

## IN THIS ISSUE

- Blue Mold found in North Central Florida

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## Blue Mold found in North Central Florida

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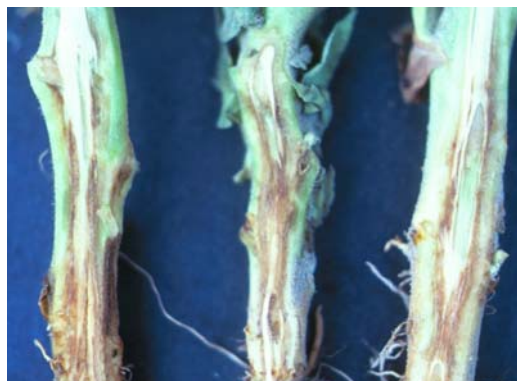


Blue mold (*Peronospora tabacina* sporulation on underside of leaf)



Systemic blue mold, vascular necrosis

Blue mold is potentially one of the most destructive diseases of tobacco in the United States. It is caused by a fungus (*Peronospora tabacina*) that produces airborne spores. Disease can spread very quickly, leading to epidemics, if not properly managed. This occurred in 1979 and 1980 in all tobacco-producing states, leading to tremendous losses. Blue mold is favored by cool temperatures (less than 90F) and overcast rainy weather. The disease was not observed in South Carolina during 2007 but has been observed in previous years. Blue mold has been recently reported in North Central Florida (3/17/08) and may provide inoculum for disease outbreaks in adjacent states. Blue mold occurs in Florida and Georgia almost every year and has the potential to cause severe losses in South Carolina if the disease arrives early in the crop year and the weather is conducive for the disease to develop. **Plants within a greenhouse are extremely susceptible.** An epidemic within a greenhouse may render the plants within the greenhouse completely unusable. In addition to the foliar blighting of the leaves the plants can become systemically infected (see below). When systemically infected plants are transplanted to the field they are stunted and do not grow normally. Blue mold within tobacco greenhouses has been observed in previous years! If conditions are suitable for transport of spores, fungicides should be applied to prevent an epidemic from occurring with a greenhouse.



Systemic blue mold, vascular necrosis



Plant Stunting caused by early systemic infection

## Risk for Blue Mold within South Carolina can change rapidly

The potential risk for the transport of viable blue mold spores can be predicted based on weather conditions and prevailing wind patterns. The blue mold early warning system (**North Carolina State University**) provides updates through out the week on the potential for blue mold disease within the USA. Please check for the likelihood of blue mold occurring within South Carolina and base control applications on the likelihood of disease. At present the risk assessment is low for South Carolina but weather conditions change rapidly.

### Blue Mold forecasting system (North Carolina State University)

<http://www.ces.ncsu.edu/depts/pp/bluemold/forecasts/b080318.php?month=03&year=08>

## Blue Mold control within a greenhouse

There are few fungicides labeled for greenhouse tobacco transplant production. A label for Dithane DF has been obtained for greenhouse and plant bed use but the potential for phytotoxicity exists (see chart below). It is imperative that producers take extra precautions to monitor their greenhouses for disease and apply preventative materials when the risk of disease is high (check the blue mold warning system). Remember, ventilation, sanitation, monitoring, and use of good production practices are important disease management factors.

### TOBACCO GREENHOUSE DISEASE CONTROL

DISEASE	CHEMICAL	RATE/50 GAL WATER	REMARKS*
Blue Mold	Mancozeb (Dithane DF)	0.25 lb/50 gal water	For greenhouse and floatbed systems, use 1/2 lb per 100 gal water (one level teaspoon per gallon). Spray every 5 to 7 days to the point of run-off. Apply 3 gallons of the fungicide spray mixture on small plants (dime size), gradually increasing the spray volume to 6 to 12 gallons per 1000 sq. ft. as plants enlarge until transplanting to the field. For stem rot, use enough volume to wet the base of plant stems. REI = 24 hr.

Ridomil has generally given good control of blue mold when used as a preplant soil incorporation treatment. However, **if a Ridomil G insensitive strain occurs in South Carolina other control options should be considered.** Acrobat has received a label for blue mold control but should be used in combination with another fungicide such as Dithane DF. Actigard 50 WG received a label for blue mold control but should only be applied to tobacco 12 inches in height or greater.

### Ridomil Gold.

Rates of 0.5-1 pt/A Ridomil Gold per acre should be used at or before transplanting. If necessary, an additional 0.5 pt can be used at layby, if no more than 1 pt/A was used at planting. Growers should be reminded that the Ridomil label does not allow foliar applications. Soil-applied Ridomil gives better control for longer periods of time and reduces the threat of resistant spores building up. The amount of Ridomil Gold used will depend on control necessary for black shank.

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## FIELD BLUE MOLD CONTROL

SOIL TREATMENTS	RATE	REMARKS
Ridomil Gold	0.5-1 pt/A	Broadcast and incorporate 2-4 inches at or before transplanting. An additional 0.5 pt/A may be used at layby if no more than 1 pt/A was applied at planting.  REI = 48 hr.
FOLIAR TREATMENTS*	RATE	REMARKS
Mancozeb (Dithane DF)	1.5 - 2.0 lb/ 100 gal	Use only in the field if there is a threat of Ridomil-insensitive blue mold. Mix 1.5 -2.0 lb per 100 gallons of water, spray foliage weekly for complete coverage up to a maximum of 100 gallons per acre. <b>Do not spray after appearance of first button or within 21 days of harvest, whichever is earlier.</b> REI = 24 hr
Acrobat 50 WP	2-7 oz /A	Use only in the field if there is a threat of Ridomil-insensitive blue mold. Mix 2-7 oz per 10-100 gallons of water depending on crop size. Consult label for spray concentration. Spray foliage every 5-7 days for complete coverage. Do not exceed 32 oz/A per season. Begin application when the Blue Mold advisory states that conditions favor development of blue mold, and before the onset of disease. Consult the label for specific application information. <b>LABEL MUST BE IN THE POSSESSION OF THE USER AT THE TIME OF FUNGICIDE APPLICATION. Do not spray after appearance of first button or within 21 days of harvest, whichever is earlier.</b> REI = 24 hr. Do not use Acrobat alone. Use in combination with other fungicides labeled for blue mold control except mefenoxam or metalaxyl.
Actigard 50 WG	0.5 oz/A	Begin application after plants reach a height of 12 inches. Apply on a preventative schedule when blue mold threatens. Another registered blue mold product should be used prior to 12 inches for early season control and after the final application if conditions are conducive for disease. Make up to 3 applications on a 10-day schedule. Apply in a minimum of 20 gals./A. Application of Actigard may result in leaf yellowing. This cosmetic yellowing normally disappears after final application.  REI = 12 hr.
Quadris Flowable	6.0-12.0 oz/A	Quadris application should begin prior to disease development or at first indication that blue mold is in the area. Do Not apply Quadris as a curative application. If blue mold is present in the field, initiate application with Acrobat MZ prior to Quadris application. Apply on a 7-14 day interval with shorter intervals under conditions conducive to disease development. For ground application apply Quadris in sufficient water volume for adequate coverage and canopy penetration.  Do not tank mix with Thiodan. Check label for potential crop injury. Do not apply Quadris within a greenhouse.  REI = 4 hours

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