

Agar-based Bait for Argentine Ant

Instructions for preparing and deploying in vineyards



Materials Required

Bait Supplies

- Water
- Table sugar
- Boric Acid (technical grade)
- Organic Agar Agar powder

Other Supplies

- Electric drill with stirrer attachment or similar tool
- Bucket (to measure sugar and water)
- Smaller container (to measure crystals)
- Scale & container (to measure boric acid)
- Appropriate personal protective equipment (PPE) (eg. gloves, hazmat suit, mask or respirator)
- Large (e.g. 50 L) metal cooking pot(s) (to mix and heat agar solution)
- Large gas burner(s) and gas (to heat solution)
- Heat proof gloves (2 pairs)
- Macrobin(s) with lid(s)
- Labels to attach to macrobin indicating appropriate pesticide warnings

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
1 Liter (L) (0.26 gal)	735ml (25.4 fl oz)	250 ml (8.5 fl oz)	5 g	10ml (0.34 fl oz)	0.5%
10 Liter (2.64 gal)	7.35L (1.94 gal)	2.5L (0.66 gal)	50 g	100ml (3.38 fl oz)	
40 Liter (10.57 gal)	29.4L (7.77 gal)	10L (2.64 gal)	200 g	0.4L (13.53 fl oz)	

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. Heating to **boiling point** 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 some of the water. **Mix** to dissolve completely.



Add boric acid to macrobin & **mix** thoroughly with electric drill or similar tool.

Cover macrobin with lid. **Affix** appropriate labels indicating pesticide.

Wait for solution 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. Be sure to wear appropriate PPE.



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 1/4 to 1/3 cup mounds.

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



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>