

Disease and Insect Resistant Ornamental Plants

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LAGERSTROEMIA

Crapemyrtle

Lagerstroemia is a genus of about 50 species of deciduous shrubs or small trees known as crapemyrtle. Common crapemyrtle, *L. indica*, is native to China and Southeast Asia and was introduced to the US from China in the mid-1700s. Valued for its prolific summer flowers, heat and drought tolerance, and year-round landscape interest, crapemyrtle is a dominant landscape plant and street tree throughout the South.

The most serious diseases of crapemyrtle are powdery mildew and *Cercospora* leaf spot. Insect pests include aphids, flea beetle, and Japanese beetle.



DISEASES

Powdery Mildew caused by *Erysiphe australiana* (syn. *Erysiphe lagerstroemiae*) is the most damaging and widespread disease on *Lagerstroemia* spp. and hybrids wherever crapemyrtles are grown (4). The disease is usually associated with warm days and cool nights, together with high humidity. Powdery mildew reduces aesthetic value of plants and can distort newly developing leaves, shoots, and flowers. Severely infected leaves and buds may drop prematurely.

Plant disease resistance or tolerance is the most important and sustainable disease management option for powdery mildew (4). In the 1950's, *L. fauriei* was brought to the US from Japan and is the primary source of powdery mildew resistance in modern crapemyrtle hybrids. The US National Arboretum has released numerous crapemyrtle selections, including *L. indica* x *L. fauriei* hybrid cultivars resistant to powdery mildew.

POWDERY MILDEW				
Species/Hybrids	Cultivar	Reference		
		Resistant	Intermediate	Susceptible
<i>Lagerstroemia</i>	Acoma*	5, 9, 15, 16, 19, 26, 28		
	Apalachee*	5, 11, 15, 16, 19, 28		
	Arapaho*	5, 31		

POWDERY MILDEW

Species/Hybrids	Cultivar	Reference		
		Resistant	Intermediate	Susceptible
<i>Lagerstroemia</i>	Basham's Party Pink	15, 16, 19, 26, 28	5	
	Baton Rouge	24	22	28
	Bayou Marie			28
	Berry Dazzle®	5		
	Bicolor	24	19	22
	Biloxi*	5, 10, 15, 19, 28		
	Blizzard		28	
	Bourbon Street	15	28	
	Burgundy Cotton®	5		
	Byer's Standard Red	5, 19		
	Byer's Wonderful White		5, 28	36
	Caddo*	5, 12, 15, 16, 28		
	Candycane		28	
	Carolina Beauty		19	5, 15, 16, 28
	Cascading Pink Lady	5		
	Catawba	5, 15, 19, 26	28	
	Cedar Red		5	
	Centennial	5, 19		
	Centennial Spirit	5, 28, 34, 36	19	
	Cherokee	5, 15, 16, 19		
	Cherry Dazzle®	5		
	Cheyenne*	31		
	Chickasaw*	22, 32		
	Chica Pink®			28
	Chica Red®			28
	Chico	19		
	Chocktaw*	5, 13, 15, 19, 28		
	Christiana	28		
	Christmastime			36
	Comanche*	11, 15, 16, 28		
	Conestoga		5	28
	Cordon Bleu	19	22	24, 28
	Cotton Candy	19		
	Country Red		28	15, 19, 26
	Dallas Red		28	
	Dazzle Me Pink®	5		
	Delta Blush		22, 24	28
	Diamond Dazzle®	5		

POWDERY MILDEW

Species/Hybrids	Cultivar	Reference		
		Resistant	Intermediate	Susceptible
<i>Lagerstroemia</i>	Dixie White		24	
	Dwarf Plum			19
	Dynamite®	5, 19, 26		
	Fantasy	15, 16, 28		
	Firebird		28	36
	Glendora White	15, 16		
	Gray's Red			15
	Hardy Lavender	5	15	
	Hardy Red	19		
	Hardy White		15, 19	
	Hope	5, 15, 19, 28		
	Hopi*	5, 9, 15, 16, 28		
	Houston	24	22, 28	
	Jet Stream	19		
	Kiowa*	5, 28, 32		
	Lafayette	19, 24	22	28
	Lipan*	5, 11, 19, 28	15	
	Low Flame		28	
	Majestic Beauty		15	16
	Mandi		19	
	Mardi Gras	24	19, 22	
	Miami*	5, 10, 15, 19, 26, 28		
	Miss Frances	33		
	Miss Gail	33		
	Miss Sandra	33		
	Muskogee*	5, 6, 15, 19, 26, 28		
	Natchez*	6, 15, 19, 26, 28		
	Near East	15, 16, 28	5	19
	New Orleans	19, 24	22, 28	
	New White	19		15
	Orban Adkins			15, 16
	Orlando	19, 24	22, 28	
	Osage*	5, 11, 15, 28		
Osage Blush	28			
Ozark Spring	5		28	
Pecos*	5, 9, 15, 28			
Peppermint Lace		15	5, 16	
Petite Embers™		28		

