 10-CM05, 10-CM08, 10-CM18, 10CM30)

COMPANY	LINES TESTED	CONTACTS	
Great Plains Oil & Exploration The Camelina Company	GP-07	Mr. Sam Huttenbauer, Jr	Mr. Alan Brownell
	GP-10	Chief Development Officer	Director - MT Agricultural Sales
	GP-12	1 Enfield Street	PO Box 561
	GP-42	Cincinnati, OH 45218	Valier, MT 59486
	GP-43	PH: 1-513-825-8770	PH: 1-877-922-6645
	GP-68	FX: 1-513-825-8830	CELL: 1-406-949-8488
	GP-69	EM: shuttenbauer@gpo-e.com	EM: abrownell@CamelinaCompany.com
GP-73			
Sustainable Oils, LLC	SO-5	Dr. Fernando Guillen-Portal	Mr. Mike Waring
	SO-7	Senior Plant Breeder	Territory Sales Manager
	SO-8	214 Shepherd Trail, Suite F	2907 9th Street N.E.
	SO-9	Bozeman, MT 59718	Great Falls, MT 59404
	SO-11	PH: 1-406-522-8900	PH: 1-406-788.2433
	SO-12	FX: 1-406-522-8910	FX: 1-406-761-7213
		EM: fernando.guillen@susoils.com	EM: mike.waring@susoils.com

Table 2. 10CMxx: Montana Statewide Camelina Trial Grain Yield Summary. 2010.

Entry	ID	Moccasin	Moccasin	Sidney	Have	Kalispell	Huntley	Conrad	Williston
		dryland fallow	dryland recrop	dryland fallow	dryland fallow	high rainfall recrop	dryland fallow	dryland fallow	dryland fallow
		lb/ac	lb/ac	lb/ac	lb/ac	lb/ac	lb/ac	lb/ac	lb/ac
1	GP-07	1,401	939	673	1,145	2,306	1,320	504	1,569
2	GP-10	1,577	1,126	749	1,580	<b>2,511</b>	<b>1,692</b>	<b>881</b>	<b>1,691</b>
3	GP-12	1,568	1,266	598	1,538	2,307	<b>1,778</b>	<b>921</b>	1,447
4	GP-42	1,659	1,233	541	1,603	2,300	1,404	833	<b>1,701</b>
5	GP-43	1,631	1,167	777	1,556	2,362	<b>1,658</b>	847	1,577
6	GP-68	1,639	1,218	726	1,424	2,084	1,405	771	1,571
7	GP-69	1,567	1,075	588	1,457	2,298	1,197	579	1,576
8	GP-73	1,724	1,301	910	1,395	1,931	1,536	803	1,625
9	Blaine Creek	1,691	1,167	777	1,547	<b>2,418</b>	1,566	696	<b>1,754</b>
10	Calena	1,485	1,233	777	<b>1,908</b>	<b>2,409</b>	<b>1,839</b>	<b>899</b>	<b>1,626</b>
11	Ligena	1,774	1,444	968	<b>1,727</b>	<b>2,544</b>	<b>1,729</b>	<b>1,113</b>	<b>1,743</b>
12	Suneson	1,498	1,238	805	1,480	2,252	<b>1,644</b>	627	1,609
13	SO-5	1,648	1,359	839	<b>1,768</b>	<b>2,598</b>	1,573	<b>989</b>	<b>1,752</b>
14	SO-7	1,420	1,140	778	1,519	<b>2,492</b>	1,496	734	1,611
15	SO-8	1,567	1,148	853	<b>1,818</b>	<b>2,496</b>	1,570	803	<b>1,699</b>
16	SO-9	1,546	1,320	875	<b>1,851</b>	<b>2,662</b>	<b>1,837</b>	<b>991</b>	<b>1,666</b>
17	SO-11	1,481	1,174	895	1,541	2,104	<b>1,774</b>	711	<b>1,696</b>
18	SO-12	1,464	1,143	899	<b>1,860</b>	2,165	1,567	<b>924</b>	<b>1,683</b>
Average		1,574	1,205	779	1,595	2,347	1,588	813	1,644
LSD (p=0.05)		ns	ns	ns	250.2	273.0	198.5	263.3	132.9
CV%		12.7	16.4	30.1	11.0	8.2	8.8	22.8	5.7

**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. 10CMxx: Montana Statewide Camelina Trial Grain Oil Content Summary. 2010.

Entry	ID	Moccasin	Moccasin	Sidney	Have	Kalispell	Huntley	Conrad	Williston
		dryland fallow	dryland recrop	dryland fallow	dryland fallow	high rainfall recrop	dryland fallow	dryland fallow	dryland fallow
		%	%	%	%	%	%	%	%
1	GP-07	36.2	36.7	35.9	35.8	33.7	37.7	35.3	31.0
2	GP-10	35.0	36.3	35.5	36.1	33.1	38.5	36.7	30.7
3	GP-12	34.9	36.3	35.1	35.5	32.1	38.4	36.9	30.5
4	GP-42	34.5	36.0	36.1	36.3	32.8	37.8	36.1	30.8
5	GP-43	35.5	36.4	35.1	36.0	33.0	37.9	36.5	30.8
6	GP-68	35.5	36.0	35.6	35.6	32.6	37.8	35.0	30.8
7	GP-69	34.7	36.0	35.3	35.9	32.1	37.5	35.7	31.2
8	GP-73	36.2	37.3	34.9	36.6	33.6	38.8	36.9	31.4
9	Blaine Creek	35.1	36.1	36.0	36.1	32.9	38.7	36.3	31.1
10	Calena	34.1	35.2	36.4	34.8	32.0	38.4	35.7	30.2
11	Ligena	35.5	36.0	35.2	35.5	32.2	38.9	37.1	31.1
12	Suneson	34.9	35.7	35.5	35.2	31.8	38.8	36.6	30.5
13	SO-5	34.3	35.4	35.9	35.6	32.3	38.0	36.2	30.7
14	SO-7	34.1	35.6	35.3	35.1	32.5	38.0	34.5	31.1
15	SO-8	34.9	35.3	34.6	35.1	32.3	38.0	35.6	30.3
16	SO-9	34.6	35.3	36.3	35.2	32.6	39.1	36.4	30.5
17	SO-11	34.3	36.0	35.0	35.3	33.1	38.5	36.4	30.8
18	SO-12	36.0	35.9	33.9	35.2	32.7	39.3	37.0	31.4
Average		35.0	36.0	35.4	35.6	32.6	38.3	36.2	30.8
LSD (p=0.05)		1.0	0.5	ns	0.8	1.0	0.9	1.1	0.4
CV%		2.1	0.9	2.5	1.6	2.1	1.7	2.1	1.0

Grain oil is reported on a dry matter basis.

Table 4. 10CMxx: Montana Statewide Camelina Trial Grain Oil Yield Summary, 2010.

