

Notes from a Rogue Entomologist:

For vegetable growers—prepare to meet the beetles

BY RICHARD J. HILTON

As the freshly planted seeds begin to emerge from the soil or as you put out plants carefully nurtured in the greenhouse or purchased at the spring fair, a number of insect pests await them. Two groups of beetles are among the most commonly encountered pests of young plants, the cucumber beetles and the flea beetles.

Cucumber beetles

We have a couple of species locally which are referred to as cucumber beetles and while they are roughly the same size, about one third of an inch, they are otherwise quite distinct in both appearance and habit. The western spotted cucumber beetle, *Diabrotica undecimpunctata undecimpunctata*, is yellowish green with eleven black spots and will feed on a wide array of plants. This insect is ubiquitous in our cultivated areas; if you think you've seen a green lady beetle, odds are it was a spotted cucumber beetle. The western striped cucumber beetle, *Acalymma trivittatum*, has three black stripes on a light yellow background and is a specialist, mainly feeding on cucurbits such as squash, zucchini, cucumbers, melons and the like.

Both of these species overwinter as adults and, in the spring, they lay their eggs at the base of plants, when the eggs hatch, the grub-like larvae feed on the roots and in some cases, usually with young plants, the root feeding can be quite damaging. The adults feed on new leaves and other succulent plant parts. In the spring when new plants are struggling to establish, this leaf feeding can cause quite a bit of stunting and smaller plants can be overwhelmed. I vividly recall a visit to one of our larger organic farms where squash plants were being transplanted to get an early start; unfortunately, as

this was the first planting in the area, all the striped cucumber beetles in the vicinity had homed in on this one field and were having a, well, field day. The infestation was, to quote the grower, "of biblical proportions." Every little transplant seemed to have a dozen beetles feeding on it; in many cases the leaves were almost totally skeletonized. Also, just to add insult to the grower's injury, it seemed that a majority of the beetles were enjoying conjugal relations. In a desperate attempt to salvage the planting, a huge tractor mounted vacuum machine was brought in to suck up the adult beetles but it was a lost cause. The problem was that all the beetles which had been generated from the previous year's squash plantings were drawn to that early planting. The neighbor who planted a few weeks later was in much better shape as the beetles had already gone elsewhere to do their damage.

While the striped cucumber beetle has become more numerous as the number of larger squash plantings in the region has grown, the spotted cucumber beetle always seems to be around. Despite its name, the spotted cucumber beetle does not lay its eggs on cucumbers but, instead, favors corn, beans and grasses. While the adults will feed on cucurbits and can cause problems they are more often found on corn and legumes. In other parts of the country, some of the species in the genus *Diabrotica* are known as corn rootworms as the root-feeding grubs are a major pest of corn in the Midwest.

Flea beetles

The flea beetles are smaller, about half the size of the cucumber beetles, and are often metallic in color. They get their name from their propensity to jump when disturbed and if you have a magnifying glass you can see that these beetles have an enlarged hind femur, analogous to our thigh. Flea beetles tend to be specific to the plant



Photos clockwise from top left: Western spotted cucumber beetle; western striped cucumber beetle; western potato flea beetle; and cabbage flea beetle. Credit for all photos: Ken Gray Image Courtesy of Oregon State University.

family they feed on and since there are a number of different species of flea beetles around, many plants can be at risk. In particular the cole crops: cabbage, broccoli, cauliflower, and Brussel sprouts which are in the crucifer or mustard family are often attacked by flea beetles.

Other species specialize on solanaceous plants, a.k.a. the nightshade family: potato, tomato, pepper, and eggplant. As with the cucumber beetles, the flea beetles overwinter as adults so they are ready to attack seedlings and new transplants in the spring. With the flea beetles, only the adults are of concern, as the tiny grubs which feed on roots and leaves rarely inflict serious damage. The adult beetles begin by chewing little pits in the leaf tissue, this is sometimes called "shotholing". As the feeding continues the leaves will take on a ragged appearance. Since flea beetles tend to specialize on certain plants, there are a lot of flea beetle species to be found. One prolific collector of flea beetles was Louis Gentner, the entomologist at the Southern Oregon Experiment Station (which is now the Research & Extension Center) from the 1920's to the 1960's. His collection was so

extensive that he left it to the Smithsonian Institution and, moreover, they were happy to get it.

