

# UD Plant Diagnostic Clinic - Fruit Diseases

Jill Pollok - [jillp@udel.edu](mailto:jillp@udel.edu)

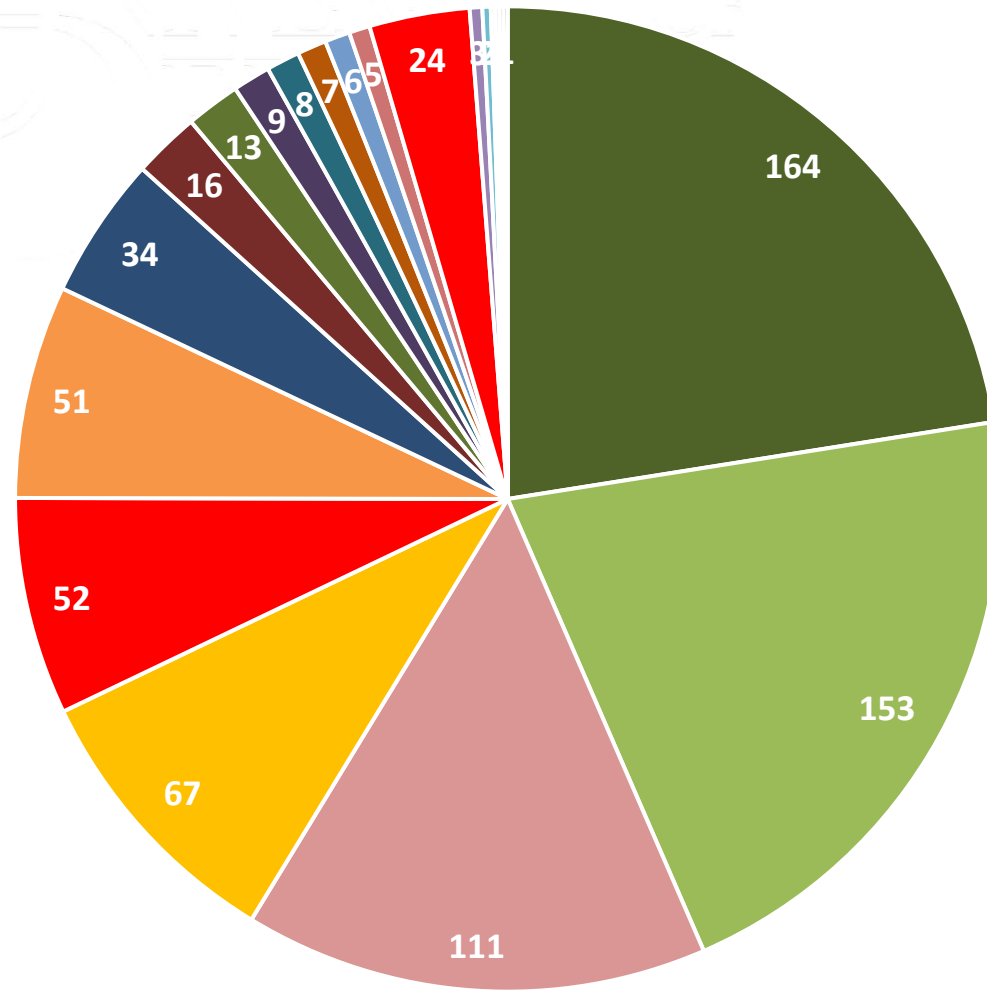
[www.udel.edu/extension/plantclinic](http://www.udel.edu/extension/plantclinic)



**2021: 697 samples**

**2022: 709 samples**

- Woody ornamental - Evergreen
- Woody ornamental -Deciduous
- Perennial
- Field crops
- Fruit
- Vegetables
- Turf
- Christmas trees
- Annual
- Left Blank
- InsectID
- Other
- Small Grains - wheat,oats,barley
- Groundcover/vines
- Small Fruit
- Mushroom/mold
- Citrus
- Aquatic/algae
- Furnishings
- Forage
- Nuts/seeds



**Fruits+Small Fruits = 11% of samples**





**Favorable Environment**



**=**



**Pathogen**

**Susceptible Host**

# When scouting...

- Disease or insect issues often come after abiotic/environmental stressors
- Get as much background information as possible
- Look for patterns!







