Project Title: Camelina Yield Evaluation Trial

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Objective: To evaluate 6 breeding lines of camelina (*Camelina sativa* L. Crantz) for yield in northwestern Montana.

Results:

Six camelina cultivars were submitted by Sustainable Oils, Inc. in order to evaluate yield and oil quality from large unreplicated strip plots. The previous crop was barley and the study was conducted with conventional tillage practices. The area was fertilized with 11-52-0 and prowl was applied ppi on 4/4/08 at 1 lb ai/a to suppress weeds. The cultivars were seeded at 3 lbs/a as individual 2000 ft^2 plots on 4/9/08.

Plant densities (plants/linear foot) were determined on 4/24/08 and varied almost two fold among the entries. Although all entries were seeded at the same density, stand counts ranged from a low of 2.2 for SO-2 to a high of 4.3 plants/ft for SO-1 and SO3. Nevertheless, the cultivars appeared to be able to compensate, and yields were not directly related to plant population.

On average, camelina reach the 50 percent bloom stage on 6/12/08, despite the late planting date and the cool growing conditions. Fifty percent bloom ranged from 6/9/08 to 6/13/08. Days to maturity among entries were slightly more compressed than that for percent bloom. Seed pods appeared brown and mature between 7/25/08 and 7/28/08. No shattering was observed.

Insect larvae and pupae were observed on all plots in early July. The larvae appeared to be a type of looper and were approximately an inch long, pale green with brown dorsal stripes. The pupae were attached to the stems by fibrous encasements with many larvae eventually appearing black and dead. This was especially evident for SO-3, and may be a result of some form of antibiosis. However, it should be noted that this same entry had the highest pupae density to begin with. There was no apparent chewing damage on the leaves. Aside from this insect infestation, the plants appeared healthy and disease free during the entire season.

Plant height averaged 40 inches and ranged from 37 inches for SO-3 to 45 inches for SO-2. Lodging was not extensive, but tended to be more severe for SO-2, SO-3, and SO-4. The plots were direct combined on 8/7/08. Yields averaged 1829 lb/a, and ranged from 1606 lbs/a for SO-5 to 2124 lbs/a for SO-1. Test weights averaged 52 lb/bu and ranged from 50.1 lbs/bu ('SO-6') to 52.8 lbs/bu (SO-3). Seed moisture averaged 7 percent and ranged from 6.7 % for SO-3 to 8.2 % for SO-6.

CAMELINA YIELD EVALUATION TRIAL

Kalispell - 2008

				7/9		7/15				
		Bloom	Maturity	Pupae		Pupae		Lodging		Height
Cultivar	Plts/lin. ft	*day of year*		*live*	*dead*	*live*	*dead*	*sev(1-5)*	*%plot*	*inches*
SO-1	4.3	6/12	7/28	99	63	191	31	1	5	38
SO-2	2.2	6/13	7/28	90	21	211	45	2	20	45
SO-3	4.3	6/13	7/25	135	30	245	130	2	20	37
SO-4	3.7	6/9	7/28	125	37	226	75	3	15	40
SO-5	3.2	6/13	7/28	128	23	138	61	2	3	39
SO-6	3.6	6/13	7/25	84	16	146	73	1	1	42
Avg	**3.6**	**6/12**	**7/27**	**110**	**32**	**193**	**69**	**2**	**11**	**40**

	Yield	TWT	Moisture
Cultivar	*lb/ac*	*lbs/bu*	*%*
SO-1	2124	51.2	7.1
SO-2	2015	52.7	7.9
SO-3	1702	52.8	6.7
SO-4	1729	51.7	7.6
SO-5	1606	51.7	7.3
SO-6	1797	50.1	8.2
Avg	**1829**	**52**	**7**