

Project title: Statewide Lentil Variety Evaluation

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Objectives: To evaluate seed yield and agronomic performance of 13 lentil varieties in northwestern Montana.

Results:

Thirteen lentil varieties (Table 1) were seeded into Creston sandy loam soil on May 1, 2009. The field was previously seeded to alfalfa, and was prepared for planting using conventional tillage. No pesticides were applied and the trial was not irrigated. Seeds, treated with fungicide and inoculated with *Rhizobium* sp., were sown at a rate of 10-12 seeds/ft² at a depth of 1.5 in. Plots were combine harvested at physiological maturity on August 20, 2009.

Although plots were seeded two weeks later than the previous year, average flowering and maturity dates were delayed by only a few days. The average time to flowering was 56 days after planting (June 26) and plants reached grain maturity (10% moisture) an average of 99 days after planting (August 8) (Table 1). Canopy height ranged from 12 to 17 in and lodging scores ranged from 1 (no lodging) to 9 (severe lodging).

Test weights were high, averaging almost 70 lb/bu. Grain yields were similar to those achieved in 2008, ranging from 27.9 bu/a (2,013 lb/a) for Crimson to 40.8 bu/a (2,916 lb/a) for LC01602300R. Overall lentil yield across varieties was 34.9 bu/a, and Richlea and Merrit were the highest yielding commercially available varieties (Table 1). Merrit lentil had the largest seeds (6,490/lb) while Crimson, had the smallest seeds (13,245/lb).

Summary:

Later planting dates did not seem to affect the ability of lentil to mature in sandy loam soil. Grain yields were similar to those achieved in 2008, with LC01602300RR, Meritt and Richlea achieving the highest grain yields overall.

Future Plans:

Trials will continue to be conducted each year in order to identify varieties suitable to the region.

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

Variety	Grain Yield	Grain Yield	Test Weight	Seed Weight	Days to Flower	Days to Maturity	Canopy Height	Lodging Index
	<i>bu/a</i>	<i>lb/a</i>	<i>lb/bu</i>	<i>#/lb</i>	<i>days after planting</i>	<i>days after planting</i>	<i>in</i>	<i>0-9</i>
LC01602300R	40.8**	2916	71.4	8305	56	101	16	1
Merrit	39.9*	2735	68.5	6490	50	103	15	5
Richlea	39.4*	2737	69.4	8350	60	102	15	4
Riveland	36.7*	2396	65.3	5693	53	102	17	6
Pennell	35.1*	2404	68.5	6511	52	103	15	5
Brewer	34.5	2378	68.9	7154	50	93	15	7
Meteor	34.2	2368	69.2	9144	61	97	17	9
LC01602245P	33.8	2488	73.7	10226	53	93	12	8
Vantage	33.5	2317	69.1	8726	58	97	16	7
LC01602062T	33.2	2383	71.8	9461	53	94	14	6
LC01602307E	32.8	2315	70.5	9795	60	103	16	6
Redberry	31.9	2249	70.6	10139	61	103	16	2
Crimson	27.9	2013	72.3	13245	61	94	13	8
Average	34.9	2438	69.9	8711	56	99	15	6
LSD ($\alpha=0.05$)	6.19	431.0	0.83	368.2	1.2	2.2	1.2	1.4

Grain yield is adjusted to 10% grain moisture content.

**Indicates highest yielding cultivar

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