Elizabeth Bush, Virginia Tech



# Soluble salts injury from fertilizer



# Grape

- Black rot (*Guignardia bidwellii*) fungus
- Downy mildew
- Phomopsis





# Grap

- Black rot (C. g) fungus



N Gregory

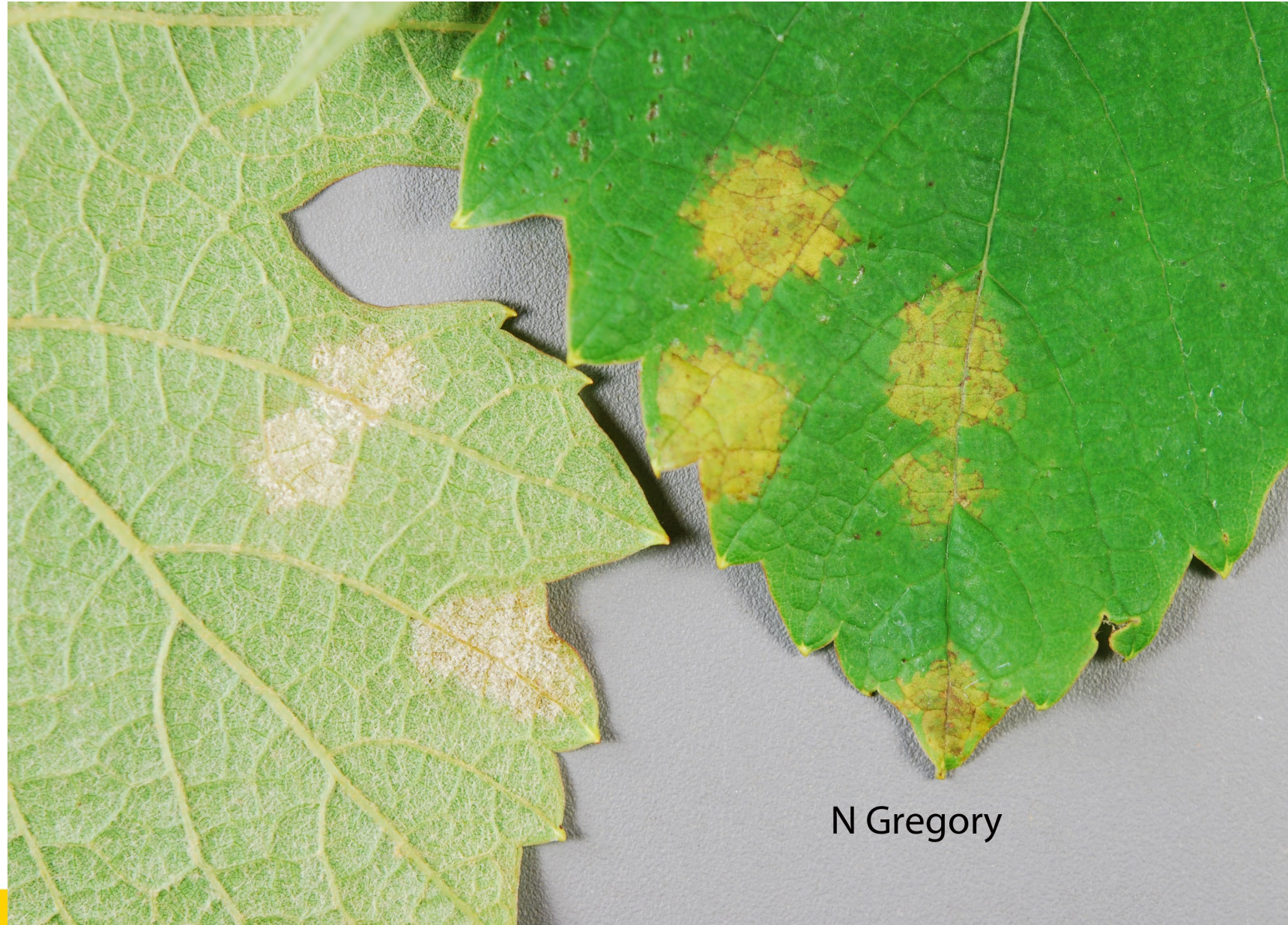


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# Grape

- **Downy mildew** –  
(*Plasmopara viticola*)



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# Grape

- Phomopsis (*Phomopsis viticola*)





# Strawberry

- Strawberry – Botrytis, Phomopsis, crown rot, Neopestalotiopsis



# Strawberry

- Gray mold - Botrytis



Edward Sikora, Auburn University, Bugwood.org 1568096

# Strawberry

- Phomopsis leaf blight and fruit rot



[Edward Sikora, Auburn University, Bugwood.org](http://bugwood.org)



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Photo credit: Jill Pollok



*Neopestalotiopsis* spp.





