



Cooperative Extension Service

College of Tropical Agriculture and Human Resources
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Best Management Practices to Prevent and Control the Little Fire Ant

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The little fire ant (LFA; *Wasmannia auropunctata*) is a stinging ant native to Central and South America that infests properties and can cause severe allergic reactions and serious injury to people and animals. LFA are firmly established on Hawaii Island where they infest residential, agricultural, and commercial properties, and even parks and forests. Some infested areas have an average of 11 million ants per 5,000 sq ft. lot because they can nest and live

anywhere from the tree tops, to leaf litter, and even in houses.

The recent movement of LFA in hapu`u logs to Oahu, Maui and Lāna`i, and regular interception of LFA in cut flowers, foliage, and plant materials at ports underscores the importance of instituting Best Management Practices (BMP) for businesses and property managers. Start today by preparing a site map of your property that identifies survey areas, and a way of logging the date and time of surveys, weather conditions, number and location of peanut butter chopsticks set out, and eventually, the types of ants identified and information on any treatments or control methods used. Precautionary statement / Disclaimer: These recommendations are provided only as a guide. Always read and follow all label directions.

How to Test/Survey for LFA

- Place chopsticks with a very thin smear of peanut butter every few feet in and around plants in shady, moist areas, and up in banana leaf axles/tree crotches. Many ant species are attracted to protein, so this attracts them (use luncheon meat if you're allergic to peanuts).
- Leave the chopsticks for about an hour during the day (avoid high noon, full sun...they might not be foraging!).
- Check all chopsticks. If the ants you see are black, or fast moving, are more than one color, or if some of them have heads that are much larger than their bodies, they are NOT LFA.
- If you are unsure about the ants, or if you find orange or red ants that are VERY small, about as long as a penny is thick, you may have LFA, but a positive identification will require help.

- ❑ Place the chopstick with ants into a zip-top bag, label it with your contact information, where on the property it was collected, and place it in the freezer overnight to kill the ants.
- ❑ The next day, deliver or mail your sample to the nearest Hawai'i Department of Agriculture (HDOA) office. You can also call the HDOA pest hotline at 643-PEST (643-7378), the Hawai'i Ant Lab at (808) 315-5656, or your island Invasive Species Committee to make a report and get help.
- ❑ DO NOT move or spray infested materials, and do not move live ants! You are seeing the workers, and we need them alive to help us get to the queens.

For Non-Infested Properties

- ❑ Always: Test all new plants and plant materials for LFA presence by using the peanut butter chopstick method.
- ❑ Monitor quarterly: survey shadehouses, landscape, and nursery property for LFA using peanut butter chopsticks. If the property is large, prioritize the receiving area, new plants/materials, and the perimeter, then rotate survey locations.
- ❑ Treat new plants and materials from infested or suspect areas with hot water shower at 113°F for 10 minutes to kill adult LFA (and some other nursery pests) in most potted plants, but may not be effective in materials like hapu`u logs or large plants.
- ❑ Consider using a granular bait such as MaxForce Complete (hydramethylnon) to prevent nearby LFA from moving in. May be broadcast or used as a perimeter treatment, or applied within non-food / non-feed areas of industrial, institutional and commercial buildings and inaccessible areas in residential and non-residential buildings.
- ❑ Consider treating potting media to prevent LFA in plants in the nursery.
 - **Talstar Nursery /UP-Star Nursery GRANULES** (Group 3 bifenthrin) – labeled for Nursery Use but not Landscape Use; use as a preventative treatment incorporated in potting media based on bulk density.
- ❑ Consider specifying in contracts and agreements, that vendors verify their use of these BMPs.

For Infested Properties; or Properties where LFA have been found

For properties in areas where LFA are known to be established, or where they have been detected within the past two years, these BMPs should be followed to eradicate (where possible), or prevent further spread. Use a granular bait on the ground and in plants where worker ants can pick up granules and take them back to the nest. LFA also nest high up in shade houses and trees, and workers may never come down to pick up granular bait. Therefore, you must also use a paste formulation and spray mechanisms to apply to trees and vertical surfaces. **Read and follow all label directions.** Please note that there are generic names for several different formulations. These BMPs provide full product names in an effort to keep people buying the wrong item and possibly using it contrary to label provisions.

