



Bug-Wise

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Control Fire Ants in Commercial Fruits, Nuts and Vegetables: Fire ants interfere with commercial fruit and vegetable production in several ways. Sometimes they damage plants directly by eating the germ from newly planted seeds, by feeding on okra or other fruits, or by feeding on the inner bark of young trees. The mounds can physically interfere with management operations and even damage equipment, and fire ants readily nest in organic mulch, under plastic mulch, around irrigation equipment or near the base of trees. But it's their stings that cause the most problems. Fire ants interfere with hand harvest and other jobs, such as pruning or staking. They can also increase liability and reduce return business in 'pick your own' operations.

Granular baits are the best way to control fire ants in commercial fruit and vegetable crops. When used properly, baits provide effective control for relatively little cost and effort, but baits are slow-acting and have to be applied preventively.

Fire ant baits for fruits and vegetables: Only a few fire ant baits are labeled for commercial fruit and vegetable crops. Check the label before you buy and be sure the product is approved for the crop you plan to treat. Fire ant baits are sold in small quantities of one to five pounds and in 25 pound bags, which usually cost less per pound of product. You can buy these large packages from farm co-ops, feed and seed stores, lawn and garden stores, or horticulture supply stores, but they may have to be specially ordered.

Fire Ant Baits for Commercial Fruits, Nuts and Vegetables [1]

Brand Name	Active Ingredient	Rate/acre	Uses	PHI [2]
Extinquish	Methoprene (0.5%)	1 to 1.5 lb	Extinguish is labeled for use in most food crops.	0 days
Esteem	Pyriproxyfen (0.5%)	1.5 to 2 lb	Esteem is labeled for use in some fruits and vegetables, but not all. [3]	1 day

1 Always check the label before you buy. Be sure the bait is labeled for the crop you plan to treat.
2 PHI (pre-harvest interval) is the number of days you must wait to harvest after treating.
3 Esteem is labeled for use in fruiting vegetables (tomatoes, peppers, eggplant, etc), brassica, cucurbits, bush berries, pome fruits, stone fruits and nuts. See label for details.

How much do fire ant bait treatments cost?: When purchased in 25 pound bags fire ant baits cost around $8 to $10 per pound. If you use 1.5 pounds per acre and only treat once per year, that's about $12 to $15 per acre. Don't buy more bait than you can use in one season because the oil in fire ant baits will go rancid, and fire ants don't like rancid bait.

How long does it take for baits to work and how long do they last?: Fire ant baits are designed to be slow-acting. The worker ants collect bait granules when they are out foraging, take them back to the colony, and feed them to their young. If fast-acting insecticides were used in baits, they would kill the foraging worker before she could carry the bait back to the mound. The growth regulator baits, like Extinguish and Esteem, work by interfering with development of immature fire ants, but they do not kill adults. Mounds eventually die out because there are no new workers to replace the ones that die. This takes two to three months.

The effects of a single bait application can persist for the whole season, meaning you will see fewer mounds than if you had not treated. You won't get rid of every mound, but if you apply bait properly and do not get rain for a couple of days, you should get around 80% control. The area will be re-infested as newly mated queens fly in and establish new colonies, but you can improve control by treating again later in the season.

When is the best time to apply baits?: You can apply fire ant baits any time during the growing season, but spring is probably the best time. Wait until soils warm in the spring and fire ants are actively foraging. You can use potato chips, the greasy kind not the baked ones, to check for foraging activity. Scatter a few chips in the area and come back and check on them in 20 to 30 minutes. If fire ants find the chips in this time, they will find the bait.

A single bait treatment, applied in the spring, will substantially reduce fire ant numbers. If you want even better control, and are willing to spend the time and money to get it, make a second and even a third treatment later in the season, like mid-summer and fall. Fall treatment helps reduce the number of mounds present the following spring.

Anticipated harvest time is often the most important point to consider in determining when to apply fire ant baits. For a relatively fast producing crop like southern peas, you will need to apply bait shortly after planting so it will have time to work before picking time. For a perennial crop such as 'pick your own' blueberries or blackberries, you may want to treat in the fall and then follow up with a spring application. Just keep in mind that it takes two to three months for the growth regulator products to work and time the application appropriately.