Photo credit: Jill Pollok



*Neopestalotiopsis* spp.



# Strawberry

- Phomopsis leaf blight and fruit rot



[Edward Sikora, Auburn University, Bugwood.org](#)

# Peach, Cherry, Plum, Nectarine, and Apricot Diseases

- Brown Rot - (*Monilinia fructicola*) – **peach, plum and cherry**
- Peach leaf curl, (*Taphrina deformans*) -**peach and nectarine**
- Bacterial spot, (*Xanthomonas arboricola pv. pruni*) - **peach and nectarine**
- Black knot – **plum and cherry**
- Leucostoma canker (also known as Cytospora or Valsa canker) – **all stone fruits**



# Peach, Cherry, Plum, Nectarine, and Apricot Diseases

- **Peach leaf curl, (*Taphrina deformans*) -peach and nectarine**
- Weather dependent: cool, wet springs
- Infection occurs as leaves are opening
- Fungicide timing is crucial for control: late fall, and early spring before bud swell



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# Peach, Cherry, Plum, Nectarine, and Apricot Diseases

- Brown Rot - (*Monilinia fructicola*) – peach, plum and cherry
- Warm, wet weather
- **Fungicide timing is crucial for control:** late fall, and early spring before bud swell

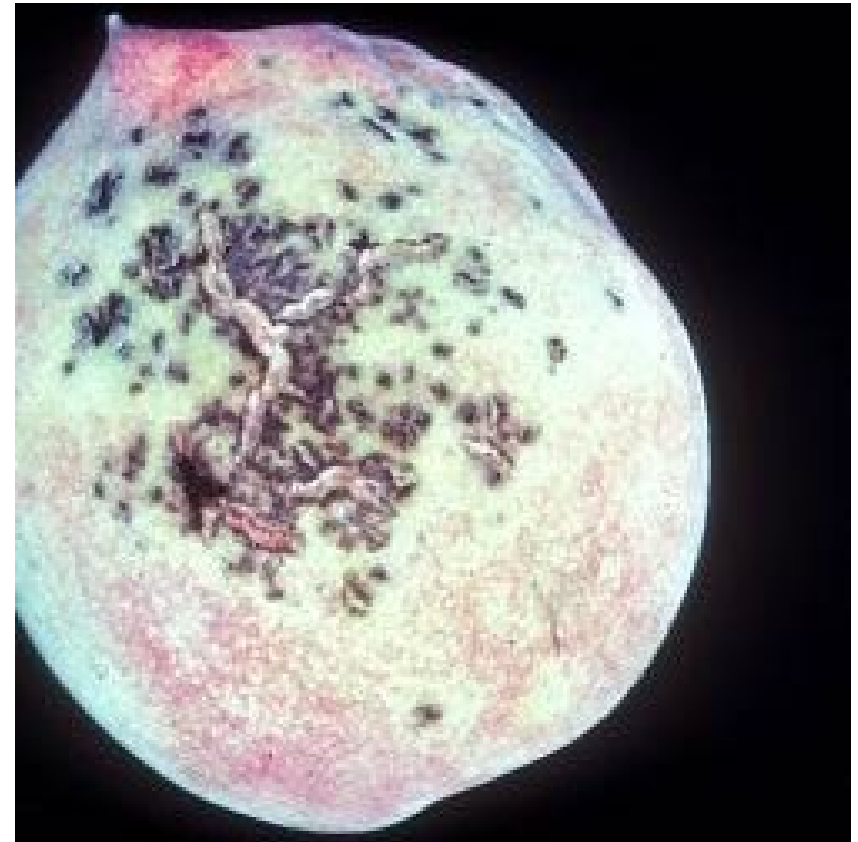


# Peach, Cherry, Plum, Nectarine, and Apricot Diseases

- Bacterial spot, (*Xanthomonas arboricola* pv. *pruni*) - **peach and nectarine**



U. Mazzucchi, Università di Bologna, Bugwood.org



University of Georgia Plant Pathology , University of Georgia, Bugwood.org



# Peach, Cherry, Plum, Nectarine, and Apricot Diseases

- Black knot – **plum** and **cherry**





# Peach, Cherry, Plum, Nectarine, and Apricot Diseases

- Leucostoma canker (also known as Cytospora or Valsa canker) – **all stone fruits and occasionally apple**



