

Volunteer Canola Control with Linuron

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Abstract

Canola is currently being examined as a potential crop for seed and biofuel in central Oregon. It is not clear whether or not volunteer canola will pose any weed management challenges in rotation with carrots grown for seed. If linuron is not effective for control, then managing volunteer canola will be a challenge in carrots grown for seed. A field trial was conducted at the Central Oregon Agricultural Research Center near Madras, Oregon to evaluate linuron efficacy on volunteer canola. When linuron was applied at 1.5 lb/acre at the 2- to 4-leaf growth stage, it controlled 99 percent of canola 38 days after treatment. Linuron appeared to be an effective management tool for controlling volunteer canola if timed correctly.

Introduction

Canola (*Brassica napus*) is currently being examined as a potential crop for seed and biofuel in central Oregon. One consideration in canola production will be managing canola volunteers in subsequent crops. Controlling volunteer canola in grass crops (e.g., Kentucky bluegrass or wheat) will not likely pose any major problems because there are numerous effective broadleaf herbicides labeled for these crops. However, it is not clear whether or not volunteer canola will pose any crop rotation problems in carrots grown for seed, where Linuron (Lorox[®]) is the main herbicide tool used for weed control. If linuron is not effective, then managing volunteer canola will be a challenge in carrots grown for seed.

Materials and Methods

A field trial was conducted at the Central Oregon Agricultural Research Center near Madras, Oregon. The trial was located in a field that had previously been used for winter canola production, which was harvested 6 weeks before the first linuron application. The trial area was sprinkler irrigated in order to stimulate canola germination. The volunteer canola population density in the trial was very high. Linuron was applied at three timings that could correspond with linuron use in carrots grown for seed. Application date and canola growth stage are listed in Table 1. Plots were 10 ft by 20 ft with four replications arranged as randomized complete blocks. Treatments were applied with a CO₂ backpack sprayer delivering 20 gal/acre operating at 20 psi and 3 mph. Weed control was determined visually on a percentage scale.

Results and Discussion

Linuron was applied at 1.5 lb/acre at the 2- to 4-leaf canola growth stage, it controlled 99 percent of canola 38 days after treatment (Table 1). Applications of linuron earlier or later than the 2- to 4-leaf growth stage resulted in less canola control. For example, the

earlier application of linuron at the cotyledon growth stage controlled only 63 percent of canola 50 days after treatment. The later application of linuron, when the canola was 4 to 8 inches tall, controlled 78 percent of canola 22 days after treatment. Linuron appears to be an effective management tool for volunteer canola if timed correctly.

Table 1. Response of canola to applications of linuron at the Central Oregon Agricultural Research Center near Madras, Oregon, 2006.

Linuron application ¹	Linuron rate (lb/acre)	Canola growth stage at application	8 Sep 2006	27 Sep 2006	20 Oct 2006
			----- % control -----		
Check	---	---	0	0	0
31 Aug	1.0	Cotyledon	89	88	63
12 Sep	1.5	2-4 leaf	---	96	99
28 Sep	1.5	4-8 inch ht.	---	---	78

¹All treatments applied with non-ionic surfactant at 0.25 % v/v.