Japanese Beetle in Idaho

The Japanese beetle (JB), *Popillia japonica*, is a highly destructive plant pest that can be difficult and expensive to manage. Feeding on grass roots, JB grubs, the immature stage of the insect, damage lawns, golf courses, parks and pastures. JB adults consume the foliage, flowers and fruits of more than 300 different ornamental and agricultural plants.

First found in the US in 1916 in a New Jersey nursery, JB has since spread throughout most states east of the Mississippi River. Partial infestations also occur in states such as Arkansas, Iowa, Kansas, Minnesota, Missouri and Oklahoma. Infestations in western states have been eradicated before the insect became established.

History in Idaho

In 1990 the Idaho State Department of Agriculture (ISDA) began monitoring the state for JB. Each year 200-300 traps were routinely set out at high risk sites like nurseries and airports. On rare occasions (1992, 1997 and 2011) ISDA trapped single specimens at nurseries, most likely hitchhikers on nursery stock from other states. Locations of beetle capture were treated with pesticide and JB never established in Idaho.

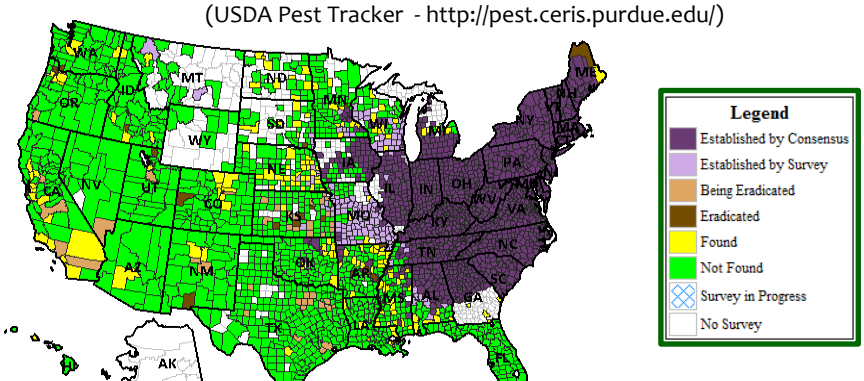
During summer 2012 ISDA collected a total of 61 Japanese beetles: 4 near a nursery in Kootenai County, 1 near a nursery in Bannock County and 56 in Boise in Ada County. Most in Boise were from a residential area on the city's east side. Pesticide treatment was undertaken at the 3 sites.

In 2013, with the number of traps increased statewide to 1,553, beetles were collected nowhere except in east Boise, however, numbers there increased to 3,058 individuals. At this time 95 residential properties and 14 city parks were treated with insecticides in an effort to control grubs and adults.

JB catch numbers in Boise dropped to 1,283 during 2014. This was attributed to the pesticide treatments in 2013 because areas where JB were caught in 2013 that were not treated exhibited almost twice as many beetles in 2014, whereas, all treated areas had numbers decrease. Where the first 95 residences were treated, during 2013 traps captured 1,930 JB and in 2014 only 91 beetles were found – a 95% reduction. Based on these results treatment was again carried out, however, the treatment area was expanded to include 500 residential/commercial properties where beetles were caught plus the city parks.

Following 2014 treatments JB catches dropped again. A total of 365 beetles were trapped with the area containing the original 95 treated residences producing only 18 of them. Parks treated twice exhibited a decrease from 527 to 18 JB. With a goal of total JB eradication 2015 treatments were stepped up even more with approximately 1,800 residential/commercial properties, plus parks, taking part in the program. In 2016 only 128 JB were found. Due to a shrinking infestation area amount of acreage needing treatment was reduced, however, treatment still appeared to be effective as only 19 beetles were collected in 2017. Treatment is scheduled for 2018, again with a reduction in treated area, as the eradication goal continues to be attempted.

Survey Status of Japanese Beetle (all years)
(USDA Pest Tracker - http://pest.ceris.purdue.edu/)



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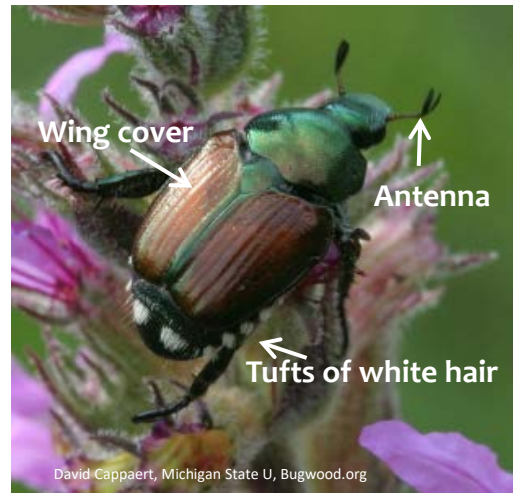
Identifying Japanese beetles

Clemson U, USDA, Bugwood.org
Life sized adult beetle

Adult JB are about ½ inch long with **metallic green bodies** and **coppery wing covers** that do not quite cover the tip of the abdomen. They have **5 distinctive tufts of small white hairs** lining each side of the abdomen. The **antennae** are clubbed at the end and spread to a fan-like form.



The larval or grub stage of JB is "C" shaped and lives in the **soil.** Its primary food source is roots of grasses.

Life cycle

JB lay **eggs** in the soil in July, which hatch into tiny white **grubs**. Grubs remain underground for about 10 months, where they feed and overwinter. They emerge from the soil as **adults** in June to begin the cycle again.

Damage

Skeletonized linden leaf

Adults feeding on a rose

JB often attack plants in groups, which can lead to severe damage. When suitable food is found beetles emit an aggregation pheromone which attracts others to feed with them. Damaged leaves appear "skeletonized", with only veins left behind. This pattern is typical of feeding by Japanese beetle.

More information

For information on **management** of Japanese beetle from USDA visit:

http://www.aphis.usda.gov/publications/plant_health/content/printable_version/JB3-07.indd.pdf

For information on Japanese beetle in Idaho contact the **Idaho State Department of Agriculture, Division of Plant Industries:**

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