

Column Name- The Heartland Minute

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*“Controlling Garden Pests”*

Most gardeners know the feeling. You’ve worked hard all spring tilling, planting, watering, weeding- only to find there is something out in your garden who is also enjoying your crop! Garden insect pests are an unfortunate part of life for gardeners, but we do have some options when looking at controlling some of our most common pests.

**Hornworms on Tomatoes:**

Hornworms are the largest larval insect commonly seen in the garden. Though usually seen on tomato plants, they can also attack eggplant, pepper and potatoes. The larval state of this insect is a 3.5-4” long pale green caterpillar with five pair of prolegs and a horn on the last segment. Though initially quite small, these insects pass through four or five larval stages to reach full size in about a month.

Handpicking is an effective control in small gardens. Though large, these larvae are surprisingly difficult to see and is very well camouflaged. The first clue you may see of their presence is missing foliage. If you have a larger garden, the following insecticide can be used: Bt (Dipel, Thuricide), spinosad (Conserve; Colorado Potato Beetle Beater Conc; Captain Jack's Dead Bug Brew, Monterey Garden Insect Spray), cyfluthrin (BioAdvanced Vegetable & Garden Insect Spray) and other insecticides may also be used to control hornworms. Pay attention to the harvest interval. The harvest interval is the number of days between when the spray is applied and when the fruit can be harvested.

**Squash Bugs:**

Squash bugs are the grey, shield-shaped bugs that feed on squash and pumpkin plants. If you have had problems with these insects in the past, you know that they are almost impossible to control when mature. This is because the squash bugs have a hard body that an insecticide has difficulty penetrating. Thus, spraying when the insects are small is critical. Look at the underside of the leaves for cluster of brick-red eggs and small green insects with black legs. These nymphs will eventually become adults, which will lay eggs that will become the second generation. The second generation is often huge and devastating. Therefore, it is important to control as many squash bugs of the first generation as possible.

Adult squash bugs have a hard, protective shell which is impervious to insecticide treatments. Use high pressure when applying liquid insecticides to ensure penetration of the dense plant foliage and thorough coverage to the nymphs which often are on the undersides of leaves. Using a duster will also work. Subsequent treatments are usually required due to the continual presence of egg-laying squash bugs. Effectiveness of treatment varied by the life stage of the insect. Spinosad (Captain Jack's Dead Bug Brew; Monterey Garden Insect Spray; Natural Guard Spinosad) is very effective on nymphs but ineffective on adults. Products with permethrin (Eight Vegetable, Fruit & Flower Concentrate; Hi-Yield Lawn, Garden, Pet, & Livestock Insect Spray, Green Thumb Multipurpose Garden and Pet Dust) were

moderately effective on nymphs but ineffective on adults. The most effective products for adults were cyhalothrin (Spectracide Triazicide) and cyfluthrin (BioAdvanced Vegetable & Garden Insect Spray).

Arguably the most critical aspect of controlling squash bugs is to reduce the overwintering population of squash bugs by working the soil and/or removing foliage and fruit immediately after harvest. This deprives nymphs of the necessary food source to complete their development. Also, recently formed adults are denied a food source with which to build up the sufficient amounts of body food reserves required to see them through winter.

For more information regarding Agriculture and Natural Resources, 4-H Youth Development, or K-State Research and Extension call the office at 620-583-7455, email me, Lindsay Shorter, at [lindsayshorter@ksu.edu](mailto:lindsayshorter@ksu.edu), or stop by the office which is located inside the courthouse. Be sure to follow K-State Research and Extension- Greenwood County on Facebook for the most up-to-date information on Extension education programs and the Greenwood County 4-H program.