5356714



# Apple/Pear Diseases

- **Apple scab**



Photos: Bob Mulrooney, UD



# Apple/Pear Diseases

- Fire blight (*Erwinia amylovora*) – bacterial disease



# Bramble Diseases

- 3 fungal diseases cause cankers on bramble canes, making them less vigorous and can cause death
- Spur blight, anthracnose, and cane blight
- **These three diseases can be routinely managed with good sanitation and one early-season lime sulfur treatment before new growth begins**





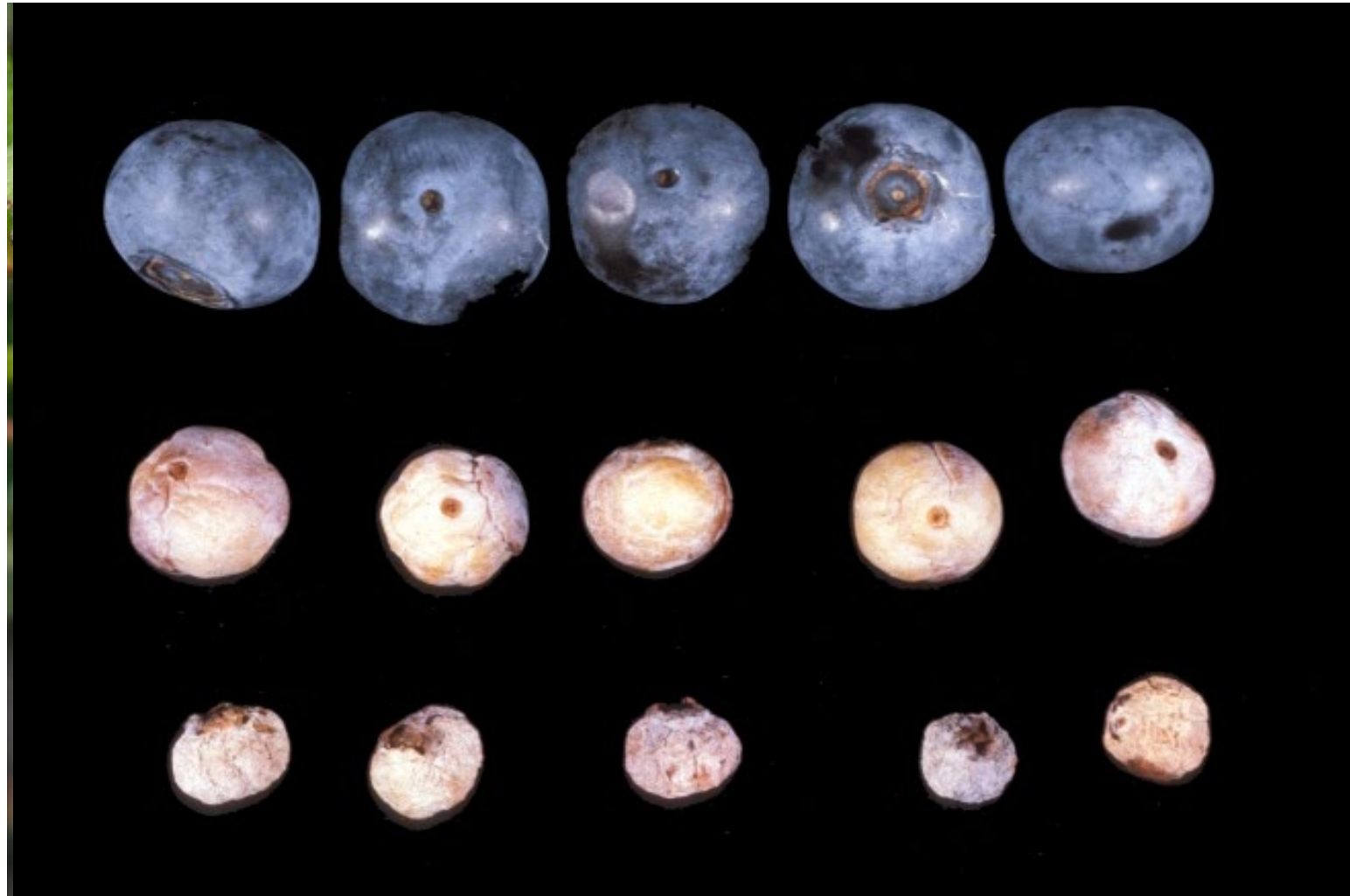
# Blueberry

- Twig blight –  
Phomopsis or  
Botryosphaeria fungi



# Blueberry

- Mummy berry
- Fungal pathogen mummifies fruit and turns them into overwintering structures
- 50% losses have been reported





# Control Strategies - IPM

- Fruit diseases can be effectively managed through the combined use of:
  - Cultural practices
  - Host Resistance
  - Sanitation
  - Fungicide/bactericide sprays





# Control Strategies – Integrated Pest Mgmt

- **Cultural methods**
  - Maintain plant vigor by proper planting, fertilizing, and pruning and by following general practices that help to minimize plant stress.
- **Host resistance**
  - Selecting and planting of varieties with genetic resistance to specific diseases. This effectively reduces or eliminates occurrence of disease.