Cucumber beetles and flea beetles both belong to the Chrysomelidae or leaf beetle family, named for reasons which are hopefully becoming obvious. Controlling these leaf-feeders can be difficult, since the adults of all of these species overwinter outside of the garden or field, and the larvae are often protected in the soil. If, or when, these beetles become pests in your garden, it is a good idea to destroy plant residues in the fall, including both crop vegetation and any surrounding weedy growth. There are varieties of squash and melons available which are tolerant of cucumber beetles, floating row covers can be used to protect new plantings in the spring, and healthy vigorous plants should be able to withstand quite a bit of feeding. And if there are a lot of striped cucumber beetles in your locale, you can always hope that your neighbors plant their squash before you do.

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Boomerang Man

BY LINDA FISHER

I wasn't sure if I was standing in a room filled with magical flying animals, fantasy butterflies or, I'm not sure what I thought. Since I was visiting with David Fantone, the boomerang guy, I figured I must be looking at boomerangs, but so many colors made me doubt my own whereabouts. I was about to become educated about the world of boomerangs. Fantone, age 54, explained that what I was looking at were the recreational "boomerangs" used for leisure, recreation and competition. These are all "returning" boomerangs. "Non-returning" boomerangs, known as throw sticks or kylies, were used as far back as Roman times, as weapons for hunting small prey.

Fantone grinned and told me he was very overweight at one time. He decided to take up kung fu and lost 70 pounds and then his weight loss hit a plateau. He decided to try exercising by playing Frisbee golf but that did not entice him, so he switched to boomerangs. He became hooked; he lost another 40 pounds. He told me the average age of boomerangers is at least 50

and most have a keen interest in things that fly, the aerodynamics of it all.

Fantone is originally from Pittsburgh, Pennsylvania and how he ended up in Applegate, Oregon I never did get around to asking. I am just glad he is here. I did however, ask him, "What else about the boomerang fascinates you?" He easily replied, "All my life I have been focusing on developing the spiritual side of myself and let my body go. A few years back, I realized that the mind, body and spirit must work together in harmony.

For some people, this would not be a new concept, for me it was. Some people meditate, some pray; I have my boomerangs. If I have a strong thought or a wish or a prayer, I give this feeling to my boomerang, throw it out to the universe and take what ever comes back. Of course, this is not what I do all the time with my boomerangs or even that frequently, but that path is there when I need it."

Fantone is focused and very philanthropic with his boomerang



with the distribution. Fantone, himself a veteran, told me, "You have no idea how lonely and homesick those soldiers can get." He has also sent boomerangs to our soldiers via the Wayne Owen Fighting Arts School, in Grant's Pass. He said this was very personal for him as many of the students at the Wayne Owen School, where he himself trained, have family overseas. Fantone helped many of the young students make their own boomerangs, which were then shipped with a letter or a special message. "I feel the boomerang carries its own message, 'Return Home to US', Fantone proudly murmured.

Not only is Fantone passionate

about his boomerangs, he takes his passion and makes it happen. If he is not doing demos at the Grant's Pass Boys and Girls Club or the Pumpkin Patch at Pacifica, in Williams, he is doing demonstrations and talking to the school's DARE programs. Fantone explained that boomerangs can be a shop project, an art project, a science project and most certainly are great for physical education classes. Most of the boomerangs, if not being made in a class setting as a do-it-yourself project, are made on site, at his house in Murphy. He uses materials of light wood and plastic for kids, or heavier ply woods and paper embedded resin materials for competition. Speaking of competition, in 2005, Fantone placed first in accuracy throwing at the west coast round up in Salem, Oregon and first place at the nationals for best design. In 2006 he won for best craftsmanship and in 2008 for best artwork. Fantone has a 'borrow a boomerang' program, just like a library program. As much as he loves competing in all aspects of the boomerang, he said he would much rather teach someone, in his shop, how to build a boomerang, instead of selling you one. The lesson is free, but in return you make Fantone a boomerang.

David Fantone is one amazing man of many other talents, not thus mentioned. To contact David Fantone, e-mail him at boomerangboo@peak.org.

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