

Description and Habits

Adult Japanese beetles are 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 are approximately 1/2 inch long.

Adults emerge from soil 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 plant's veins, giving 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 Japanese 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 size of adult

Japanese Beetle Life Stages



JAPANESE BEETLE ALERT

Idaho State Department of Agriculture
2270 Old Penitentiary Road
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Japanese Beetle



The Japanese beetle is probably the most devastating pest of urban landscape plants in the eastern United States. Japanese beetles were first found in the United States in 1916, after being accidentally introduced into New Jersey. Until that time, this insect was known to occur only in Japan, where it is not a major pest.

Japanese beetles were recently detected in Idaho. Early detection, management and eradication of this pest is critical to avoid economic damage from feeding pests and expensive new shipping requirements that would burden Idaho's nursery industry.



The Idaho State Department of Agriculture

Life Cycle

Eggs are laid 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 deposit their eggs—a total of 40 to 60 during their lifetime. 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 turf grasses and vegetable seedlings, doing best in good quality turf such as that found 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.

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 the 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 affected by 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 dentate</i>	American chestnut
<i>Hibiscus syriacus</i>	Rose-of-Sharon, Shrub Althea
<i>Juglans nigra</i>	Black walnut
<i>Malus species</i>	Flowering crabapple, apple
<i>Platanus acerifolia</i>	London planetree
<i>Populus nigra italic</i>	Lombardy poplar
<i>Prunus species</i>	Cherry, plum, peach, etc.
<i>Rosa species</i>	Roses
<i>Sassafras albidum</i>	Sassafras
<i>Sorbus Americana</i>	American mountain ash
<i>Tilia Americana</i>	American linden
<i>Ulmus Americana</i>	American elm
<i>Ulmus procera</i>	English elm
<i>Vitis species</i>	Grape



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 ovate</i>	Shagbark hickory
<i>Cornus florida</i>	Flowering dogwood
<i>Diospyros virginiana</i>	Persimmon
<i>Euonymus species</i>	Euonymus (all species)
<i>Fraxinus Americana</i>	White ash
<i>Fraxinus pennsylvanica</i>	Green ash
<i>Ilex species</i>	Holly (all species)
<i>Juglans cinerea</i>	Butternut
<i>Liriodendron tulipifera</i>	Tulip tree
<i>Liquidamar styraciflua</i>	American sweetgum
<i>Magnolia species</i>	Magnolia (all species)
<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 elder
<i>Syringa vulgaris</i>	Common lilac



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