

Evaluation of OMRI-approved Fungicides for the Control of Powdery Mildew of Zucchini — 2010

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On May 19, zucchini (*Cucurbita pepo*) cultivar ‘Raven F1’ was direct seeded into a field at the Southwest Purdue Agricultural Center in Vincennes, IN, which was managed organically for the sixth consecutive year. Individual row plots consisted of 30-foot rows on 6-foot centers. Zucchini were thinned to 3.0 feet apart with 10 plants per plot. Each row was mulched with 4-foot-wide x 2-mil black plastic (Visqueen 4020). The experimental design was a randomized complete block with four replications. Treatment plots were separated in the row by 10-foot unplanted buffers.

Organic Materials Research Institute (OMRI) listed fungicides were applied weekly from July 12 to August 10 with a CO₂ backpack sprayer with four flat fan nozzles (Tee-Jet 8002VS) spaced 19 inches apart applying 10 gallons per acre at 30 psi.

The plots were examined for symptoms of disease on July 29, and on August 4 and 12 using the Horsfall-Barratt ratings system. Zucchini were harvested approximately three times per week between July 15 and August 19. Rainfall totals for May, June, July, and August were 5.70, 9.46, 1.71, and 1.22 inches, respectively.

Symptoms of powdery mildew (causal fungus *Podosphaera xanthii*) were first observed on August 4. There were no significant differences in the disease severity of powdery mildew or the weight or number (data not shown) of fruit harvested.

Treatment, rate/A ¹	Powdery Mildew Disease Severity Aug. 12 (%) ²	Total Fruit Weight (lbs/A)
Champ DP, 3 lbs	11.3	54,397
Milstop + Champ DP	22.5	64,251
Milstop, 2 lbs	18.8	59,145
Oxidate, 90 fl oz ³	22.5	62,780
Untreated control	13.4	54,639
<i>P-value</i>	0.6650	0.7704

¹Fungicides were applied approximately weekly from July 12 until August 10.

²Plots were rated for severity of powdery mildew using the Horsfall-Barratt scale and converted to percent using the ELANCO tables.

³Oxidate was mixed in a dilution of 1:100 with water, the resulting rate per A appears above.