

Crapemyrtle

- Scientific Name: *Lagerstroemia*
 - *L. indica*
 - *L. fauriei*
 - *L. indica x fauriei* hybrids
- One of the most pest-free plants when properly placed in the landscape

Crapemyrtle Pests, Diseases and Disorders

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Key to Success

Proper planning and selection:

- Can avoid problems later
- Can save energy, effort, water, money, etc.
- Makes the nursery or landscape easier to manage



Crapemyrtle Bark Scale: Covered during an earlier webinar

- Appears as white, waxy encrustations on stems, often in branch crotches
- Found on twigs, stems, trunks
- Up close, appears white or gray but "bleeds" pink when crushed



Pests and Plants

Prevention is the cheapest, easiest and most environmentally friendly method of avoiding pests.

- Buy pest-free plants
- Select plants adapted to the area
- Select pest resistant species or cultivars
- Avoid notoriously problematic plants
- Properly install and maintain plants

Crapemyrtle

- One of the most pest-free plants when properly placed in the landscape:
 - Plant in full sun
 - Avoid wet soils
 - Avoid planting too deep

Host Plant Resistance

- Host plant resistance is a key component of IPM
- Cultivars of crapemyrtle exhibit a range of resistance/susceptibility to various pests and diseases:
 - It may be possible to minimize pesticide use by selecting, growing and using cultivars resistant to the primary pest/disease in your region

Management Options

- Range from “softest” to “hard”, homeowner-oriented to danger-labeled pesticides for professionals
- When pesticides are listed, make sure your plant, site, application method and usage is on the label
 - Names and labels are constantly changing; please send additions, deletions and corrections
 - “The Label is the Law”
- Products mentioned do not imply endorsement

Crapemyrtle Pests, Diseases and Disorders

- Major
- Minor
- Rare

Crapemyrtle Pests, Diseases and Disorders

- Major
 - Powdery Mildew
 - Japanese Beetle
 - Crapemyrtle Aphid (and Sooty Mold)
 - Cercospora Leafspot
 - Herbicide injury

Powdery Mildew

■ *Erysiphe lagerstroemiae*



- Frequently occurs on plants in shady, humid locations during times when nights are cool
- Most often occurs in spring and fall
- May cause leaves, stems and flowers to be distorted

Powdery Mildew



- In severe cases, leaves may drop and flower buds may not open
- Primarily an aesthetic problem; Not a serious threat to plant health



Powdery Mildew

- Controls:
 - If pesticides are warranted, the following are reported as effective:
 - Propiconazole
 - Thiophanate-methyl
 - Triadimefon
 - Triforine
 - Chlorothalonil
 - Copper-based fungicides
 - Potassium bicarbonate
 - Check with your local county Extension office for specific recommendations

Disease Resistant Crapemyrtle

- Resistant to Powdery Mildew:
 - *L. fauriei* and 'Fantasy', 'Kiowa', 'Townhouse', 'Woodlander's Chocolate Soldier', etc.
 - *L. indica x fauriei* hybrids (including almost all cultivars with Native American Indian names such as 'Natchez', 'Apalachee', etc.)
- Susceptible to Powdery Mildew:
 - *L. indica* cultivars (with a few exceptions)

See ENH-52, "Crapemyrtle in Florida" for more details (by G. Knox, UF).

Japanese Beetle

- *Popillia japonica*



Photo: Jeff Hahn

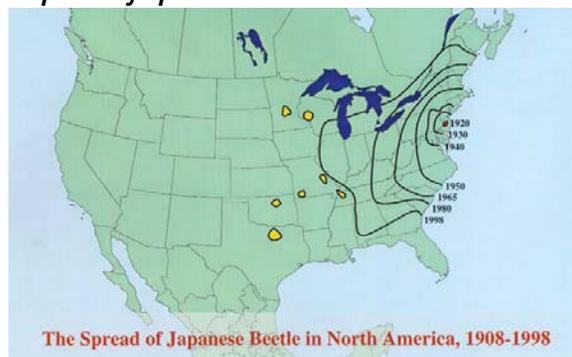
<http://www.extension.umn.edu/projects/yardandgarden/ygbriefs/e-falsejb.html>

