



LITTLE FIRE ANT FACT SHEET 2

(VERSION 4: MAY 2020)

A HOUSEHOLDER'S GUIDE TO MANAGING LITTLE FIRE ANTS AROUND THE HOME

Little Fire Ants (*Wasmannia auropunctata*) are an invasive species on the Big Island of Hawaii that was first detected in lower Puna in 1999. Now, they are found in every district of the Big Island. Once they become established on a property, they can infest lawns, gardens, trees and even inside your home. Often, the first time you notice them is when you or a member of the household is stung.

Can you eradicate them from your home? Well... probably not. Eradicating pest ants is very difficult, expensive and time consuming. On top of that, if your property has LFA, your neighbors probably do as well. So, even if you eradicated them from your property, ants from next door would simply migrate back to your place over time. The good news is that you can manage the infestation on your property to lessen their impacts and improve your quality of life.

This fact sheet details how you can reduce the LFA problem in and around your home in a way that gets you the best bang for your buck.

Want more information?

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ANT MANAGEMENT BASICS – DON'T MAKE IT EASY FOR THEM.

The reason that Little Fire Ants (LFA) live around our homes is that the environment we provide gives them everything they need. All they have to do is move in! LFA like warm, wet and shady places with lots of foliage, nooks and crannies for locating their nests. They feed on nectar from flowers, honeydew produced by sap-sucking insects, and prey on other insects as well. They will build nests in any convenient location and have a preference for “ready-made” nest sites, such as: under rocks, in leaf litter, rotting wood, under pots and other items in contact with the soil and at the bases of leaves from large-leaved plants (especially palms, banana, Ti, dracaena plants etc).

The east side of Hawaii Island has the perfect climate for these ants. We can not change the climate (not quickly anyway), and aside from removing all your plants and turning the entire yard into an asphalt car park, it is not possible to exclude all ants. But, making some small changes to your yard can reduce the number of nests able to live there. Removing rubbish, trimming vegetation (especially vegetation close to or touching your home) and choosing hardier plants can all help.

West Hawaii is much drier and not as favorable for LFA. Here, limiting artificial irrigation and planting drought tolerant plants could make a big difference. Xeriscaping is a landscaping approach

that minimizes or even eliminates the need for artificial irrigation. It consists largely of choosing water “un-thirsty” plants and landscaping techniques that maximize water retention. By planting xeriscape gardens, your property will be less attractive to LFA. Now this approach will not work if you live in Pahoia where the average rainfall is maybe 200 inches, but if you live in Kailua-Kona for example, it would be a very good approach to minimizing the LFA problem.

GRAB THE RAID – THERE ARE ANTS IN MY KITCHEN!

Often, our first reaction on seeing ants trailing through the house is to grab a can of insect spray and let them have it!

BUT, using an insect spray is rarely successful at controlling ants inside the home. The trail of ants we see are only the older workers. More than 90% of the colony is somewhere else. Killing off these older worker ants just means the queen will lay some more eggs to replace them. A few days later, the ants are back in your kitchen, you grab some more insect spray, the queen ant lays a few more eggs, and so on.

It's an interesting fact that many ants we see wondering around the home actually have their nests outside the house. They wander into your home looking for food. This is not true for all ant species, but LFA definitely prefer living outside. So, it makes more sense to deal with the problem outside the house rather than spreading insecticides in your home. Put the insect spray away and try treating the ants outside first.

WHERE DO I START?

The array of insecticides on the shelf at your local garden store can be mystifying. There are dozens of different proprietary products available and it can be very difficult to know which is the right one for your situation. Some are liquids, some are granules, they can be in small bottles or huge bags, in ready to use spray bottles or concentrates...So, which one do you buy?

BAITS, BARRIERS AND CONTACT SPRAYS

Pesticides for ant control can be divided into three main types: baits, barrier treatments, and contact sprays. Each of these work differently and its important to know which is which.

Ant baits

Baits are an attractive food laced with a toxin (usually a very small amount). Most baits for outside use are in a granular form to make them easier to spread. Liquid baits are mostly used inside a home in bait stations. Ants harvest baits and take it back to the nest where it shared with the rest of the colony. Once the toxin takes effect, most or all of the ants are killed. Different ant species prefer different food types, so it is important to match up the bait with the ant species you are trying to control.

Baits are the recommended first-line treatment because they are very effective and also minimize the use of pesticides.

Most baits for outside use are in a granular form to make them easier to

spread. The granules are usually made from corn grits and the toxin is added to these during manufacture. Although they are not harmful to pets and other animals, birds and chickens might find them attractive. If you have chickens on your property, remove them from the sites you are treating or spread the granules late in the afternoon just before your chickens roost.

