Apple IPM Intensive Workshop

Apple Diseases Targeted by IPM

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Apple scab

- Cool & wet climate: considerable disease pressure
- Susceptible cultivars: favored by consumer and producer
- Requires more than 10 fungicide applications/season
- Urea & Shredding to reduce inoculum on leaves
- Delayed-dormant copper to reduce inoculum in buds
• Fungicide resistance in all key chemistries registered in except SDHIs

• No curative or reach back activity

• Constant application of protectants: captan & mancozeb
Fire Blight

• Fire blight increasingly problematic
  • High-density tall/super spindle plantings (1000 – 1200/A) = $high-value acreage

• Young productive trees: protracted bloom & vigorous susceptible shoot tissue

• Resistant rootstocks not always helpful: once fire blight hits leader > tree gone

• New popular scion varieties susceptible
Fire Blight

- Blossom blight
  - Reduces current season’s crop
  - Managed forecasted antibiotic applications

- Shoot blight
  - Reduces bearing wood for following season
  - Managed by pruning and treatment with growth regulator prohexadione-calcium (Apogee)
Fire Blight

• Rootstock blight
  • Systemic infection of rootstock from suckers or blossom/shoot blight
  • Managed by resistant rootstocks

• Trauma blight
  • Results from wounds caused by hail, wind, & animals
  • Managed by antibiotics or copper
IPM: Powdery Mildew

• Warm dry periods in the spring and summers

• Susceptible cultivars: favored by consumer and producer

• Continues unchecked towards harvest: fungicides not applied for mildew in summer
• Fungicide resistance?

• DMI fungicides: “never see mildew” > “doesn’t solve the problem”

• QoI fungicides: less effective than 1990s

• SDHI fungicides – not as effective strong

• Frequent sulfur applications
Summer Foliar Diseases

- Glomerella leaf spot, Marsonina leaf blight, Frogeye leaf spots, Alternaria leaf spot
- Managed by apple scab fungicide programs > Infection timings overlap, sometimes
- Problem in organic operations or those heavily reliant on multi-site protectant fungicides
Summer Foliar Diseases

• Single-site fungicides QoIs, SDHIs, and DMI fungicides - provide a high level of control – no fungicide resistance

• Sanitation, summer cover applications, and cultivar selection likely important

Marsonina leaf blight
Frogeye leaf spot
Glomerella Leaf Spot
• Fly Speck Sooty Blotch, Bitter rot (anthracnose), Black and white rot (Botryosphaeria)
• Latent infection from bloom to early fruit development
• Pre-harvest: fall rains or wounding of mature fruit (birds & herbicides)
• Post-harvest/ in storage: Lead to pack out rejections
Summer fruit diseases

- Problem in warmer sandy regions: Hudson Valley
- Problem in organic operations or those heavily reliant on multi-site protectant fungicides
- Managed by 1) petal fall fungicides 2) summer fungicide programs: Extended intervals 14-21 days, and 3) pre-harvest single-site fungicide application