Controlling Fire Ants in the Vegetable Garden

Fire ants can be a nuisance in the vegetable garden. In addition to being a stinging insect, they can damage some vegetable crops, such as okra and Irish potatoes. Occasionally they may feed on tender seedlings of corn, cucumber and watermelon.

A vegetable garden that is frequently tilled may have fewer fire ant mounds because tilling disturbs the fire ants and causes them to move. However, some mounds will persist, such as those that are too close to the individual vegetable plants to adequately be disturbed by tilling, or in gardens that are heavily mulched for weed control. In these cases fire ant baits or mound treatments may be necessary.

If fire ant baits are applied during the spring and fall to the lawn area surrounding the garden, this may significantly control fire ants within the garden site (see EIIS/TO-6 Fire Ant Management in the Home Lawn). Besides treating for fire ants in the surrounding lawn, some fire ant baits and products for mound treatments also are labeled for use within the vegetable garden for additional control. Always read the product label for where and how it can be safely used. The label must state it is for use around the specific vegetables being grown, and state it is for fire ant control as a bait or drench application.

Fire Ant Baits

Some fire ant baits can be used both within the garden and on the lawn. These include baits containing the active ingredients spinosad and pyriproxyfen. Spinosad is a natural metabolite product produced by a soil microorganism (Saccharopolyspora spinosa) and affects the ant nervous system. Many of the spinosad products are even approved for organic vegetable production. Baits containing spinosad are relatively fast-acting, and this makes them a good choice for controlling individual mounds that occur in the garden itself.

Pyriproxyfen is an insect growth regulator that mimics the effects of the insect’s own juvenile hormone, reducing the production of viable eggs. Although pyriproxyfen prevents the development of more worker ants, it does not kill existing adults. Because of this, ant colonies may persist up to several months after treatment, until worker ants present at the time of treatment die naturally.

For the quickest control, gardeners should not wait until fire ant mounds become large, but should apply one of these baits as soon as fire ants are observed in the garden. Be sure to treat the lawn area around the outside of the garden with fire ant bait as well. Worker ants from mounds located in the garden will readily forage for food many feet into the nearby lawn area.

For individual mound treatments with baits, do not put the bait directly on top of the mound, but sprinkle it around each mound. Baits are best applied in the spring and fall when temperatures are...
moderate (70 to 75 ºF). Apply baits in late afternoon or early morning when the ants are actively foraging. To determine if fire ants are foraging, crumble a few potato chips and place them on the ground beside a mound. Check for ant activity in about 30 minutes. If the colony is actively foraging, ants should be noticed carrying small pieces of the chips back to the mound. For best control, always use fresh bait.

If baits are to be applied to larger areas, use a handheld seed spreader for even distribution. Apply baits when there is no threat of rainfall within 24 hours, as rain will dissolve the bait granules. Likewise, do not apply the bait onto wet grass. In the garden, the use of a drip irrigation system or soaker hoses will reduce the amount of soil that becomes wet, and therefore will be less apt to dissolve the granular baits applied.

Examples of granular fire ant bait products containing spinosad with labels for use within the vegetable garden:
- Dow Conserve Fire Ant Bait (OMRI)
- Ferti-lome Come and Get It! Fire Ant Bait
- Southern Ag Pay Back Fire Ant Bait (OMRI)

Example of fire ant bait product containing pyriproxyfen with a label for use within the vegetable garden:
- Esteem Ant Bait

Liquid Mound Drenches
You can use a liquid drench to eliminate large mounds that need to be controlled quickly, but be sure to use an insecticide labeled for use in home vegetable gardens. Some insecticide products commonly used in home vegetables include label directions for mixing and applying the product as a mound drench. Products containing the active ingredient spinosad are quite effective as mound drenches, and insect sprays with this active ingredient may be used to control many other pests in the home vegetable garden. Mound drenches are relatively quick-killing. Check product labels for specific directions. Spinosad can be applied near most vegetable crops for fire ant control.

Examples of liquid insecticide products containing spinosad with labels for use within the vegetable garden:
- Bonide Captain Jack’s Dead Bug Brew Concentrate
- Bonide Colorado Potato Beetle Killer Concentrate
- Monterey Garden Insect Spray Concentrate (OMRI)
- Natural Guard Spinosad Landscape & Garden Insecticide Concentrate
- Southern Ag Conserve Naturalyte Insect Control Concentrate (OMRI)

Use a watering can, sprinkler can, or bucket to mix and apply the drench. Read the label, mix the specified amount of insecticide in water, and pour over the mound. To be successful using an insecticidal drench, enough water must be applied to thoroughly soak the mound. Depending on the size of the mound, this ranges from one to two gallons of pesticide solution. First apply about ¼ of the total volume in a circle about 12 inches from the outside of the mound. This may prevent the queen or workers from escaping through their underground network of tunnels. Then apply the rest of the drench directly onto the mound. When applied properly, mound drenches will eliminate a mound within a few hours.

