Identification and Management of Gummy Stem Blight on Watermelons

Regional Report: Gummy stem blight was identified on a few north central Florida farms in early April. Symptoms included lesions on lower stems and crowns with characteristic gummy, amber-brown colored ooze emerging from cracked stem tissue. Rain and high winds favor spread of the spores that cause this watermelon disease. It is important to include protectant fungicides in your spray program to prevent initial infection.

Symptoms: Leaf symptoms often begin as circular, tan to dark brown spots at leaf edges; spots enlarge rapidly until entire leaf is blighted. Spots can occur on both cotyledons and true leaves. Water-soaking may occur on hypocotyls and leaves. Stem cankers develop in the cortical tissue, and amber-brown colored gummy exudate is often produced on the stem surface. Small, black fungal fruiting bodies may be visible on cankers. Stems may be girdled and seedlings killed. When infection occurs in older plants, lesions develop slowly on stems near the center of the hill. Cankered vines typically wilt mid-season. Small, watersoaked spots can develop on infected fruit which can coalesce and enlarge to cover fruit. Fruit lesions may also exude gummy material. The spots typically contain the small, black fruiting bodies.

Pathogen: Gummy stem blight is caused by the fungus Didymella bryoniae. Dark fruiting bodies, or pycnidia, of the anamorph, Phoma cucurbitacearum, form on the surface of leaves, stems, and fruits. The pycnidia are hyaline, cylindrical with rounded ends and are non or mono septate. Dark pseudothecia may also form, especially on stems. Pseudothecia produce numerous asci which generate hyaline, monoseptate ascospores.

Disease cycle: The pathogen can overwinter on infected vines and crop debris, and may be seedborne. The optimum temperature for infection is 68°F in melon and 77-93°F in watermelon and cucumber. Moisture is critical for disease development. Peak ascospore dispersal

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For persons requiring special accommodations, please contact Aparna Gazula at (352) 955-2402 (voice) or TDD/TTY (352) 955-2406 or at the Alachua County Extension Service, 2800 NE 39th Avenue, Gainesville, FL 32609. Please contact the Extension Office at least five working days prior to the program so that proper consideration may be given to the request. Upon request, for persons with print-related disabilities, this newsletter is available in alternate format. Funding for the duplication of this publication is provided in part by the Alachua County Board of County Commissioners.
Pesticide Updates

**Fenpropathrin:** On April 24, the Florida Department of Agriculture and Consumer Services (FDACS) approved the Special Local Needs registration EPA SLN FL-090003 for Danitol® (fenpropathrin) use in citrus at low volume to manage Asian citrus psyllid. *(FDACS PREC Agenda, 5/7/09).*

**Chlorpyrifos:** The FDACS has accepted the revised labeling of EPA SLN-940003. The registration regards the use of the insecticide Lorsban® 4E (chlorpyrifos) in sweet corn and the transition by summer’s end to Lorsban® Advanced. The Agency also accepted EPA SLN-090002 for the use of Lorsban® Advanced in sweet corn. *(FDACS letters, 4/24/09).*

**Dimethyl Disulfide:** The FDACS has approved an experimental use permit for Paladin® soil fumigant (dimethyl disulfide) use on muskmelon, cucumber, cucurbits, pepper, squash, strawberry, and tomato for evaluation of control of soil borne pathogens, weeds, and nematodes. *(FDACS PREC Agenda, 5/7/09).*

**Metconazole:** The EPA has approved time-limited tolerances for the fungicide metconazole (Caramba®) and its metabolites on sugarcane and sugarcane molasses. The tolerances expire at the end of 2011. The Agency has also approved permanent tolerances for sweet corn and cotton. *(Federal Register, 5/7/09).*

Question of The Month

**Q:** Are Folicur and Tebuzol labeled for use on watermelons, and if so what rates can I use them at?

**A:** Folicur® and Tebuzol® (Tebuconazole) are now labeled for use in Florida for several crops.

**Folicur®:** New crops include cucurbits, sweet corn, and snap beans.

**Tebuzol®:** The UPI products Tebuzol 3.6F and Tebuzol 45DF have updated lists for crops they can be applied to in Florida.

Tebuzol 3.6F can now also be applied on Asparagus, Beans (fresh & dry, except succulent shelled), Corn (sweet corn, field corn, field corn grown for seed, & popcorn), Cotton, Soybeans, Sunflower, Hops, Cucurbit Crop Group, Dry Bulb Onion, Garlic, Green Onion, Leafy Brassica Greens, Garden Beet Roots & Tops, Turnip (East of the Rockies), Lychee, Okra, Pecan.


If you need the label for either product please email or call me at agazula@ufl.edu or 352-955-2402.

Upcoming Programs

**Private Applicator Agricultural Pest Control License Training**

**Cogongrass Management Workshop**

**Florida Small Farms and Alternative Enterprises Conference**

**Osceola Heritage Park, Kissimmee FL.**

For Conference Information Contact: Mandy Stage at 352-392-5930 or email to mstage@ufl.edu.

For Additional Educational Program Content Information Contact: Danielle Treadwell at 352-392-1925 or email to ddtreadwell@ufl.edu.

“Earn One Core CEU Online”

Read the article “Factors Affecting Fumigant Performance” on www.floridagrower.net and then take the test. For further information contact Aparna Gazula your Commercial Horticulture Extension Agent at 352-955-2402, email agazula@ufl.edu.
Identification and Management of Gummy Stem Blight on Watermelons  

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occurs after rain and during dew periods at night. Free moisture on leaves for ≤1 hour is necessary for infection, and extended wetness is essential for lesion expansion. Cotyledons and young leaves of watermelon and melon are very susceptible to this disease. Some cucumber and squash varieties have resistance, and may only become susceptible as they mature.