Powdery Mildew

- Controls:
 - Plant resistant cultivars/species
 - Plant crapemyrtles in sunny locations allowing air movement

Japanese Beetle

- *Popillia japonica*



The Spread of Japanese Beetle in North America, 1908-1998

http://www.oardc.ohio-state.edu/biocontrol/images/jb_map.jpg

Japanese Beetle

- Not yet a problem in the West, much of the Mid-West, or the Gulf Coast
 - Note: Beetles have been found in Dallas/Ft. Worth and Austin
- Beetles emerge in spring and feed on many plants, including Crapemyrtle, eating flowers and skeletonizing leaves
- Beetles lay eggs in soil, which hatch into grubs that feed on roots, including Crapemyrtle



Crapemyrtle Aphid

- *Tinocallis kahawaluokalani*



Japanese Beetle

- Controls:
 - Remove beetles by tapping branches over a bucket of soapy water
 - Pheromone traps and turf treatment with milky spore disease are largely ineffective unless performed on a wide scale



Crapemyrtle Aphid

- Overwinters as eggs; all adults can fly
- Can reproduce rapidly, developing large numbers on new growth and undersides of leaves
- Damages tissue by inserting mouth parts into soft, succulent growth and extracting plant sap
- Excess sap excreted as "honeydew", falling on leaves and facilitating growth of sooty mold

Japanese Beetle

- Controls:
 - If pesticides are warranted, the following are reported as effective; however most of these also kill beneficial insects and result in infestations of crapemyrtle aphid:
 - Carbaryl
 - Permethrin
 - Neem
 - Cyfluthrin
 - Cyantraniliprole
 - Check with your local county Extension office for specific recommendations

Crapemyrtle Aphid

- Heavy infestations distort leaves and stunt new growth
- Not a serious threat to plant health
- This is the only aphid species ever found on Crapemyrtle, and this aphid species only gets on Crapemyrtle ("Host-specific"); these aphids attract beneficial insects
- Easily controlled by contact or systemic insecticides

Pest Resistant Crapemyrtle

- Less Susceptible to Crapemyrtle Aphid:
 - Dwarf *L. indica* cultivars (Victor, New Orleans, etc.)
 - Centennial Spirit
 - Potomac
 - Near East
 - Seminole
 - Miami
 - Twilight
 - Hope
 - Pecos
 - Natchez

R.F. Mizell, III, and G.W. Knox. 1993. UF

Pest Resistant Crapemyrtle

- More Susceptible to Crapemyrtle Aphid:
 - Biloxi
 - Comanche
 - Zuni
 - Apalachee
 - Hopi
 - Dallas Red
 - Byers W. White
 - Country Red
 - Acoma
 - Yuma
 - Tonto
 - Lipan

R.F. Mizell, III, and G.W. Knox. 1993. UF

Crapemyrtle Aphid

- Controls:
 - Wash off aphids by spraying with a hose
 - Cut back on irrigation and fertilization to reduce succulent growth
- Pesticides:
 - Horticultural soaps or oils
 - Pymetrozine
 - Flonicamid
 - Neonicotinoids (Imidicloprid etc.)
 - Check with your local county Extension office

Sooty Mold

- *Capnodium spp.*
 - Sooty mold colonies form dark patches made of hyphae and spores
 - Associated with sugary "honeydew" deposited on leaves by Crapemyrtle Aphids
 - Does not directly harm Crapemyrtle



Crapemyrtle Aphid

- Controls:
 - Natural predators:
 - Ladybird beetles and larvae
 - Green lacewings and larvae
 - Minute pirate bug
 - Big-eyed bug
 - Syrphid fly larvae
 - (No known parasites)



Sooty Mold

- *Capnodium spp.:* saprophytic fungal organisms that utilize honeydew secretions from aphid, white fly, mealy bug and other insects feeding on leaves



Sooty Mold



- Controls
 - Control Crapemyrtle Aphid (often, soaps and oils used to control aphids also help remove sooty mold)
- With time, rain will remove sooty mold

Cercospora Leaf Spot



- Spots first appear in mid- to late summer on mature leaves in lower parts of the plant, spreading upwards
- As spots enlarge, leaves turn yellow and fall
- Not a serious threat to plant health
- Primarily a landscape problem

