



Cucumber Beetles are possibly the most devastating pest for members of the Cucurbitaceae family. These members include Squashes, Pumpkins, Watermelons, Cantaloupes, and of course Cucumbers. There many types of control one could use, but those that are organic and more natural are considered by many including this author, to be safer and just as effective as conventional methods.

Cucumber Beetle Basics

Let's first start with some basic facts about cucumber beetles. There are two main types of cucumber beetles most commonly encountered, spotted and striped. The spotted cucumber beetle has a pale green back with 12 - 15 black spots reaching as much as 3/8 inch in length. The spotted cucumber beetle somewhat resembles a lady bug except it is larger and is green instead of red. The striped cucumber beetle also has a pale green back but has three black stripes down its back, it is typically 1/4 to 3/8 inch in length and more narrow than the spotted cucumber beetle. Adult cucumber beetles which have not previously mated, over winter in garden debris and hidden areas near the garden from the prior year. They emerge in mid-spring when the temperatures rise and reach a consistent temperature around 65 degrees Fahrenheit. After emerging, cucumber beetles immediately begin to locate cucurbit plants to feed on and to mate. Adult females may lay a few hundred or more eggs over the season in the soil. With cucumber beetle life spans reaching about 60 days, multiple generations will be present throughout the season, with more occurring in warmer climates. A single generation can grow and be fully developed and feeding on your plants in about 30 days, so often feeding damage will come in spikes and other times be minimal. At the end of the growing season, as temperatures decrease and cucurbit plants begin to wither as they are ending their life cycle, unmated cucumber beetles quickly retreat to finding hiding places such as sheds, woody debris, and other protected places to over winter.

Cucumber Beetle Damage

Cucumber beetles begin to harm cucurbit plants as soon as they arrive on the scene. As larvae they feed on root systems weakening the plant, as soon as they mature, they begin to feed on plant leaves, stems, and when they open, male and female flowers. It is not uncommon for heavy damage to result in up to a 20 % loss of plant leaves. This can kill small plants, but larger more mature plants have a greater ability to sustain damage. As the plants begin to produce fruit, beetles will then begin to feed on the surface of fruit, scaring it. Although, they will not usually feed enough to damage the eating quality of the fruit, they will reduce its appeal and marketability. Cucumber beetles can also spread diseases to cucurbit plants, including, squash mosaic virus and bacterial wilt. Bacteria wilt is quite possibly the most destructive disease for cucurbit plants period. When cucumber beetles feed on plants, if this bacterium is present in their digestive system, they can introduce it to the plant disrupting the vascular system and obstructing the flow of water and nutrients. The plant will begin to wilt immediately and cannot be saved. The next best course of action is to remove the diseased plant from your garden as cucumber beetles can quickly spread this disease to other plants. Ultimately, controlling cucumber beetles will control bacteria wilt.

Cucumber Beetle Control

First of all it should be noted that cucumber beetles are pests, they live off of cucurbit plants and will not stop feeding on unless you stop them. That being said, managing them is an ongoing process throughout the growing season and is something you must not give up on. To form a successful system of organic and natural control you should employ multiple methods and watch your plants with vigilance and often. Here are some methods and tips you can use that will help you to achieve this.

1.) After your season has come to an end, clean up all crop residue that remains. This would also include weeds and organic matter. This will reduce over wintering of adults in your garden therefore reducing numbers next season.

2.) If using natural pesticide sprays and dusts, give extra and heavy doses (that are safe for the fruit of course) beginning in September and through the remainder of the season to attack beetle populations and reduce numbers that will over winter and inevitably emerge in the next season.

3.) Tilling your garden in the spring just before planting will remove any remaining vegetation and disrupt early egg laying.

4.) Ensure that there is little or no loose debris below your plants especially the vine and stump as this may provide a habitat for cucumber beetles.

5.) Introduce Beneficial Nematodes to your garden. Beneficial Nematodes will feed on and result in the death of cucumber beetle larvae therefore reducing populations later in the season. Be sure to follow handling directions as nematodes are living organisms and require care getting them out to your garden.

6.) Apply Garlic Barrier to your plants. This is a garlic based, non toxic repellent that will deter cucumber beetles from feeding on your plants. It can be sprayed every one and half to two weeks to maintain effectiveness. Begin spraying your plants very early because once the cucumber beetles have found and fed on your plants it is difficult to make them stop.

7.) Apply Neem oil to your plants. Neem oil is a systemic (it is absorbed by the plant), which will discourage cucumber beetles from feeding on plants as it will disrupt their normal body functions. If sprayed thoroughly, often, and properly, cucumber beetles will get disoriented and choose to starve than consume anymore plants drenched in Neem oil. Neem oil is not harmful to humans or beneficial insects. Insects are only harmed when ingesting Neem oil. Always carefully read label instructions before handling or spraying.

8.) When applying pesticides by spraying, be sure to spray thoroughly the tops and bottoms of every leaf as well as every surface of the plant, including stems. Any surface of the plant is a location where cucumber beetles could feed.

9.) Apply Diatomaceous Earth to your plants. DE is completely natural and non toxic. It is the fossilized remains of plants that lived many years ago. It comes as silica, in a powder like form. It can be applied in this form or added to water and sprayed on to all parts of the plant. If applied as a dust, wear a face mask to prevent ingestion as this can irritate nasal passages; once the particles have settled this will no longer occur. DE essentially will cut up the insides of insects as they ingest it. Unfortunately, it is also harmful to beneficial insects such as honey bees, for this reason always avoid letting the dust get on to cucurbit plant flowers which is where the bees will go and also how they pollinate for you. If an insect comes in to contact with the DE, it will more than likely ingest some of it and most certainly die. Make sure you get food grade DE as it is the most natural. On the market you will DE products that do not contain 100% DE, these may have chemical ingredients you don't want in your garden. Food grade DE is safe for you to eat, in fact it is often put into grain while in storage to prevent bugs from eating it, so if you have ever eaten bread you have probably eaten DE. Be sure to always follow safety and application directions.

10.) Hand pick and crush cucumber beetles. This may seem kind of gross, and it is, but it is a 100% guaranteed method of killing cucumber beetles. It's a good idea to wear latex or plastic gloves while you do this as you will get a lot of bug guts on your fingers otherwise. You may hand pick during the day but cucumber beetles can fly and move very quickly. It is very hard to catch them during the day. But night is a different story. If you grab a flashlight and go out anytime during night, you will find cucumber beetles out feeding on leaves, male and female flowers, and fruit. They are right there out in the open and the darkness seems to slow their actions, you can catch them without hardly trying. This is a good way to drastically reduce the population

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