POWDERY MILDEW

Species/Hybrids	Cultivar	Reference		
		Resistant	Intermediate	Susceptible
<i>Lagerstroemia</i>	Petite Orchid™		28	
	Petite Pinkie™		28	
	Petite Plum®		28	36
	Petite Red Imp™		28	
	Petite Snow™	36	28	
	Pink		5	
	Pink Blush		22, 24, 28	
	Pink Lace	19	28	36
	Pink Ruffles		28	
	Pink Velour	26		
	Pixie White		19, 24	28
	Pocomoke*	5, 22, 24, 32		
	Potomac		15, 19, 28	5
	Powhatan	5	15, 28	16
	Prairie Lace	35	15, 28	19, 36
	Purple		5	
	Purple Velvet			22, 24
	Raspberry Sundae®	19		5, 15, 16, 28
	Red Rocket	26		
	Regal Red	5, 19		15, 28
	Royalty			28, 36
	Royal Velvet	19		
	Ruby Dazzle®	5		
	Sacramento		22, 24, 28	
	Sarah's Favorite	15		
	Seminole	5, 15, 19	28	
	Sioux*	5, 11, 15, 16, 19, 26, 28		
	Siren Red®	5		
	Snowbaby			28
	Snow Dazzle®	5		
	Splash of Pink		28	
	Sweetheart Dazzle®	5		
Tightwad Red®	5			
Tonto*	12, 15, 16, 19, 26, 28			
Townhouse	28			
Tuscarora*	5, 7, 15, 16, 19, 26, 28			

POWDERY MILDEW				
Species/Hybrids	Cultivar	Reference		
		Resistant	Intermediate	Susceptible
<i>Lagerstroemia</i>	Tuskegee*	5, 8, 15, 16, 19, 26, 28		
	Twilight	19, 28		26
	Velma's Royal Delight		15	28
	Victor	5	19, 28	
	Watermelon Red		28	5
	White Chocolate	5		
	Wichita*	5, 10, 15, 28		
	William Toovey	5	15	19
	Wonderful White			15, 16
	World's Fair	22, 24		
	Yuma*	5, 11, 15, 16, 19, 28		
	Zuni*	5, 9, 19	15, 28	

*Hybrid cultivars introduced by the US National Arboretum.

Cercospora Leaf Spot on crapemyrtle is caused by the fungus *Pseudocercospora lythracearum* (syn. *Cercospora lyrthracearum*). The disease has been observed in cultivars of *L. indica*, *L. fauriei*, and *L. indica* x *fauriei* in field and landscape plantings across the South (15).

Rainy weather or heavy dews together with warm, cloudy weather appear to accelerate disease development (15). Symptoms typically first appear as small, brown spots on leaves at the base of the plant. As the spots enlarge and spread upward through the canopy, leaves turn yellow to bright red and then drop. Although *Cercospora* leaf spot generally does not cause permanent damage to crapemyrtles, foliage discoloration and premature leaf drop greatly detract from their aesthetic value in the landscape (4, 15).

CERCOSPORA LEAF SPOT				
Species/Hybrids	Cultivar	Reference		
		Resistant	Intermediate	Susceptible
<i>L. limii</i> 1		1		
<i>L. subcostata</i>		1		
<i>Lagerstroemia</i>	Acoma	26, 18, 20, 21, 25, 23		15, 16
	Apalachee	15, 16		
	Arapaho	1	5	
	Basham's Party Pink	15, 16, 26, 20, 21, 25		
	Biloxi		15	18, 21
	Burgundy Cotton®			1, 5
	Byer's Red	20	15	
	Caddo	15, 16		
	Carolina Beauty			15, 16