How to apply fire ant bait on large acreage: Rates for most granular fire ant baits range from one to two pounds per acre. That's not very much bait, and it is easy to over apply and waste a lot of money, especially if you don't have a proper applicator. A typical fertilizer spreader will put out way too much bait. It's not a good idea to mix fire ant bait with fertilizer because the fertilizer will absorb some of the oil from the bait granules, making them less attractive to the ants.

If you only need to treat an acre or two, you can use one of the hand-operated spreaders sold to apply fire ant baits to home lawns. Hand seeders designed to spread small seeds will also work if calibrated properly. But if you plan to treat large acreage, you will need a power-operated spreader that can be calibrated to apply the right amount of bait. Herd Seeder Company and Spyker Spreaders are two companies that make spreaders specifically designed to apply fire ant baits to large acreage. These bait spreaders are driven by a small electric motor, and can be mounted on a tractor, ATV, or other vehicle. These can be purchased, usually as a special order item, through local co-ops or other farm or horticulture supply stores, or through internet sources.

Tips for using fire ant baits

1} Always read the label at least twice, once before buying and again before treating. Be sure the bait is labeled for the crop you plan to treat. Follow label directions.
2} Buy only as much bait as you need. Most fire ant baits contain vegetable oils, which go rancid over time and fire ants don't like rancid bait.
3} Be sure you have the right kind of applicator to do the job.
4} Calibrate your applicator properly. One to two pounds per acre is not very much bait. It may look like the spreader is not putting out enough bait—just a granule here and there, but that is probably about right! Follow the calibration directions that come with the spreader.
5} Try to pick a time when its not likely to rain for a day or two after treatment. Rainfall will wash away or dissolve your costly bait. Reapply if you get significant rain within 6 to12 hours after treatment.
6} Wait until leaves are dry of dew or rainfall before applying bait.
7} Don't be tempted to apply excessive rates in order to 'really get um'. If you are willing to spend more money for improved control, it's much better to spend it on a second application later in the season!
8} Don't worry if you have a few narrow gaps between your bait swaths. Remember, the fire ant workers are out there looking for the bait. That's one reason baits work so well.
9} Don't forget to treat turn rows and field borders. Fire ant populations are often highest in untilled areas around field edges.
10} Know what results to expect. Baits don't work fast, and they won't eliminate every mound in the area, but by two to three months after treatment you should get around 80% control.
11} If your goal is to maintain a very high level of control in a 'pick your own' crop or other sensitive area, don't wait until you start seeing new mounds appear before treating again. Apply baits preventively in spring, mid-summer, and fall.

Use a liquid drench to quickly eliminate problem mounds: You can use a liquid drench for large mounds that need to be controlled quickly, but be sure to use an insecticide labeled for the crop being grown. Many insecticides commonly used in fruits and vegetables include label directions for mixing and applying as a fire ant mound drench. Products containing the active ingredients spinosad, permethrin, or carbaryl are especially effective.

Examples of Insecticides for Use as Fire Ant Mound Drenches

Brand Name	Active Ingredient	Use Directions
Hi-Yield Garden, Pet, and Livestock Insect Control	Permethrin (10%)	Mix 1 ½ fl. oz. (3 tbsp) in 1 gal. water to treat one mound.
Ferti-Lome Bore, Bagworm, Leafminer & Tent Caterpillar Spray	Spinosad (0.5%)	Mix 2 fl. oz. (4 tbsp) per gal. water and use one to two gal. per mound.
Sevin 80 S	Carbaryl (80%)	Mix 8.4 grams (about 1 2/5 tbsp)/gal. and apply 2 gal./mound

Use a watering can, or similar container, to mix and apply the drench. Just read the label, mix the specified amount of insecticide in water, and pour over the mound. The key to success with liquid drenches is to use enough liquid to thoroughly soak the mound. Depending on the size of the mound, this ranges from one to two gallons. Begin by applying about ¼ of the total volume

to a 10 to 12 inch band around the outside of the mound. This prevents the queen from escaping through underground foraging tunnels and improves control of workers. Then apply the rest of the drench directly to the mound. Liquid drenches are messy and time consuming to mix and apply, but they are a quick way to get rid of problem mounds. When applied properly they will kill most of the ants within a few hours.

Warning, do not use dry mound treatments containing acephate around fruits and vegetables! Acephate is commonly used as a dry mound treatment in home lawns, but it must not be used around edible plants. Acephate is a systemic insecticide that is readily absorbed by plant roots and carried into leaves and fruit.

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