

# Evaluation of OMRI-approved Products for Disease Management of Muskmelon — 2011

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On May 19, muskmelon (*Cucumis melo*) cultivar ‘Sweet Granite’ 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. Muskmelon seedlings were thinned to 3 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 Review Institute (OMRI) listed fungicides were applied weekly from July 12 to August 10 with CO<sub>2</sub> backpack sprayer with four flat fan nozzles (Tee-Jet 8002VS) spaced 19 inches apart applying 10 gallons per acre at 30 psi.

A Horsfall-Barratt ratings system was used to evaluate the severity of powdery mildew and *Alternaria* leaf blight on muskmelon leaves on July 29, and on August 4 and 12. Muskmelon fruit were harvested July 22, 25, 27, and 29, and on August 1, 3, 5, 8, and 12. Rainfall totals for May, June, July, and August were 5.70, 9.46, 1.71 and 1.22 inches, respectively.

Both powdery mildew and *Alternaria* leaf blight (causal agents *Podosphaera xanthii* and *Alternaria solani*, respectively) spread into the plots naturally and were first observed on July 13.

No significant differences in yield were observed in total fruit weight or numbers (data not shown). However, on July 29 the weight of fruit harvested was significantly less from Milstop or Oxidate treatments than from plots treated with Champ DP or the untreated control. Fruit from the untreated control was significantly smaller than fruit from plots treated with either Champ DP or Milstop. No significant differences were observed in disease severity on any date in either powdery mildew or *Alternaria* leaf blight.

Treatment, rate/A <sup>1</sup>	Disease Severity Aug. 12 (%) <sup>2</sup>		Mean Fruit Size (lbs)	Fruit Weight (lbs/A) July 29
	Powdery Mildew	Alternaria Leaf Blight		
Champ DP, 3 lbs	2.3	43	3.8 abc <sup>3</sup>	9,750 a
Milstop + Champ DP	1.7	49	3.9 a	7,146 ab
Milstop, 2 lbs	2.9	68	3.6 bc	3,514 b
Oxidate, 90 fl oz <sup>4</sup>	11.3	32	3.9 ab	4,852 b
Untreated control	1.7	49	3.5 c	9,314 a
<i>P-value</i>	0.2974	0.5882	0.0542	0.0178

<sup>1</sup>Fungicides were applied approximately weekly from July 12 until August 10.

<sup>2</sup>Plots were rated for severity of Alternaria leaf blight and powdery mildew using the Horsfall-Barratt scale and converted to percent using the ELANCO tables.

<sup>3</sup>Means within each column with a letter in common are not significantly different (Fisher's Protected LSD), P=0.05.

<sup>4</sup>Oxidate was mixed in a dilution of 1:100 with water, the resulting rate per A appears above.