Granular Insecticides
If fire ants are a significant problem in the vegetable garden, one of the following granular products (see list below) can be uniformly applied just prior to planting, or after the plants emerge, and worked into the top 4 to 6 inches of soil. Use 5 cups (1.2 pounds) for a 500 square foot area. However, plan the garden so that the specific vegetables planted in that area are listed on the label of the product.

For individual fire ant mounds, apply 1 tablespoon of one of the granular products containing bifenthrin over the surface of each mound. For best results apply in cool weather (65 – 85 ºF), or early in the morning or late evening hours, avoid disturbing the ants, and thoroughly water the treated area immediately after an application. These products can only be used near the vegetables listed on their labels (see list below).
Examples of granular fire ant killing insecticides containing bifenthrin with labels for use within the vegetable garden near certain vegetables:

- Hi-Yield Vegetable & Ornamental Insect Control Granules (0.1%):
  - green peas, edible pea pods (sugar snap peas, snow peas), green beans (wax beans, snap beans), dry beans (black-eyed peas, cowpeas), sweet corn, broccoli, Brussels sprouts, cabbage, cauliflower, cavalo broccoli, Chinese broccoli, Chinese cabbage, kohlrabi, cucurbit vegetables: chayote, citron melon, cucumber, edible gourd, muskmelon (cantaloupe, casaba, Crenshaw melon, golden melon, honeydew melon, pineapple melon, Santa Claus melon, snake melon), pumpkin, summer squash (crookneck, scallop, straightneck, zucchini), winter squash (butternut, Calabaza, Hubbard, acorn, spaghetti), watermelon, tomatoes, peppers, eggplant, head lettuce.

- Bonide Eight Insect Control Flower & Vegetable Soil Above & Below Soil Insect Granules (0.115%):
  - tomatoes, sweet corn, green peas (sugar snap peas, snow peas), green beans (wax beans, snap beans), dry beans (black-eyed peas, cow peas), cucumber, gourds, muskmelon, pumpkin, squash, watermelon, artichoke, broccoli, Chinese broccoli, cabbage, cauliflower, kohlrabi, Chinese mustard, eggplant, head lettuce, peppers (bell & non-bell).

Other Insecticides

A supplemental label of one carbaryl product (GardenTech Sevin Concentrate Bug Killer) was found that allows for fire ant control by mound treatment around vegetable crops listed on the label. Mix ¾ fluid ounce of product per gallon of water, and apply in a manner as stated for products above. Some brands of carbaryl dust may be sprinkled over the fire ant mounds within the garden. Check the product label for mound treatment directions. Some fire ant control will be obtained, but the remainder of the colony may move to another site. Never use products containing acephate for mound treatments in the vegetable garden (such as Hi-Yield Acephate Fire Ant Killer, Ortho Orthene Fire Ant Killer, or Surrender Fire Ant Killer). Acephate can be used to treat fire ant mounds in home lawns, but it is not for use around vegetable plants. It is a systemic insecticide that is readily absorbed by plant roots and will move up into leaves and fruit of vegetables. Permethrin is listed for use as a spray insecticide on some vegetables, and the labels of some products will mention fire ant control as a drench. However, the labels do not specify that the products can be used as a drench within the vegetable garden.

Caution: Pollinating insects, such as honey bees and bumblebees, can be adversely affected by the use of pesticides. Avoid the use of spray pesticides (both insecticides and fungicides), as well as soil-applied, systemic insecticides unless absolutely necessary. If spraying is required, always spray late in the evening to reduce the direct impact on pollinating insects. Always try less toxic alternative sprays first for the control of insect pests and diseases. For example, sprays with insecticidal soap, horticultural oil, neem oil extract, spinosad, *Bacillus thuringiensis* (*B.t.*), or botanical oils can help control many small insect pests and mites that affect garden and landscape plants. Neem oil extract or botanical oil sprays may also reduce plant damage by repelling many insect pests. Practice cultural techniques to prevent or reduce the incidence of plant diseases, including pre-plant soil improvement, proper plant spacing, crop rotation, applying mulch, applying lime and fertilizer based on soil test results, and avoiding overhead irrigation and frequent watering of established plants. Additionally, there are less toxic spray fungicides that contain sulfur or copper soap, and biological control sprays for plant diseases that contain *Bacillus subtilis*. However, it is very important to always read and follow the label directions on each product. For more information, contact the Clemson Extension Home & Garden Information Center.