

EVALUATION OF DUAL AND TREFLAN PREEMERGENCE HERBICIDES ON SEED RADISH, 1997

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Abstract

*Herbicides Dual (metolachlor) and Treflan (trifluralin) were applied pre-plant, preemergence to seed radish (*Rhaphanus sativus*) near Madras, Oregon. Dual at 1.5 pt/a provided 90% of hairy nightshade, while Dual at 1 pt/a plus Treflan at 1 pt/a provided 65% control. Dual also provided partial control of common lambsquarters at 35 to 40%. Stunting in the range of 5 to 10% was observed with the Dual plus Treflan combination.*

Introduction

Treflan (trifluralin) applied pre-plant, preemergence has historically been used for weed control in seed radish (*Rhaphanus sativus*) in central Oregon. A Special Local Need 24(c) Registrations was received in 1995 for use of Dual (metolachlor) on seed radish, to provide increased control of hairy nightshade. This is the second year of evaluation under central Oregon conditions for Dual and Treflan (trifluralin), applied alone and in combination. There was concern following widespread industry use of Dual and Treflan applied in combination during 1995, that there may have been some resulting crop injury and reduction in yield.

Methods and Materials

The 1997 herbicide evaluation was conducted with Don Boyle, grower-cooperator, on a commercial field of seed radish north of Madras, Oregon. Preemergence applications of Dual at 1.5 pt/a, Dual at 1.0 pt/a plus Treflan at 1.0 pt/a and Treflan at 1.5 pt/a were made April 15, 1997 with a CO, pressurized, hand-held boom sprayer at 40 psi and 20 gal/a water. Plots 20 ft x 30 ft were replicated three times in a randomized complete block design. Preemergence herbicides were mechanically incorporated into the top 2 to 3 inches of soil with a commercial discing operation shortly after application. Treatments were evaluated May 22 for control common groundsel, hairy nightshade, common purslane, and common lambsquarters. Reduction in stand and crop injury were rated visually.

Results and Discussion

Dual at 1.5 pt/a provided 90% control of hairy nightshade, while a combination of Dual at 1 pt/a and Treflan at 1 pt/a provided 65% control, and Treflan alone provided no control (Table 1). Dual also provided partial control of common lambsquarters at 35 to 40%. The combination of Dual and Treflan provided the best, but inadequate, control of common groundsel at 60%. While not listed in Table 1, Treflan appeared to provide good control of common purslane. Crop stunting of 5 to 10% was observed with the Dual plus Treflan treatment.

Table 1. Effect of preplant, preemergence herbicide applications April 15, 1997 on commercial seed radish at Boyle Farms near Madras, Oregon.

Treatments ²		Weed Control ¹			
		Rate (product/a)	Common Groundsel	Hairy Nightshade (%)	Common Lambsquarter
1	Dual	1.5 pt	25 a ³	90 b	35 a
2	Dual +Treflan	1.0 pt 1.0 pt	60 a	65 b	40 a
3	Treflan	1.5 pt	23 a	0 a	0 a
4	Untreated		0 a	0 a	0 a

¹Visual evaluation was conducted May 22, 1997.

²Treatments applied April 15, 1997.

³Mean separation with Student-Newman-Keuls (P<0.05).