Entry	ID	Moccasin dryland fallow lb/ac	Moccasin dryland recrop lb/ac	Sidney dryland fallow lb/ac	Have dryland fallow lb/ac	Kalispell high rainfall recrop lb/ac	Huntley dryland fallow lb/ac	Conrad dryland fallow lb/ac	Williston dryland fallow lb/ac
1	GP-07	507	344	242	410	776	498	178	486
2	GP-10	552	409	269	569	<b>829</b>	<b>651</b>	<b>324</b>	<b>519</b>
3	GP-12	548	459	211	545	740	<b>682</b>	<b>341</b>	441
4	GP-42	574	443	196	581	754	531	301	<b>523</b>
5	GP-43	579	425	273	560	<b>780</b>	628	310	485
6	GP-68	583	439	258	508	678	531	270	485
7	GP-69	544	386	208	522	739	449	206	492
8	GP-73	625	486	317	510	648	595	297	<b>510</b>
9	Blaine Creek	593	421	279	558	<b>792</b>	606	254	<b>545</b>
10	Calena	506	434	284	<b>663</b>	767	<b>706</b>	<b>321</b>	490
11	Ligena	632	519	342	<b>612</b>	<b>817</b>	<b>672</b>	<b>413</b>	<b>541</b>
12	Suneson	525	441	287	521	715	637	230	491
13	SO-5	567	481	303	<b>629</b>	<b>838</b>	599	<b>360</b>	<b>537</b>
14	SO-7	485	405	275	533	<b>810</b>	570	253	500
15	SO-8	548	405	295	<b>637</b>	<b>806</b>	596	286	<b>516</b>
16	SO-9	538	465	320	<b>651</b>	<b>868</b>	<b>718</b>	<b>362</b>	<b>509</b>
17	SO-11	508	422	315	544	696	<b>682</b>	259	<b>521</b>
18	SO-12	528	411	305	<b>653</b>	709	617	<b>344</b>	<b>528</b>
Average		552	433	277	567	765	609	295	507
LSD (p=0.05)		ns	ns	ns	82.0	91.8	77.5	99.5	43.1
CV%		13.5	16.4	30.1	10.2	8.5	9.0	23.8	6.0

**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. 10CM07: Statewide Industry Camelina Trial - Dryland, Fallow.  
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
1	GP-07		11.1	1,401	51.8	6.6	26.9	36.2	507					35.3		
2	GP-10		12.6	1,577	52.7	6.8	26.0	35.0	552					39.5		
3	GP-12		12.7	1,568	52.2	6.8	25.9	34.9	548					36.6		
4	GP-42		11.5	1,659	53.0	6.7	26.9	34.5	574					39.8		
5	GP-43		11.1	1,631	53.0	6.5	26.2	35.5	579					38.9		
6	GP-68		9.9	1,639	51.7	6.5	27.1	35.5	583					37.6		
7	GP-69		11.6	1,567	51.6	7.1	26.0	34.7	544					38.0		
8	GP-73		11.1	1,724	51.6	6.5	26.5	36.2	625					35.7		
9	Blaine Creek		10.5	1,691	52.0	6.9	26.5	35.1	593					37.7		
10	Calena		11.8	1,485	52.4	6.8	26.5	34.1	506					39.2		
11	Ligena		11.4	1,774	51.8	6.4	27.1	35.5	632					38.8		
12	Suneson		11.7	1,498	53.3	6.6	26.4	34.9	525					38.4		
13	SO-5		11.9	1,648	53.1	6.8	26.6	34.3	567					39.6		
14	SO-7		9.7	1,420	51.3	6.9	26.9	34.1	485					38.5		
15	SO-8		10.4	1,567	51.7	6.7	26.5	34.9	548					39.6		
16	SO-9		10.7	1,546	52.9	6.6	26.7	34.6	538					37.7		
17	SO-11		11.7	1,481	50.6	6.9	25.8	34.3	508					35.3		
18	SO-12		11.4	1,464	52.4	6.4	26.1	36.0	528					39.7		
Average			11.3	1,574	52.2	6.7	26.5	35.0	552					38.1		
LSD (p=0.05)			ns	ns	0.7	ns	ns	1.0	ns					2.2		
CV%			15.1	12.7	0.9	5.3	2.5	2.1	13.5					4.1		

Grain yield is adjusted to 8 percent grain moisture content.

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

Seeding Date: April 1, 2010

Harvest Date: August 7, 2010

Table 6. 10CM70: Statewide Industry Camelina Trial - Dryland, Recrop.  
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
1	GP-07		7.5	939	52.3	6.1	29.0	36.7	344					31.3		
2	GP-10		9.3	1,126	53.2	6.1	27.8	36.3	409					33.6		
3	GP-12		8.3	1,266	52.5	6.1	27.9	36.3	459					32.9		
4	GP-42		8.0	1,233	53.1	6.0	28.0	36.0	443					32.7		
5	GP-43		8.0	1,167	53.3	6.1	28.0	36.4	425					32.6		
6	GP-68		7.5	1,218	52.2	6.1	28.2	36.0	439					32.6		
7	GP-69		8.8	1,075	52.1	6.1	28.2	36.0	386					32.8		
8	GP-73		8.3	1,301	51.8	5.9	27.5	37.3	486					32.1		
9	Blaine Creek		6.6	1,167	52.4	6.1	28.1	36.1	421					32.9		
10	Calena		8.5	1,233	52.9	6.1	28.0	35.2	434					32.8		
11	Ligena		6.9	1,444	52.0	6.1	28.2	36.0	519					33.2		
12	Suneson		7.9	1,238	53.3	6.1	28.5	35.7	441					33.2		
13	SO-5		7.5	1,359	53.2	6.1	28.2	35.4	481					33.3		
14	SO-7		7.1	1,140	51.9	6.0	28.4	35.6	405					33.9		
15	SO-8		7.6	1,148	52.1	6.0	28.3	35.3	405					33.6		
16	SO-9		7.5	1,320	53.0	6.2	28.0	35.3	465					34.2		
17	SO-11		7.9	1,174	51.4	6.0	27.7	36.0	422					31.1		
18	SO-12		7.3	1,143	52.9	6.1	27.9	35.9	411					36.4		
Average			7.8	1,205	52.5	6.1	28.1	36.0	433					33.0		
LSD (p=0.05)			ns	ns	0.2	ns	0.5	0.5	ns					2.3		
CV%			14.2	16.4	0.2	2.0	1.2	0.9	16.4					4.8		

Grain yield is adjusted to 8 percent grain moisture content.

