

ORTHENE CONTROL OF GREEN PEACH APHID AND CARROT APHID ON SEED CARROTS IN CENTRAL OREGON, 1995

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Abstract

Acephate (Orthene, Valent) was applied to seedling carrots for control of green peach aphid and carrot aphid in a commercial field near Madras, Oregon on October 19, 1995. Aphid counts were taken prior to application, and 4 days after application of Orthene. Average green peach aphids per plant were reduced from 18 to 0.5. Although Orthene provided 100 percent control of carrot aphids, it was not significantly different from untreated plots.

Introduction

An estimated 1,500 acres of carrots were grown for seed in central Oregon during the 1994-1995 season, with a gross income of nearly \$4 million. Green peach aphid populations in seedling carrots were unusually high during the fall of 1995. Historically, green peach aphids have not been a serious pest on seed carrots, while carrot aphids have been the major concern during fall and spring months.

Methods and Materials

Orthene 75S was applied at 1.3 lb/a to 10 ft x 20 ft plots replicated three times in a commercial field near Madras, Oregon on October 19, 1995. Application was made using a CO₂ pressurized, hand-held boom sprayer at 30 psi and a carrier rate of 20 gal/a of water. Silgard at 8 oz/100 gal, and R-56 at 1 pt/100 gal, water were applied in combination with the Orthene.

Pre-counts were made in both treated and untreated plots prior to the Orthene application. Post-application counts were made October 23, 4 days after treatment. The average number of aphids per plant was determined for both green peach aphids and carrot aphids from five randomly selected plants per plot.

Results and Discussion

Significant control of aphid populations was provided with Orthene 75S applied at 1.3 lb/a on seed carrots in central Oregon (Table 1). Four days after application green peach aphids per plant were 0.5 compared to 22 in the untreated plots, and no carrot aphids were found after the Orthene application compared to six per plant in the untreated plots.

As a result of this research, and with the cooperation of Mike Weber at Central Oregon Seed, Inc., the special local need, 24 (c), label for Orthene 75S on seed carrots was expanded to include green peach aphid as well as lygus bug for contracting growers.

Table 1. Average green peach aphid and carrot aphid populations per carrot plant prior to, and after, application of Orthene on October 19, 1995 near Madras, Oregon.

| Treatment | Rate | Pre-treatment | | Four-day count | |
|-------------|-------------|--|--------------|--------------------|--------------|
| | | Green peach | Carrot aphid | Green peach | Carrot aphid |
| | (product/a) | ----- (average number of aphids/plant) ----- | | | |
| Orthene 75S | 1.3 lb/a | 18 | 7 | 0.5 a ¹ | 0 a |
| Untreated | | 17 | 8 | 22 b | 6 a |

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Mean separation with the T-method at P 0.05