Barrier treatments

Barriers can come in a spray form or a granule, and can be applied to the soil, hard surfaces or vegetation. They contain a toxin that has a residual effect and can stay active for a month or even longer. Once they are deployed, any ants that wander across a treated surface will come into contact with the chemical and die.

It is easy to confuse granular pesticides with granular baits, so it is important to read the label carefully. Many granular pesticides contain synthetic pyrethroids. The active ingredient list will usually contain one or more chemicals with names ending in “- *thrin*”, like “bifenthrin”, “cyfluthrin” etc. Granular barriers also need to be watered before they are activated, while water often inactivates baits.

Contact sprays

Contacts are used to directly spray a target pest. They are useful for spraying spiders, flies or other bugs that you discover in your home. Often contact sprays are sold in pressurized aerosol cans which can be aimed at the offending insect or spider.

BAIT THEM FIRST, THEN BLAST THEM

The best way to manage Little Fire Ants around the home is to use a dual approach of baiting and barrier treatments. It is important to use them properly, because even small differences to your application method can lead to big differences in results. First, NEVER apply a bait and a barrier treatment at the same time. Why?... Well, baits work when ants bring them back to the colony and share them with all the workers (and also to tell the others where to get more bait). If a worker ant is carrying some bait back to the nest and crosses over a barrier treatment, she will die before being able to get back to the colony. One treatment will cancel out the other and you will be wasting your hard-earned cash.

So, bait first and give the baits enough time to have an effect – few days is sufficient; then, if you choose, apply barrier treatments. Continue baiting every 4-6 weeks for at least a one year period, and re-apply barrier treatments as needed (according to the label).

BAITING BASICS

- *Read the label*
- *Do not use old bait*
- *Treat in dry weather*
- *Treat your entire property*

Always read the label directions for the product you intend to use. The label is a legal document and specifies what you can and can not do. It will also list any precautions you should take and

any personal protective equipment (PPE) you should wear while mixing and applying the product.

The baits most suitable for control of Little Fire Ants all look very similar – small yellow granules around 1/8 inch in size. The granules are actually corn grits which have been infused with vegetable oil and a toxin. They are most easily spread using a small fertilizer spreader.

Once the bottle has been opened, the baits will quickly deteriorate and become rancid, so you should use any opened container within 2-3 treatments. Bad bait will not be attractive to ants and they will not feed on it. Most baits come in different pack sizes, so buy the size that is sufficient to treat your property. This way your bait will always be fresh.

Rainfall makes the bait soggy and unattractive to ants. Try to pick a dry day for applying baits. In places where this is difficult, a dry period of around 4 hours after treatment should be sufficient time for ants to find the granules and take them to the nest. After a day or so, the baits are no longer effective, even without rainfall.

One mistake a lot of people make is to only spread bait in places where they have “seen” ants. It is very important to treat your entire property, because LFA have lots of small nests and often we do not know where they all are. So, walk over the entire property and systematically apply the bait to every section. This is actually quite easy to do if a small seed spreader is used.

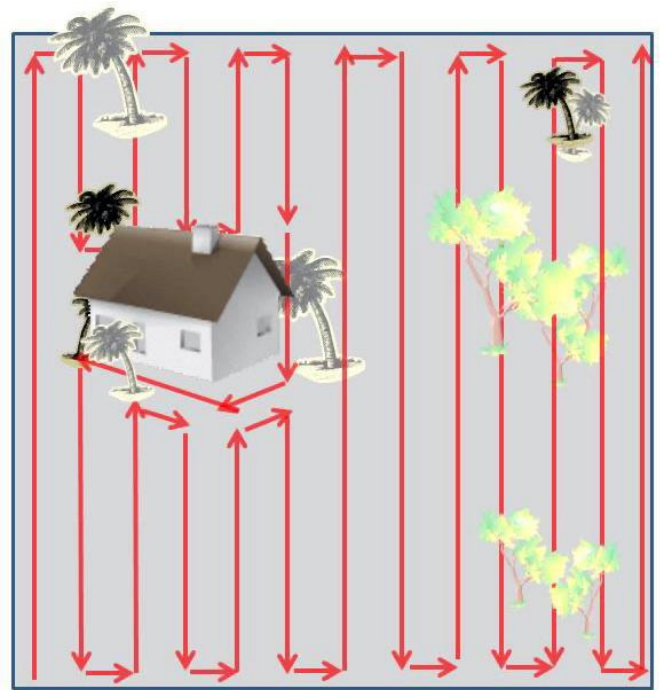
These are available at low cost from hardware and pesticide stores. They feature a hopper for holding the bait, a

winding handle that agitates the bait and scatters it over the ground, and an adjustable aperture that is used to calibrate output. These spreaders are also used to scatter seeds and fertilizer.



