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HOMEOWNER PLANT DISEASE CLINIC REPORT

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Well, as everyone is well aware, many plants 'took a beaten' from the recent record low temperatures that we experienced on Easter weekend. Most blooms and new, succulent plant tissues now appear burnt or scorched on both herbaceous and woody ornamentals, turfgrasses that greened up early are now dull and damaged, and last, but definitely not least, our commercial economic crops, such as blueberry, peach, grape, pecan, etc. are almost completely wiped out. Unfortunately, we have no control over what Mother Nature throws at us. Most plants will recover from the cold damage and will put out new growth. Extensively damaged plant material can be pruned off and discarded.

At a recent ANR update meeting, a few agents asked me how homeowner sample numbers are faring in comparison to previous years. So I decided to provide that information below.

YEAR	MONTH	TOTAL SAMPLES
2004	March	36
2004	April	95
2005	March	51
2005	April	98
2007	March	21
2007	Mid-April	26

Total homeowner sample numbers have decreased considerably (probably as a result of the newly implemented processing fee for physical samples). Fortunately, I do not view this decline in submitted homeowner samples as a negative result of the fee. Instead, I feel that y'all (county agents and Master Gardeners) are brushing up on your diagnostic abilities and actually know more and/or are more comfortable with your plant pathology skills than you had realized. Also, the quality of the sample submitted has improved.

As I have stated before in these reports and one-on-one, I am more than willing to work individually with anyone who has a specific plant pathological problem and can be contacted best by email: hthornto@uga.edu. I also feel that the sample numbers will continue to increase as time goes on. I have yet to hear about any comments you may have received from homeowners about the processing fee. Good? Bad? Indifferent?

The monthly table of submitted samples is shown below (mid-March through mid-April). The Disease of the Month for April is *Sclerotinia sclerotiorum*, also known as white mold.

County	Plant	Common Name of Disease (Pathogen)	Type of Sample – DDDI or Physical
Appling	Centipede grass	Rust (*Puccinia* sp.), Take all (*Gaeumannomyces graminis*), and trace of brown patch (*Rhizoctonia* sp.)	Physical
Bartow	Otto Luyken's Cherry Laurel	Multiple – girdling roots, Shothole borer (Scolytus rugulosus), and Black root rot (*Thielaviopsis basicola*)	Physical
Berrien	Centipede grass	No disease	Physical
Bibb	Centipede grass	Brown patch (*Rhizoctonia*) and cultural – scalped the lawn	Physical
Carroll	Ligustrum	No disease	Physical
Carroll	Vinca major	Leaf spot (*Phyllosticta* sp.)	Physical
Carroll	Viburnum davidii	No disease (cold damage)	DDDI
Clarke	Camellia sasanqua	Bot Canker (*Botryosphaeria* sp.)	Physical
Clarke	Wax Leaf Ligustrum	Whiteflies & Sooty mold	Physical
Clarke	Fatsia	Whiteflies & Sooty mold	Physical
Clarke	Carolina Jasmine	Possible bacterial leaf spot	DDDI
Clarke	Lima Bean	Unable to determine from images	DDDI
Clarke	Iris	Leaf spot (*Heterosporum iridis*)	Physical
Cobb	Zoysia lawn	Puffball	DDDI
Columbia	Centipede grass	Cultural – high application of fertilizer at the wrong time & Take all (*Gaeumannomyces graminis*)	DDDI and Physical
Coweta	Ilex (soft touch Holly)	Possible root rot infection & secondary organisms	Physical
Crisp	Tomato	No disease – possible burn or cold damage	DDDI
DeKalb	Staghorn Fern	Possible root rot (*Rhizoctonia* sp). and overwatering	DDDI
Effingham	Amaryllis	Thrips	DDDI

Fayette	Zoysia	Too deteriorated to determine	Physical
Gwinnett	Thrift (purple)	Web blight (*Rhizoctonia* sp.)	Physical
Harris	Magnolia	Algal leaf spot (*Cephaleuros virescens*)	DDDI
Henry	Pin Oak	Severe scale infestation & *Cordyceps* sp.	Physical
Henry	Maple	Cold damage & bacterial leaf spot	DDDI and Physical
Johnson	English Ivy	Bacterial Leaf spot (*Xanthomonas campestris* pv. *hedera*)	DDDI
Macon	Pittosporum	Leaf spot (*Alternaria* sp.)	DDDI
Monroe	Indian Hawthorn	Leaf spot (*Entomosporium* sp.)	DDDI
Monroe	Pansy	No disease – nutritional	DDDI
Muscogee	Camellia	No disease – environmental	DDDI
Muscogee	Japanese Maple	Unable to determine	DDDI
Newton	Rhododendron	No disease	DDDI and Physical
Newton	Parsley	Crown rot (*Sclerotinia sclerotiorum*)	DDDI and Physical
Pulaski	Boxwood	Volutella blight (*Volutella buxi*) and scale	Physical
Pulaski	Yaupon Holly	Possible root rot damage	DDDI
Rockdale	Iris	Possible cold damage or virus infection	DDDI
Rockdale	Bermuda grass	Brown patch (*Rhizoctonia* sp.) and cultural (clotted soil & heavy thatch)	DDDI
Schley	Centipede	Cold damage	DDDI
Toombs	Gardenia	No disease – possible fertilizer burn	DDDI
Ware	Centipede grass	Take-all (*Gaeumannomyces graminis*)	Physical

