Updates on Managing Peach Diseases: Emphasizing Brown Rot

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Peach Yield in 2020

2020 Was a Big Peach Year in Illinois

Major Peach Diseases in Illinois in 2020

➢ Leucostoma Canker - 2019
➢ Bacterial spot - 2020
➢ Brown rot - 2021

Leucostoma Canker: Management

➢ No resistant cultivars are available
➢ No registered fungicide; captan + Topsin-M may be effective
➢ Select well-drained soil; plant cold tolerant
➢ Avoid excessive nitrogen; fertilize in spring
➢ Prune in spring and burn dead woods
➢ Remove small cankers
➢ Control insect pests and rodents

Peach Bacterial Spot
Peach bacterial spot in Illinois

Bacterial spot on peach fruits

Management of Bacterial Spot

➢ Plant resistant/tolerant cultivars
➢ Cultural practices
   ❖ Avoid nutrient stress: Lower disease severity
   ❖ Avoid excessive growth: Lower moisture
   ❖ Drying plant: Avoid low and shaded area
   ❖ Sandy soil: Prevent sand blowing
➢ Chemical use: copper, oxytetracycline

Applications of Copper Sprays

2.0-2.5 lb Cu/A
1.5-2.0 lb Cu/A
1.0 lb Cu/A
Early bud-break Pink-bud Blossoms opening

Applications of Copper and Mycoshield

0.50 lb Cu/A 0.10-0.25 lb Cu/A (+ Mycoshield)
Petal-fall Shuck-split/Shuck-off
Copper phytotoxicity may occur

Bacterial Spot of Peaches

➢ Registered chemicals
   ❖ Copper compounds (Kocide-3000, Cuprofix Ultra, Badge SC; FRAC: M)
   ❖ FireLine (oxytetracycline-hydrochloride; FRAC: 41)
   ❖ Mycoshield (oxytetracycline-calcium; FRAC: 41)
Controlling Bacterial Spot (Summary)

- Bacterial spot occurs on twigs, leaves, and fruit.
- Infections of fruit can cause significant economic loss.
- Fruit infection is most severe in years when frequent periods of rainfall occur during the 3 to 4 weeks following petal fall (until pit-hardening).
- Sprays of fixed copper from dormant bud through shuck split can reduce fruit infection. Cover sprays containing Mycoshield and/or low rates of copper can reduce fruit loss.
- Time of applications is critical; sprays should be applied prior to rainfall but with sufficient time for the chemicals to dry.
- Chemical sprays, however, are not totally effective on highly susceptible cultivars in years when conditions for bacterial spot are very favorable.

Brown Rot of Stone Fruits

- Pathogen: fungi Monilinia spp.
- Major symptoms:
  - Blossom blight and spur blight
  - Fruit rot
- Inoculum sources: mummies, twig canker

Importance of Peach Brown Rot

- Worldwide occurrence
- Pathogen is active season-long: causes blossom blight, spur blight, and fruit rot (orchard and post-harvest)
- More than one species of pathogen
- Very important disease in Illinois

Peach Brown Rot
Managing Peach Brown Rot

➢ Cultural practices
  ❖ Remove mommies
  ❖ Prune blighted twigs
  ❖ Disk the ground in spring to prevent spore production on mummies
  ❖ Remove wild and neglected stone fruit trees

Research on Peach Brown Rot

➢ In 2020, we initiated a research project on peach brown rot
➢ Objectives of the project
  ❖ Orchard survey to assess brown rot incidence
  ❖ Identify species of pathogen(s) of brown rot
  ❖ Evaluate efficacy of fungicides with different modes of action in the laboratory
  ❖ Evaluate efficacy of potential fungicides for managing blossom blight, shoot infection, and fruit rot

2020 Orchard Survey (8 Orchards)

With Brown Rot
Without Brown Rot