

## SOG Notebook for Urban Organic Vegetable & Herb Gardening **Beetle Battles (Japanese, Cucumber, & Flee)**

**By Rob Danforth**

Not all beetles are a problem. There are friends (e.g., rove & soldier beetles) and foes (e.g., Colorado Potato beetle). Three unfriendly ones common in any garden are the Japanese beetle, the cucumber beetle and the flea beetle, in descending order of importance.

The Japanese Beetle has favourite foods but will eat a wide variety of leaves and flowers when hungry. Infestations are common and the beetles eat all the soft parts of a leaf and leave the ribs and veins. My wife and I have lost over 90 feet of fence line Virginia creeper, many roses, zinnias, mallows, bean leaves (bush and pole), cucumber leaves,



and soybean leaves, as well as the wild grape vine on the back fence and the leaves of my neighbour's Linden tree. While I have named some plants we do not eat, these plants were used to provide a windbreak for our vegetables and composters, and food and shelter for birds, pollinators, and predator insects.

*(Japanese Beetle on a rose leaf)*

The Japanese beetle is active most of the summer months. They show a marked preference for warmth and tend to choose the sunny topmost leaves and flowers in the morning. They can be found on top of leaves and on the under sides, as well as tucked in between the petals of flowers. Later in the day they can be found most anywhere on plants, but exposure to the sun seems to be important in choosing a feeding site. Once they begin to feed, they release pheromones that signal other

beetles in the neighbourhood that both feeding and mating should begin in earnest. And it does! Clusters of beetles show up and it becomes difficult to determine if they are feeding, mating or both at the same time – not that you really care! When ready to lay eggs, they stay nearby the food source and lay eggs in the soil or in the grass. The larvae live underground.



Unfortunately, the best organic control method we have found is to hand pick the beetles and drown them in soapy water (e.g., used dish water in a recycled yoghurt tub). (*Dish soap morgue after 20 minutes hand-picking*). While hand squashing the Colorado Potato beetle works well, squashing

Japanese beetles is not advised because of the release of pheromones. A soapy spray has not proved very effective either, since the beetle is armored with a hard-shell carapace and the spray must soak the adult beetle to block the breathing pores in its abdomen. Ours seemed to enjoy the bath!



Traps work, but there are drawbacks and I do not advise their use. The trap (\$\$) looks a bit like a WW2 bomb and has a pheromone patch attached to one of the vanes. (*Pheromone trap*) The container or bag at the bottom collects the beetles and can become quite full and very smelly. Plus, the pheromones bring in lots of beetles your garden might never have attracted. Some stop

to snack on your plants on the way to the trap. On the other hand, you

would be doing your neighbours a favour by collecting all their beetles as well as your own. If you use this trap, use it to lure the beetles away from your garden not to it! Place it away from **all** plants you wish to protect – about 50 feet – and clean it out often.

To collect beetles, hold the container of soapy water about 3 inches directly under the beetle. At 4 or more inches they will fly away or bounce off your hand or the rim of the container. The beetles are slow



to react so knocking them into the container is not usually a problem. They usually let go and drop three or so inches before flying. However, be prepared for a cluster of beetles all on one leaf. I have had as many as 7 on one pole bean leaf – two mating pairs and three wannabes. Two bounced off and got away to hide in the lower leaves. (*Japanese beetles feeding & mating*)

If your infestation is a bad one, then there will be many beetle larvae in the soil or grass nearby. Our neighbourhood skunk comes by nightly and makes a lot of holes in the lawn to get at the beetle larvae. While the holes are unsightly, we accept it as free lawn aeration and insect control. You can purchase nematodes to add to your lawn to destroy the Japanese beetle larvae, but you will



have to babysit the nematodes as they need moisture all summer to keep them well.

(*Skunk digging for beetle larvae*)

Another option is to take a holiday from growing some of the beetle's favourite plants. We no longer have Virginia creeper or any roses, and

our gardens do not have large numbers of any one kind of plant -- another very good reason for biodiversification!

### **Cucumber beetle**



The cucumber beetle is smaller than the Japanese beetle and can be found in the flowers of cucumber and squash plants as well as on the leaves. (*Cucumber beetles in a squash flower*) They may also be carrying a plant virus. Naturally, they arrive in your garden to coincide with the blooming of these plants. Unfortunately, they are awkward to get at in the deep throats of some flowers, so hand picking or squashing them is a challenge.

Drowning them in soapy water is effective if you can get at them. A hand-held vacuum with a crevice tool can help, but use the lowest suction you can arrange. A soap spray has to hit them directly and soak them, and it must be rinsed off the plant after 10 minutes. A garlic spray (no need to rinse) sprayed into the flowers and on the leaves can help discourage them. Yellow sticky cards also work, but they catch many different insects as the colour yellow is popular with garden insects; you will have noticed that many vegetable plants and flowers have yellow petals or yellow centers.

## Flea Beetle



The flea beetle is very small and quick to escape. (*Flea beetle and Flea beetle damage*) Eggplant seems to be a favourite food but



other plants can be affected. It leaves pin holes in the leaves and most plants can withstand a few flea beetles unless there is an infestation. Drowning these beetles is not really an option. Yellow sticky cards are the best bet if you find it necessary to reduce their numbers. Otherwise just monitoring their activity and letting the plant deal with the attack may be enough.



(*Yellow sticky cards*)

If you expect an infestation because of the previous year's activity, then protect the plants with row covers. If the plants are already infested, then cover with row covers to prevent the beetles re-locating and use yellow sticky cards daily and soap spray (+ rinse) every three days until the problem is resolved. Remember that the row cover will have to be removed for a couple of hours daily if the plants need pollinating.

If you use a sprayer note that oil and plastic attract each other and cling. Three inexpensive sprayers are a dollar store purchase, a brass pump

(sprays on both the push and the pull stroke) that you add a recycled 2 litre pop bottle, and a do-it yourself sprayer that uses a recycled pistol and a recycled bottle – only the tube is purchased. The sprayers with tubes allow the pistol to be manipulated in any direction without tipping the bottle. The brass pump is excellent and reaches farther and higher for tall plants; however, the bottle must remain upright at all times to keep the syphon straw in the liquid.

*(Dollar Store*

*Brass pump*

*DIY Sprayer)*



As you might expect, the first line of defense in any organic garden is threefold:

- keep the soil and plants healthy with compost, water, and mulch (we use shredded leaves for excellent, inexpensive results. (Note: some healthy plants increase toxins in their leaves to combat bug attacks; weakened plants **will** attract feeding insects as part of nature's cleanup service).
- check the plants often for thirst, nutrient deficiencies, or damage from wind, bacteria, fungus, viruses, insects – and sometimes curious people.
- start treatment as soon as a problem develops.

A water feature, a bird feeder, a bug hotel, and bug restaurants (Flowers) all can help attract birds, critters, and predator insects to assist with organic insect control. They too are a part of biodiversity.

Copyright ©RobDanforth 2021. Permission granted to print or post not edit.