DISEASE OF THE MONTH

Sclerotinia sclerotiorum

- A.k.a.: white mold, cottony rot, crown rot, watery soft rot, damping off, and/or stem rot
- Pathogen: fungal Ascomycete – *Sclerotinia sclerotiorum*
- Hosts: vegetables and herbaceous ornamentals (very WIDE host range and capable of infecting plants at all growth stages).

- Conditions favorable for disease development: 1 – High soil moisture & humidity
  2 – Cool temperatures

- Survival: small, black, hard, dense structures – sclerotia – (large structures = 2-10 mm in diameter); structures capable of surviving anywhere from 3 to 10 years depending on environmental conditions; also on infected plant debris.

- Spread/dispersal: primary – ascospores; secondary – mycelia

- Symptoms and signs of the disease – these may vary somewhat depending on the plant and plant part infected and the environmental conditions. Generally,

    - Symptoms: brown, wet rot; wilting, yellowing, and sudden collapse of plant
    - Signs: white fluffy mycelial growth on leaves, stems, crown of plant (mycelial growth begins at the base of the stem or on crown and moves to rest of the plant); hard, black sclerotia (oftentimes these are formed inside the stem of the plant – in the pith – with no obvious signs of their presence; other times they are formed on the outside the stem).

Images below – infected Parsley sample:

These images show the white, fluffy mycelial growth (yellow arrows) on the wilted, yellowing parsley leaves and within the lower stem of the parsley plant.

*If you feel you may have a plant infected with *S. sclerotiorum*, then place the infected plant material in a Ziploc bag for anywhere from 2 to 5 days and see if hard, black sclerotia form where the masses of mycelia were growing.

Close-up of sclerotia (actual size: 2-10 mm in diameter)

Sclerotia forming in the crown/base of the parsley stem

So, the fungal pathogen is a soil inhabitant that is capable of surviving for extended periods of time (some say up to 10 years). When conditions are favorable (very high humidity and cool temperatures), the sclerotia germinate (much like a plant seed germinates) and produces a cup-shaped structure (apothecia) that produces ascospores (over a period of 2-3 weeks) that can survive for several weeks on leaf surfaces until environmental conditions are favorable for germination and infection. Because this pathogen has such a wide host range, populations of sclerotia can build-up in the soil. Mycelium of the pathogen can serve as a source of secondary spread when diseased tissue comes into contact with healthy tissue.

- MANAGEMENT: In terms of management of this disease, options are very limited. There are NO resistant cultivars to this disease.

  CULTURAL:
  - Do not plant seed contaminated with sclerotia.
  - Avoid planting known susceptible plants in severely infested soils.
  - Irrigate/water plants in the morning using drip irrigation or soaker hoses – it is important to promote drying of the foliage and soil surface.
  - Plant non-host crops such as corn, small grains, or grasses to help reduce populations of the pathogen – starves the pathogen.
  - Remove and discard/destroy infected plant tissue and soil at the base of diseased plant – do NOT put these materials in a compost pile – discard them in the garbage.

  CHEMICAL – for homeowners, there will be limited options in terms of chemical means to manage this disease. The products available should be applied preventively as a soil drench.

  VEGETABLES:

  Thiophanate methyl – commonly sold as the following:
  - Ferti-lome Halt Systemic Fungicide – 2.5 tsp/gallon water – applied after transplanting
  - Green Light Systemic Fungicide – 2.5 tsp/gallon water
  - Dragon Systemic Fungicide 3336WP

  ORNAMENTALS:
  - Thiophanate methyl
  - PCNB (Terraclor) – Hi-Yield Turf & Ornamental
  - Triadimefon – Fung-Away Systemic

There are various other fungicide products registered for the control of this disease but are only available commercially. There has been some research on two fungal biological control organisms – *Coniothyrium minitans* and *Trichoderma* spp. These biocontrol organisms have shown some promise, but they are also only available commercially.

So the best form of management homeowners have is EXCLUSION. If the pathogen becomes established in an area, then watering and sanitation become key factors in managing this ubiquitous pathogen.

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- University of Guelph. 2003. Sclerotinia White Mold of Vegetables and Ornamentals.