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

Table 7. 10CM03: Statewide Industry Camelina Trial - Dryland, Fallow.  
Eastern Ag 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	GP-07	90.0		673	50.2			35.9	242	169.3	18-Jun			22.2	15.0	
2	GP-10	75.0		749	52.0			35.5	269	171.3	20-Jun			20.5	36.7	
3	GP-12	73.3		598	52.0			35.1	211	171.7	21-Jun			22.8	46.7	
4	GP-42	71.7		541	53.0			36.1	196	174.7	24-Jun			18.4	13.3	
5	GP-43	90.0		777	51.7			35.1	273	172.3	21-Jun			23.5	33.3	
6	GP-68	88.3		726	51.0			35.6	258	172.7	22-Jun			23.8	41.7	
7	GP-69	83.3		588	51.2			35.3	208	172.7	22-Jun			23.1	30.0	
8	GP-73	86.7		910	50.5			34.9	317	169.0	18-Jun			20.3	24.7	
9	Blaine Creek	93.3		777	51.0			36.0	279	172.0	21-Jun			24.1	40.0	
10	Calena	80.0		777	52.0			36.4	284	176.0	25-Jun			23.4	16.7	
11	Ligena	76.7		968	51.3			35.2	342	174.0	23-Jun			23.2	13.3	
12	Suneson	83.3		805	52.3			35.5	287	172.3	21-Jun			25.1	41.7	
13	SO-5	68.3		839	52.3			35.9	303	175.0	24-Jun			23.6	20.0	
14	SO-7	86.7		778	50.5			35.3	275	174.0	23-Jun			24.9	20.0	
15	SO-8	88.3		853	50.8			34.6	295	174.0	23-Jun			24.1	18.3	
16	SO-9	68.3		875	52.0			36.3	320	176.0	25-Jun			26.0	15.0	
17	SO-11	73.3		895	50.7			35.0	315	172.7	22-Jun			22.0	41.7	
18	SO-12	61.7		899	51.3			33.9	305	176.7	26-Jun			24.5	11.7	
Average		79.9		779	51.4			35.4	277	173.1	22-Jun			23.1	26.6	
LSD (p=0.05)		ns		ns	1.0			ns	ns	2.4	-			ns	16.3	
CV%		16.7		30.1	1.1			2.5	30.1	0.8	-			11.8	36.8	

Grain yield is reported "as was" at harvest - not adjusted to a uniform moisture content.  
Grain protein, grain oil and oil yeild are reported on a dry matter basis.

Seeding Date: April 22, 2010  
Harvest Date: August 4, 2010

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Table 8. 10CM02: Statewide Industry Camelina Trial - Dryland, Fallow.  
Northern Ag 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
1	GP-07	95.1	23.3	1,145	51.7	6.7	28.3	35.8	410	162.8	12-Jun	200.5	20-Jul	22.8	3.0	4.3
2	GP-10	99.8	25.1	1,580	52.3	6.7	26.8	36.1	569	166.3	15-Jun	204.8	24-Jul	30.5	17.5	1.3
3	GP-12	98.1	27.6	1,538	52.3	6.8	27.4	35.5	545	166.3	15-Jun	201.8	21-Jul	27.4	16.3	1.3
4	GP-42	97.9	22.4	1,603	52.7	6.8	25.7	36.3	581	167.8	17-Jun	203.8	23-Jul	30.0	13.8	4.3
5	GP-43	98.4	25.8	1,556	52.6	6.7	26.3	36.0	560	165.8	15-Jun	200.3	19-Jul	29.9	23.8	4.8
6	GP-68	95.5	23.9	1,424	51.4	6.8	26.4	35.6	508	165.3	14-Jun	202.3	21-Jul	28.0	20.0	1.8
7	GP-69	97.6	25.0	1,457	51.5	6.7	27.1	35.9	522	166.5	16-Jun	202.0	21-Jul	29.5	15.0	1.5
8	GP-73	97.7	21.7	1,395	51.2	6.7	25.5	36.6	510	162.0	11-Jun	199.3	18-Jul	29.7	23.8	8.3
9	Blaine Creek	99.7	24.2	1,547	51.9	6.8	26.0	36.1	558	166.0	15-Jun	201.8	21-Jul	27.7	22.5	2.5
10	Calena	96.5	24.0	<b>1,908</b> **	52.1	6.9	27.4	34.8	<b>663</b> **	170.3	19-Jun	205.5	25-Jul	31.5	17.5	2.0
11	Ligena	98.4	23.8	<b>1,727</b> *	51.6	6.8	27.1	35.5	<b>612</b> *	171.3	20-Jun	208.0	27-Jul	32.9	10.3	2.5
12	Suneson	97.4	26.9	1,480	52.8	6.8	27.2	35.2	521	168.8	18-Jun	203.3	22-Jul	28.5	23.8	3.3
13	SO-5	97.7	26.3	<b>1,768</b> *	52.5	6.7	26.9	35.6	<b>629</b> *	170.0	19-Jun	206.0	25-Jul	30.8	10.0	4.5
14	SO-7	96.7	18.9	1,519	50.4	6.9	27.3	35.1	533	169.0	18-Jun	205.5	25-Jul	32.5	5.3	4.3
15	SO-8	96.7	21.8	<b>1,818</b> *	51.5	6.9	27.0	35.1	<b>637</b> *	167.8	17-Jun	204.3	23-Jul	32.9	18.8	2.3
16	SO-9	97.2	21.1	<b>1,851</b> *	52.5	6.9	26.9	35.2	<b>651</b> *	170.8	19-Jun	206.3	25-Jul	32.6	12.5	3.0
17	SO-11	97.9	23.2	1,541	51.0	6.8	27.2	35.3	544	168.0	17-Jun	203.0	22-Jul	28.3	26.3	3.8
18	SO-12	99.1	25.0	<b>1,860</b> *	52.3	6.8	27.5	35.2	<b>653</b> *	172.0	21-Jun	208.5	28-Jul	34.5	7.8	2.0
Average		97.6	23.9	1,595	51.9	6.8	26.9	35.6	567	167.6	17-Jun	203.7	23-Jul	30.0	16.0	3.2
LSD (p=0.05)		2.5	3.7	250.2	0.6	ns	1.0	0.8	82.0	2.4	-	2.9	-	3.8	9.4	2.7
CV%		1.8	11.0	11.0	0.8	1.9	2.7	1.6	10.2	1.0	-	1.0	-	8.8	41.5	59.8

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 yield are reported on a dry matter basis.

