

TIMELY INFORMATION

Agriculture & Natural Resources

Japanese Beetles Have Emerged in Alabama

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During the first week of June, adult Japanese beetles emerged at two experimental vineyards located at the North Alabama Horticulture Research Center near Cullman, and at the Sand Mountain Research and Extension Center, Crossville, where the vines are heavily loaded with fruit and the berries are growing (Figure 1).



Figure 1. Heavy crop load of experimental bunch grape cultivars planted at the NAHRC, Cullman, AL.

The Japanese beetle (*Popillia japonica*) is a highly destructive plant pest native to Japan that was first found in the United States in southern New Jersey in 1916 and since then has caused considerable economic losses to numerous horticultural crops. In Japan, where the beetle's natural enemies keep its populations in check, this insect is not a serious plant pest. In the United States, however, the beetle had no natural enemies, found a favorable climate and an abundant food supply. These conditions facilitated a gradual expansion of the Japanese beetle geographic range. In Alabama, consistent Japanese beetle populations occur in the northern part of the state with isolated incidents of Japanese beetle presence occurring in other locations as well.

The adult Japanese beetle is a little less than 1/2 inch long and has a shiny, metallic-green body with bronze colored outer wings (Figure 2). The beetle has six small tufts of white hair along the sides and back of its body under the edges of its wings. The males usually are slightly smaller than the females.



Figure 2. Adult Japanese beetle

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. An individual Japanese beetle lifespan is about 30 to 45 days. During the feeding period, females intermittently leave plants, burrow about 3 inches into the ground and lay a few eggs. This cycle is repeated until the female lays 40 to 60 eggs. By midsummer, the eggs hatch, and the young grubs begin to feed. Each grub is about an inch long when fully grown and lies in a curled position. In late autumn, the grubs burrow 4 to 8 inches into the soil and remain inactive all winter. This insect spends about 10 months of the year in the ground in the larval stage. In early spring, the grubs continue to feed on roots (including turf) and in late spring, they change into pupae. In about 2 weeks, the pupae become adult beetles and emerge from the ground. This life cycle (Figure 3) takes one year.



Figure 3. Japanese beetle life cycle takes a year to complete.

The adult beetles are general herbivores and are known to feed on over 400 species of broad-leaved plants, damaging leaves, flowers, and overripe or wounded fruit. Plants that are especially prone to damage include grapes, apples, roses, plums, and others. 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. The grubs will also feed on a wide variety of plant roots including trees and shrubs, garden and truck crops, and turfgrasses.

The adult Japanese beetles eat the leaf tissue between the leaf veins but leave the veins behind, which gives the leaves a skeletonized appearance (Figure 4). The adults will often attack flower buds and fruit. The grubs can kill small seedling plants but most commonly damage turf.



Figure 4. A grape leaf skeletonized by Japanese beetles.

Control

It is important to keep in mind that both adults and grubs can cause damage. Since Japanese beetle adults are capable of flying in from other areas, controlling one life stage will not prevent potential problem with the other. Control of the grub stage requires properly timed applications of a soil insecticide to infested site.

Chemical: Contact your county extension office <http://www.aces.edu/counties/> for current pesticide control options.

For additional reading on how to control Japanese beetle in your backyard visit

http://www.aphis.usda.gov/lpa/pubs/pub_phjbeetle04.pdf

References:

<http://ohioline.osu.edu/hyg-fact/2000/2504.html>

<http://www.ca.uky.edu/entomology/entfacts/ef451.asp>