

ZUCCHINI (*Cucurbita pepo* ‘Tigress’)  
Powdery mildew; *Erysiphe cichoracearum*.

H.W. Lange, C.D. Smart, and A.J. Seaman  
Department of Plant Pathology  
and Plant-Microbe Biology  
NYS Integrated Pest Management Program  
Cornell University, NYSAES  
Geneva, NY 14456-0462

**Evaluation of fungicides allowed for organic production on powdery mildew of zucchini, 2012.**

The trial was conducted on a field managed using practices allowed for organic production since 2008 at the New York State Experiment Station in Geneva, NY. An overwintered oat cover crop was plowed under in May. ‘Tigress’ zucchini seeds were sown into 50 cell flats in an organic mix on 26 Jun. Seedlings were maintained in the greenhouse and watered regularly until transplanted on 10 Jul. The transplants were set by hand using a water wheel transplanter with a solution of 0.5 oz/gal Fertrell fish oil emulsion into raised beds with 1.25 mil black polyethylene and drip irrigation. Annual ryegrass was seeded between the rows for weed control. Five treatments and an untreated control were arranged in a randomized complete block design with four replications. Each plot consisted of six plants spaced 18 in apart with 7 ft between rows and 3 ft between treatments. The squash were irrigated to provide approximately 1 in of water per week during the trial. Sprays were applied with a CO<sub>2</sub> pressurized backpack sprayer at 40 psi delivering 40 gal/A through two TeeJet 8002VS flat fan nozzles spaced 19 in apart. The first spray was applied 9 Jul after the first powdery mildew lesion was noted in the field. Two more sprays were applied on 16 and 23 Aug and upper leaf surfaces were evaluated weekly (13-29 Aug) for disease severity as the percent leaf area covered with powdery mildew lesions. The data were entered into the area under the disease progress curve (AUDPC) to analyze the differences between treatments. The plots were harvested once per week to maintain plant vigor. Average maximum temperatures for Jul and Aug were 84 and 81 °F; average minimum temperatures were 64, and 60 °F. Rainfall amounts (in.) were 2.8 and 2.3 for Jul and Aug, respectively.

The mean disease severity at the last rating date showed that plants sprayed with MilStop had significantly fewer symptomatic leaves than any of the other products, and the OxiDate treatment was more effective at reducing powdery mildew lesions than the untreated control. The AUDPC data indicate that MilStop was the only product to statistically reduce disease severity compared to the non-treated control. No phytotoxicity was noted with any of the treatments.

Treatment and rate/A	% Leaf area infected 29 Aug	AUDPC <sup>z</sup>
MilStop WP 2.5lb.....	10.0 d <sup>y</sup>	15.0 b
OxiDate FL 128 oz.....	52.5 c	97.8 a
OxiDate FL 128 oz +Yucca Ag Aide FL 0.125% (v/v).....	62.5 bc	110.4 a
Sonata 4 qt.....	72.5 abc	115.5 a
Yucca Ag Aide FL 0.125% (v/v).....	90.0 a	139.0 a
Non-treated control .....	87.5 ab	141.5 a

<sup>z</sup> Area Under the Disease Progress Curve

<sup>y</sup> Column numbers followed by the same letter are not significantly different at *P*=0.05 as determined by Fishers LSD