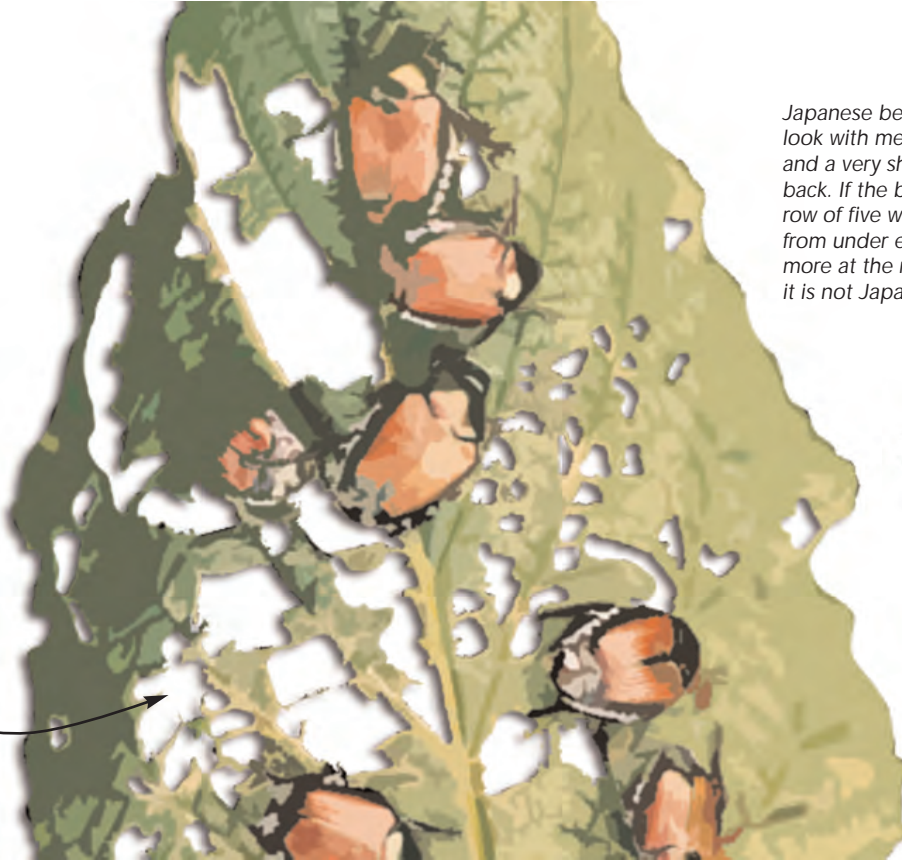


# Treatment and Protection from Japanese Beetles

Japanese beetles damage trees by 'skeletonizing' the leaves. This means they will consume the leaf tissue while leaving the veins of the leaves intact, giving a distinctive 'skeleton' look as they feed in mid-summer.



Japanese beetles have a distinctive look with metallic green shoulders and a very shiny bronze colored back. If the beetle does not have a row of five white hair tufts projecting from under each wing cover and two more at the rear tip of the abdomen, it is not Japanese beetle.



## What are Japanese Beetles?

Native to Japan, the Japanese beetle (*Popillia japonica*) was first detected in New Jersey in about 1916. It has since spread to nearly every state east of the Mississippi, and continues to spread each year. The adult beetles are skeletonizers, which means they feed on the leaves of trees by eating the tissue between the leaf veins. Severe Japanese beetle infestations can completely devour all of the tree's leaf tissue, leaving only the veins behind. They will often feed on flowers and fruit as well.

The Japanese beetle is found in all states east of the Mississippi River, except Florida. It is also found in Minnesota, Iowa, Missouri, Colorado, Oregon, and California. This pest continues to spread each year and could be found anywhere in the U.S. due to the ease of distribution. Grubs are commonly distributed in shipped nursery stock soil. Adults are very mobile and can hitch a ride on airplanes and automobiles.