# Control Strategies - IPM

- **Sanitation**
  - pruning and removing affected or dead portions of the plant: removing diseased foliage or fruit, which can be inoculum for next season
  - Cleaning tools and equipment after use
- **Chemical sprays**
  - Proper selection, timing, and application of these sprays are important. Thorough coverage of all parts of the bush is necessary and sprays should be applied until runoff. The fungicide label will contain information on plant hosts and diseases, dosage rates, days-to-harvest intervals, and safety precautions.
- **SCOUT!**



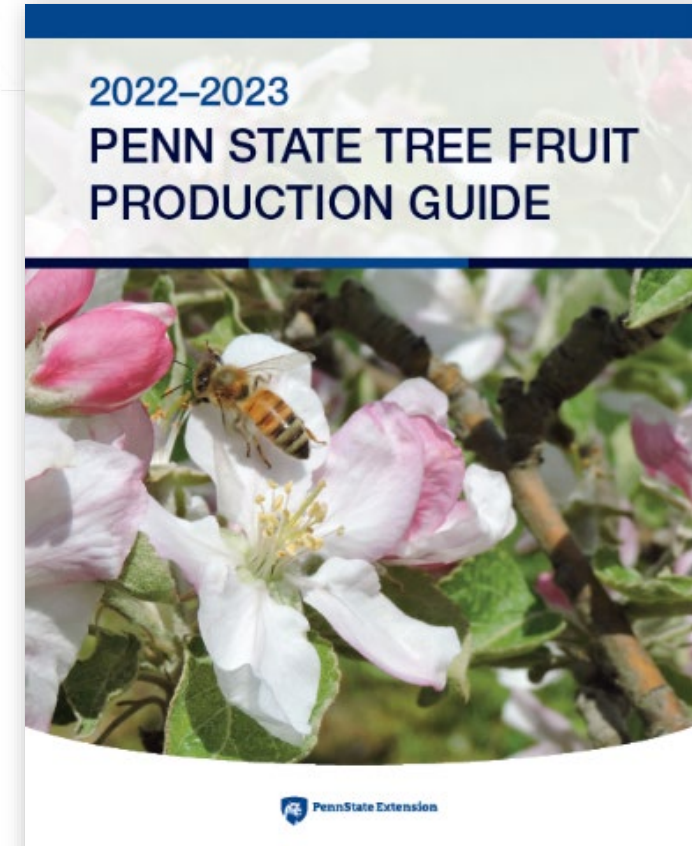
# Products for Sanitizing Surfaces and Tools

- Handout:  
<https://www.udel.edu/content/dam/udelImages/canr/factsheets/Sanitizing-Products-for-Greenhouse-Nursery-and-Landscape-for-Delaware.pdf>
- Alcohol
- Phenolics
- Peroxide
- Quaternary Ammonium
- Sodium hypochlorite
- Treatments – steam, solarization



# Up-to-Date Information

- Rutgers Commercial Blueberry Pest Control Recommendations 2022:  
<https://njaes.rutgers.edu/pubs/publication.php?pid=e265>
- UMD Spray Program for Multi-Small Fruit Plantings 2023:  
<https://extension.umd.edu/resource/spray-program-multi-small-fruit-plantings> (Labeled as noted in 2023 for All Small Fruit – Strawberries, Brambles: Blackberries, Raspberries, Blueberries, and Grapes.)
- Plant & Pest Advisory provides seasonal updates focusing on insects, diseases, and weeds of importance to NJ Commercial Growers:  
<https://plant-pest-advisory.rutgers.edu/>
- \$15 Tree Fruit Production Guide by PSU:  
<https://extension.psu.edu/tree-fruit-production-guide>





