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2009 Michigan Red Clover Variety Trial Report

Richard Leep¹, Timothy Dietz²

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Comments on the 2009 Growing Season

Freezing and thawing in the late-winter and early spring resulted in frost heaving of especially older stands on fine textured soils and poorly drained areas. A very wet spring hampered field activities in southern Michigan. There was nearly thirteen inches of precipitation in April and May (Fig. 1). This was in addition to heavy snowfall melt that had saturated soils months prior.

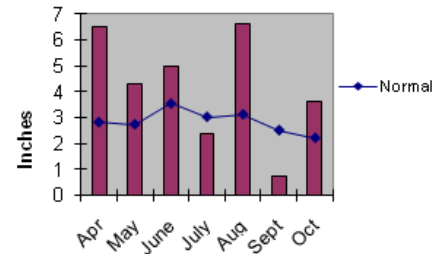


Figure 1. Rainfall (in.) for East Lansing Apr-Oct 2009.

Trial Description

Red clover varieties were seeded in a single trial in East Lansing in south-central Michigan on May 12, 2009. Varieties were planted using a Carter Nursery Seeder in three-ft. wide (5 rows with 6" spacing) by twenty-five ft. long plots into conventionally tilled soil in a randomized complete block design with four replications. No irrigation was needed for establishment. Poast Plus (sethoxydim) was applied Jun. 16 to control grass weeds and, due to high Potato leafhopper pressure, Warrior (lambda-cyhalothrin) applications were made on Jun. 24 and again on Jul. 20. Phosphorus, Potassium, and Boron fertilizer (0-13-39+0.5% B) was applied at 600 lbs/acre. Plots were harvested three times in 2009 with a three-foot Carter Flail-type Forage Harvester with sub-samples collected for dry matter determination and the data is presented in Table 1.

Statistics

Data are analyzed using PROC GLM or MIXED in SAS v. 8.2 software (Cary, NC). Means, coefficient of variation (CV%), and Fischer's Least Significant Difference (LSD) are reported at the bottom of each column. The CV is a percentage that indicates the precision of measurement. Columns with low CV's had lower error between replications within a given treatment. The LSD is used to compare values *within* a column and is the minimum difference between two values for a "real" difference to exist. The alpha level for the LSD in these trials was 0.05 or 5%, which means, we are 95% certain that values differing by more than the LSD are not due to chance. The MCV% is the LSD divided by the mean and the quotient is multiplied by 100 ($[LSD/mean]*100$). The LSR% is the LSD divided by the range and the quotient is multiplied by 100 ($LSD/[high-low]*100$).

¹ Forage Agronomist, Crop and Soil Sciences, Michigan State Univ.

² Research Assistant, Crop and Soil Sciences, Michigan State Univ.

Table 1. Red clover yield (tons /acre) in East Lansing, seeded in May 2009

Cultivar	Marketer	20-Jul	19-Aug	13-Oct	Total
		dry tons/acre			
Emerald**	Byron Seeds	0.36	1.54	1.05	2.95
Starfire II	AMPAC	0.37	1.46	1.00	2.83
Dominion	Olds Seed	0.37	1.43	0.98	2.78
RC0005*	FFR	0.30	1.36	1.02	2.69
Cardinal	Olds Seed	0.34	1.39	0.94	2.67
Arlington	Olds Seed	0.27	1.35	1.02	2.64
RC0303G*	FFR	0.28	1.40	0.94	2.62
RC0004*	FFR	0.25	1.37	0.86	2.48
Michigan common	public	0.16	1.07	0.87	2.10
Average		0.30	1.38	0.97	2.64
CV		32	8	11	8
LSD (0.05)		0.14	0.18	0.16	0.32

Location: Mich. State Univ. Exp. Station, Ingham County
 Design: RCB, plot size 3 x 25' (3 x 22' harvested)
 Seeded: 5/12/2009
 Soil Type: Capac, tile drainage
 Insects: Warrior (lambda-cyhalothrin) 2.5 oz. following cut 1

*Experimental Cultivar

**Newly released cultivar, seeded here with breeders seed