

Agar-based Bait for Argentine Ant

Instructions for preparing and deploying in vineyards



Materials Required

Bait Supplies

1. Water
2. Table sugar
3. Boric Acid (technical grade)
4. Organic Agar Agar powder

Supplies for Measuring and Mixing

1. Drill with stirrer attachment or similar tool
2. Bucket to measure sugar and water
3. Smaller container to measure crystals
4. Scale and container to measure toxicant
5. Appropriate personal protective equipment (PPE)
6. Large (e.g. 50 L) metal cooking pot(s) to mix and heat agar solution.
7. Large gas burner(s) and gas supply to heat agar solution
8. Heat proof gloves (2 pairs).
9. Macrobin(s) with lid
10. Labels to attach to macrobin indicating contents (boric acid)

Bait Preparation

Use this table to calculate component amounts (adjust accordingly if not using 100% boric acid)

Finished Volume	Water	Sugar	100% Boric acid	Agar Agar Powder	Target a.i. concentration
150 gal (568 L)	135 gal (511 L)	284 lb (142 L)	2840 g	8750 ml (7590 g)	0.5%
12 gal (45.4 L)	10.8 gal (40.8 L)	22.8 lb (11.4 L)	227 g	700 ml (600 g)	
2 gal (7.6 L)	1.8 gal (6.8L)	3.8 lb (1.9 L)	38 g	115 ml (99 g)	

Bait Mixing Instructions

Add water, sugar, and agar powder to cooking pot and **stir**.

Hot water should be used (if available) to reduce heating time in later steps.

Lift pot on to gas burner. Two people should do this to avoid injury.

Heat to boiling and simmer for 3 minutes.

Boiling is critical for agar solution to set.



Multiple burners and pots allow faster production.



Add heated solution to macrobin. Two people should lift pot wearing heat-resistant gloves.



Repeat until macrobin contains desired volume of sugar and agar solution.



Add boric acid to small container with water.

Mix to dissolve completely.



Add boric acid to macrobin & **mix** thoroughly.

A **trolling motor** may be used to stir the solution.

Cover macrobin.

Affix appropriate labels indicating pesticide.

Wait for agar to set to a gelatinous consistency. This may take 2-3 days dependent on outside temperature.

Apply the Bait

Load macrobin onto trailer and attach to tractor for broadcast application.



Use scoop to hand apply bait.



Apply a total of 10 gallons of bait per acre. Applications can be made in alternate rows, and dispersed using a scoop or other tool, in ¼ to 1/3 c mounds.

Plan to make 2 applications, at 4 to 6-week intervals **in spring** to target Argentine ants.



NOTE: Please **contact your certifier regarding use of this bait in organic production**. UCCE cannot provide additional information about its use in organic production systems.

Additional Resources

Mealybug and vineyard ant identification, detection, and monitoring:

<https://ucceviticulturenapa.wixsite.com/uccevitnapa>

Authors:

Monica Cooper, Hannah Fendell-Hummel, Sarah MacDonald, Malcolm Hobbs.

Published July 2022.

It is the policy of the University of California (UC) and the UC Division of Agriculture & Natural Resources not to engage in discrimination against or harassment of any person in any of its programs or activities.

Complete nondiscrimination policy statement:

<http://ucanr.edu/sites/anrstaff/files/215244.pdf>