Typical hand held bait spreader showing the winding handle and the aperture adjustment. Set the aperture at “1”.

With the aperture set at “1” (see above) turn the spreader handle at approximately 1 revolution per step while walking at 2-3 mph. The bait will fling out and create a swath of about 4 yards. Remember, not a whole lot of bait is needed and often it is spread so thinly on the ground, it seems you have not put out enough. Don't worry – there will be enough bait there. When applying the bait over your property, an overlapping series of parallel swathes is recommended. This is accomplished by starting on one boundary of an infested site and proceeding 1 yard inside the boundary.



Example of a treatment path taken by an operator treating around an urban structure.

Once you reach the property boundary, take 2 paces towards the untreated area and return parallel to the original path, working around buildings and other obstacles (see below). Continuing this process, you will be able to systematically cover the entire property in just a few minutes. It is important that all ground is treated including spaces between buildings and corners of gardens. An additional sweep around buildings, garden edges and other structures is a good idea because more ant colonies live in those locations. Rainfall within 4 hours of treatment will reduce effectiveness so plan to conduct treatment when rain is not expected for 4 hours.

Another common mistake is to bait again too soon. The ants that survived the first round of baiting can remember that those little yellow granules made

them sick last time, and will actually avoid taking your baits the next time around. Wait about 4-6 weeks before using baits again.

The Hawaii Ant Lab has tested several bait products available in Hawaii. Some are good and others, not so good.

- **Amdro®** is sold at most garden exchanges, hardware stores and chemical supply companies, under several different names. Only some are effective; be sure to buy Amdro products with only one active ingredient of Hydramethylnon. This product seems to be consistently effective and is very popular.
- **Pro bait®** is sold at chemical supply companies, and has the same active ingredient as Amdro®. Usually it is sold in larger jugs. This product is also a consistent performer.
- **Maxforce Complete®** is sold at chemical supply companies and has a very attractive bait matrix, including a sugar, fat and protein attractant. It is a little more expensive than other products but we have found it to be extremely effective.
- **Siesta™ Insecticide Fire Ant Bait** is sold at chemical supply companies. It is a little more expensive than other products but it appears to remain attractive to ants even after it gets wet unlike other granular baits.
- **Antixx®** is a granular bait recently registered for use in Hawaii. It has the active ingredient of Spinosad, and has some edible crops on the label.

Some other baits you may encounter have been tested and found to be less

effective than other products, such as: Extinguish Plus® and Advion® fire ant bait.

BARRIER TREATMENTS

- *Read the product label*
- *Do not mix barrier treatments and bait treatments*
- *Use a different spreader when using granular baits*
- *Granular barriers must be wetted to become active*
- *Application rate varies, see label for application instructions*

Always read the label directions for the product you intend to use. The label is a legal document and specifies what you can and can not do. It will also list any precautions you should take and any personal protective equipment you should wear while mixing or applying the product.

Barrier treatments are insecticides that come in liquid or gradual form and are sprayed or sprinkled around areas where ants are to be excluded. As ants and other insects crawl over the treated areas, they come into contact with the toxin and are killed. Barrier treatments usually have a residual activity and can provide protection for months.

Granular barrier treatments can be spread using a simple fertilizer spreader, just like baits. However, it is good practice to have 2 spreaders – one for use with baits and the other for the barrier treatment (mark each one with a marker pen so you know which is which). If you use the same spreader for both jobs, it is possible you might taint the baits with traces of the barrier granules. The ants could be repelled by

the smell of the barrier granules and not feed on the bait. The chemicals in granular barrier treatments need to be wetted to become active. This helps the binding process needed for the chemicals to work.

A reminder here that it is not a good idea to apply a barrier treatment at the same time as bait, because the ants carrying the baits back to the nest will be killed before they have a chance to share it with the colony. Always apply the barrier treatment a few days after you have applied baits.