Management: Seed should be treated prior to planting. A minimum 2-year crop rotation cycle is also recommended to limit potential infection. There are currently no resistant cultivars for watermelon, melon, or cucumber. Minimization of leaf wetness by using drip irrigation and allowing proper plant spacing can help limit disease. Fungicides can be very effective in managing gummy stem blight; however, timing of applications is important. Fungicides are particularly effective when applied in advance of infection. A table of highly effective fungicides for controlling cucurbit gummy stem blight follows.

<table>
<thead>
<tr>
<th>Material</th>
<th>Rate</th>
<th>Formulation</th>
<th>A.I.</th>
<th>Minimum Days</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azoxystrobin (Amistar, Quadris, Heritage) 2.08 F (11)</td>
<td>11 to 15.4 fl oz/A</td>
<td>0.18 to 0.25 lb/A</td>
<td>1</td>
<td>4 hr</td>
<td>Make no more than 1 application before alternating with a fungicide with a different mode of action. Apply no more than 2.88 qt/crop/A/season.</td>
</tr>
<tr>
<td>Chlorothalonil (Bravo Ultrex) 6F (M5)</td>
<td>1.8-2.7 lb/A</td>
<td>1.5-2.2 lb a.i./A</td>
<td>0</td>
<td>12 hr</td>
<td>Use in sufficient water to obtain adequate coverage. Re-apply every 7 days. Spraying mature watermelon fruit may result in sunburn of upper surface.</td>
</tr>
<tr>
<td>Kresoxim methyl (Sovran) (11)</td>
<td>4.8 oz</td>
<td>-</td>
<td>0</td>
<td>12 hr</td>
<td>For Gummy Stem Blight. Follow resistance management guidelines for Group 11 (QoI) fungicides.</td>
</tr>
<tr>
<td>Mancozeb (M3)</td>
<td>2 to 3 lb/A</td>
<td>1.6 to 2.4 lb/A</td>
<td>5</td>
<td>1 day</td>
<td>Apply no more than 24 lb/A/season.</td>
</tr>
<tr>
<td>Pyraclostrobin (Cabrio) 20WG (11)</td>
<td>12 to 16 oz/A</td>
<td>2.4 to 3.2 oz/A</td>
<td>0</td>
<td>0.5 day</td>
<td>Do not use for Gummy Stem Blight where resistance to Group 11 (QoI) fungicides exists. Do not make &gt;1 application before alternating to a fungicide with a different mode of action.</td>
</tr>
<tr>
<td>Pyraclostrobin + boscalid (Pristine) 38WG (11+7)</td>
<td>12 to 18.5 oz/A</td>
<td>4.8 to 7 oz/A</td>
<td>0</td>
<td>12 hr</td>
<td>Not for Target Spot. Make no more than 4 applications per season.</td>
</tr>
</tbody>
</table>
Latest University of Florida/IFAS Extension Publications

“Weed Control in Cole or Brassica Leafy Vegetables (Broccoli, Cabbage, Cauliflower, Collards, Mustard, Turnips, Kale)”. This fact sheet describes effective weed management practices for cultivation of cole or Brassica leafy vegetables in Florida, and a table of chemical weed controls. [http://edis.ifas.ufl.edu/WG028](http://edis.ifas.ufl.edu/WG028)

“Weed Control in Cucurbit Crops (Muskmelon, Cucumber, Squash, and Watermelon)”. This fact sheet describes effective weed management practices for cultivation of cucurbit crops in Florida, and a table of chemical weed controls. [http://edis.ifas.ufl.edu/WG029](http://edis.ifas.ufl.edu/WG029)

“Weed Control in Eggplant”. This fact sheet describes effective weed management practices for cultivation of eggplant in Florida, and a table of chemical weed controls. [http://edis.ifas.ufl.edu/WG030](http://edis.ifas.ufl.edu/WG030)

“Weed Control in Potato”. This fact sheet describes effective weed management practices for cultivation of potatoes in Florida, and a table of chemical weed controls. [http://edis.ifas.ufl.edu/WG035](http://edis.ifas.ufl.edu/WG035)

“Weed Control in Sweet Corn”. This fact sheet describes effective weed management practices for cultivation of sweet corn in Florida, and a table of chemical weed controls. [http://edis.ifas.ufl.edu/WG038](http://edis.ifas.ufl.edu/WG038)

“Protecting Water Resources from Agricultural Pesticides”. This fact sheet describes practices that help protect groundwater and surface water from pesticide contamination. [http://edis.ifas.ufl.edu/PI001](http://edis.ifas.ufl.edu/PI001)

“Review of Nutrient Management Systems for Florida Vegetable Producers”. This paper identifies differences between actual fertilization practices and UF/IFAS fertilizer recommendations, especially for vegetables grown with subsurface (Central and South Florida) and overhead (Miami-Dade County) irrigation. The recommendations of the VFTF aim at bridging the gaps between science-based results and the diversity in production systems found in the Florida vegetable industry. [http://edis.ifas.ufl.edu/HS1156](http://edis.ifas.ufl.edu/HS1156)

If you need any of these publications email agazula@ufl.edu or request a copy from your Alachua County Extension Service Office.