CERCOSPORA LEAF SPOT

Species/Hybrids	Cultivar	Reference		
		Resistant	Intermediate	Susceptible
<i>Lagerstroemia</i>	Catawba	26, 20, 25	15	18
	Cedar Red		5	
	Centennial	5, 18, 20		
	Centennial Spirit	18, 20	15	
	Cherokee	16	15	
	Cherry Dazzle®	5		
	Chocktaw	20	15	
	Christiana			1
	Comanche			15, 16
	Cotton Candy	21	15	
	Country Red	26	15	
	Dazzle Me Pink®	5		
	Dwarf Plum	20		
	Dynamite®	26, 25		1
	Fantasy	15, 16		
	Glendora White	15, 16		
	Hardy Lavender		15	
	Hardy Red	21		
	Hardy White	20	15	18
	Hopi	20	15	16
	Jet Stream	15, 20		
	Kiowa	1		
	Lipan	20	15	
	Majestic Beauty		15	16
	Miami		15	26, 21, 25, 23
	Miss Frances	33		
	Miss Gail	33		
	Miss Sandra	33		
	Muskogee	20	15	26, 25
	Natchez	26		
	Near East	20	15	16, 18
	New Orleans	20	15	
	New White	15, 20		
Orban Adkins			15, 16	
Osage	1	15		
Pecos		15		
Peppermint Lace		15	16	
Pink Lace	18, 20	15		

CERCOSPORA LEAF SPOT				
Species/Hybrids	Cultivar	Reference		
		Resistant	Intermediate	Susceptible
<i>Lagerstroemia</i>	Pink Velour®	26		5, 23
	Pixie White	18, 20		
	Powhatan		15	16
	Prairie Lace	20		15
	Raspberry Sundae®		15	5, 16
	Red Raspberry			18
	Red Rocket	26, 23		1
	Regal Red	20	15	
	Rhapsody in Pink®	5		1
	Royal Velvet	20		
	Ruby Dazzle®	5		
	Sarah's Favorite		15	
	Seminole	20	15	
	Sioux		15	16, 26
	Snow Dazzle®	5		
	Tonto	15, 16, 26, 20, 25		
	Townhouse	1		
	Tuscarora	1, 15, 16, 26, 20, 25		18
	Tuskegee	15, 16, 26, 20, 21, 25		
	Twilight	26, 20, 25	15	
	Velma's Royal Delight	15		
Victor		15	18	
Wonderful White			15, 16	
Woodlander's Chocolate Soldier	1			
Yuma	20, 21	15	16	
Zuni	20, 21			

Bacterial Leaf Spot caused by *Xanthomonas* spp. has been observed in southeastern US since 2009 (4). Three cultivars introduced by the USDA, 'Miss Francis', 'Miss Gail', and 'Miss Sandra', have shown a high level of field resistance to leaf spot caused by *X. axonopidis* (33).

INSECTS

Crapemyrtle Aphid, *Tinocallis kahawaluokalani* (syn. *Sarucallis kahawaluokalani*) is native to Southeast Asia, but is found almost everywhere that crapemyrtle is grown (4). Heavy infestations can cause yellow leaves, premature leaf drop and sooty mold.

Higher aphid populations have been observed on *L. indica* x *L. faurei* cultivars than on cultivars of the species *L. indica* (17, 29). Unfortunately, the hybrids are more likely to have improved resistance to powdery mildew.

Flea Beetles, *Altica* spp., can become serious pests of crapemyrtles in production but have not been a problem on established landscape plants (30). Adult beetles chew small holes in leaves and can completely defoliate new growth (4). Field and laboratory studies at the University of Georgia and Texas A & M University found that *L. indica* cultivars were generally more susceptible to attack and significant damage than *L. fauriei* cultivars and *L. indica* x *L. fauriei* hybrids (3, 30).

FLEA BEETLES*					
Species/Hybrids	Cultivar	Reference			
		Resistant	Moderately Resistant	Moderately Susceptible	Susceptible
<i>Lagerstroemia</i>	Acoma	30			
	Apalachee		30		
	Arapaho		30		
	Biloxi		30		
	Byer's Standard Red			30	
	Byer's Wonderful White			30	
	Carolina Beauty			30	
	Catawba				30
	Cedar Red			30	
	Centennial			30	
	Centennial Spirit			30	
	Cheyenne		30		
	Chickasaw		30		
	Chocktaw			30	
	Comanche			30	
	Country Red			30	
	Dynamite®				30
	Fantasy		30		
	Hardy Lavender			30	
	Hope			30	
	Hopi				30
	Lipan	30			
	Low Flame			30	
	Miami		30		
	Muskogee	30			
	Natchez	30			
	Okmulgee			30	
	Osage	30			
	Ozark Spring			30	
	Pecos			30	
Pink Ruffles			30		
Pink Velour			30		
Pocomoke		30			

FLEA BEETLES*					
Species/Hybrids	Cultivar	Reference			
		Resistant	Moderately Resistant	Moderately Susceptible	Susceptible
<i>Lagerstroemia</i>	Potomac			30	
	Powhatan			30	
	Raspberry Sundae®			30	
	Red Rocket®			30	
	Regal Red			30	
	Sarah's Favorite		30		
	Seminole			30	
	Sioux		30		
	Tightwad Red®				30
	Tonto	30			
	Tuscarora	30			
	Tuskegee		30		
	Twilight			30	
	Velma's Royal Delight			30	
	Victor			30	
	Wichita		30		
	William Toovey			30	
Yuma		30			
Zuni			30		