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

Seeding Date: April 6, 2010

Harvest Date: August 11, 2010

Table 9. 10CM05: Statewide Industry Camelina Trial - High Rainfall, Recrop.  
Northwestern Ag 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	GP-07		28.6	2,306	51.5	8.7	28.1	33.7	776	170.0	19-Jun	220.0	8-Aug	35.0	0.0	4.5
2	GP-10		30.8	<b>2,511</b> *	52.6	9.1	27.2	33.1	<b>829</b> *	177.0	26-Jun	223.5	12-Aug	37.8	0.0	6.0
3	GP-12		24.9	2,307	52.2	9.2	27.7	32.1	740	177.5	27-Jun	222.5	11-Aug	36.5	0.0	5.8
4	GP-42		29.4	2,300	52.5	9.0	27.1	32.8	754	176.0	25-Jun	225.3	13-Aug	39.3	0.0	6.0
5	GP-43		32.3	2,362	52.8	9.1	27.2	33.0	<b>780</b> *	176.5	26-Jun	221.8	10-Aug	37.8	0.0	6.3
6	GP-68		27.4	2,084	51.5	9.2	27.5	32.6	678	176.0	25-Jun	221.8	10-Aug	37.0	0.0	5.8
7	GP-69		27.3	2,298	51.3	9.7	27.3	32.1	739	175.5	25-Jun	220.8	9-Aug	36.8	0.0	6.0
8	GP-73		29.7	1,931	51.4	9.0	26.9	33.6	648	170.0	19-Jun	220.8	9-Aug	35.5	0.0	5.8
9	Blaine Creek		28.3	<b>2,418</b> *	51.9	9.6	27.2	32.9	<b>792</b> *	176.5	26-Jun	221.5	10-Aug	37.5	0.0	4.8
10	Calena		33.1	<b>2,409</b> *	52.2	9.2	27.4	32.0	767	176.5	26-Jun	226.0	14-Aug	37.3	0.0	5.8
11	Ligena		24.6	<b>2,544</b> *	51.2	9.2	27.6	32.2	<b>817</b> *	177.5	27-Jun	228.0	16-Aug	38.3	0.0	6.3
12	Suneson		29.3	2,252	52.8	9.4	27.6	31.8	715	177.0	26-Jun	223.5	12-Aug	38.5	0.0	6.3
13	SO-5		28.5	<b>2,598</b> *	52.5	9.2	27.3	32.3	<b>838</b> *	176.5	26-Jun	224.3	12-Aug	38.8	0.0	5.8
14	SO-7		17.8	<b>2,492</b> *	50.8	9.6	27.0	32.5	<b>810</b> *	176.5	26-Jun	227.0	15-Aug	39.0	0.0	5.5
15	SO-8		26.2	<b>2,496</b> *	51.2	9.5	27.2	32.3	<b>806</b> *	176.0	25-Jun	226.0	14-Aug	37.0	0.0	5.5
16	SO-9		23.8	<b>2,662</b> **	52.4	9.0	27.1	32.6	<b>868</b> **	177.0	26-Jun	225.3	13-Aug	38.8	0.0	5.5
17	SO-11		25.3	2,104	50.8	9.1	27.0	33.1	696	175.5	25-Jun	221.8	10-Aug	36.5	0.0	6.3
18	SO-12		34.6	2,165	51.6	9.3	27.0	32.7	709	179.3	28-Jun	229.0	17-Aug	38.8	0.0	6.0
Average			27.9	2,347	51.8	9.2	27.3	32.6	765	175.9	25-Jun	223.8	12-Aug	37.5	0.0	5.8
LSD (p=0.05)			ns	273.0	0.4	0.4	0.6	1.0	91.8	1.5	-	2.9	-	1.8	-	1.0
CV%			26.9	8.2	0.5	3.1	1.5	2.1	8.5	0.6	-	0.9	-	3.4	-	12.2

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.

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

Seeding Date: May 6, 2010

Harvest Date: September 7, 2010

Table 10. 10CM08: Statewide Industry Camelina Trial - Dryland, Fallow.  
Southern Ag 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
7	GP-69		14.4	1,197	51.6	5.5	24.2	37.5	449	154.5	3-Jun	190.5	9-Jul	35.0	2.0	5.0
1	GP07		11.5	1,320	51.3	5.4	25.4	37.7	498	150.3	30-May	188.5	7-Jul	35.1	1.0	4.0
4	GP42		13.4	1,404	52.8	5.6	23.2	37.8	531	154.0	3-Jun	190.5	9-Jul	37.7	2.0	4.5
6	GP68		11.4	1,405	51.5	5.5	24.1	37.8	531	153.8	2-Jun	190.5	9-Jul	35.7	1.8	5.8
5	GP-43		14.6	<b>1,658</b> *	53.3	5.6	23.8	37.9	628	152.5	1-Jun	190.5	9-Jul	37.0	4.0	4.5
13	SO-5		12.1	1,573	52.4	5.5	23.8	38.0	599	155.0	4-Jun	191.3	10-Jul	37.8	1.8	5.3
14	SO-7		13.0	1,496	51.2	5.5	23.8	38.0	570	153.5	2-Jun	190.8	9-Jul	38.8	1.3	5.3
15	SO-8		9.6	1,570	51.5	5.7	23.0	38.0	596	153.3	2-Jun	191.5	10-Jul	37.9	4.8	3.0
3	GP-12		14.8	<b>1,778</b> *	52.1	5.5	23.8	38.4	<b>682</b> *	152.8	1-Jun	190.3	9-Jul	36.7	4.5	4.5
10	Calena		16.2	<b>1,839</b> **	52.6	5.7	23.2	38.4	<b>706</b> *	154.3	3-Jun	191.3	10-Jul	38.9	3.3	3.3
2	GP10		12.4	<b>1,692</b> *	52.8	5.5	24.0	38.5	<b>651</b> *	154.0	3-Jun	190.3	9-Jul	37.9	2.3	4.5
17	SO-11		12.2	<b>1,774</b> *	50.9	5.6	23.8	38.5	<b>682</b> *	153.5	2-Jun	190.3	9-Jul	37.8	3.0	4.7
9	Blaine Creek		15.1	1,566	52.1	5.5	23.2	38.7	606	152.8	1-Jun	190.0	9-Jul	37.5	5.5	4.2
8	GP-73		15.5	1,536	51.4	5.4	23.4	38.8	595	150.8	30-May	189.5	8-Jul	38.3	2.3	5.3
12	Suneson		14.9	<b>1,644</b> *	53.0	5.6	23.4	38.8	637	152.8	1-Jun	190.3	9-Jul	37.4	2.0	4.2
11	Ligena		12.9	<b>1,729</b> *	51.6	5.6	23.3	38.9	<b>672</b> *	155.0	4-Jun	191.5	10-Jul	40.6	1.3	4.2
16	SO-9		13.3	<b>1,837</b> *	52.6	5.6	22.8	39.1	<b>718</b> **	154.5	3-Jun	191.0	10-Jul	41.8	2.0	3.5
18	SO-12		12.7	1,567	52.5	5.6	23.3	39.3	617	154.3	3-Jun	191.3	10-Jul	42.5	3.0	3.3
Average			13.3	1,588	52.1	5.5	23.6	38.3	609	153.4	2-Jun	190.5	9-Jul	38.0	2.6	4.4
PLSD (p=0.05)			3.1	198.5	0.5	0.2	0.7	0.9	77.5	0.8	-	0.8	-	2.9	2.0	1.4
CV%			16.6	8.8	0.7	2.1	2.2	1.7	9.0	0.4	-	0.3	-	5.3	54.8	22.2

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.

