

# Getting rid of ants

## Participant Workbook



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## Target audience

This workshop is aimed primarily at **Biosecurity, Environment and Agriculture officers** who need to know how to manage invasive ants in the course of their work. In addition the workshop will be of benefit to **consultants and NGO representatives** who are involved in writing proposals for funding etc. to manage invasive ants.

## Objectives

By the end of this workshop participants should:

### Exercise 1: High level planning

- Be able to use the resources contained in the PIAT to identify the steps that need to be taken between initial detection of an invasive ant species and management
- Be able to use the PIAT to identify the distinctions between management goals and understand the reasons why one goal might be more appropriate than another
- Understand that ant management can be costly and complex and understand why it needs to be well planned and well managed

### Exercise 2: Environmental and social impact assessments

- Have an understanding of the three main types of insecticide used to control ants, how they work and what happens to them in the environment
- Be able to use the resources contained in the PIAT to identify the environmental and health hazards associated with the use of certain insecticides and mitigate them

### Exercise 3: Deciding when to undertake treatment

- Understand the importance of ant biology in effective treatment of invasive ant species
- Know when to undertake management based on ant biology

### Exercise 4: Choosing treatment options

- Be able to use the resources contained in the PIAT to identify environments similar to your own where particular invasive ant species have been successfully treated using methods that may be applicable to your situation
- Use the PIAT to find treatment options for different invasive ant species

### Exercise 5: Planning treatment

- Use the PIAT to plan treatment for different invasive ant species
- Know how to correct estimate bait required
- Be able to regulate bait use

### Exercise 6: How much will it cost?

- Know how to accurately cost an ant management project
- Understand that ant management can be costly and complex and understand why it needs to be well planned and well managed

### Exercise 7: Pre-treatment procedures

- Know what information needs to be given to stakeholders prior to treatment
- Be able to effectively undertake the tasks needed before treatment begins

#### Exercise 8: Undertaking treatment

- Be able to use the instructions in the PIAT to perform treatment tasks safely and effectively
- Be confident in the distribution and safe use of granular baits, paste baits and targeted insecticides
- Have some practical experience in the distribution and safe use of granular baits, paste baits and targeted insecticides

#### Exercise 9: Monitoring

- Be able to use the instructions in the PIAT to perform monitoring tasks safely and effectively
- Have a good understanding of five key monitoring techniques
- Be able to conduct pre- and post-treatment monitoring for non-target environmental effects
- Be able to conduct social impact monitoring

#### Exercise 10: Completing the plan

- Be able to use the PIAT to prepare a management plan

## Duration

3-4 days

## Materials required

- white board
- A3 sheets for collaboration
- whiteboard marker
- permanent marker or sharpie
- laptops for participants
- laptop with AV
- workbooks printed in colour
- pencils / pens
- USB, CD or online access to the PIAT
- labels for participant / facilitator names
- notebook
- water and water bottle
- spreaders (x4 if possible)
- lollipop or other small sticks
- non-toxic granular bait (e.g. rice)
- non- toxic paste bait
- caulking gun
- spray bottle
- nitrile gloves
- paper masks
- post-treatment health surveys
- life-stage specimens in ethanol
- metre ruler or tape measure
- social impact questionnaire
- samples of granular pesticide

## Exercise 1: High level planning

Duration: 1 - 2 hours

Reports were received of an ant that has been entering people's houses and getting into their food and beds. The ant has been formally identified as the yellow crazy ant. This species of ant is not known to have been present in your country before. The ant has only been reported from a few houses close to the lagoon that are near a commercial garden. The garden, like the rest of your island is free from aphids, mealybugs, scale insects.

Work through the **High Level planning** flow chart in the PIAT **Getting rid of ants** page to establish a management goal.

**Q1. What priority did you give this incursion?**

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**Q2. What was your chosen course of action?**

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**Q3. Why did you make those decisions?**

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**Q4. Would you have made different choices if the garden was also infested with scale insects and the ants were tending them?**

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**Q5. If this had been the little fire ant, would you do anything differently? Why?**

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Work through the management goals section (**Getting rid of ants → Management goal**).

**Q6. Make a list of the steps involved in the first three of the four management options.**

**Containment**

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**Permanent control**

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**Eradication**

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**Q7. Why might eradication not be a viable option in some cases?**

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Download the pesticide summary on the **Getting rid of ants → Environmental and social impact considerations** page under the **Pesticides** topic.

**Q3. How might we mitigate these potentially negative effects? Hint: Look at the constraints column in the spreadsheet**

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Use the PIAT to identify appropriate methods for monitoring non- target effects on people and the environment. See the **Assessing the problem → Assessing ant impacts** section.

**Q4. How might you evaluate any potential effects of a management activity on the environment?**

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### Exercise 3: Deciding when to undertake treatment

Duration: 0.5 hours

Imagine that some ants were sent to you by environment officers on another island/atoll. They tell you that they have seen queen larvae, but no pupae in the nests they have found. They want to know if they should do treatment. Have a looking at the **Problem ants → Lifecycle of ants** section.

