CLEMSON EXTENSION

IL 86 April 2007

PLANT PATHOLOGY

Watermelon Spray Guide for 2007

Spray recommendations for watermelon are pretty simple: start early; rotate products based on which diseases are present; and schedule sprays based on the weather.

1) Start early. The first spray should be made when vines start to run or no later than when the first blooms (the male ones) open. This is the most important spray of the season.

2) Rotate products. There are two basic types of fungicides: protectants (or contact fungicides) and systemics. For specific products, see "Southeastern U.S. 2007 Vegetable Crop Handbook," (pages 176 and 209-211) and the fungicide labels.

Protectants	Systemics
chlorothalonil	**Strobilurin group***
mancozeb	Pristine
maneb	Amistar/Quadris
copper hydroxide	Cabrio
Quintec*	Quadris Opti
	DMI group
	Procur
	Nova
	Topsin M

*Only 4 applications allowed per crop.

Because the first spray must be applied before disease starts, use a protectant fungicide first. Starting with a protectant means strobilurins can be applied later into the season, when their systemic activity will be useful during rainy periods. Watermelon growers should watch for four common diseases and pick fungicides based on which disease appears.

Gummy stem blight starts on old leaves or leaves near the crowns of plants inside the rows. Leaf spots are dark brown and start on leaf edges. Because the fungus that causes gummy stem blight has become resistant to strobilurins, use Pristine alternated with protectants. Even though Pristine contains a strobilurin, the combination of two active ingredients controls both strobilurin-sensitive and –resistant gummy stem blight fungi.


Gummy stem blight


Anthracnose


Powdery mildew

Leaf spots of **anthracnose** are smaller and more angular (pointed) than leaf spots of gummy stem blight. Another symptom of anthracnose is _ to 1-inch-long reddish brown spots on vines. Anthracnose fruit rot can occur as round, sunken spots. Cabrio is the best fungicide to spray for anthracnose; Pristine is weak against this disease. Topsin M provides additional control. Rotate with mancozeb or maneb.

Powdery mildew appears during dry spells near harvest as white powdery spots on the top or bottom of leaves. Often, leaves may yellow from powdery mildew on the bottom (see photo). Cucurbit powdery mildew has become resistant to strobilurin and DMI fungicides. The new recommended fungicide for powdery mildew is Quintec, from Dow Agrosciences. Growers may apply it four times per crop at a rate of 4-6 oz. per acre. It must be rotated after two applications and should be rotated after each application. Chlorothalonil is the recommended rotation partner.

Bacterial fruit blotch often appears first as dark, greasy blotches on nearly ripe fruit. Leaf symptoms, if they are present, are small irregular spots. Fruit blotch often can be prevented with 3 sprays of copper hydroxide. These can be mixed with mancozeb, maneb, or strobilurins and must be applied 2 weeks before female flowers open, at bloom, and 2 weeks after bloom. Applications later than this will be too late to protect early fruit.

3) Spray schedule. After the first spray, tailor the remaining spray schedule to fit general weather conditions. If it is dry, spray every 10 to 14 days.

During a wet period, spray every 7 days but not more than every 5 days. Spray mancozeb or maneb every 5 days during rainy periods.

Example of a Spray Schedule for Gummy Stem Blight and Bacterial Fruit Blotch

Spray	Product
1 (vine run)	mancozeb or maneb + copper
2	copper*
3	chlorothalonil
4	Pristine + copper*
5	chlorothalonil
6	Pristine
7	mancozeb or maneb
8	Pristine or Cabrio

*Do not use Quadris Opti when mixing with copper.

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