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

Seeding Date: March 27, 2010

Harvest Date: July 26, 2010

Table 11. 10CM18: Statewide Industry Camelina Trial - Dryland, Fallow.  
Western Triangle Ag 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
1	GP-07		13.0	504	52.0		25.9	35.3	178	168.3	17-Jun			30.0		
2	GP-10		14.3	<b>881</b>	*	52.4	23.1	36.7	<b>324</b>	*	172.0	21-Jun		30.3		
3	GP-12		14.5	<b>921</b>	*	51.4	22.7	36.9	<b>341</b>	*	172.0	21-Jun		31.5		
4	GP-42		16.0	833		52.7	23.6	36.1	301		172.0	21-Jun		33.0		
5	GP-43		13.8	847		52.6	23.0	36.5	310		172.0	21-Jun		32.3		
6	GP-68		11.0	771		50.9	24.4	35.0	270		172.0	21-Jun		29.5		
7	GP-69		14.3	579		50.7	23.2	35.7	206		172.0	21-Jun		30.8		
8	GP-73		13.3	803		51.5	23.4	36.9	297		168.0	17-Jun		29.3		
9	Blaine Creek		15.3	696		51.8	23.4	36.3	254		172.0	21-Jun		33.3		
10	Calena		15.8	<b>899</b>	*	52.2	23.6	35.7	<b>321</b>	*	172.0	21-Jun		32.3		
11	Ligena		13.3	<b>1,113</b>	**	51.7	22.2	37.1	<b>413</b>	**	172.0	21-Jun		34.3		
12	Suneson		16.0	627		52.8	23.0	36.6	230		172.0	21-Jun		32.5		
13	SO-5		15.0	<b>989</b>	*	53.1	23.3	36.2	<b>360</b>	*	172.0	21-Jun		35.8		
14	SO-7		10.8	734		51.2	24.5	34.5	253		170.8	20-Jun		32.5		
15	SO-8		14.8	803		51.3	23.2	35.6	286		172.0	21-Jun		34.3		
16	SO-9		12.3	<b>991</b>	*	52.6	22.6	36.4	<b>362</b>	*	172.0	21-Jun		33.8		
17	SO-11		16.0	711		51.2	23.5	36.4	259		172.0	21-Jun		29.0		
18	SO-12		14.0	<b>924</b>	*	52.0	22.8	37.0	<b>344</b>	*	172.0	21-Jun		36.0		
Average			14.1	813		51.9	23.4	36.2	295		171.5	21-Jun		32.2		
LSD (p=0.05)			ns	263.3		0.8	1.4	1.1	99.5		1.2	-		3.1		
CV%			17.4	22.8		1.1	4.1	2.1	23.8		0.5	-		6.8		

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 yield are reported on a dry matter basis.

Seeding Date: March 29, 2010

Harvest Date: August 18, 2010

Table 12. 10CM20: Statewide Industry Camelina Trial - Dryland, Fallow.  
Williston Research Extension Center. Williston, ND. 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	GP-07		13.2	1,569	51.9			31.0	486	166.5	16-Jun			28.0		
2	GP-10		13.9	<b>1,691</b> *	52.9			30.7	<b>519</b> *	168.0	17-Jun			31.9		
3	GP-12		17.3	1,447	52.5			30.5	441	167.5	17-Jun			29.7		
4	GP-42		12.5	<b>1,701</b> *	52.9			30.8	<b>523</b> *	168.3	17-Jun			33.6		
5	GP-43		13.9	1,577	52.9			30.8	485	168.0	17-Jun			32.3		
6	GP-68		12.3	1,571	52.4			30.8	485	168.0	17-Jun			30.9		
7	GP-69		16.7	1,576	52.3			31.2	492	168.0	17-Jun			30.0		
8	GP-73		13.0	1,625	52.1			31.4	<b>510</b> *	167.0	16-Jun			28.5		
9	Blaine Creek		15.7	<b>1,754</b> **	52.5			31.1	<b>545</b> **	168.0	17-Jun			31.6		
10	Calena		12.6	<b>1,626</b> *	53.0			30.2	490	169.0	18-Jun			32.7		
11	Ligena		12.3	<b>1,743</b> *	52.1			31.1	<b>541</b> *	169.0	18-Jun			34.7		
12	Suneson		15.8	1,609	53.1			30.5	491	168.3	17-Jun			33.0		
13	SO-5		13.9	<b>1,752</b> *	52.9			30.7	<b>537</b> *	169.0	18-Jun			32.9		
14	SO-7		9.7	1,611	51.8			31.1	500	169.0	18-Jun			33.7		
15	SO-8		11.7	<b>1,699</b> *	52.2			30.3	<b>516</b> *	168.5	18-Jun			33.9		
16	SO-9		11.4	<b>1,666</b> *	53.0			30.5	<b>509</b> *	168.8	18-Jun			34.0		
17	SO-11		13.7	<b>1,696</b> *	51.7			30.8	<b>521</b> *	168.0	17-Jun			31.0		
18	SO-12		9.7	<b>1,683</b> *	52.8			31.4	<b>528</b> *	169.3	18-Jun			37.5		
Average				13.3	1,644	52.5			30.8	507	168.2	17-Jun			32.2	
LSD (p=0.05)				4.1	132.9	0.2			0.4	43.1	0.5	-			1.9	
CV%				14.5	5.7	0.2			1.0	6.0	0.2	-			4.2	

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

Seeding Date: April 23, 2010

Harvest Date: July 26, 2010

Table 13. 10CM07: Statewide Camelina Trial - Dryland, Fallow. Fatty Acid Composition.  
Central Agricultural Research Center. Moccasin, MT. 2010.

Entry	ID	Palmitic	Stearic	Oleic	Linoleic	$\alpha$ -Linolenic	Arachidic	Gondoic	Eicosadienoic	Erucic	Nervonic	Saturated	Mono- unsaturated	Poly- unsaturated
		Acid (16:0)	Acid (18:0)	Acid (18:1)	Acid (18:2)	Acid (18:3)	Acid (20:0)	Acid (20:1)	Acid (22:0)	Acid (22:1)	Acid (24:1)			
		%	%	%	%	%	%	%	%	%	%	%	%	%
1	GP-07	4.4	2.3	15.9	14.3	37.4	1.8	16.3	0.4	3.5	0.7	8.3	35.2	51.1
2	GP-10	4.8	2.3	18.3	15.4	33.8	2.0	16.3	0.4	3.6	0.6	9.1	37.2	49.0
3	GP-12	4.8	2.4	19.3	14.4	34.6	1.7	16.5	0.4	3.6	0.6	8.9	38.0	48.3
4	GP-42	5.1	2.3	17.1	17.2	32.8	2.0	15.8	0.4	3.6	0.6	9.3	36.0	50.1
5	GP-43	4.9	2.4	17.5	16.0	33.4	2.0	15.9	0.4	3.5	0.6	9.2	36.7	49.6
6	GP-68	4.7	2.4	18.6	13.8	34.5	1.9	16.2	0.4	3.7	0.6	9.0	38.2	48.4
7	GP-69	4.5	2.3	19.5	12.8	35.6	1.9	16.7	0.4	3.7	0.6	8.7	38.7	47.8
8	GP-73	4.7	2.4	17.7	16.0	33.5	2.1	16.2	0.4	3.6	0.6	9.2	37.4	48.9
9	Blaine Creek	4.6	2.4	18.9	13.8	34.8	1.9	16.5	0.4	3.7	0.6	8.9	38.2	48.2
10	Calena	4.8	2.4	17.6	14.4	35.1	1.9	16.4	0.4	3.8	0.6	8.8	36.8	49.7
11	Ligena	5.0	2.3	16.4	18.0	32.8	1.9	15.2	0.4	3.5	0.7	9.3	35.4	50.8
12	Suneson	5.0	2.4	17.8	16.7	32.8	1.9	15.7	0.4	3.4	0.6	9.3	36.6	49.7
13	SO-5	5.0	2.2	17.4	16.8	33.1	2.1	16.0	0.4	3.6	0.6	9.2	36.2	49.9
14	SO-7	4.8	2.2	17.7	15.9	33.7	2.1	16.1	0.4	3.8	0.6	9.0	37.4	49.2
15	SO-8	4.9	2.4	17.8	15.1	33.3	2.0	16.5	0.4	3.9	0.6	9.2	37.0	49.3
16	SO-9	5.1	2.4	17.8	16.1	32.6	2.0	16.2	0.4	3.7	0.6	9.4	36.4	49.7
17	SO-11	4.9	2.4	19.0	15.8	33.2	1.8	16.4	0.4	3.7	0.6	9.1	38.2	48.3
18	SO-12	5.0	2.5	17.7	16.0	33.4	1.8	15.5	0.4	3.3	0.6	9.1	35.8	50.1
Average		4.8	2.4	17.9	15.5	33.9	1.9	16.1	0.4	3.6	0.6	9.1	37.0	49.3
LSD (p=0.05)		0.19	0.13	0.87	1.14	1.09	0.09	0.57	0.01	0.16	0.04	0.28	0.81	0.72
CV%		2.69	3.91	3.44	5.18	2.25	3.45	2.48	2.59	3.06	4.67	2.16	1.55	1.03

