

Discouraging the use of traps for Japanese beetle control

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Japanese beetles are voracious pests that attack over 300 different species of plants. Among their favorites are lindens, roses, grapes and birches. They also feed on garden plants and agricultural crops such as hops and soybeans. These beetles have sharp, chewing mouthparts which skeletonize plant leaves and destroy flowers and fruits. There are many “traditional” insecticides that are synthetic products which can manage Japanese beetles. However, a growing group of people desire alternatives to these types of products and have interest in traps or organic products. Organic sprays such as neem oil and pyrethrins are effective for 4–7 days as a curative treatment. What is not recommended for management are the use of readily-available Japanese beetle traps.

Mechanics of the trap

Traps are designed to be hung outside during the flight season of adult Japanese beetles. Inside of the trap are typically two scent-based lures. One of the lures mimics the odor of a newly-emerged female beetle, which attracts male beetles, the other is designed to smell like a damaged flower, which attracts both males and females. The trap usually features panes of plastic that the beetles fly into before falling into a bag/receptacle below.

Issues with trapping

There is no doubt that commercially available traps attract and capture a significant number of beetles. The problem is that each trap attracts far more beetles than it can contain. This causes “spillover,” which is a critical problem for plants we want to protect. Research has indicated that traps within 30 feet of a preferred host for Japanese beetles result in far greater defoliation (71% for plants near traps and 22% for plants with no trap near them). If the trap is within 10 feet of a host plant, over 90% of the plant may be defoliated¹. Not only is spillover an issue, but not all beetles attracted by the traps will end up on or in the trap. Some simply land on plants nearby and feed².

Possible uses for traps

Japanese beetle lure traps can be used as a monitoring tool for areas not known to have the beetle, to help establish an expanded range as it moves through Nebraska. There are cases of success with traps in orchards or in other large-scale planting situations, but these require modification of the trap for high volume holding³. For small-scale agriculture, gardens and urban/suburban lawns, the use of Japanese beetle traps should be avoided. If there is a need for organic control, consider the use of neem oil or pyrethrins. Further still, remove attractant plants like linden or rose and replace with less susceptible plants like oaks or forsythia.

References

1. Gordon, F. C., and D. A. Potter. 1985. Efficiency of Japanese beetle (*Coleoptera: Scarabaeidae*) traps in reducing defoliation of plants in the urban landscape and effect on larval density in turf. *J. Econ. Entomol.* 78: 774-778.
2. Switzer, P.V., P. C. Enstrom, and C. A. Schoenick. 2009. Behavioral Explanations Underlying the Lack of Trap Effectiveness for Small-Scale Management of Japanese Beetles (*Coleoptera: Scarabaeidae*). *J. Econ. Entomol.* 102: 934-940
3. https://ipm.missouri.edu/MPG/2018/1/mass_trapping_japanese_beetles/



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