

# Managing European Fire Ants



We are continuing to research new strategies for managing the European fire ant (*Myrmica rubra*, also called the European red ant) both in the field and the lab at the University of Maine. As we continue to develop better management strategies, we will post them to our website:

<http://sbe.umaine.edu/fireant/>

It is important to understand that it is not currently possible to completely eliminate European fire ants from areas that they have invaded and become firmly established. If you already have an infestation of European fire ants on your property, there are some management strategies that may reduce the number of ants or the density of nests.

## BEWARE

**Most new infestations are caused by people unknowingly introducing these ants to new areas via ant infested potted plants, soil, compost or other organic materials.** If you have an infestation, **DO NOT** move plant, soil and debris material to other areas. Clients should be advised against moving plants or soil from infested properties.

### Prevention

Be aware that infestations currently occur in many coastal communities and some inland sites. If you do not already have the European fire ants on your property, you can help prevent future infestations by carefully inspecting all plant and nursery materials (potted plants, tree balls, soil, compost, wood chips, and logs) prior to installing them. If you find ants infesting potted plants, first contain infested material and then contact your nursery provider. Do not plant them until you can confirm from a reliable source (entomologist from the local extension service or the University of Maine entomology program) that they are not European fire ants.

### Management with chemicals

If you choose to use pesticides, **always follow the label directions**. If the infested area is not your private property, check with the Board of Pesticide Control (207-287-2731) before any application. Currently, the most effective way to suppress ant populations is to use bait-formulated insecticides. Baits consist of an insecticide blended with a sugar, oil or protein food. They are more effective than contact insecticides because they are carried back to the nest and fed to queens and brood. They also target ants more specifically than broadcast insecticides or sprays, and thus have less impact on beneficial insects and other wildlife.

Baits can be spread evenly throughout infested areas using a hand-held spreader or deployed in bait stations. Bait stations are designed to take advantage of foraging and recruitment behavior of the ants. Ants attracted to the bait will recruit others to collect bait and bring it back to the nest where it will be fed to the colony. Bait stations are selective in that they provide access to small foraging

insects, limiting exposure of non-target organisms. By design, bait stations also reduce the risk of pesticide run-off into nearby waterways. These can provide particularly useful strategies for managing ants in sensitive areas (i.e., places where children and pets frequent, around waterways, etc). Bait stations should be spaced approximately 26ft apart for maximum efficiency.

The European fire ant is generally not well controlled by most commercially available insecticides. Our experiments demonstrated materials listed in the following table resulted in some reduction in ant activity when **applied according to label directions**.

Product Name	Manufacturer	Active Ingredient	Type of Application	Control
Advion® fire ant bait	DuPont <sup>2</sup>	Indoxacarb	Broadcast	Good
Amdro® fire ant bait	Bayer Environmental <sup>3</sup>	Hydramethylnon	Broadcast	Good
Maxforce® granular bait	Bayer Environmental <sup>3</sup>	Hydramethylnon	Broadcast	Good
Maxforce® granular bait	Bayer Environmental <sup>3</sup>	Hydramethylnon	Maxforce® Outdoor Refillable Bait Station	Fair
Maxforce® ant gel	Bayer Environmental <sup>3</sup>	Fipronil	Maxforce® Outdoor Refillable Bait Station	Fair
Boric Acid (1%)/sugar solution <sup>1</sup>		Boric Acid	KM AntPro® liquid bait stations	Fair

1. Some people have reported good control using liquid sugar bait containing a low concentration of boric acid (less than 1%). Although we have had positive results with this in laboratory trials, our field results have not been as successful. If you choose to utilize boric acid, it is essential that the concentration is 1% or less. Higher concentrations repel the ants or kill workers before they can return to the colony.
2. Dupont , Wilmington, DE
3. Bayer Environmental Science, Triangle Park, NJ

We are continuing to evaluate new bait formulations, active ingredients and methods of delivery. Since the efficacy of baits is dependent upon feeding, these materials should be used during early to mid summer, the period during which the queens and ant brood are consuming the most food.

Remember that **no strategy can completely eliminate the ants**. There is some evidence that repeat applications may just cause the ants to move into adjacent areas.

Most ant baits are not approved for use directly within vegetable garden beds. However, baits can be applied outside the perimeter. For raised beds, the perimeter is the outside edge of the landscape timbers or railroad ties used to make the raised garden beds. Pesticide baits can be used within ornamental gardens and butterfly gardens containing plants not intended for consumption by humans or livestock. For vegetable gardens, baits can be applied outside the perimeter. However, on school properties or other properties regularly used for school activities, pesticides may only be applied by a commercial applicator and only with prior approval of the school’s IPM coordinator.

### Repellents

Spearmint, peppermint, and neem oils as well as D-limonene (from citrus fruit) have demonstrated some ability to repel European fire ant. 10% solutions of these repellents successfully protected plant pots from colonization in field and laboratory trials for several weeks. Spearmint and peppermint oils provided the greatest longevity in the field. These plant extracts did not reliably repel worker ants from food resources in the field, but may be useful tools in discouraging colonies from nesting in treated areas.

### Management without chemicals

European fire ants generally nest under stones, boards, leaves, logs and other debris. If you remove these nest sites from your yard or garden, you may reduce the density of nests and thus the number of ants. Do not remove infested materials to uninfested sites. Dispose of materials properly.

These ants also require moist habitats. Reducing irrigation or increasing solar exposure (by mowing tall grass or pruning overhanging shrubbery) may make parts of your property less hospitable to the ants, causing them to move elsewhere.

Pouring boiling water directly on nests may be effective at destroying individual surface nests. However, European fire ant nests can be extremely dense, cryptic and located in protected locations, so this technique is not generally effective.

We hope that this information will be helpful to you.

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