DEALING WITH ANTS AROUND FOOD PLANTS

Many pesticides are not registered for use on food plants. This is because the Environmental Protection Agency has very strict guidelines for registering pesticides to be used on crops. Therefore, there are less products available for treating ants in food crops, and often a product will be registered for one crop but not another. Usually the “popular” crops have more products available, but unfortunately for growers in Hawaii, the crops and fruits we grow here are often not on product labels. Chemical companies are required to carefully test their products for residues in each crop they wish to list on their labels, and each test can be very expensive. Many crops and fruits grown here in Hawaii are not grown anywhere else in the USA and the cost of testing these is too great to make it economically worthwhile for the companies.

There are several bait products available in Hawaii registered for use on a broad range of crops. However, be

sure to read the label carefully to make sure your crop or fruit is listed. You can download product labels mentioned in this fact sheet by going to the Hawaii Pesticide Information Retrieval System (HPIRS) maintained by University of Hawaii College of Tropical Agriculture and Human Resources at Manoa. Baits available for use on or near food plants include the following:

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- **Tango™** is registered for use on and under food plants also. It contains the insect growth regulator Methoprene and may be mixed in a bait matrix of your choosing. This product appears to be very effective and safe. Please read Fact Sheet 8 to understand how Tango™ works to find out if it is right for you.
 - **Siesta™ Insecticide Fire Ant Bait** can be used on stone, pome, citrus and nut trees.
 - **Antixx®** has edible crops on the label; see label for details.
 - **Insecticidal Sprays** may also be used on food plants, though they are more effective as spot treatments or for small areas. Most insecticidal sprays are general insecticides which will kill other insects as well as ants. There is a wide variety of organic and conventional products available in concentrates and ready-to-use formulations. When choosing an insecticidal spray, read the label carefully to make sure it is right for your situation and to know how to properly use the product for effective pest control.

CONTROLLING ANTS IN TALL VEGETATION

Safety precautions for all pesticides

ALWAYS read the label of the product you buy very carefully to make sure your plant species and situation is listed.

Follow **ALL** safety directions on the label.

ALWAYS make sure to keep other people and pets away from the treated plants until they are completely dry

Little Fire Ants often nest in the foliage and branches of trees. These may not be well controlled with standard bait

applications, because the tree-dwelling ants do not always forage on the ground. Most baits are granular and so can not be applied to trees. Hawaii Ant Lab's gel baits with **Tango™** or **Provaunt®** can be applied to trees so this is virtually the only effective bait option in trees. For more information on the Hawaii Ant Lab Gel Bait, see Fact Sheet 8.

Good luck and please contact us if you would like more information or have questions not answered in this fact sheet.

KNOW BEFORE YOU BUY

CHOOSING THE RIGHT AMDRO PRODUCT

AMDRO AINT ALWAYS AMDRO

When choosing a granular bait, please refer to the list of options in our *Householder's Guide To Managing Little Fire Ants Around The Home*.

If Amdro® is your bait of choice, understand that it is a line of products that kill anything from ants to carpenter bees and even mice depending on which product you select.



Amdro® Mouse Trap

BARRIERS vs BAITs



Amdro® Quick Kill Home Perimeter Insect Killer

It is easy to confuse granular barriers with granular baits. Many granular barriers contain synthetic pyrethroids. The active ingredient list will usually contain one or more chemicals with names ending in “-thrin”, like “bifenthrin”, or “cyfluthrin.” Granular barriers also need

to be watered before they are activated, while water often inactivates baits.

SEVERAL FIRE ANT SPECIES



Red Imported Fire Ant



Tropical Fire Ant



Little Fire Ant

Even those products which claim to kill “fire ants” may not be effective on the Little Fire Ant (LFA). Some of these products were developed to treat “Fire Ants” with different biology and colonial structure than the Little Fire Ant found in Hawai’i. There are different species of ants that share the common name “Fire Ant” because of their burning sting.

THE RIGHT AMDRO BAIT



The Hawai’i Ant Lab recommends that you buy **Amdro® Fire Ant Bait** for the control of LFA. It contains only **one** active ingredient, hydramethylnon, a slow acting stomach poison and comes in a white plastic jug. Make sure to broadcast it evenly throughout your property.



Amdro® Fire Ant Bait

THE WRONG AMDRO BAIT



Amdro® Kills Fire Ants Yard Treatment Bait contains **two** active ingredients, the insect growth regulator methoprene and hydramethylnon, and comes in a black shaker bag. This product is **NOT** recommended for the control of LFA. Half of the granules have hydramethylnon and the other half contain methoprene. The formulation of the methoprene granules is not attractive to LFA. Amdro® bait products like Amdro® Ant Killing Bait that **DO NOT** contain hydramethylnon are also **NOT** recommended.



Amdro® Kills Fire Ants Yard Treatment Bait



Amdro® Ant Killing Bait