

## **Bacterial Leaf Spot and Bud Blight of Chrysanthemum**

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Bacterial leaf spot and bud blight is a serious disease of garden mums grown outside under overhead irrigation. The hot, rainy, humid weather during the past several weeks has been ideal for the development of this disease. Several samples of the disease have been received in the Plant Disease and Insect Clinic from growers during the past two weeks.

Symptoms of this disease are characterized by dark brown or black, circular or angular, leaf spots. Spots are black and active under moist conditions but become brown and inactive under dry conditions. Bud blight and peduncle collapse also occur under prolonged wet weather as is now occurring.

#### **Control:**

1. Do not over fertilize plants. It has been shown that the severity of this disease increases as the rate of fertilization is increased.
2. Use proper spacing. Spacing plants too close together makes it impossible to obtain good coverage with sprays, particularly as the plants grow larger. The foliage of properly spaced plants will also dry faster. This bacteria oozes from wet spots, splashes to and penetrates other wet leaves.
3. Spray with copper hydroxide. Sprays should be applied to get complete coverage, particularly as plants get larger.
4. If possible, water plants with drip irrigation to keep foliage dry. If watering overhead, water under good drying conditions.
5. Use resistant cultivars. Garden mum cultivars vary greatly in resistance to this disease (Table 1). Highly susceptible cultivars should be avoided.

Table 1. Reaction of chrysanthemum (mostly garden types) to bacterial leaf spot and bud blight caused by Pseudomonas cichorii.

### Slightly susceptible

Diamond	Minngopher	Sun Devil
Foxy	Minnpink	Yellow Jacket
Golden Dream	Starlet	Yellow Starlet

### Moderately susceptible

Aggie	Goldstrike	Promenade
Alert	Goldstone	Purple Pirate
Ann Ladygo	Golden Tranquility	Purple Waters
Autumn Delight	Grenadine	Redcoat
Ballerina	Gypsy Queen	Red Desert
Bandit	Hansel	Remarkable
Best Regards	Husky	Revere
Brown Queen	Indian Summer	Rocket
Brown Eyes	Indian White	Roll Call
Buckeye	Ironside	Rosado Queen
Calico	Jewel Box	Royal Trophy
Camelot	Johnny Appleseed	Ruby Mound
Cameo	Lancer	Shining Light
Cinnamon	Larry	Sleigh Ride
Cirbronze	Lawrence Blaney	Small Wonder
Circus	Lipstick	Snow Queen
Classic	Lobo	Spartan
Cloud 9	Mango	Stargazer
Compatriot	Maple Mound	Stardom
Corsage Cushion	Martian	Starleteer
Couger	Minnautumn	Sunbeam
Daredevil	Minnehaha	Sunburst Cushion
Debonaire	Minnwhite	Tango
Doll Ette	Minyellow	Tinker Bell
Drummer Boy	Muted Sunshine	Viking
Escapade	Mystic	Violet Queen
Festival Cushion	Newgo	Westpoint
Fire Queen	Nuggets	Whippoorwill
Fireside Cushion	Ostosa	White Marble
Flaming Sun	Pancho	White Marble
Flare	Patriot	Wolverine
Frisky	Pearls	Yellow Cloud
Garden Magic	Penguin	Yellow Cloud
Glow Worm	Powder River	Yellow Pomp
Goldmine	Princess	Yellow Supreme
Gold Queen	Princess Kay	Zonta

### Highly susceptible

Apache	Freedom	Red Dandy
Baby Tears	Grandchild	Quaker
Bruin	Gypsy Wine	Starfire
Elegant Cushion	Jackpot	Tiger
Fortune	Purple Waters	White Grandchild

References:

1. Strider, D. L. and R. K. Jones. 1986. Susceptibility of Chrysanthemums to Bacterial Leaf Spot and Bud Blight Caused by Pseudomonas cichorii. North Carolina Flower Growers Bulletin. 30(2): 22-24.
2. Strider, D. L. 1986. Chemical Control of Bacterial Leaf Spot of Garden Chrysanthemums caused by Pseudomonas cichorii. North Carolina Flower Flowers Bulletin. 30(3): 1-5.
3. Jones, J. B., Chase, A. R., Harbough, B. K. and Raju, B. C. 1985. Effect of leaf wetness, fertilizer rate, leaf age and light intensity before inoculation on bacterial leaf spot of chrysanthemum. Plant Disease. 69: 782-784.