Linden tree with heavy Japanese beetle infestation.



Linden tree with uninfested canopy.

## What Trees do They Feed On?

Japanese beetles are not a host specific pest and thus feed on a number of common shade trees and ornamental plants. Japanese beetles attack over 400 species of plants including: linden, crape myrtle, flowering crabapple, Norway maple, Japanese maple, flowering cherry, elm, sycamore, black walnut, horse chestnut, plum, gray birch, and others.

## How Do I Know if My Tree has Japanese Beetles?

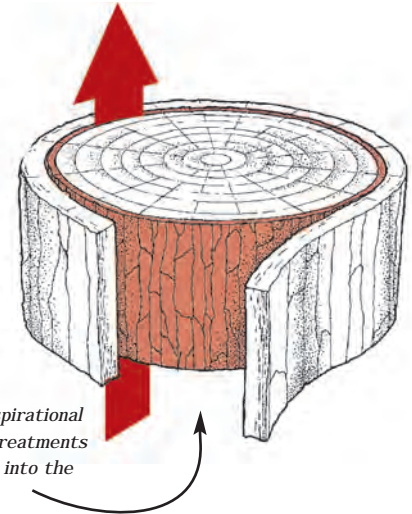
The most common symptom of a Japanese beetle infestation is defoliation of the canopy, coupled with seeing the actual beetles, often in large numbers. The beetles are attracted to trees that are already infested, resulting in high populations on a single tree. Individual leaves are missing leaf tissue between the leaf veins causing a lace-like, skeleton appearance. After being "skeletonized", the leaves soon wilt and die, leaving severely attacked trees appearing from a distance as if they have been scorched by fire.

# Treatment: Japanese Beetles

## Management Strategy Summary

Japanese beetle attacks a broad host range of shade trees and woody ornamentals. Adults begin feeding in early July. Feeding adults attract more beetles to attack in large numbers making this pest challenging to control when severe infestations occur. Soil applications of Xytect, Lepitect, or Safari will provide acceptable levels of stand-alone control. If you have a low threshold for leaf damage or if infestations are high, consider combining Xytect or Safari with Lepitect soil applications or foliar sprays of Bisect or Onyx.

**Lepitect™**  
**Xytect**  
broad-spectrum, systemic insecticide

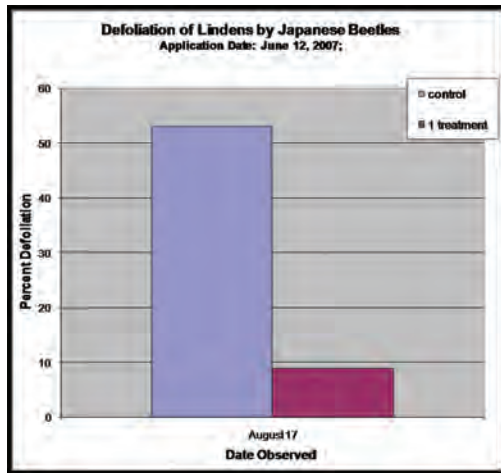


## Management Options

Products: Lepitect (soil injection), Xytect (soil injection/basal drench), Safari (soil injection/basal drench), Bisect (foliar spray), Onyx (foliar spray) Lepitect Infusible (tree injection)

### Timing:

- Apply Xytect soil applications in late fall or early spring.
- Lepitect and Safari should be applied in early June 3-4 weeks prior to adult emergence in early July.
- Foliar sprays and tree injections should be made when adult beetles begin to damage plants.



Research has shown Lepitect provides excellent control of Japanese beetles. The graph shows an untreated tree suffering over 50% defoliation from June through August. A tree treated with Lepitect in June showed less than 10% defoliation during the same period. Research data provided by Dr. Dan Herms, Ohio State University.



Treatments with Lepitect, Xytect, and Safari are performed at the base of the tree.