- ❑ For all new infestations, contact the Hawaii Department of Agriculture or the Hawai'i Ant Lab for assistance BEFORE instituting a control program.
- ❑ Apply baits (granular AND paste, see below) every 4 weeks in the early morning on dry days, or if you are fairly certain of a dry night, bait in the late afternoon. Ants tend to forage when it's cool and dry; insecticidal ant baits are often deactivated by UV light, humidity, rain and watering, making them environmentally-friendly but requiring re-application. Apply 6 treatments over time to ensure ample opportunities for workers to carry baits to the queens.
- ❑ Rotate between products to avoid "bait shyness".
- ❑ DO NOT move any plant materials that have had LFA until the materials test LFA free for TWO YEARS after the last find.
- ❑ Use effective granular baits to control nests on or near the ground:
 - **Amdro Pro** (Group 20A hydramethylnon) – use in and around container or field-grown ornamental and nonbearing nursery stock and on sod farms (commercial turf). May also be applied in non-bearing tropical fruit and nut orchards (non-bearing means ONLY prior to production of the first crop).
 - **Distance** (Group 7C pyriproxyfen, IGR) – use in indoor and outdoor container or field grown ornamentals in commercial nurseries, can be used for non-bearing fruits and nuts, as well as many crops.
 - **Extinguish Plus** (Group 20A, 7A hydramethylnon, S-methoprene, IGR) – use in and around container or field grown ornamental nursery and non-bearing nursery stock. May also be applied to the soil around non-bearing fruit or nut trees (only before production of first crop); however, do not harvest food/feed from treated nursery stocks within 1 year of application.
 - **MaxForce Complete** (Group 20A hydramethylnon) – use indoors and outdoors and around buildings, on lawns, and other non-crop areas.
 - **Probait** (Group 20A hydramethylnon) – use on lawns, landscaped areas, golf courses, commercial grounds, parks and other non-crop areas.
 - **Siesta** (Group 22B metaflumizone) – use in and around container or field-grown ornamental and non-bearing fruit and nut nursery stock (up to 1 year before first harvest) in nurseries, on lawns, turf, and landscaped areas.
- ❑ Use paste formulations applied in trees and plants where granular baits cannot be applied. LFA that nest up in plants and trees may never come to the ground to forage, so granular baits alone will not suffice.
 - **Tango** (Group 7A S-methoprene, IGR) – a concentrated liquid product to be mixed and diluted with a carrier and food source (matrix) (see www.littlefireants.com/Tango%20package.pdf for recipe, and spray recommendations) – use indoors and outdoors, in commercial nurseries including field-grown and container stock, fruit, vegetable and nut orchards, residential turf and landscapes.
- ❑ Treat potted plants with contact insecticide prior to sale. Ants may live in growing media or in foliage itself, so both must be treated.
 - **Sevin RP4**, (Group 1 carbaryl) can be used both as a soil drench and a foliar spray for short-term control.

- ❑ Treat potting media to prevent LFA in plants in the nursery.
 - **Talstar Nursery/UP-Star Nursery GRANULES** (Group 3 bifenthrin) – labeled for nursery use but not landscape use; use as a preventative treatment incorporated in potting media based on bulk density.
- ❑ Treat large plants and trees twice at 1 month and 3 days prior to sale or shipping.
 - **Talstar Select** – a **Restricted Use** pesticide (for use by certified applicators only) If the tree is in a plant nursery, spray/drench 1 month prior to shipping, followed by a second treatment at least 3 days prior.
 - **Talstar Professional** – is for use in the landscape and NOT for use in plant nurseries, spray/drench 1 month prior to shipping, followed by a second treatment at least 3 days prior. See <http://littlefireants.com/research.html> for online rate calculator and other tools.
- ❑ In conjunction with BMPs in production areas, consider treating plants and materials with hot water shower at 113°F for 10 minutes to kill adult LFA prior to sale or movement (this is not 100% effective and is insufficient for interisland shipments). Store treated plants and materials in a pest-free area prior to shipping/transport to prevent re-infestation.
- ❑ Treat infested plants, building materials, trash, etc. on-site and in-place to keep from spreading LFA. Do not move or dump infested materials.

LFA are relatively easy to suppress in small areas, but can be very difficult to eradicate completely. Ants have been around since the Cretaceous period (about 100 million years), so we must be equally organized and pay attention to how ant colonies operate if we hope to succeed! For more information, visit www.LFAHawaii.org, or www.littlefireants.com.

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Photo: Little fire ants (*Wasmannia auropunctata*) by Alex Wild.