Fatty acid composition reported on dry matter basis of the whole seed.

Table 14. 10CM70: Statewide Camelina Trial - Dryland, Recrop. Fatty Acid Composition.  
Central Agricultural Research Center. Moccasin, MT. 2010.

Entry	ID	Palmitic	Stearic	Oleic	Linoleic	$\alpha$ -Linolenic	Arachidic	Gondoic	Eicosadienoic	Erucic	Nervonic	Saturated		Unsaturated	
		Acid (16:0)	Acid (18:0)	Acid (18:1)	Acid (18:2)	Acid (18:3)	Acid (20:0)	Acid (20:1)	Acid (22:0)	Acid (22:1)	Acid (24:1)	%	%	Mono- unsaturated	Poly- unsaturated
		%	%	%	%	%	%	%	%	%	%	%	%	%	%
1	GP-07	4.5	2.5	14.6	15.6	37.4	1.9	15.7	0.3	2.9	0.7	8.4	32.8	53.1	
2	GP-10	4.9	2.5	16.6	17.0	33.8	2.0	15.6	0.4	3.0	0.7	9.2	34.9	51.0	
3	GP-12	4.8	2.7	17.6	15.7	34.1	1.9	15.8	0.4	3.1	0.7	9.2	36.3	49.8	
4	GP-42	5.0	2.5	16.2	18.2	32.5	2.2	15.3	0.4	3.1	0.7	9.5	34.7	51.2	
5	GP-43	4.9	2.5	16.6	17.5	33.5	2.0	15.3	0.4	3.0	0.7	9.3	34.9	51.0	
6	GP-68	4.8	2.5	17.7	15.3	33.8	2.0	15.9	0.4	3.4	0.7	9.3	37.0	49.3	
7	GP-69	4.8	2.5	17.6	15.4	34.4	2.0	15.5	0.4	3.1	0.7	9.1	35.9	50.3	
8	GP-73	4.8	2.6	17.0	17.8	32.6	2.1	15.6	0.4	3.1	0.7	9.5	36.3	49.8	
9	Blaine Creek	4.8	2.5	17.7	15.8	34.0	2.0	15.6	0.4	3.2	0.7	9.2	36.7	49.6	
10	Calena	4.9	2.5	16.2	16.9	34.1	2.0	15.7	0.4	3.3	0.7	9.2	34.8	51.2	
11	Ligena	5.0	2.5	15.9	19.1	32.7	2.1	15.2	0.4	3.2	0.7	9.5	35.0	50.9	
12	Suneson	5.0	2.5	16.7	16.6	33.6	2.1	15.3	0.4	3.0	0.7	9.3	35.0	50.9	
13	SO-5	5.2	2.5	16.3	19.0	31.6	2.1	15.0	0.4	3.2	0.7	9.7	34.7	51.0	
14	SO-7	5.0	2.4	16.6	18.5	32.2	2.2	14.9	0.4	3.3	0.7	9.5	35.5	50.6	
15	SO-8	5.1	2.6	17.0	17.2	32.3	2.1	15.9	0.4	3.4	0.7	9.5	35.5	50.4	
16	SO-9	5.3	2.6	17.1	18.8	30.8	2.1	15.6	0.4	3.2	0.7	9.8	35.2	50.5	
17	SO-11	5.2	2.6	16.9	19.3	31.8	1.9	15.1	0.4	2.8	0.7	9.6	34.8	51.0	
18	SO-12	5.2	2.6	16.7	18.0	32.5	1.9	14.8	0.3	2.7	0.7	9.4	33.7	51.8	
Average		5.0	2.5	16.7	17.3	33.2	2.0	15.4	0.4	3.1	0.7	9.4	35.2	50.7	
LSD (p=0.05)		0.11	0.08	0.42	0.99	0.84	0.07	0.35	0.02	0.29	0.01	0.24	1.03	0.87	
CV%		1.59	2.14	1.76	4.02	1.78	2.51	1.58	4.71	6.65	1.25	1.82	2.06	1.21	

Fatty acid composition reported on dry matter basis of the whole seed.

Table 15. 10CM02: Statewide Industry Camelina Trial - Dryland, Fallow. Fatty Acid Composition.  
Northern Agricultural Research Center. Havre, MT. 2010.

