

IPM Fact Sheet Series**UMass Extension Fruit Team**  
Fact Sheet #SD-001**Strawberry – Anthracnose Crown Rot (*Colletotrichum fragariae*), & Fruit Rot (*Colletotrichum acutatum* & *C. gloeosporioides*)**

**ID/Disease Cycle:** This fungus is an increasingly important pathogen of strawberries in New England. *Colletotrichum* species can cause fruit rot, crown rot, and lesions on leaves, runners, and petioles. Symptoms of anthracnose fruit rot include circular, sunken, water-soaked tan to brown lesions on both green and ripe fruit. Flowers may also be blighted. In wet or humid weather, creamy pink to salmon colored spore masses may be observed in lesions on aboveground plant tissues. Infection of leaves and/or petioles may progress to crown rot. Symptoms of crown rot include wilting, stunting, and plant collapse. Root rot may also occur. *C. fragariae* is the most common cause of crown rot, whereas *C. acutatum* most often causes fruit rot; therefore, crown and fruit rot do not necessarily appear together.

Strawberry anthracnose is most commonly introduced into a field on infected transplants, but it may also be transported from field to field on contaminated equipment. It can persist from year to year in infected plant tissue. The incidence of anthracnose fruit rot in infested fields may be directly related to unusually warm weather in spring. Spread of the fungus from infected tissues to uninfected tissues occurs primarily by splash dispersal and is aided by wind-driven rain; however, it can also be spread by the movement of people or equipment through the field, especially in wet weather. The optimum temperature for crown infection by *C. fragariae* is ~88°F, whereas fruit infection by *C. acutatum* is greatest at ~68°F. At temperatures of 40-50°F, *C. fragariae* can survive in crowns for long periods without killing them. Anthracnose is not typically associated with plant stress, although stressed plants are more likely to show symptoms. While the host range of *C. fragariae* is limited primarily to strawberries, *C. acutatum* and *C. gloeosporioides* have wide host ranges and therefore may persist in weeds and other plants.



**Figure 1) Left** - Anthracnose crown rot; middle - Anthracnose fruit rot [**Photos:** F. Louws, NCSU]; right – Anthracnose petiole lesions [**Photos:** M. Bolda, UCANR].

**Damage:** Fruit infections reduce marketable yield. Stolon and crown infections weaken plants and can ultimately lead to plant death.

**Management:**

**Monitoring:** Consult scouting records from previous years to determine if carry-over inoculum is likely to be present. Scout fields weekly in the current year starting in the pre-bloom period for symptoms. Monitor weather conditions especially during bloom to determine if infection periods are imminent or have occurred.

**Control strategies:***Cultural/Biological:*

- Plant only disease free transplants obtained from a reputable nursery and use resistant varieties when possible.
- Maintain a good mulch cover on the soil to lessen splashing from rain or overhead irrigation.
- Use drip irrigation to avoid the splashing water that results from overhead irrigation.
- The use of low tunnels can also lessen the effect of splashing in the plant canopy.
- Avoid excess nitrogen fertilization as this favors disease development.
- Promptly remove any infected plant tissue, especially fruit, as soon as it is seen.
- Rotate strawberry fields to alternative cash or cover crops for at least 3 years before replanting to strawberries to disrupt pest buildup.
- Clean clothing, tools, and equipment after working in infected fields as spores can persist on these items.

*Chemical:*

- See [New England Small Fruit Management Guide](#) for currently recommended spray materials for Anthracnose.
- For prevention of fruit rot, apply recommended fungicides starting at prebloom if field history or scouting indicates risk of infection.
- Repeat fungicide applications at recommended intervals if weather conditions are conducive to infection.
- Rotate fungicide materials from different FRAC groups to avoid promoting the development of resistant strains of this disease.
- Organic options can be found in the New England Small Fruit Management Guide and also in the [Cornell Organic Production and IPM Guide for Strawberries](#).

**Date:** March 2020

**Author(s):** Angela Madeiras and Sonia Schloemann, UMass Extension

**Visit our website:** <http://ag.umass.edu/fruit>

**Note:** This information is for educational purposes only and is reviewed regularly for accuracy. References to commercial products or trade names are for the reader's information. No endorsement is implied, nor is discrimination intended against similar products. For pesticide products please consult product labels for rates, application instructions and safety precautions. The label is the law. Users of these products assume all associated risks.

*This work was supported in part by funding provided by USDA NIFA Extension Implementation Program, Award No. 2017-70006-27137*