LITTLE FIRE ANT FACT SHEET 2

(V E R S I O N 3 :  A U G U S T  2 0 1 2)

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

Little Fire Ants (*Wasmannia*) are a new pest species on the Big Island of Hawaii. They are found from Laupahoehoe to Pahoa on the east coast of the Big Island, and in isolated locations in Kailua-Kona. Once they become established on a lot, 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, ants from next door would simply migrate back to your place.

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.

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

The reason that Little Fire Ants live around our homes is that the environment we provide gives them everything they need. All they have to do is move in! Little Fire Ants 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 like 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, you will make your property unattractive to LFA. Now this approach will not work if you live in Pahoa 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. The Honolulu Board of Water Supply has an excellent web page with links and ideas. Check it out at http://www.hbws.org/cssweb/display.cfm?sid=1086

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**GRAB THE RAID** ¹ – 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!

(Once, my beautiful wife encountered a cockroach in the house and could not find any insect spray. She found a can of hair spray and used that instead. It did the job. After she emptied the entire contents of the spray can onto the unfortunate insect, it was very dead… and very shiny as well!)

BUT, using an insect spray (or any other spray for that matter) 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...

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¹ Listing of these proprietary products does not constitute an endorsement by The Hawaii Ant Lab or the Hawaii Invasive Species Council. Similar products not listed may also be effective.
WHERE DO I START?

The array of pesticides on the shelf at your local garden exchange or hardware 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
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 its 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.

Barrier treatments

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.

Contact sprays
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. Its 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 – around 2 weeks is good. Then, apply barrier treatments. Continue to
repeat this sequence for 3-4 months or until ant numbers drop to a level you are comfortable with. At this point, increase the amount of time between treatments to 1 month (bait, then apply the barrier treatment a month later, followed by baiting a month after that etc.).

**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 cannot do. It will also list any precautions you should take and any personal protective equipment you should wear while mixing or applying the product.

The baits most suitable for control of Little Fire Ants all look very similar – small yellow granules around ⅛ 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. Please read Fact Sheet 4 – Get the most out of your spreader for information on how to improve performance.

Once the bottle has been opened, the baits will quickly deteriorate and become rancid, so its best to use the whole container rather than storing left-over bait for next time. 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 once. 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 Little Fire Ants 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.

The Hawai`i Ant Lab has tested several bait products available in Hawai`i. 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. This product seems to be consistently effective and is very popular.
- **Probait®** is sold at chemical supply companies, and is similar to 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. It is a little more expensive than other products but we have found it to be extremely effective.

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2 The opinions expressed here do not represent an endorsement or rejection of any products mentioned and are based on a mixture of empirical and observational data. Other products may also be available.
• **Extinguish Plus®** is also available at some locations. It is moderately attractive and not as effective as other products.

• **Advion® fire ant bait** is sold as a professional use only product. We have found performance of this product to be rather inconsistent. Sometimes it is effective and at other times performs poorly.

• **Tango®** is a new product recently registered in Hawai`i. It is a concentrate intended to be mixed with a bait matrix of your choosing. The Hawai`i Ant Lab has a recipe for an effective bait matrix that is available on the littlefireants website. This matrix forms a gel so it can be applied into trees and other vegetation. Please refer to the HAL fact sheet 5 for more information on this product.

**BARRIER TREATMENTS**

- Read the product label
- Do not mix barrier treatments and bait treatments
- Use a different spreader when using granular baits
- Apply to wet soil or when rain is expected
- Make a wide band – 3-6 feet wide

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 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 are the easiest to apply because there is no mixing required. This also makes it a bit safer because you will not be handling concentrated chemicals. The easiest way to spread granular barrier treatments is with 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. A reminder here that it is not a good idea to apply a barrier treatment at the same time as a bait because, the ants carrying the baits back to the nest will be killed and the colony might survive. Always apply the barrier treatment around 2 weeks after you have applied baits.

The chemicals in barrier treatments need to stick to the soil particles for them to work and the best time to apply these products is when the ground is wet or rain is expected soon. This helps the binding process needed for the chemicals to work. If the soil is dry when you want to apply these products, you can wet the ground with a garden hose or sprinkler after applying the treatment. Generally around Hilo, this will not be necessary!

The more ground you treat, the better the effect of a barrier treatment. However, if you want to limit your use of chemicals, you can just sprinkle or spray those parts of your lot where you want the most protection such as around
the home and the lawn areas used by people or pets. A barrier treatment around your home should be at least 3 feet wide and preferably 6 feet.

