

Japanese Beetles

Japanese beetles are destructive plant pests that feed on the fruit and foliage of several hundred species of trees, shrubs, vines, and vegetable crops.

Damage

Japanese beetles are leaf “skeletonizers” — eating only the tender tissue and leaving the veins. They also eat flowers and flowers buds.



Japanese beetle “skeletonizing” a leaf

Some Plants that Attract Japanese Beetles

- | | |
|-------------------------|------------------|
| • American chestnut | • grapes |
| • American elm | • hollyhock |
| • American linden | • horse chestnut |
| • American mountain ash | • Japanese maple |
| • apple | • Norway maple |
| • birch | • plum |
| • black cherry | • roses |
| • cherry | • Rose-of-Sharon |
| • flowering crabapple | • walnut |

Arrival in the U.S.

As the name suggests, the Japanese beetle is native to Japan. They were first discovered in the U.S. in 1916 at a plant nursery in New Jersey. The theory is that the beetle grubs arrived in soil clinging to imported Japanese iris bulbs.

Once in the United States, our large expanses of turf and pasture grasses proved to be the perfect habitat for Japanese beetle grubs, which feed on weed and grass roots.

In Japan, the beetles don’t pose much of a problem to gardeners, because there many native birds eat the

beetles, and they do not have as much turf as we have in this country.

Life Cycle

Adult beetles emerge from the soil in early summer and begin looking for food and mates.

The first females to emerge **release a pheromone** that attracts other beetles. As they feed, odors emitted by beetle-damaged foliage also attracts more beetles. Japanese beetles are strong fliers and can **travel miles** to feed or mate.

Females mate repeatedly, dropping to the ground to lay eggs, one at a time, a few inches deep in the soil. **Over a season, the female beetle lays 40-60 eggs.**

Eggs hatch into larvae, which go through various growth stages underground and eventually emerge as adult beetles the following spring.

Control Methods

Although there are many methods for controlling Japanese beetle grubs — which cause turf damage — there are **not many methods for controlling the adult beetle**. Since adults are mobile, controlling the grub population does not necessarily control the adult beetle population. For this reason, only control methods for the adult are addressed here.

Handpicking

One simple way to get rid of Japanese beetles is to **manually remove them**. Since beetles congregate, you may be able to get rid of large numbers this way.

- Be aware that Japanese beetles **feed in full sun**, usually starting at the **top of a plant**.
- Make a **funnel trap** by taping two gallon jugs together, as shown on next page. Put soapy water in the bottom.
- Knock beetles into the “funnel” of your trap before they have a chance to fly away or drop to the ground.
- **Pluck beetles in the morning**, when they are most sluggish.

Japanese Beetles

Don't crush beetles — Some sources claim that if you crush a beetle, it will release more pheromone.



Homemade Japanese beetle trap

Grow a "Trap Crop"

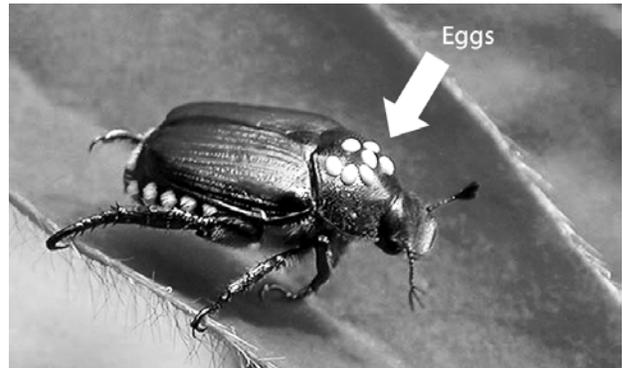
Some gardeners grow a "trap crop" of raspberries or grapes to lure the beetles away from the plants they want to protect.

Encourage Natural Predators

- **Native birds** — Starlings top the list of native birds with an appetite for Japanese beetles. Robins, catbirds, cardinals, bobwhites, eastern kingbirds, sparrows, blue jays, and woodpeckers are also known to eat the beetles.
- **Chickens** will eat Japanese beetles.
- **Introduced predators** — In the early days of the Japanese beetle invasion (from 1920 to 1933), the USDA imported **49 natural enemies** of the beetle!

Most of these enemies were predators of the grub, but one introduced predator of the beetle was the **Tachinid fly**. This fly glues its eggs to the thorax

of the adult beetle. When the eggs hatch, the larvae bore into the beetle to feed.



A Japanese beetle with Tachinid fly eggs attached. These beetles should not be destroyed.

Commercial Japanese Beetle Traps

The general consensus among experts is that Japanese beetle traps are not a good idea. This is for the reason that the traps generally attract more beetles than they successfully capture.

That said, some people have found the traps to be useful in certain situations. For example, a woman who had an infestation in her crabapple tree claims that she was able to lure all the beetles out of the tree by setting up commercial trap near the tree for a few days.

Chemical Controls

Insecticides that kill on contact may provide no advantage over handpicking, as they require repeated applications if new beetles arrive.

If you must use an insecticide, choose the least toxic approach so as not to harm beneficial insects and pollinators.

Gardeners who choose to protect plants with pesticide sprays or dusts should know that most effective products are also highly toxic to honeybees. Don't apply pesticides during the daytime hours when bees are visiting flowers.