

CARROT SEEDLING HERBICIDE TOLERANCE, 2000

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Abstract

Herbicides Fusilade, Caparol, Lorox, Buctril, and Assure II were evaluated for crop safety on seed carrots in the cotyledon to two true leaf stage. Fusilade, Lorox and Assure II had no observed effect on seedling carrots, while Caparol reduced stand by 80 percent and Buctril by 100 percent.

Introduction

Early-season weed control is important for establishing a strong carrot stand for seed production in central Oregon. The objective of the project was to evaluate several herbicides for crop safety shortly after carrot emergence.

Methods and Materials

Unreplicated plots 10 ft x 20 ft were placed in a commercial seed carrot field near Madras, Oregon. Herbicides Fusilade, Caparol, Lorox, Buctril, and Assure II were applied August 28 when carrots were in the cotyledon to two true leaf stage. Application was made with a CO₂-pressurized, hand-held boom sprayer at 40 psi and 20 gal/acre water. A non-ionic surfactant was applied at 0.5 percent volume per volume (v/v) in combination with all herbicides, except Assure II where crop oil concentrate was applied at 1 percent v/v per label directions.

Treatments were evaluated September 11 with a visual determination of percent plants killed. In addition, plants were collected from one row-foot from each of the two center rows per plot. Data collection included total weight per sample and average root length and width.

Results and Discussion

Fusilade, Lorox, and Assure II had no observed detrimental effect on seedling carrots (Table 1). However, Buctril produced a total kill and Caparol reduced the stand by 80 percent.

Table 1. Effect of herbicide applications to seedling carrots near Madras, Oregon, August 8, 2000.

Herbicide	Product/acre	Percent stand	Seedling number	Total weight (g)	Root (mm)	
					Length	Width
Fusilade	1 pt/a	100	40	108.0	89.8	5.14
Caparol	2 pt/a	20	10	2.0	52.4	1.05
Lorox	1.5 lb/a	100	31	34.7	73.4	3.07
Buctril	2 pt/a	0	0	0	0	0
Assure II	12 oz/a	100	52	123.6	84.0	4.38
Untreated		100	39	71.8	89.1	3.94