**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.

There are several bait products available in Hawaii registered for use on a broad range of crops. These are listed below. However, be sure to read the label carefully to make sure your crop or fruit is listed. You can download many product labels mentioned in this fact sheet by going to the LittleFireAnts.com industry web page (http://www.littlefireants.com/index_files/Page3284.htm) or the Hawaii Pesticide Information Retrieval System (HPIRS) maintained by University of Hawaii College of Tropical Agriculture and Human Resources at Manoa (http://state.ceris.purdue.edu/doc/hi/statehi.html). Baits available for use on or near food plants include the following:

- **Extinguish PRO®** is a bait containing methoprene. It should not be confused with **Extinguish PLUS®** which is not registered for food plants. In standard palatability testing conducted by Hawai’i Ant Lab, this product was not attractive to little fire ants. Although the active ingredient is effective, if ants do not feed on the bait, the product will not work. Further testing with different rates of the active ingredient showed that the ants appeared to be repelled by higher rates of methoprene.

- **Esteem Fire Ant Bait®** is another bait registered for use on many food plants. It contains pyriproxifen as the active ingredient. Like Extinguish®, ants seem to be repelled by the bait and do not feed on it to any great extent.

- **Tango®** (see above) is registered for use on and under food plants also. It contains methoprene as well, but a lower rate than Extinguish®. This product appears to be very effective and safe.
CONTROLLING ANTS IN VEGETATION

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. Tango® gel baits can be applied to trees so this is virtually the only effective bait option in trees.

The other option for controlling little fire ants in trees is to spray the trees with pesticides. Good general-use pesticides for spraying foliage are products containing carbaryl as most proprietary products containing this active are registered for many food plants as well as ornamental plants. Gardens in Hawaii often contain a mixture of food and ornamental plants so these products can be used for both. Carbaryl does not have a residual effect so its important to thoroughly wet the entire plant, making sure you observe any withholding periods for fruits and vegetables listed on the label.

There are other products that can be used on ornamental plants only. Products containing bifenthrin often have instructions for spraying ornamental plants. Bifenthrin is a residual insecticide which means it continues to be effective on ants that walk over treated surfaces for some weeks after application.

These products come in a concentrate form which need mixing with water in a spray tank, or in a ready-to-use form where you simply connect your garden hose to the container. When spraying plants, make sure to thoroughly wet cracks, crevices, moss and other places where ants hide.

Choose a calm day with little or no wind for spraying foliage. Be very careful to always wear the protective equipment recommended on the label and be especially careful when spraying tall plants that the spray doesn’t drift onto yourself or into a neighbour’s property. Always spray away from yourself and make sure the wind is blowing away from you so that the spray does not drift back. Even if the label does not specify it, Hawaii Ant Lab recommends wearing eye protection (safety glasses, goggles etc), a chemical resistant hat, and a mask whenever spraying vegetation taller than 5 feet.

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.
### BARRIER TREATMENTS FOR LITTLE FIRE ANTS

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<th>Product name</th>
<th>Active ingredient</th>
<th>EPA registration</th>
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<tbody>
<tr>
<td>Ortho Home Defence Max granules</td>
<td>bifenthrin</td>
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<tr>
<td>Ortho Home Defence ready to spray</td>
<td>bifenthrin</td>
<td>239-2698</td>
</tr>
<tr>
<td>Triazicide Once and Done Insect Killer Granules</td>
<td>alpha-cyhalothrin</td>
<td>9688-181-8845</td>
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<td>Triazicide Once and Done Insect Killer Spray</td>
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### CHEMICALS SUITABLE FOR SPRAYING PLANTS AND FOLIAGE

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<th>Active ingredient</th>
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<td>Eliminator Bug Killer Sevin Concentrate</td>
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<td>Gardentech Sevin Concentrate Bug Killer</td>
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<td>Gardentech Sevin Ready-To-Spray Bug Killer</td>
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<tr>
<td>Talstar P</td>
<td>bifenthrin</td>
<td>279-3206</td>
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</tbody>
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Other proprietary products that have label instructions for spraying foliage may be available and suitable for this purpose. Please consult the staff at your hardware, chemical supply or farm exchange for advice on these products.

Want more information?  
go to [www.littlefireants.com](http://www.littlefireants.com)  

Or contact  
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