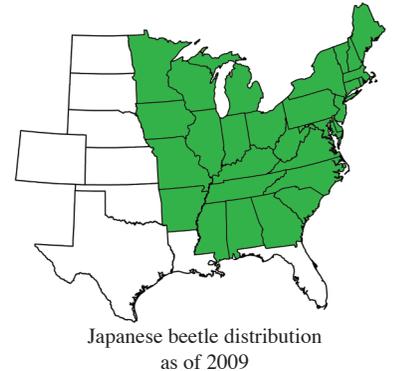


Japanese beetle: a major pest of plants

The Japanese beetle (*Popillia japonica*) is a serious invasive insect pest that threatens Oregon and the western US. Japanese beetle adults feed on flowers, fruits, and foliage of more than 300 species of ornamental and agricultural plants, including roses, blueberries, and grape vines. The larvae (or grubs) attack roots of turf grass and other plants. Both adults and grubs cause significant damage in the eastern US. Oregon has a quarantine that regulates the import of plants from infested states. This quarantine helps to keep Japanese beetles from entering the state.

How did the Japanese beetle get to the US and where is it found?

The Japanese beetle was first found in the US in a southern New Jersey nursery in 1916. It was presumably introduced into the US in soil associated with plants imported from Japan. It subsequently spread throughout the eastern US and is now present in Minnesota, Iowa, Missouri, Arkansas, and all states east of the Mississippi River except Florida and Louisiana. It is a serious plant pest and a threat to American agriculture.



How did the Japanese beetle spread within the US?

Japanese beetle adults are active flyers and frequently fly short distances between plants. The beetle is capable of flying up to five miles with the help of the wind. Natural spread by flying adults will gradually expand the beetle's distribution in the US. Long distance expansion and new introductions are usually aided by commercial activities. Grubs are easily transported long distances as hitchhikers on shipments of plant material usually associated with roots and soil. Adults may be carried in planes, trains, or automobiles to uninfested areas. The Oregon Department of Agriculture routinely inspects cargo airplanes arriving from infested areas during the adult flight season. Isolated infestations of the Japanese beetle have been found in California, Colorado, Montana, Oregon, and Utah.

Why is the Japanese beetle a serious pest?

The Japanese beetle can cause serious damage to nurseries, seedbeds, orchards, field crops, landscape plants, and garden plants. The adults typically skeletonize leaves, consume flowers, and devour fruits. The upper canopy is often defoliated first. Trees with extensive feeding damage turn brown and become partially defoliated.

Japanese beetle grubs primarily feed on roots of turf and ornamentals, but will also feed on roots of garden and field crops such as corn, beans, tomatoes, and strawberries. Dense populations can kill large areas of turf grass and seriously injure or kill other plants.

The Japanese beetle is considered the single most important turfgrass pest in the US. Sites with large areas of turf such as parks, golf courses, cemeteries, and businesses are at risk. It can also be a problem in residential lawns, gardens, fruit trees, ornamental trees, and shrubs. Oregon has extensive habitat suitable for Japanese beetle survival and reproduction. The Oregon Department of Agriculture has successfully eradicated several isolated Japanese beetle infestations in western Oregon. Newly infested states are subject to strict quarantines on agricultural and horticultural products to prevent further spread of the pest.

Host plants attacked by the Japanese beetle

Japanese beetle grubs prefer feeding on grass roots, but the roots of other plants are also attacked. Adults are voracious feeders and like to feed on roses. They consume both foliage and fruit of about 300 host plants. The following is a partial list of plants that can be severely injured by the Japanese beetle: oak, elm, maple, grape vine, peach, apple, apricot, cherry, plum, linden, rose, zinnia, dahlia, corn, asparagus, soybean, tomatoes, hops, blueberries, raspberries, and blackberries.



Japanese beetle trap



Adult Japanese beetle



Japanese beetle eggs



Japanese beetle grub



Japanese beetle pupa

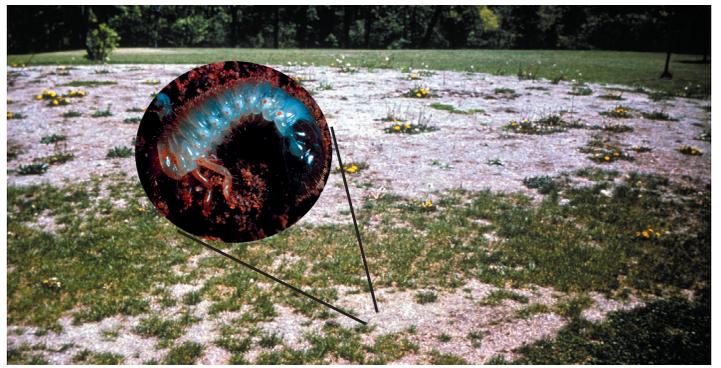
Biology and life cycle

The Japanese beetle has four life stages: **egg**, **larva** (or grub), **pupa**, and **adult**. A female beetle lays 40 to 60 eggs during her lifetime. The eggs, creamy white in color, are buried 5-7.6 cm deep in the soil. The eggs develop for two weeks and hatch during July and August. The grubs look like many other grubs found in the soil, with C-shaped bodies that are creamy white with dark posteriors. The grubs grow quickly and by September are almost full-sized (about 2.5 cm long). Grubs feed on the roots of turf grasses and vegetable seedlings. During the winter months they migrate deeper into the soil to overwinter. The following spring the grubs migrate up to the root zone to feed for four to six weeks. Fully-grown grubs pupate in an earthen cell and remain as pupae for about two to three weeks. Adults emerge from late June to early August. The oval-shaped adult is bright metallic green with copper-colored wing covers and is about 0.9 cm long and 0.6 cm wide. There are two tufts of white hair just behind the wing covers, with five patches of white hair along each side of the abdomen. Adults mate soon after emergence and live about 30 to 45 days. After mating, female beetles lay eggs in the soil to start the next generation.

How can you help stop the Japanese beetle?

The Oregon Department of Agriculture conducts annual summer surveys for the Japanese beetle using insect traps. You can help by:

1. Reporting suspect Japanese beetle life stages to Oregon Department of Agriculture (ODA).
2. Reporting any extensive beetle damage to lawns, roses, grapes, fruits, or other trees and shrubs to ODA.
3. Cooperating with ODA survey staff when they request permission to place traps on your property during the summer.
4. Cooperating with inspection staff during airplane inspections.
5. Complying with quarantine regulations that prohibit the movement of soil, plants rooted in the soil, and grass sod from infested eastern states, unless the material is certified by state agricultural officials. Certification declares material is either free of Japanese beetle or has been properly treated to eliminate any beetle life stages.



Lawn damaged by Japanese beetle grubs



Healthy Japanese beetle free lawn



Japanese beetles feeding on roses

For Further Information Please Contact:

**Oregon Department of Agriculture
Plant Division
635 Capitol St. NE
Salem, OR 97301-2532
503-986-4644 or 1-800-525-0137
www.oda.state.or.us**

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This information is available in other formats if needed.

Revised 4/2010



Oregon
Department
of Agriculture
635 Capitol Street N.E.
Salem, OR 97301-2532



Japanese Beetle

A Major
Pest of Plants

Oregon Department of
Agriculture



Adult Japanese Beetle