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### **Flea Beetle**

Now that the heat has arrived the garden plants are growing like weeds. If you are like me you have been fighting against the weeds in your garden and working to keep fungi from taking over during the wet weather. Instead of fungi, how many of you have had your vegetable plants mutilated by many small holes, sometimes referred to as 'shot hole' in their leaves?

In part due to the cool weather of the 2010 spring and in part to the excellent breeding season last year, we are going to experience an explosion of beetle populations this growing season. The flea beetle is part of this explosion.

The flea beetle is a ¼ inch black beetle that is smaller than a lady bug. The black armor is usually smooth and shiny, sometimes appearing blue or green at differing angles in the sun. This beetle has many host plants from ornamentals to vegetables. Their feeding habit reveals leaves that look like they have been shot with several small pellets. It can sometimes be hard to confirm diagnosis as the beetles are hard to find on the plants they feed on. They hide during the day, preferring to feed actively in the cool night air.

Control for the flea beetle is usually not needed once the plant has obtained mature growth with full leaves. Check other plants in your yard and surrounding area to see if they play host to the beetle. If necessary it is better to attack a colony when it is small and newly hatched, rather than waiting for the population to multiply in numbers.

Floating row covers can be used to prevent beetles from getting to the plants. Most beetles are not noticed until the damage has already occurred on the foliage so this may not be a good option. Mulches can sometimes be effective as it can interfere with the movement of the pest from the soil to the plant.

Beetles may be controlled with chemicals such as sevin, spinosad and bifenthrin. When using chemicals, make sure you use a sticker or surfactant to help the chemical to adhere to the plant surface instead of quickly washing off. A teaspoon of dish soap is a simple surfactant that can be added to your mix. Some chemicals come with the surfactant included as shown on the label.

Just as the populations of flea beetle are high this year, so should you expect to see an increase in cucumber beetle, potato beetle and Japanese beetle. Scout your yard and garden for signs of these pests and use control measures as soon as you notice them.

Cucumber beetles are not as damaging to plant leaves when they feed as some beetles can be but they are extremely adept at spreading plant viruses that can quickly overtake plants. Cucumber beetles are either long with yellow and black stripes or resemble lady bugs only yellowish-green instead of orange. Pyrethrum insecticides work well against cucumber beetle. Removal of weeds in and around plants also prevents insects from hiding in both adult and larval stages.

When discussing the Potato beetle look for the Colorado potato beetle. The adults are yellow-orange with black stripes. In addition to potato they will also feed on jimson weed, henbane, horse nettle and thistle. Chemical control may be hard to obtain but Bt can be used to control the larval stage. Mycotrol is a biological agent that can be used to control both the adult and larval stage of the beetle. Natural enemies include ladybug, lacewing, spiders and predatory stink bugs.

Japanese beetle is about the size of your finger nail with an orange area on the back, surrounded by black. The identifying characteristic of these beetles is the 3-4 white dots on either side of the body. These beetles will defoliate plants quickly. Sevin and malathion can be used to control the adult stages. If you had a large population last year you may want to use imidacloprid (Merit) to control the larvae while it is still in the ground. Control for larvae should be applied in early June to try to prevent emergence from the soil. Traps are available but you may find that they do more to attract adults to your yard therefore increasing the population as a result.

USDA. "Managing the Japanese Beetle: A Homeowner's Handbook." United States Department of Agriculture. Animal and Plant Health Inspection Service. Program Aid No. 1599. Rev. April 2004. [http://www.aphis.usda.gov/lpa/pubs/pub\\_phjbeetle04.pdf](http://www.aphis.usda.gov/lpa/pubs/pub_phjbeetle04.pdf)

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