

# **EVALUATION OF ORTHENE<sup>®</sup> FOR CONTROL OF LYGUS AND EFFECT ON PREDATORS IN PARSLEY SEED IN CENTRAL OREGON, 2004**

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## **Abstract**

Orthene<sup>®</sup> was applied at 1.0 lb/acre on August 13 to parsley grown for seed to control lygus adults and nymphs. The effect on the predator population was also evaluated. Predators common in parsley seed fields in central Oregon include big-eyed bugs, damsel bugs, and ladybird beetles. Insect sweeps were used to compare populations prior to and following application. Orthene provided 100 percent control of lygus nymphs and 70 percent control of lygus adults. Predator populations were significantly reduced in the treated plots, but no crop injury was observed.

## **Introduction**

Parsley seed production is a relatively small but important vegetable seed crop in central Oregon. Parsley is grown on 65 acres in central Oregon, producing an annual income of \$170,000. Lygus, spider mites, and aphids are the major insect pests on both carrots and parsley grown for seed in this area. Orthene has had a 24(c) Special Local Need registration on carrot seed since 1993, but has not been registered for parsley seed production. The objective of this project was to generate data needed to include parsley on the Orthene registration.

## **Methods and Materials**

Orthene was applied at 1.0 lb/acre to an entire field of parsley on August 13, 2004. The treatment was applied by air at a carrier rate of 10 gal/acre, with Hyper-Active<sup>®</sup> added at a rate of 32 oz/100 gal. An insect precount was conducted August 10, with post-application counts taken August 18 (5 days after treatment [DAT]) and August 27 (14 DAT). Plots were sampled for lygus adults, lygus nymphs, spider mites, and the predators big-eyed bugs, damsel bugs, and ladybird beetles, using 5 subsamples of 10 sweeps per plot. Plots were visually rated for any sign of crop injury when insects were sampled.

## **Results and Discussion**

In a comparison of insect numbers prior to and following application of Orthene, lygus nymph control was 100 percent, and lygus adults were reduced by 70 percent (Table 1). Predator populations were significantly reduced following application of Orthene. No spider mites were observed during the evaluation. No crop injury was observed following application of Orthene.

Table 1. The effect of Orthene applied August 13 at 1.0 lb/acre to parsley grown for seed on insect populations, near Madras, Oregon, 2004.

Insects	Preapplication count	-----Postapplication counts-----	
	August 10	August 18	August 27
	-----average number of insects per 10 sweeps-----		
Lygus adults	27	8	0
Lygus nymphs	14	0	0
Lygus total	41	8	0
Big-eyed bugs	81	1	0
Damsel bugs	4	0	0
Ladybird beetles	5	1	0
Spider mites	0	0	0