Sclerotinia Problems

David Langston
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Cool, wet weather during this time of year can promote problems with diseases caused by *Sclerotinia sclerotiorum*. This is one of the most damaging fungal diseases of brassicas and carrots during the winter months and is strictly a cool-weather disease. This disease is caused by a rapid breakdown of plant tissue due to an acid that the fungus produces as it attacks plants. Cottony, white mycelium can also be seen near the infection front of the lesion. Once tissue has been destroyed, large, black, irregularly shaped sclerotia are formed and serve as survival structures that can infect subsequent crops for several years. Damage on carrot appears usually at the soil line and causes the foliage to rapidly collapse (Fig 1). The fungus causes large areas of tissue collapse on brassicas (Fig 2) and the sclerotia can be readily seen on cabbage heads (Fig 3), hence the name "raisin head".

Control of this disease is usually best using rotation and deep turning. However, some fungicides are labeled for preventive suppression of this fungus. Rovral is labeled on beans for Sclerotinia but can also be used on carrots, although the carrot label only lists control of Alternaria leaf spot. Topsin M may also be used on beans.
Figure 3. Sclerotia of Sclerotinia causing raisin head.

Sandea Label

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Sandea Labeled for Watermelon, Squash, and Pumpkin Row Middles ONLY.
For the 2003 production season, Sandea use in the aforementioned crops will be limited to row middle applications only. Apply 0.5 to 1.0 oz of Sandea per broadcast acre between rows of direct seeded or transplanted plants for the control of nutsedge, pigweeds and other sensitive weed species.

DO NOT allow Sandea to contact the crop as injury will likely occur. If plastic is used adjust equipment to not spray the plastic or contact the crop. Multiple applications can be made but one should not exceed a total use of 2 oz/A per 12-month period. Carryover of Sandea is a threat for many vegetable crops; therefore, read the Sandea label carefully prior to using the product.

DO NOT spray Sandea overttop of plastic and then transplant one of these crops into that plastic.

Greenhouse Disease Issues

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Once gain, we are seeing a lot of diseases in greenhouse-grown transplants this spring. The main problems we see are caused by *Pythium* spp., *Rhizoctonia solani*, *Pseudomonas syringae* pv. *syringae*, or *Acidivorax avenae* subsp. *citrulli* (fruit blotch). What generally happens is transplant growers will try to hold back plants because they will be ready to transplant before growers can use them (usually because of wet field conditions). When we have wet field conditions, greenhouse conditions also favor disease because of high relative humidity and overcast skies that don't allow proper drying of foliage and plant media. Another issue is the lack of effective, legal, pesticides for use in the greenhouse. Generally, if a pesticide is labeled in the field for a certain crop it can be used in the greenhouse unless the label specifically prohibits the use. What is recommended is for growers to use fans to promote air circulation and reduce humidity. Also, use fungicides that are labeled for greenhouse use. Thirdly, if bacteria are present, send a sample to the Tifton plant disease clinic to determine if the disease will result in field losses such as fruit blotch.
Georgia producers planning to ship sweet corn or green beans to California or Texas, or pepper to Texas, need to be signed up for the European Corn Borer Program by March 15 (for the spring crop). If they are planning to ship to California, the program requires trapping for European Corn Borer adults in each field, in addition to regular insecticide applications. The traps and pheromones are furnished by the grower, and all traps are monitored weekly by the Georgia Department of Agriculture. Capture of two adults in a field in a single week eliminates that field from the program. The Texas program does not require trapping, but does require regular insecticide treatments. Availability of insecticide application records is required for both programs. The final hurdle in both programs is inspection of shipments. Detection of a single European Corn Borer larvae in a shipment eliminates that shipment and future shipments from the individual field for the rest of the season.

The cost of the program varies with the targeted shipment State. The California program requires trapping. The growers must supply the traps and pheromones and pay an inspection fee of $3 per acre (this basically covers the cost of checking the traps). The Texas program requires a State Phytosanitary Certificate with each shipment, which costs $35 per certificate.

The deadline for application for these programs for the spring crop is March 15. For the fall crop, the deadline is August 1. Growers interested in participating in this program should contact Barry Smith with the Georgia Department of Agriculture at 229-383-3464.

On a final note, I encourage close cooperation and compliance with these programs and similar programs. While compliance does have some cost to the grower, any detected non-compliance by the cooperating State could result in cancellation of the program and hurt the entire industry.
Sclerotium rolfsii and Sclerotinia sp. both produce sclerotia that are useful diagnostic structures. Hyphae of Rhizoctonia solani and Pythium/Phytophthora species can be used to make a diagnosis. Rhizoctonia hyphae contain cross walls, branch at 90 degree angles with constrictions at the base, and have a light brown appearance. Pythium and Phytophthora hyphae lack cross walls. Many times, the pathogen has to be isolated or grown out of the plant tissue. Another CAES publication that might be useful is “A Simplified Technique for Recovering Pythium and Phytophthora from Infected Plant Tissue” (http://www.ces.uga.edu/pubcd/MP-104.htm)

Looking Back

The following is a summary of the commercial vegetable samples diagnosed since the September, 2002 newsletter. Note: The number indicates the number of samples diagnosed.

Bean: no disease
Broccoli: Sclerotinia rot unknown
Cabbage: Alternaria leaf spot Rhizoctonia solani Xanthomonas campestris (6) Pseudomonas syringae (4) disease symptoms
Collard: Cercospora leaf spot Xanthomonas sp. (3) Cabbage leaf curl Probable sting nematode chemical injury unknown
Cucumber: Pythium root rot no disease unknown poor pollination physical injury
Onion: Fusarium foot rot

Botrytis allii Pantoea ananatis Xanthomonas sp. (2) disease symptoms (2) chemical injury
Pepper: Anthracnose unknown (2)
Pumpkin: disease symptoms
Pea: Powdery mildew
Squash: Downy mildew Potyvirus
Tomato: Target spot (Corynespora cassiciola) Tomato Spotted Wilt (2) Tobacco Mosaic (4) Tomato Yellow Leaf Curl
Turnip: Cercospora leaf spot (4) Rhizoctonia solani Xanthomonas campestris (2) Pseudomonas sp. no disease
Watermelon: Target cluster (unexplained disorder) no disease (2)

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This newsletter is also available on the World Wide Web at www.cpes.peachnet.edu/veg.

County Extension Agent ________________________