

# LOUISIANA PLANT PATHOLOGY

DISEASE IDENTIFICATION AND MANAGEMENT SERIES

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## Botrytis Fruit Rot (Gray Mold) of Strawberries

*Botrytis cinerea* Pers.:Fr.

Botrytis fruit rot or gray mold is caused by the fungus *Botrytis cinerea* and is a common and destructive disease of strawberries in Louisiana – particularly during periods of cool to moderate temperatures, high humidity and prolonged periods of free water on the plants.

The pathogen can infect all aboveground parts of the plant, but it is the flower blight and fruit rot phases of the disease that are the most damaging. Infected fruit may rot in the field prior to harvest or in transit or storage after harvest.

The pathogen initially becomes established on leaf or flower tissues that have been damaged by frost or other causes. Inoculum produced on these tissues then spreads to other susceptible flowers and fruit.

Initial symptom development on fruit is the appearance of pale to light brown, somewhat water-soaked areas that typically develop either under the calyx, where the fruit is in contact with the ground or where it is in contact with another infected fruit. The rot that develops is rather firm to the touch, and the affected tissues are soon covered with a white to gray fungal growth that gives rise to masses of gray conidia that are then dispersed by air movement.

*Botrytis cinerea* is an opportunistic pathogen with a wide host range and readily colonizes dead or dying tissues where it sporulates profusely. Although it can survive in infested debris from the previous crop, it is more likely to be brought into a field from an outside source, usually by means of airborne conidia. Daytime temperatures in the 60s and 70s when plants are wet for a prolonged period of time favor disease development.

None of the commercially available strawberry varieties have any degree of resistance to gray mold. Management of the disease relies on the use of timely applications of fungicides in conjunction with a variety of cultural management practices.

The use of drip irrigation and plastic mulch helps to reduce free water on the plants and prevents the fruit from contacting the moist soil. The removal of infected



Figure 1. Light brown discoloration associated with the early stages of Botrytis fruit rot



Figure 2. Spread of Botrytis fruit rot from an infected strawberry to a healthy strawberry

fruit from the field on a regular basis also will help to reduce inoculum. Fungicides should be applied as soon as plants begin flowering and applications should be repeated every seven to 10 days as long as conditions are suitable for disease development.

Because of the nature of *Botrytis*, it has the potential to develop resistance to many of the modern fungicides

if they are used repeatedly. Because of this potential it is imperative that growers alternate fungicides with different biochemical modes of action to prevent the development of resistance. For home gardeners, fungicides containing the active ingredient captan are the only fungicides readily available and should give adequate protection without the need for rotating fungicides.



Figure 3. *Botrytis* fruit rot of strawberries



Figure 4. Extensive sporulation of *Botrytis cinerea* on a rotting strawberry

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**Author**

Donald M. Ferrin, PhD  
Department of Plant Pathology  
and Crop Physiology

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Donald M. Ferrin, PhD

Louisiana State University Agricultural Center, William B. Richardson, Chancellor  
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