# Submitting samples

## 1. Drop off at county offices

**Sussex: before 9 am Tuesday**

**Kent: Before 9 am Tuesday**

## 2. Mail

Plant Diagnostic Clinic

531 S College Ave

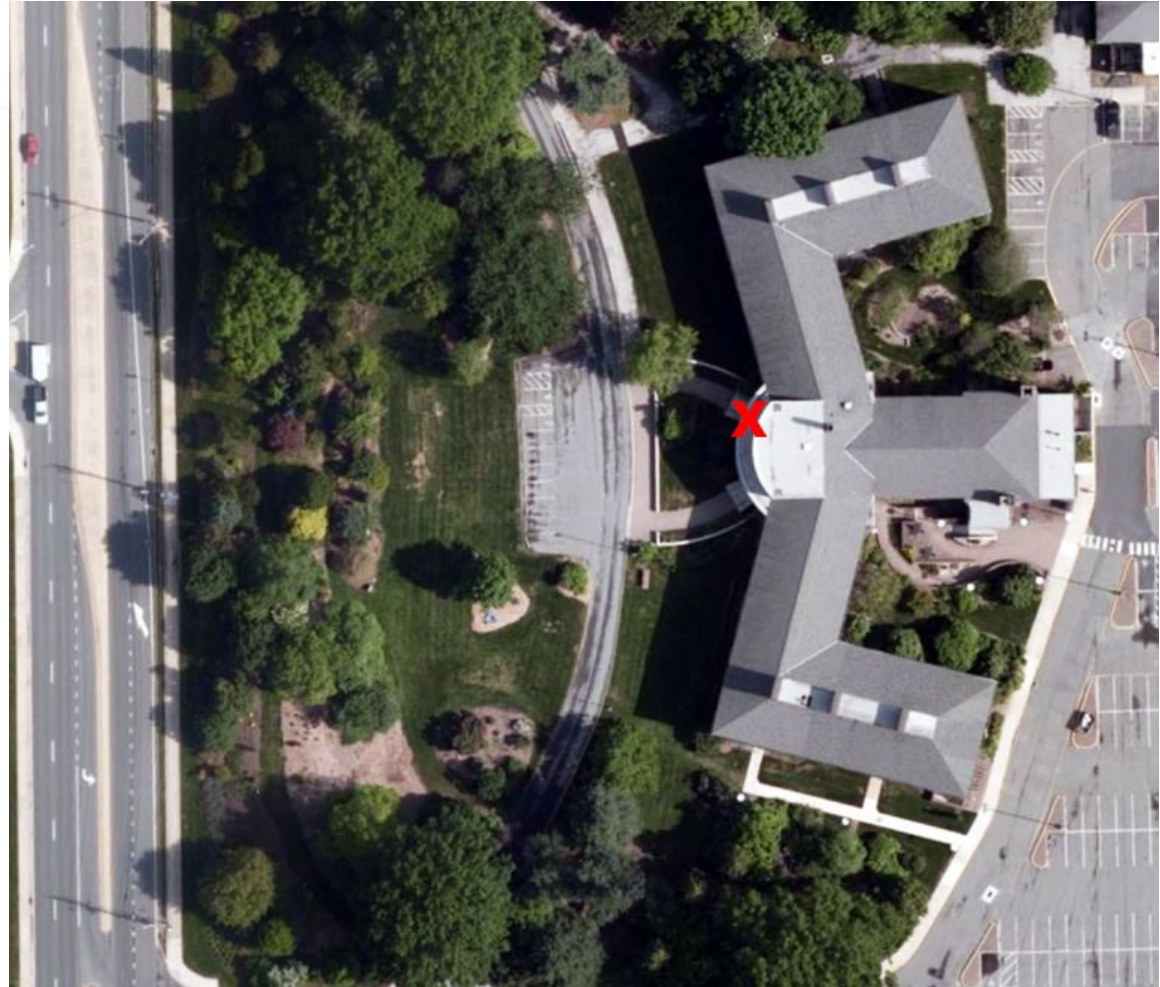
151 Townsend Hall

Newark, DE 19716

## 3. Drop off at Clinic

531 S College Ave

Newark, DE 19716





## New Castle County

[461 Wyoming Road](#)  
[Newark, DE 19716](#)

302-831-2506

**County Director:**  
[Karen Johnston](#)



## Kent County

Paradee Center  
[69 Transportation Circle](#)  
[Dover, Delaware 19901](#)

302-730-4000

**County Director:**  
[Susan Truehart Garey](#)



## Sussex County

Carvel Research & Education  
[16483 County Seat Highway](#)  
[Georgetown, DE 19947](#)

302-856-7303

**County Director:**  
[Cory Whaley](#)



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