Cercospora Leaf Spot

- *Pseudocercospora (Cercospora) lythracearum*



- Occurs during warm, wet weather
- More of a problem in humid parts of the Deep South



Disease Resistant Crapemyrtle

- Most Resistant to Cercospora Leaf Spot:
 - Fantasy
 - Tonto
 - Tuskegee
 - Tuscarora
 - Velma's Royal D.
 - Apalachee
 - Caddo
- Susceptible to Cercospora Leaf Spot:
 - Carolina Beauty
 - Comanche
 - Byers W. White
 - Raspberry Sundae™
 - Acoma
 - Near East

A.K. Hagan, C.H. Gilliam, G.J. Keever and J.D. Williams. 1997. Auburn U

Cercospora Leaf Spot

- *Pseudocercospora (Cercospora) lythracearum*



http://www.aragriculture.org/horticulture/ornamentals/plant_material/crapemyrtle/crapemyrtle_fungaldisease.htm

Cercospora Leaf Spot

- Controls:
 - Plant resistant cultivars
 - Avoid overhead irrigation
 - Provide for air movement
- Pesticides:
 - Thiophanate-methyl
 - Clorothalonil
 - Triadimefon
 - Propiconazole
 - Strobiliuran
 - Check with your local county extension office for specific information

Crapemyrtle: Glyphosate Injury



Crapemyrtle Pests, Diseases and Disorders

- Minor
 - Bacterial Leaf Spot (new!)
 - Metallic Flea Beetle
 - Cercospora Leafspot
 - "Rabbit Tracks"

Crapemyrtle: Glyphosate Injury



- Crapemyrtle is extremely sensitive
 - Especially leaves, green stems and new bark
- Injury is displayed as miniaturized leaves and profusion of growth at buds
 - This damage sometimes not seen until the following year

Bacterial Leaf Spot

- *Xanthomonas axonopodis*



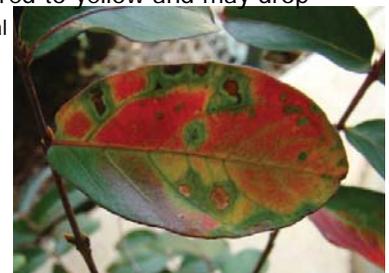
Crapemyrtle: Glyphosate Injury



- Glyphosate drift also may prevent red color from fully developing in red-flowered cultivars
 - Result is pink or white petals
- Be careful when using glyphosate around crapemyrtle
 - Plants sometimes grow out of the injury in a year or two

Bacterial Leaf Spot

- Primarily a nursery problem (with overhead irrigation)
 - Becoming a major problem with some cultivars (Arapaho, Zuni)
- Dark brown, angular to irregular, oily-looking spots surrounded by yellow halo
- Infected leaves often turn red to yellow and may drop
 - May appear similar to normal leaf senescence but BLS usually occurs early in the season and also has circular lesions
- Often found on lower leaves of nutrient stressed or closely spaced plants



Bacterial Leaf Spot

- Controls:
 - Avoid overhead irrigation
 - Avoid susceptible cultivars
 - Sanitation
- Pesticides:
 - Copper products
 - O-ethyl phosphonate
 - Mancozeb
 - Check with your local county extension office for specific information

Metallic Flea Beetle

- *Altica foliacea*, *A. litigata* and others



Metallic Flea Beetle

- *Altica foliacea*, *A. litigata* and other *A. spp.*



Photo:
Russ Mizell

Metallic Flea Beetle

- Pattern of Crapemyrtle preference:
 - Pink Velour is first and worst
 - Arapaho and Firebird also preferred
 - Other favorites:
 - Twilight
 - Red Rocket
 - Byers White
 - Victor
 - Carolina Beauty

Metallic Flea Beetle

- Found in spring on evening primrose (*Oenothera spp.*) and curly dock (*Rumex crispus*)
- Then moves to red-leaved gaura (*Gaura spp.*)
- Then to cuphea (*Cuphea spp.*)
- And finally to Crapemyrtle
- Feeds extensively on leaves

