



Guignardia leaf blotch

The fungus, *Guignardia aesculi* (sexual stage), initiates leaf infections in early spring, while *Phyllosticta sphaeropsoidea* (asexual stage) perpetuates infections during the remainder of the summer. Infections from both stages combine to cause horsechestnut leaf blotch.

Host plants:

Guignardia leaf blotch infects several *Aesculus* species that grow east of the Great Plains including common (*A. hippocastanum*), Japanese (*A. turbinata*), and red (*Aesculus x carnea*) horsechestnut, along with Ohio (*A. glabra*), painted (*A. sylvatica*), bottlebrush (*A. parviflora*) and red (*A. pavia*) buckeye.

Description:

Guignardia leaf blotches are irregular in shape. Initially blotches are a pale green color eventually turning orange-brown. Blotches twist and wrinkle infected leaves as they increase in size and number.



Horsechestnut with late spring leaf blotch



Severe late summer leaf blotch on horsechestnut

Photos: M. Petitjean, University of Massachusetts Extension

Early in the summer, the tiny black fruiting bodies of the *Phyllosticta* stage are frequently visible on dead parts of the leaf killed by horsechestnut leaf blotch.

Disease cycle:

Fruiting bodies of the *Guignardia* stage of the fungus survive the winter in leaves infected the previous season. These fruiting bodies release spores into the air in the spring and some of them land on young leaves of *Aesculus* species. During wet weather, the spores germinate and infect the leaves of susceptible trees. By late spring, the initial infections develop into dead spots, and fruiting structures of the *Phyllosticta* stage form within the spots. When conditions are wet during the summer, spores splash from these spots onto nearby green tissue causing repeated infections of leaves, petioles and fruit.

Management strategies:

Collect and dispose of fallen leaves to reduce inoculum available to begin new infections the following spring. Prune to increase air circulation and sunlight penetration, thus minimizing the periods of leaf wetness. Severe blotching does not develop until after most of the annual growth has occurred for the season, so Guignardia leaf blotch causes little harm to the health of vigorous trees. Fungicides serve to maintain the appearance of specimen trees and nursery stock. Begin applications as buds open to protect leaves from extensive primary infections. If adequate prevention of the primary infections is achieved in early spring, then repeated additional treatments are usually not necessary to control the secondary infection cycles, unless there are extended periods of cool and wet in early summer weather.

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