

Landscape Plants - Seldom Damaged by Adult Japanese Beetles

Scientific name	Common name
<i>Acer negundo</i>	Boxelder
<i>Acer rubrum</i>	Red maple
<i>Acer saccharinum</i>	Silver maple
<i>Buxus sempervirens</i>	Boxwood
<i>Carya ovata</i>	Shagbark hickory
<i>Cornus florida</i>	Flowering dogwood
<i>Diospyros virginiana</i>	Persimmon
<i>Euonymus species</i>	Spindle tree
<i>Fraxinus americana</i>	White ash
<i>Fraxinus pennsylvanica</i>	Green ash
<i>Ilex species</i>	Holly
<i>Juglans cinerea</i>	Butternut
<i>Liriodendron tulipifera</i>	Tuliptree
<i>Liquidamar styraciflua</i>	American sweetgum
<i>Magnolia species</i>	Magnolia
<i>Morus rubra</i>	Red mulberry
<i>Populus alba</i>	White poplar
<i>Pyrus communis</i>	Common pear
<i>Quercus alba</i>	White oak
<i>Quercus coccinea</i>	Scarlet oak
<i>Quercus rubra</i>	Red oak
<i>Quercus velutina</i>	Black oak
<i>Sambucus canadensis</i>	American elderberry
<i>Syringa vulgaris</i>	Common lilac



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Japanese Beetle

Popilla japonica



The Japanese beetle is a highly destructive plant pest that can be very difficult and expensive to control. Feeding on grass roots, Japanese beetle grubs damage lawns, golf courses, and pastures. Japanese beetle adults attack the foliage, flowers or fruits of more than 300 different ornamental and agricultural plants.

Japanese beetles were first found in the United States in 1916 near Riverton, New Jersey. Since then Japanese beetles have spread and become established in most states that lie east of the Mississippi River. In the western U.S., localized infestations have resulted when beetles were accidentally transported to, and released in, suitable habitat.

Description and Habits

Adult Japanese beetles are 7/16-inch long metallic green beetles with copper-brown wing covers. A row of white tufts (spots) of hair project from under the wing covers on each side of the body.

Adults emerge from the ground and begin feeding on plants in June. Activity is most intense over a 4 to 6 week period beginning in late June, after which the beetles gradually die off. Individual beetles live about 30 to 45 days.

Japanese beetles feed on about 300 species of plants, devouring leaves, flowers and overripe or wounded fruit. They usually feed in groups, starting at the top of a plant and working downward. The beetles are most active on warm, sunny days, and prefer plants that are in direct sunlight. A single beetle does not eat much. It is group feeding by many beetles that results in severe damage.

Adults feed on the upper surface of foliage, chewing out tissue between the veins. This gives the leaf a lacelike or skeletonized appearance. Trees that have been severely injured appear to have been scorched by fire. Japanese beetles may completely consume rose petals and leaves with delicate veins. Odors emitted from beetle-damaged leaves seem to be an important factor in the aggregation of beetles on particular food plants.

Adult Japanese beetles are highly mobile and can infest new areas from several miles away. Usually, however, they make only short flights as they move about to feed or lay eggs.



Actual beetle size

Life Cycle

Egg laying begins soon after the adults emerge from the ground and mate. Females leave plants in the afternoon, burrow 2 to 3 inches into the soil in a suitable area and lay their eggs--a total of 40 to 60 during their life. The developing beetles spend the next 10 months in the soil as white grubs. The grubs grow quickly, and by late August, are almost full-sized (about 1 inch long). Grubs feed on the roots of turfgrasses and vegetable seedlings, doing best in good quality turf in home lawns, golf courses, parks, and cemeteries. However, they can survive in almost any soil in which plants can live.

Mid-summer rainfall and adequate soil moisture are needed to keep eggs and newly-hatched grubs from drying out. Females are attracted to moist, grassy areas to lay their eggs; thus, irrigated lawns and golf courses often have high grub populations, especially during otherwise dry summers. Older grubs are relatively drought resistant and will move deeper into the soil if conditions become very dry. Japanese beetle grubs can withstand high soil moisture, so excessive rainfall or heavy watering of lawns does not bother them.

As Japanese beetle grubs chew off grass roots, they reduce the ability of grass to take up enough water to withstand the stresses of hot, dry weather. As a result, large dead patches develop in grub-infested areas. The damaged sod is not well-anchored and can be rolled back like a carpet to expose the grubs. If the damage is allowed to develop to this stage, it may be too late to save the turf. Early recognition of the problem can prevent this destruction. Bluegrass and bentgrass are the varieties most seriously attacked by the Japanese beetle grubs, but all grasses are susceptible.

Japanese beetles overwinter in the grub stage. When the soil cools to about 60°F in the fall, the grubs begin to move deeper. Most pass the winter 2 to 6 inches below the surface, although some may go as deep as 8 to 10 inches. They become inactive when soil temperature falls to about 50°F.

When soil temperature climbs above 50°F in the spring, the grubs begin to move up into the root zone. Following a feeding period of 4-6 weeks, the grubs pupate in an earthen cell and remain there until emerging as adults.

Landscape Plants - Likely to be Attacked by Adult Japanese Beetles

Scientific name	Common name
<i>Acer palmatum</i>	Japanese maple
<i>Acer platanoides</i>	Norway maple
<i>Aesculus hippocastanum</i>	Horsechestnut
<i>Althaea rosea</i>	Hollyhock
<i>Betula populifolia</i>	Gray birch
<i>Castanea dentata</i>	American chestnut
<i>Hibiscus syriacus</i>	Rose-of-Sharon
<i>Juglans nigra</i>	Black walnut
<i>Malus species</i>	Flowering crabapple
<i>Platanus acerifolia</i>	London planetree
<i>Populus nigra italica</i>	Lombardy poplar
<i>Prunus species</i>	Cherry, plum, peach
<i>Rosa species</i>	Rose
<i>Sassafras albidum</i>	Sassafras
<i>Sorbus americana</i>	American mountain
<i>Tilia americana</i>	American linden
<i>Ulmus americana</i>	American elm
<i>Ulmus procera</i>	English elm
<i>Vitis species</i>	Grape