***Resistant**=no damage in two or more trials, **Moderately Resistant**=low damage in two or more trials or no to low damage in only one trial, **Moderately Susceptible**=high damage in two or more trials, or moderate to high damage in one trial, **Susceptible**=highest damage in two or more trials

Japanese Beetle, *Popillia japonica*, is a common foliage feeder of many landscape plants. Common crapemyrtle, *L. indica*, is a preferred host and often sustains extensive damage (14, 27). Researchers at the University of Georgia conducted field and laboratory studies to identify potential resistance among crapemyrtles. Crapemyrtle cultivars with *L. fauriei* in their parentage generally exhibited less damage (30).

JAPANESE BEETLE*					
Species/Hybrids	Cultivar	Reference			
		Resistant	Moderately Resistant	Moderately Susceptible	Susceptible
<i>Lagerstroemia</i>	Acoma	30	2		
	Apalachee			2, 30	
	Biloxi		30	2	
	Byers Standard Red			2, 30	
	Byers Wonderful White			2, 30	
	Carolina Beauty			2, 30	

JAPANESE BEETLE*

Species/Hybrids	Cultivar	Reference			
		Resistant	Moderately Resistant	Moderately Susceptible	Susceptible
<i>Lagerstroemia</i>	Catawba		2, 30		
	Centennial			2, 30	
	Centennial Spirit			2, 30	
	Chickasaw		2, 30		
	Chocktaw		2, 30		
	Comanche		2, 30		
	Cordon Bleu		2, 30		
	Dynamite®			2, 30	
	Hardy Lavender			2, 30	
	Hope			2, 30	
	Hopi			2, 30	
	Lipan		2, 30		
	Miami			2, 30	
	Muskogee		2, 30		
	Natchez			2, 30	
	Osage		2, 30		
	Ozark Spring			2, 30	
	Pecos			2, 30	
	Pink Velour		2, 30		
	Pocomoke	2, 30			
	Potomac		2, 30		
	Powhatan			2, 30	
	Raspberry Sundae®			2, 30	
	Red Rocket®				2, 30
	Regal Red				2, 30
	Seminole			2, 30	
	Sioux		30	2	
	Tonto			2, 30	
	Tuscarora			2, 30	
	Tuskegee		2, 30		
	Velma's Royal Delight			2, 30	
	Victor			2, 30	
	Wichita		2, 30		
William Toovey			2, 30		
World's Fair			2, 30		
Yuma			2, 30		
Apalachee			2, 30		

JAPANESE BEETLE*

Species/Hybrids	Cultivar	Reference			
		Resistant	Moderately Resistant	Moderately Susceptible	Susceptible
<i>Lagerstroemia</i>	Biloxi		30	2	
	Byers Standard Red			2, 30	
	Byers Wonderful White			2, 30	
	Carolina Beauty			2, 30	
	Catawba		2, 30		
	Centennial			2, 30	
	Centennial Spirit			2, 30	
	Chickasaw		2, 30		
	Chocktaw		2, 30		
	Comanche		2, 30		
	Cordon Bleu		2, 30		
	Dynamite®			2, 30	
	Hardy Lavender			2, 30	
	Hope			2, 30	
	Hopi			2, 30	
	Lipan		2, 30		
	Miami			2, 30	
	Muskogee		2, 30		
	Natchez			2, 30	
	Osage		2, 30		
	Ozark Spring			2, 30	
	Pecos			2, 30	
	Pink Velour			2, 30	
	Pocomoke		2, 30		
	Potomac			2, 30	
	Powhatan			2, 30	
	Raspberry Sundae®			2, 30	
	Red Rocket®				2, 30
	Regal Red				2, 30
	Seminole			2, 30	
	Sioux			30	2
	Tonto			2, 30	
Tuscarora			2, 30		
Tuskegee			2, 30		
Velma's Royal Delight			2, 30		
Victor			2, 30		

JAPANESE BEETLE*					
Species/Hybrids	Cultivar	Reference			
		Resistant	Moderately Resistant	Moderately Susceptible	Susceptible
<i>Lagerstroemia</i>	Wichita		2, 30		
	William Toovey			2, 30	
	World's Fair			2, 30	
	Yuma			2, 30	

***Resistant**=lowest damage in one or more trials, **Moderately Resistant**=low damage in one or more trials, **Moderately Susceptible**=high damage in one or more trials, **Susceptible**=highest damage in one or more trials

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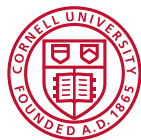
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