**Q1. Use the PIAT to say whether this is a good point in the ants' lifecycle to begin treatment. Why or why not?**

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**Q2. As well as the right point in the ant's lifecycle, what other factors might affect when treatment is undertaken? Hint: What is likely to happen to insecticide in wet weather?**

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## Exercise 4: Choosing treatment options

Duration: 1 hour

An insecticide that is successful in controlling a particular ant species in one environment may not work or be suitable for use in another environment. Thus, a good starting point in planning treatment options is to look at how the target species has been successfully managed in environments similar to your own.

Little fire ants have been observed in *residential*, *forest* and *conservation* areas. Some of these areas are near open water. Use the PIAT to work out your management options. There is a matrix in the **Getting rid of ants → Choosing a treatment option** page. Clicking on the blue cells of the table takes you to information on recommended treatment options.

**Q1. Click on the appropriate blue cell in the matrix and use the information to decide which treatment products you would use where (based on the above scenario)?**

### Residential

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### Forest

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### Conservation area

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**Q3. How many tracks will be needed in total?**

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Paste baits are used when granular baits are not appropriate. Use the PIAT to find a way to distribute paste bait in trees and foliage, where little fire ants nest and forage. This information can be found in the **Getting rid of ants → Treatment → Paste baits** section.

**Q4. What sort of treatment for little fire ants might you use for an area where broadcast baiting is not appropriate because children or animals may come into contact with the bait?**

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**Q5. What is the application rate for Vanquish Pro paste bait? What area will a 325g cartridge treat?**

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**Q6. What is the recommended height for placing paste bait if small children or stock are present? Why?**

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## Exercise 6: How much will it cost?

Duration: 1 hour

Imagine that African big-headed ants have been reaching high numbers in a sea-bird colony. These birds are globally threatened and it is of critical conservation concern that the ants are eradicated. The colony is on a motu approximately 10 kilometres from the main settlement. The settlement has an airstrip but all equipment needs to be imported. Boats regularly make the trip from the settlement to the motu as tourists are interested in the seabirds. The motu is about 6 hectares in area. You have decided to treat the area with a granular bait that costs \$35 kg and requires 5 kg per hectare. The **Getting rid of ants → How much will it cost?** page has information on estimating the cost of your project.

**Q1.** Use the ballpark estimates in the table in the **Getting rid of ants → How much will it cost?** page to figure out how much would it cost to eradicate the ants from this motu?

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Work through the **detailed costing** based on the information above in the Excel costing workbook in the **Getting rid of ants → How much will it cost?** page.

**Q2.** What was your estimate? Did it differ a lot from your answer in Q1?

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**Q3.** Do you know of any other costs that are not currently included in the costing workbook and that you would include in your case?

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## Exercise 7: Pre-treatment procedures

Duration: 1 hour

You have worked through the high level planning protocols, established a management goal and have delimited the area for treatment. Before you start there are a number of pre-management tasks that you must undertake. These are discussed in **Getting rid of ants → Treatment** page with further information in the **Getting rid of ants → Environmental and social impact considerations** and **Getting rid of ants → Monitoring** pages.

**Q1. Based on the information you have learned so far, list some important pre-treatment tasks.**

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Look at the **Learning and Teaching → Community awareness and Learning → Ways to help manage invasive ants** and **Teaching → Media** sections to find out about the type of information and ways to inform people of treatment events.

**Q2. What methods would you use to inform people of up-coming treatment? What do people need to know?**

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**Q3. Why are movement controls out of the area important when treatment is being undertaken?**

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**Q2. How far apart did you space your paste baits and at what height?**

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**Q3. Where do you use targeted (residual) insecticide?**

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**Q4. How would you alter the bait distribution in an area where young children were present?**

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## Exercise 9: Monitoring

Duration: 1 hour

Imagine you have undertaken a management programme to reduce African big-headed ant numbers to a point where they no longer cause problems. Use the information in **Getting rid of ants** → **Monitoring** to identify three main methods used to monitor ant presence and abundance of African big-headed ants. Note that this will take you to the **Assessing the problem** section as the tools for monitoring are the same as for delimiting and surveillance.

**Q1. What methods will you measure whether the programme has been a success?**

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**Q2. Suggest two ways that non-target effects could be monitored**

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**Q3. What additional monitoring should be undertaken if the treatment is being undertaken in an inhabited area?**

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## Version control

<b>author</b>	<b>description</b>	<b>date</b>
Allan Burne	First draft v0	30 Sep 2016
Monica Gruber	Revision v1	4 Nov 2016
Souad Boudjelas	Review v1	10 Nov 2016
Monica Gruber	Revision v2 – incorporating feedback from Kiritimati training	13 Jan 2017
Monica Gruber	Revision v3 – incorporating feedback from SPC training in Suva	12 Apr 2017