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Camellia Petal Blight

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Camellia petal/flower blight is a fungal disease that blemishes camellia blossoms. It is caused by *Ciborinia camelliae*, a specialist fungal pathogen that only causes damage to camellia species and hybrids. Camellias are commonly planted ornamentals in landscapes and are chosen for their exquisite blooms and evergreen foliage. While the pathogen does not harm the plant's overall health, it can cause significant loss of their aesthetic value. Where camellia flower blight is present, persistent cultural management is required to reduce disease impact and promote healthy blossoms.

Description

Ciborinia camelliae is a fungal pathogen that affects camellia flowers, particularly Japanese camellias (*Camellia japonica* cultivars). It causes progressive petal discoloration, flower rotting, and premature flower drop. Proper diagnosis is important for management as several other fungal diseases can cause similar symptoms on camellia flowers, including botrytis flower blight. Additionally, frosts and freezing temperatures result in similar discoloration due to the winter bloom period of camellias. Injury from environmental factors tends to be uniform across open flowers and causes light tan petal discoloration. In contrast, non-uniform, darker discoloration is characteristic of camellia petal blight (Figure 1).

Close examination of infected flowers will reveal a mottled, net-like appearance as the fungus spreads and petal veins darken (Figure 2). Camellia petal blight is most severe with moist conditions and mild temperatures. As such, infection is prevalent in camellia-growing regions with mild winters and elevated humidity or rainfall, such as the southeastern United States, Gulf Coast, and Pacific Coast.

Figure 1: Non-uniform symptoms of camellia flower blight help to distinguish it from cold injury or sunscald

Figure 2: Camellia flower blight causes a net-like appearance as the fungus spreads on petals

Life Cycle and Damage

Symptoms of camellia petal blight usually appear between December and March. Disease starts when a spore infects an open blossom, causing a small lesion that expands across the petal. Light gray threads of the fungus (mycelium) may be seen growing at the base of the sepals and petals as the entire flower becomes infected over time. These flowers appear rotten and prematurely drop to the ground. The fungus produces resilient structures called sclerotia in the decomposing flowers, which can survive in the leaf litter and topsoil for several years. When environmental conditions are hospitable, these sclerotia produce apothecia (Figure 3), which grow and forcefully release spores that can travel for up to a mile on the wind to land on open camellia petals for the cycle to continue.

Figure 3: Apothecia grown from fallen camellia bloom, which can release millions of spores

Management

Where the disease is present, management can help to maintain bloom vitality and aesthetic value. Excellent sanitation and cultural management are key to managing this pathogen.

Thoroughly collect and destroy infected flowers, including those dropped to the ground. Avoid planting camellias with a history of the disease, and remove the upper layer of soil in containerized camellias to remove dormant sclerotia that may be present. Similarly, remove old mulch and leaf litter beneath affected shrubs and replace with new mulch.

To encourage air movement and reduce the humid conditions necessary for spore release, consider drip irrigation rather than overhead irrigation, pruning low branches, removing weeds and restricting dense ground covers.

No camellia species are fully resistant to the disease, although some are less susceptible. In general, *Camellia japonica* is most severely affected due to its bloom period (mid-to-late winter), closely overlapping with the disease cycle of the fungus. Camellia cultivars and species that bloom early, such as Sasanqua camellias (*C. sasanqua* cultivars), tend to avoid the infection period even if they are susceptible. There is evidence that some of the less commonly planted Camellia species, such as *C. lutchuensis* and *C. yuhsienensis*, show partial resistance or are poor hosts of the disease.

Fungicides are rarely used for control of this disease in the landscape due to limited efficacy. Where the disease is particularly severe, certain fungicides may be applied to reduce new petal infections. However, this strategy requires numerous applications while flowers are opening, as well as applications to the ground below and around affected plants. If attempted, fungicides should only be used in conjunction with cultural management recommendations and sanitation practices. Please contact your Bartlett Arborist Representative to learn about management strategies.

Founded in 1926, The Bartlett Tree Research Laboratories is the research wing of Bartlett Tree Experts.

References

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[2] Jeffers, S.N., and Baxter, L.W., Jr. 2001. Chapter 27: Camellia Diseases, in Diseases of Woody Ornamentals and Trees in Nurseries. APS Press