

Geraniums could help control devastating Japanese beetle

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Geraniums may hold the key to controlling the devastating Japanese beetle, which feeds on nearly 300 plant species and costs the ornamental plant industry \$450 million in damage each year, according to scientists with the Agricultural Research Service (ARS).

The beetle, *Popillia japonica Newman*, can feast on a wide variety of plants, including ornamentals, soybean, maize, fruits and [vegetables](#). But within 30 minutes of consuming geranium petals, the beetle rolls over on its back, its legs and antennae slowly twitch, and it remains paralyzed for several hours. The beetles typically recover within 24 hours when paralyzed under laboratory conditions, but they often succumb to death under field conditions after predators spot and devour the beetles while they are helpless.

ARS entomologist Chris Ranger at the agency's Application Technology Research Unit in Wooster, Ohio, is working on developing a way to use geraniums to control the [beetles](#).

Ohio and neighboring Michigan are some of the largest producers of horticultural plants, most of them grown in greenhouses. Other research to benefit the horticultural industry includes that of Susan Stieve, curator of Ohio State University's Ornamental [Plant Germplasm](#) Center in Columbus, Ohio.

Stieve is working with OSU collaborators and horticulturist Jonathan Frantz of the ARS Greenhouse Production Research Group in Toledo,

Ohio, to see whether a specialized breed of begonias can tolerate colder temperatures.

The scientists are screening the begonias at two production temperatures: 5 degrees Fahrenheit colder than normal, and 10 degrees F colder than normal. Begonias are found naturally in a wide variety of climates and altitudes—ecological clues that can be used to identify promising germplasm. Being able to grow begonias at cooler temperatures could reduce greenhouse heating bills for ornamental growers in northern climates.

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