Pest Resistant Crapemyrtle

- Most Resistant to Metallic Flea Beetle:
 - Acoma
 - Lipan
 - Muskogee
 - Natchez
 - Osage
 - Tonto
 - Tuscarora
- Susceptible to Metallic Flea Beetle:
 - Pink Velour
 - Arapaho
 - Firebird
 - Carolina Beauty
 - Country Red
 - Dynamite®
 - Red Rocket®
 - Twilight
 - Regal Red
 - Byers White
 - Victor

Metallic Flea Beetle

- Controls:
 - Primarily a problem in the nursery
 - Remove nearby weeds hosting larvae (i.e., cutleaf evening primrose)
 - Avoid susceptible cultivars
- Pesticide sprays or substrate drenches:
 - Carbaryl
 - Pyrethroids
 - Chloropyrifos
 - Acephate
 - Check with your local county extension office

Crapemyrtle Pests, Diseases and Disorders

- Rare
 - Edema
 - Asian Ambrosia Beetle
 - Mushroom Root Rot

"Rabbit Tracks"



Edema



"Rabbit Tracks"

- Primarily a problem in the nursery with tree-type hybrid cultivars (e.g., Natchez, Muskogee)
- Usually occurs during the second flush of growth in the spring
 - Elongated chlorotic spots, often with a bronze middle, on either side of the mid vein
- In severe cases the leaf margins may become distorted
- Reported to be caused by nutrient deficiency
 - Sulfur, copper, iron, manganese or zinc
 - No definitive cause confirmed and no recommended remedy
 - Crapemyrtle almost always "grows out" of "rabbit tracks"

Edema

- Occurs when plant absorbs more water than leaves can transpire
- Leaf cells become engorged and swell
- Yellow or brown raised spots may form
- Usually occurs during cool temperatures and excess moisture
 - Some cultivars are more susceptible



Granulate Ambrosia Beetle

(formerly Asian Ambrosia Beetle)

- *Xylosandrus crassiusculus*



Mushroom Root Rot

- *Armillaria tabescens*



Granulate Ambrosia Beetle



- Small reddish-brown beetles; fly in late winter and early spring
- Females bore into small caliper twigs, branches or trunks of many species, introducing a fungus
- Insect tunneling and the fungus collectively damage or kill plants
- Stressed plants are most susceptible

Mushroom Root Rot

- Primarily a landscape problem
- Causes root decay and will eventually kill trees
- Often found on sites where oaks formerly grew
- Keep plants healthy and stress-free

Granulate Ambrosia Beetle



- Infested trees can't be treated; remove and destroy these trees
- Monitor first flight using traps
 - Then apply trunk sprays
- Keep plants healthy and stress-free

Crapemyrtle Pests, Diseases and Disorders

- Major
- Minor
- Rare

Activity of Pests

Life stage activity of primary pests of nursery-grown crapemyrtle based on normal emergence in USDA Plant Hardiness Zone 8.

Pest/Disease	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Granulate ambrosia beetle												
<i>Altica</i> sp. flea beetles												
Crapemyrtle aphid												
Powdery Mildew												
<i>Cercospora</i> leaf spot												
Bacterial leaf spot												

Crapemyrtle Pests, Diseases and Disorders

Thanks for pics and info:

- Mathews Paret, University of Florida
- Matthew Chappell, Jean Williams Woodward and Kris Braman, University of Georgia
- Lee Bloomcamp, Syngenta

Pest Resistant Plants

Caution!:

- No known cultivar is resistant to all pests and diseases
- Cultivars may be resistant to one pest but susceptible to others
 - If you suspect you'll have a problem with a specific pest, focus on finding cultivars resistant to that pest and forget about the others
- Other factors can make a resistant plant susceptible (i.e., stress)
- If you plant enough of them and wait long enough, sooner or later you'll find pests

For More Information:

- eBook: *IPM for Select Deciduous Trees in Southeastern US Nursery Production* (incl. chapter on crapemyrtle)
 - http://www.clemson.edu/extension/horticulture/nursery/ipm/ipm_book.html
- IPM Florida: <http://ipm.ifas.ufl.edu>
- Texas IPM: <http://ipm.tamu.edu/>

Pest Resistant Plants

Remember:

- Pest Resistant Plants are just PART of the solution:
 - Design, Site Selection, Planting and Plant-care still have an enormous role to play in pest management