Entry	ID	Palmitic	Stearic	Oleic	Linoleic	$\alpha$ -Linolenic	Arachidic	Gondoic	Eicosadienoic	Erucic	Nervonic	Saturated	Mono- unsaturated	Poly- unsaturated
		Acid (16:0)	Acid (18:0)	Acid (18:1)	Acid (18:2)	Acid (18:3)	Acid (20:0)	Acid (20:1)	Acid (22:0)	Acid (22:1)	Acid (24:1)			
		%	%	%	%	%	%	%	%	%	%	%	%	%
1	GP-07	4.2	2.1	15.8	13.3	39.3	1.6	16.3	0.3	3.3	0.7	7.9	34.6	51.6
2	GP-10	4.4	2.2	18.1	12.8	37.0	1.7	16.5	0.4	3.5	0.6	8.5	37.2	49.1
3	GP-12	4.3	2.2	18.8	12.1	37.7	1.5	16.6	0.4	3.4	0.6	8.3	37.5	48.8
4	GP-42	4.5	2.1	17.9	14.2	36.1	1.7	16.4	0.4	3.5	0.6	8.6	36.9	49.4
5	GP-43	4.5	2.1	18.1	13.7	36.2	1.7	16.3	0.4	3.5	0.6	8.6	37.1	49.2
6	GP-68	4.3	2.2	19.3	11.4	36.9	1.7	17.0	0.4	3.7	0.6	8.4	38.6	47.8
7	GP-69	4.3	2.1	18.6	11.2	37.8	1.6	16.3	0.4	3.5	0.6	8.2	37.6	48.8
8	GP-73	4.4	2.1	18.3	13.6	36.2	1.8	16.8	0.4	3.5	0.6	8.6	37.6	48.7
9	Blaine Creek	4.2	2.2	19.2	11.4	37.5	1.7	16.9	0.4	3.6	0.6	8.3	38.6	47.9
10	Calena	4.4	2.2	17.6	12.2	37.7	1.7	16.9	0.4	3.8	0.6	8.3	37.0	49.5
11	Ligena	4.5	2.1	17.5	14.1	36.6	1.7	16.2	0.4	3.5	0.6	8.5	36.4	49.8
12	Suneson	4.4	2.1	18.3	12.6	37.2	1.7	16.5	0.4	3.5	0.6	8.4	37.4	49.0
13	SO-5	4.5	2.1	17.4	14.2	36.4	1.7	16.3	0.4	3.4	0.6	8.5	36.2	50.0
14	SO-7	4.3	2.0	18.3	13.1	36.6	1.9	16.6	0.4	3.8	0.6	8.5	37.9	48.6
15	SO-8	4.5	2.2	18.5	12.4	36.0	1.8	17.2	0.4	3.8	0.6	8.6	37.8	48.5
16	SO-9	4.5	2.2	18.5	13.0	35.9	1.8	17.0	0.4	3.6	0.6	8.7	37.4	48.8
17	SO-11	4.6	2.2	18.2	14.9	35.8	1.6	16.1	0.4	3.4	0.6	8.7	36.8	49.3
18	SO-12	4.7	2.2	18.3	13.3	36.2	1.5	16.0	0.4	3.2	0.6	8.5	36.1	49.9
Average		4.4	2.2	18.2	13.0	36.8	1.7	16.5	0.4	3.5	0.6	8.4	37.1	49.2
LSD (p=0.05)		0.15	0.04	0.46	1.03	0.97	0.09	0.38	0.02	0.18	0.02	0.21	0.62	0.55
CV%		2.39	1.39	1.78	5.58	1.85	3.92	1.60	2.94	3.70	2.09	1.76	1.18	0.79

Fatty acid composition reported on dry matter basis of the whole seed.



Table 16. 10CM05: Statewide Industry Camelina Trial - High Rainfall, Recrop. Fatty Acid Composition.  
Northwestern Agricultural Research Center. Kalispell, MT. 2010.

Entry	ID	Palmitic	Stearic	Oleic	Linoleic	$\alpha$ -Linolenic	Arachidic	Gondoic	Eicosadienoic	Erucic	Nervonic	Saturated		Unsaturated	
		Acid (16:0)	Acid (18:0)	Acid (18:1)	Acid (18:2)	Acid (18:3)	Acid (20:0)	Acid (20:1)	Acid (22:0)	Acid (22:1)	Acid (24:1)	%	%	Mono- unsaturated	Poly- unsaturated
		%	%	%	%	%	%	%	%	%	%	%	%	%	%
1	GP-07	3.3	2.0	17.8	8.2	43.8	1.8	19.0	0.4	4.0	0.6	6.9	38.8	48.4	
2	GP-10	3.6	2.0	20.2	7.9	40.9	1.9	19.6	0.5	4.3	0.5	7.6	41.3	45.9	
3	GP-12	3.6	2.1	21.4	7.1	42.1	1.7	19.6	0.4	4.1	0.5	7.3	41.9	45.5	
4	GP-42	3.7	2.0	19.7	9.4	40.2	2.0	19.3	0.5	4.2	0.5	7.8	40.6	46.5	
5	GP-43	3.5	2.0	20.6	7.6	41.2	2.0	19.8	0.5	4.3	0.5	7.6	41.8	45.5	
6	GP-68	3.4	2.0	21.6	6.1	41.7	1.9	19.9	0.5	4.5	0.5	7.5	43.2	44.4	
7	GP-69	3.2	2.0	22.0	4.9	43.4	1.9	20.5	0.5	4.4	0.4	7.0	43.7	44.2	
8	GP-73	3.4	2.0	20.4	7.5	41.6	2.0	20.1	0.5	4.4	0.5	7.5	42.3	45.1	
9	Blaine Creek	3.2	2.0	21.5	5.2	43.1	1.9	20.3	0.5	4.4	0.5	7.2	43.3	44.4	
10	Calena	3.5	2.0	20.1	7.4	42.4	1.9	19.9	0.4	4.3	0.5	7.3	41.2	46.2	
11	Ligena	3.6	2.0	19.8	8.3	41.5	2.0	19.6	0.4	4.3	0.5	7.4	40.7	46.5	
13	SO-5	3.6	1.9	20.1	8.2	40.9	2.0	19.9	0.5	4.3	0.5	7.6	41.3	46.0	
14	SO-7	3.3	1.9	20.6	7.3	41.9	2.1	20.1	0.5	4.6	0.5	7.3	42.6	45.0	
15	SO-8	3.5	2.1	21.0	6.7	41.3	2.0	20.7	0.5	4.5	0.5	7.5	42.5	44.8	
16	SO-9	3.8	2.1	20.6	8.2	40.1	2.0	20.0	0.5	4.3	0.5	7.8	41.4	45.7	
17	SO-11	3.7	2.1	20.3	9.2	40.4	1.8	19.2	0.4	4.2	0.5	7.7	41.3	46.0	
18	SO-12	3.7	2.1	20.9	7.9	41.2	1.8	19.6	0.4	4.0	0.5	7.4	41.0	46.1	
12	Suneson	3.6	2.0	20.6	7.8	41.6	2.0	19.7	0.5	4.2	0.5	7.5	41.5	45.8	
Average		3.5	2.0	20.5	7.5	41.6	1.9	19.8	0.5	4.3	0.5	7.4	41.7	45.7	
LSD (p=0.05)		0.18	0.06	0.56	1.10	1.02	0.09	0.64	0.01	0.13	0.03	0.23	0.80	0.65	
CV%		3.61	2.23	1.94	10.35	1.72	3.16	2.29	2.14	2.17	3.59	2.14	1.35	1.00	

Fatty acid composition reported on dry matter basis of the whole seed.

Table 17. 10CM08: Statewide Industry Camelina Trial - Dryland, Fallow. Fatty Acid Composition.  
Southern Agricultural Research Center. Huntley, MT. 2010.

