



CHICAGO BOTANIC GARDEN

PLANT INFORMATION FACT SHEET

JAPANESE BEETLE

The Japanese beetle is a common garden pest that attacks roses, turfgrass, ornamental plants, trees and shrubs. In its larval stage, the grub eats the roots of turf causing the grass to brown and die. The adult beetle damages foliage, flowers and fruit by chewing and scarring more than three hundred species of plants including roses, grapes, crabapple and linden trees.

Damage

Root damage caused by grubs quickly kills turf. Turf damage is recognized when brown areas can easily be pulled up like a rug. Adult beetles prefer to feed on the upper portion of trees and plants in sunny locations. They feed on the tissue in between the leaf veins creating a skeletonized pattern. Damage caused by adult Japanese beetles is primarily an aesthetic problem and usually will not kill plants; however, continued defoliation weakens plants and makes them more susceptible to disease and other insect problems.

Description and Life Cycle

Adult Japanese beetles are 1/3 to 3/5 inch long with coppery metallic wing covers and shiny green heads and thoraxes. In late June or early July, adult females lay eggs just below the soil level. Two weeks later, white, C-shaped grubs hatch and begin feeding on turfgrass roots. Brown, irregular patches may appear on lawns in August, indicating grub activity. Grubs continue to feed until mid-October when cooler temperatures force them to burrow deeper into the soil where they overwinter in a dormant state. In March, the grubs begin to move upward toward the surface of the soil and resume eating turf roots. Grubs pupate into adults, mate, and lay eggs beginning in June and continuing into August.

CONTROL

Cultural

Monitoring for grubs beginning in August is a good cultural practice. Handpicking beetles off isolated plants or knocking them into jars of soapy water is an effective localized control. Japanese beetle traps or lures are not recommended because they attract more beetles into your area. Avoid irrigating turf in the evening hours because adult females are attracted to moist lawns to lay their eggs.

Biological

Japanese beetle grubs are susceptible to milky spore disease, *Bacillus popilliae*; however, this treatment has had mixed results. Its success is dependent on many factors including moisture, temperature, pH, soil type and structure. Milky spore can be purchased in some garden centers and through specialty mail order companies.

Synthetic Insecticide

The use of chemicals to control grubs may be warranted if populations exceed 10 to 12 per square foot. Grub insecticides should be applied beginning in late July to early August before damage occurs. Chemical applications should be watered in well with at least 1/2 inch of water to assure that the insecticide penetrates the root zone of the turf where grubs are located.

Plants that are damaged by adult Japanese Beetles can be treated with systemic insecticides; however, beetles need to feed on the treated plant to ingest the chemical, which will kill the beetles after their damage is already done. Prized plants or severely infested ones may require foliar insecticide sprays, which are not usually effective. These sprays may fail because a large dose of chemicals is applied due to the size of the plants and the fact that adults fly long distances to feed and are active for several months. Foliar insecticidal sprays also have varied degrees of toxicity. Therefore, health factors and the environment need to be considered as well. Please contact Plant Information Service at 847-835-0972 or plantinfo@chicagobotanic.org for current chemical recommendations.



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