

## Did You Know?

Japanese beetles are tough hombres in the bug world, ripping and chomping their way through more than 300 plant species and nearly 80 plant families. Farmers and ornamental plant growers spend more than \$450 million annually on control measures and replacements for plants destroyed by the beetle, which is by far the most destructive pest of ornamental and turf plants in the eastern United States.

The beetle, *Popillia japonica*, is anything but a finicky eater. They'll happily tear through a vast variety of plants, from corn and soybeans to fruits, vegetables, and landscaping stock, to name a few of their victims.

So delicate-looking geranium petals must look like colorful finger food to these ungainly flying marauders. Little do the beetles know that those petals pack a powerful wallop. Though its lovely, colorful flowers are very attractive for all and profitable for growers, the flowers are deadly to the beetles.

The voracious beetles can't resist chomping the geranium petals—but within half an hour of indulging their appetites, the beetles are flat on their backs, nearly paralyzed with only their legs and antennae twitching slightly. It's a classic case of "what goes around, comes around," as the immobilized pests quickly become the prey of other hungry bugs. When paralyzed under laboratory conditions, the beetles typically recover within 24 hours, but they often die under field conditions because predators spot and devour them.

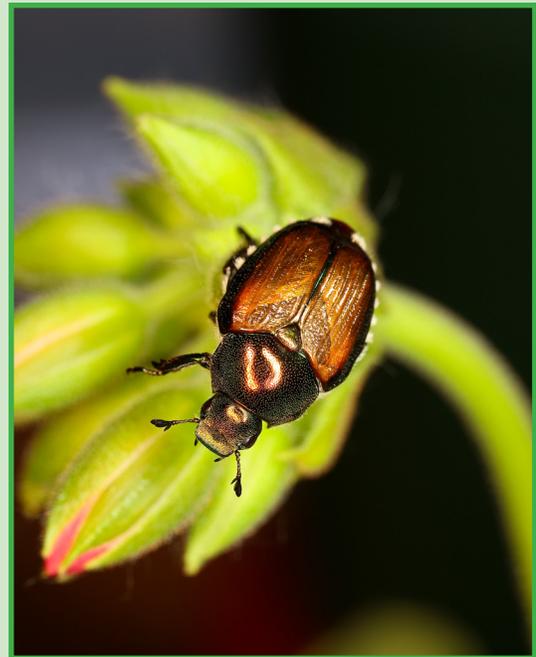
The poisoning effect of geranium flowers on beetles is not a new discovery; it has been known since the 1920s. But the phenomenon has not been studied in depth—how or why it happens—until recently, when scientists at the **ARS Application Technology Research Unit**, in Wooster, OH,

picked up where scientists left off more than half a century ago.

ARS scientists are working on a natural, botanical formulation for controlling the beetles based on geraniums' bug-busting compound. ARS is filing for patent protection on this technology. An all-natural bug-fighting compound will help consumers protect their valuable investment.

Power to the petals!

Adapted from information written by **Chris Guy**, Public Affairs Specialist, ARS Information Staff.



Please submit story ideas and national award items to Tara T. Weaver-Missick, [tara.weavermissick@ars.usda.gov](mailto:tara.weavermissick@ars.usda.gov) or call 301-504-1663.