

2010 Spinach Weed Control Trial

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Methods: The trial was conducted in cooperation with Pasqual Mares of Christenson and Giannini at the San Ardo Ranch. Preplant applications were applied to shaped beds on September 1. The materials remained on the bedtop until planting on September 14. The at-planting treatments were applied immediately following planting on September 15. All treatments were incorporated into the soil with the germination water on September 15. The soil type was Metz complex (loamy sand texture). Each plot was one 80-inch bed wide by 10 feet long for at planting treatments or 15 feet long for the preplant treatments; all treatments were randomized three times in a randomized complete block design. Applications were made with a backpack CO₂ applicator with 4 passes of a one-nozzle wand with an 8008E tip pressurized at 30 psi applying the equivalent of 78 gallons of water per acre.

Results: This trial was designed to examine 14-day preplant and at-planting applications of Dual Magnum in comparison with at-planting applications of Lorox and RoNeet. The comparison of Dual Magnum 14-day pre vs at-planting applications were made to better understand if preplant applications can be used to work around preharvest intervals for this material. All treatments had acceptable phytotoxicity ratings (<2.0) except for Dual Magnum at 1.0 pint/A applied preplant and Lorox at 0.6 lb/A. All materials reduced total weeds over the untreated control, and Lorox at 0.6 lb/A had no weeds. Dual Magnum applied 14 days prior to planting had more weeds than the at-planting applications at the same rate. The untreated control, 14-day preplant applications of Dual Magnum at 0.3, 0.5 and 0.75 pint/A, at planting applications of Dual Magnum at 0.3 and 0.5 pint/A and RoNeet at 1.25 pint/A all had yields >8.0 tons/A. The 1.0 pint/A rate of Dual Magnum applied preplant did not provide further weed control than the 0.75 pint/A rate and had a lower yield. In general, applying Dual Magnum 14 days preplant reduced weed control by this material over at-planting applications. Lorox at 0.4 lbs was safer on spinach than the 0.6 lb/A rate and provided good weed control in this trial.

Table 1. Weeds counts (per 25 ft²) and phytotoxicity ratings on September 30

Treatments	a.i. lbs/A	Material/A	Application Timing	Phyto ¹	Malva	Purslane	Other	Grass ²	Total Weeds	Yield T/A
Untreated	---	---	---	0.0	5.5	4.2	1.9	1.1	12.6	8.5
Dual Magnum	0.3	0.31 pint	14 days preplant	0.3	3.6	2.0	0.6	0.0	6.2	8.6
Dual Magnum	0.5	0.52 pint	14 days preplant	0.3	3.9	3.7	0.3	0.0	7.9	8.7
Dual Magnum	0.75	0.78 pint	14 days preplant	1.3	3.0	1.3	0.6	0.0	4.9	8.0
Dual Magnum	1.00	1.05 pint	14 days preplant	3.0	4.0	0.6	0.7	0.0	5.3	7.3
Dual Magnum	0.3	0.31 pint	At planting	0.0	2.9	0.4	0.0	0.0	3.3	9.1
Dual Magnum	0.5	0.52 pint	At planting	0.3	1.7	0.4	0.0	0.0	2.2	8.5
Dual Magnum	0.75	0.78 pint	At planting	1.3	1.7	0.1	0.3	0.0	2.2	7.7
Lorox 50W	0.2	0.4 lb	At planting	2.0	0.9	0.4	0.3	0.1	1.7	7.8
Lorox 50W	0.3	0.6 lb	At planting	6.3	0.0	0.0	0.0	0.0	0.0	5.3
RoNeet 6E	0.93	1.25 pt	At planting	0.0	2.2	1.0	0.6	0.1	3.9	9.8
			Pr>Treat	<0.001	0.007	0.013	0.003	<0.001	<0.001	0.005
			Pr>Block	0.041	0.186	0.453	0.269	0.735	0.741	0.577
			LSD _{0.05}	0.9	2.4	2.4	0.8	0.2	3.6	1.7

1 – Scale: 0=no crop damage to 10= crop dead; 2 – barnyard grass and lovegrass