

Soil Technologies Corp.
Research and Development Department



Research Report

Title: Powdery Mildew Control on Gerbera Daisy

Location: San Luis Obispo, California

Principal Investigators: Dr. Robert Rice Jr.

Crop: Gerbera Daisy (*Gerbera jamesonii*)

Date: 2000

Abstract:

The intent of this study is to evaluate the efficacy of treatments in controlling powdery mildew (*Erysiphe cichoracearum*) in greenhouse-grown gerbera daisy plants. The following treatments were evaluated: water/surfactant control, Pipron¹ at 8 oz/100 gal, Kaligreen² at 3 lbs/100 gal, Triact³ at 1 gal/100 gal, Permatrol⁴ at 1 qt/100 gal, and Permatrol at 2 qt/100 gal. Gerbera daisy plants that were grown in greenhouse conditions and demonstrating severe symptoms of powdery mildew received two applications of each treatment. Plants were then evaluated for disease control following both applications. The most effective treatment evaluated in this study was Permatrol at a rate of 2 qt/100 gal. Triact was effective at controlling powdery mildew but plants that received this treatment demonstrated severe symptoms of phytotoxicity while those treated with Permatrol did not.

Methods:

Two foliar applications were made to run-off on 10/16 and 10/23/2000. Plants were growing in a greenhouse where there was a severe infestation of powdery mildew. The following treatments were evaluated: water/surfactant control, Pipron at 8 oz/100 gal (0.625ml/L), Kaligreen at 3 lbs/100 gal (3.59g/L), Triact at 1 gal/100 gal (1%), Permatrol at 1 qt/100 gal (0.25%), and Permatrol at 2 qt/100 gal (0.5%). Disease control ratings were made on 10/23 and 10/29/00. The experiment was completely randomized with four replicates. Results were subjected to a one-way analysis of variance.

Results:

¹ Pipron is a chemical fungicide CAS # 3478-94-2

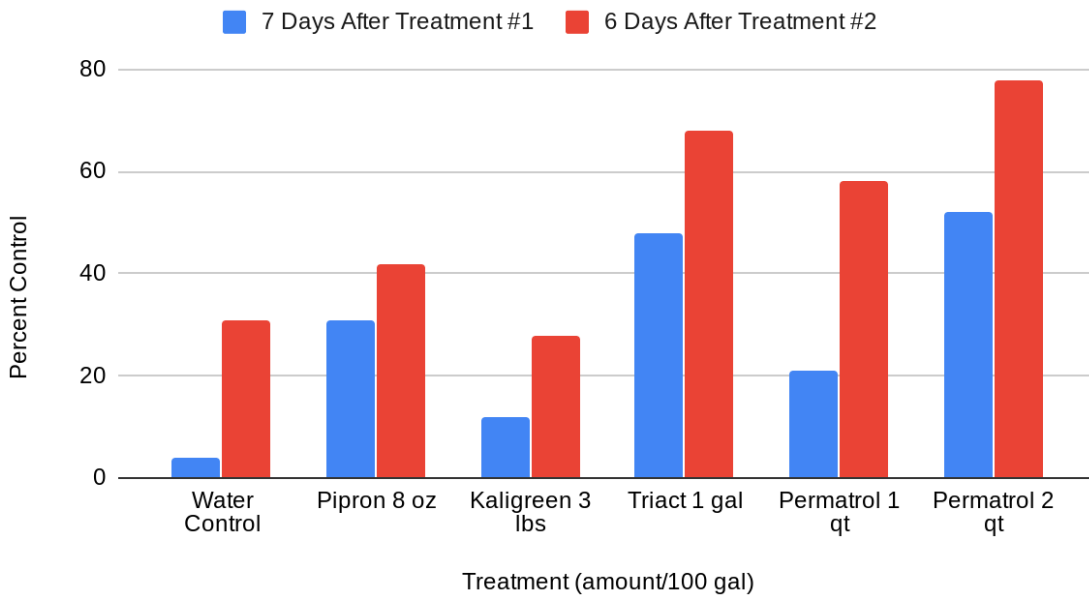
² Kaligreen is a natural fungicide CAS # 298-14-6

³ Triact is a natural fungicide CAS # 947173-77-5

⁴ Permatrol is a natural fungicide manufactured by Soil Technologies Corporation in Fairfield, IA, USA

The powdery mildew severity was high and increased during the trial. The water/surfactant check on the second spray provided some control of powdery mildew symptoms. Kaligreen and Piproton were only moderately effective in this trial. Triact was more effective than Kaligreen and Piproton, but inferior to Permatrol at 2q/100 gal. Permatrol at the 2 qt/100 gal rate provided the best powdery mildew control without causing injury to leaves or flowers. Although Triact demonstrated the second strongest control of symptoms, phytotoxicity was severe.

Percent Control of All Treatments



Conclusions:

The most effective treatment evaluated in this study was Permatrol at a rate of 2 qt/100 gal. The study indicates Permatrol at 2 qt/100 gal can be effective control treatment for powdery mildew compared to both natural and chemical treatments.