Entry	ID	Palmitic	Stearic	Oleic	Linoleic	$\alpha$ -Linolenic	Arachidic	Gondoic	Eicosadienoic	Erucic	Nervonic	Saturated		Unsaturated	
		Acid (16:0)	Acid (18:0)	Acid (18:1)	Acid (18:2)	Acid (18:3)	Acid (20:0)	Acid (20:1)	Acid (22:0)	Acid (22:1)	Acid (24:1)	%	%	%	%
1	GP07	4.6	2.5	15.8	16.4	35.3	1.7	15.2	0.3	3.4	0.6	8.5	35.6	51.1	
2	GP10	4.9	2.5	18.1	17.8	32.0	1.8	15.2	0.4	3.4	0.6	9.3	37.3	49.1	
3	GP-12	4.8	2.6	19.1	16.4	33.0	1.6	15.3	0.4	3.2	0.6	8.9	38.2	48.5	
4	GP42	4.7	2.2	19.6	18.8	32.9	1.9	15.3	0.4	3.2	0.5	9.0	39.5	47.6	
5	GP-43	4.7	2.3	19.4	17.8	33.3	1.8	15.3	0.4	3.2	0.5	9.0	39.2	47.8	
6	GP68	4.8	2.5	19.4	15.9	32.4	1.8	15.3	0.4	3.3	0.6	9.2	39.1	47.8	
7	GP-69	4.8	2.4	19.4	15.2	33.8	1.7	15.3	0.4	3.5	0.5	8.7	38.5	48.4	
8	GP-73	5.0	2.5	18.6	17.9	31.2	1.9	15.3	0.4	3.3	0.6	9.4	38.1	48.5	
9	Blaine Creek	4.9	2.5	18.9	16.8	32.1	1.8	15.5	0.4	3.4	0.6	9.2	38.3	48.2	
10	Calena	4.8	2.4	17.9	15.3	33.4	1.8	16.1	0.4	3.8	0.6	8.9	37.5	49.2	
11	Ligena	4.9	2.4	17.2	18.2	31.9	1.8	15.1	0.4	3.4	0.6	9.2	36.6	49.7	
12	Suneson	4.9	2.5	18.5	16.7	32.3	1.8	15.4	0.4	3.3	0.6	9.1	37.8	48.8	
13	SO-5	5.1	2.4	18.0	19.3	30.8	2.0	15.0	0.4	3.4	0.6	9.4	37.2	49.2	
14	SO-7	4.9	2.3	19.0	17.9	31.5	1.9	15.1	0.4	3.4	0.5	9.2	38.3	48.4	
15	SO-8	5.0	2.5	19.0	16.8	31.3	1.8	16.2	0.4	3.7	0.5	9.3	38.7	48.0	
16	SO-9	5.0	2.6	18.4	17.3	30.6	1.9	15.9	0.4	3.5	0.6	9.5	37.8	48.6	
17	SO-11	5.0	2.5	18.0	18.8	31.8	1.7	14.9	0.4	3.1	0.6	9.2	37.1	49.3	
18	SO-12	5.0	2.5	18.5	16.7	32.5	1.5	14.9	0.3	3.0	0.6	9.0	36.6	49.7	
Average		4.9	2.4	18.5	17.2	32.3	1.8	15.4	0.4	3.4	0.6	9.1	37.9	48.8	
PLSD (p=0.05)		ns	0.17	1.47	1.08	1.61	0.11	0.38	0.01	0.23	0.05	0.3	1.9	1.4	
CV%		3.9	4.9	5.6	4.4	3.5	4.4	1.7	2.2	4.8	6.3	2.3	3.5	2.1	

Fatty acid composition reported on dry matter basis of the whole seed.

ns indicates no difference between cultivars within a column of data based on Fisher's Protected LSD at the 0.05 probability level.

Table 18. 10CM18: Statewide Industry Camelina Trial - Dryland, Fallow. Fatty Acid Composition.  
Western Triangle Agricultural Research Center. Conrad, MT. 2010.

Entry	ID	Palmitic	Stearic	Oleic	Linoleic	$\alpha$ -Linolenic	Arachidic	Gondoic	Eicosadienoic	Erucic	Nervonic	Saturated	Mono- unsaturated	Poly- unsaturated
		Acid (16:0)	Acid (18:0)	Acid (18:1)	Acid (18:2)	Acid (18:3)	Acid (20:0)	Acid (20:1)	Acid (22:0)	Acid (22:1)	Acid (24:1)			
		%	%	%	%	%	%	%	%	%	%	%	%	%
1	GP-07	4.2	1.9	17.4	14.6	39.5	1.6	15.0	0.3	2.9	0.5	7.2	35.1	51.4
2	GP-10	4.2	1.9	19.7	13.4	37.8	1.6	15.7	0.3	3.1	0.5	7.6	37.9	48.8
3	GP-12	4.2	2.0	21.0	13.0	37.9	1.4	16.0	0.3	3.0	0.5	7.4	38.7	48.1
4	GP-42	4.4	1.9	19.3	14.5	37.3	1.6	15.3	0.3	2.9	0.5	7.7	37.2	49.5
5	GP-43	4.3	2.0	19.7	13.8	37.6	1.6	15.5	0.3	2.9	0.5	7.6	37.7	49.1
6	GP-68	4.3	1.9	20.9	13.8	37.6	1.6	15.7	0.3	3.0	0.5	7.5	38.5	48.2
7	GP-69	4.3	1.9	20.6	13.4	38.1	1.5	15.5	0.3	2.9	0.5	7.3	37.8	48.9
8	GP-73	4.2	1.9	20.1	14.4	37.3	1.7	15.5	0.3	2.9	0.5	7.7	38.5	48.4
9	Blaine Creek	4.3	2.0	20.4	13.1	37.7	1.6	15.6	0.3	3.0	0.5	7.6	38.1	48.6
10	Calena	4.3	2.0	19.4	12.9	38.4	1.5	16.0	0.3	3.1	0.5	7.4	37.2	49.5
11	Ligena	4.3	1.9	19.9	14.5	37.3	1.6	15.7	0.3	3.0	0.5	7.6	38.0	48.7
12	Suneson	4.4	2.0	19.4	14.0	37.4	1.6	15.5	0.3	2.9	0.5	7.6	36.9	49.6
13	SO-5	4.4	1.9	19.4	14.6	36.8	1.7	15.5	0.3	3.0	0.5	7.8	37.1	49.4
14	SO-7	4.5	1.8	19.8	15.7	36.3	1.8	15.4	0.3	3.1	0.5	7.7	37.4	49.2
15	SO-8	4.5	2.0	20.3	13.8	36.2	1.6	16.1	0.3	3.2	0.5	7.7	37.8	48.8
16	SO-9	4.5	2.1	19.9	13.9	36.1	1.7	16.0	0.3	3.0	0.5	7.9	37.3	49.0
17	SO-11	4.4	2.0	19.9	14.8	37.4	1.5	15.3	0.3	2.8	0.5	7.6	37.5	49.1
18	SO-12	4.4	2.0	20.2	13.5	37.3	1.4	15.7	0.3	2.9	0.5	7.6	37.7	48.9
Average		4.3	2.0	19.9	14.0	37.4	1.6	15.6	0.3	3.0	0.5	7.6	37.6	49.1
LSD (p=0.05)		0.18	0.07	0.62	1.03	0.81	0.08	0.53	0.01	ns	0.03	0.15	1.29	1.01
CV%		2.98	2.67	2.20	5.19	1.52	3.48	2.37	2.96	5.25	4.19	1.35	2.43	1.45

Fatty acid composition reported on dry matter basis of the whole seed.

ns indicates no difference between cultivars within a column of data based on Fisher's Protected LSD at the 0.05 probability level.