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Japanese Beetles in Alabama

Japanese beetles were first found in the United States in 1916 in New Jersey. Since then, they have slowly moved south and spread into the heart of the Southeast. In Alabama, consistent Japanese beetle populations occur in the northern part of the state and as far south as Tallapoosa and Lee counties. Isolated incidents of Japanese beetle presence have occurred in other counties as well.

Description and Life Cycle

Adult Japanese beetles are ⅜ inch long, metallic green beetles with copper-brown wing covers. Five tufts of white hairs that project from under the wing covers on each side and a sixth pair at the tip of the abdomen distinguish them from similar beetles. These tufts of white hairs appear as white spots when viewed from the top (Figure 1).

Japanese beetles usually begin to emerge from the soil by late May or early June. Flights peak in late June and early July and taper off by late July.

Adult beetles feed on at least 300 species of plants, including roses, other flowers and ornamentals, fruit trees, grapes, and even poison ivy. They usually feed in groups and prefer plants that are in the sun. Beetles feed on the upper surface of leaves, which results in a skeletonized appearance of damaged leaves (Figure 2). Beetles are daytime flyers and feeders.

Sometimes masses or balls of Japanese beetles can be seen on lawns or turf areas. At the center of each mass is a female beetle; surrounding her are males seeking to mate. Soon after mating, females lay 1 to 4 eggs every 3 to 4 days. They lay the eggs 2 to 4 inches in the ground. A female beetle produces 40 to 60 eggs during her lifetime.

Eggs hatch in about 2 weeks. The grubs (Figure 3) feed on grass roots, reducing the ability of the grass to take up water. When drought stress occurs, patches of grub-damaged grass turn brown and die. Grub-damaged turf can easily be pulled up from the soil or rolled back like a carpet. Skunks, raccoons, armadillos, and birds may dig up the turf to eat the grubs. On warm-season grasses, damage is often seen when patches don't green-up in the spring. Other white grubs can damage turfgrasses. Japanese beetle grubs have a distinctive pattern of spines on the underside of the tail end.

In Alabama, newly-hatched grubs are present during the last part of July and the first part of August in most years. They continue to feed on grass roots through the late summer and fall, overwinter in the soil as grubs, move up in the spring (about the time spring green-up occurs), and feed a little at that time. During dry periods, female beetles are attracted to watered lawns to lay eggs. Moist soil is needed for eggs to hatch and for newly hatched grubs to survive.

Figure 1. Tufts of white hairs appear as white spots when the Japanese beetle is viewed from the top.

Figure 2. The skeletonized appearance of damaged leaves is the result of feeding by adult beetles.

Control of Grubs

Two approaches are used in chemical control of white grubs: the preventive method and curative control. With the preventive approach, insecticide is applied before the grub problem develops. Products containing either imidacloprid

or halofenozide (as the active ingredient) work well for preventive control. The granular formulations are applied with a lawn spreader. Optimal timing for preventive control is any time in June, before egg hatch. Neither preventive insecticide is effective against large grubs once damage has occurred. The downside to preventive control is that a decision must be made to treat before the extent of infestation for that year is known. Preventive control is best suited to sites that have a history of grub infestation or for homeowners seeking "insurance" against grub damage.

Figure 3. An exposed view of grubs found in the soil as they feed on grass roots.

With curative control, a short residual insecticide is applied after egg hatch. The best timing is in the last part of July or early August when grubs are still small. Grubs are much harder to control in late summer when they are full sized. Granular products containing the active ingredients trichlorfon or carbaryl are labeled for curative control. Confirm the presence of grubs by digging several samples with a shovel in areas that previously have been infested or in which Japanese beetle adults have been active.

Regardless of what insecticide is used, water the turf immediately after treatment to move the residues into the root zone. Use a lawn sprinkler to wet the soil to at least ½-inch depth.

Milky spore disease dusts containing a naturally occurring bacterium that infects Japanese beetle grubs can be found at some home improvement stores and lawn and garden centers. Research in other states has not shown these products to be reliable for grub control.

Extension publication ANR-500-B, *Alabama Pest Management Handbook, Volume 2,* has specific recommendations for grub control in home lawns. A copy of this publication is available in your county Extension office.

Control of Adult Beetles

Nonchemical

- Hand collecting beetles may not be the most effective method of control, but it can be used when beetles are less numerous. Simply drop the beetles into a solution of soapy water where they will drown. A hand-held vacuum cleaner can also be used to remove beetles. Beetle presence on plants tends to attract more beetles making their removal more critical.
- Planting less susceptible plants, such as boxwood, red maple, dogwood, holly, magnolia, oaks, and lilac, may be another alternative.
- Avoid traps to catch beetles. In most home landscapes, using one or more traps may do more harm than good. Traps attract more beetles into the area, many of which do not make it to the traps.

Chemical

- Carbaryl, such as registered formulations of Sevin, can be used by homeowners as well as by commercial applicators. If you use carbaryl for beetles or other insect pests, be sure to check for spider mites. A mite "explosion" on plants with a few mites often occurs after an initial use of carbaryl.
- Other insecticides available for controlling Japanese beetles include acephate, cyfluthrin, imidacloprid, and bifenthrin. Use products according to label directions.

Look for a product containing one of these ingredients. Make sure the particular insecticide is labeled for the plants you intend to treat.

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For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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