

How to avoid introducing Argentine ants during restoration projects



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Lessons learned from collaborations with:

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- Native Plant Restoration Projects

Lessons learned from collaborations with:

- Native Plant Restoration Projects
 - Catalina Island
 - Coal Oil Point
 - Acterra
 - MidPeninsula Regional Open Space District

Lessons learned from collaborations with:

- Out-Planting for Research:

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 - Stanford University greenhouse

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- Out-Planting for Research:
 - Stanford University greenhouse
 - Jasper Ridge Biological Preserve

The impacts of Argentine ants:

Decreased invertebrate diversity





Reduced seed dispersal

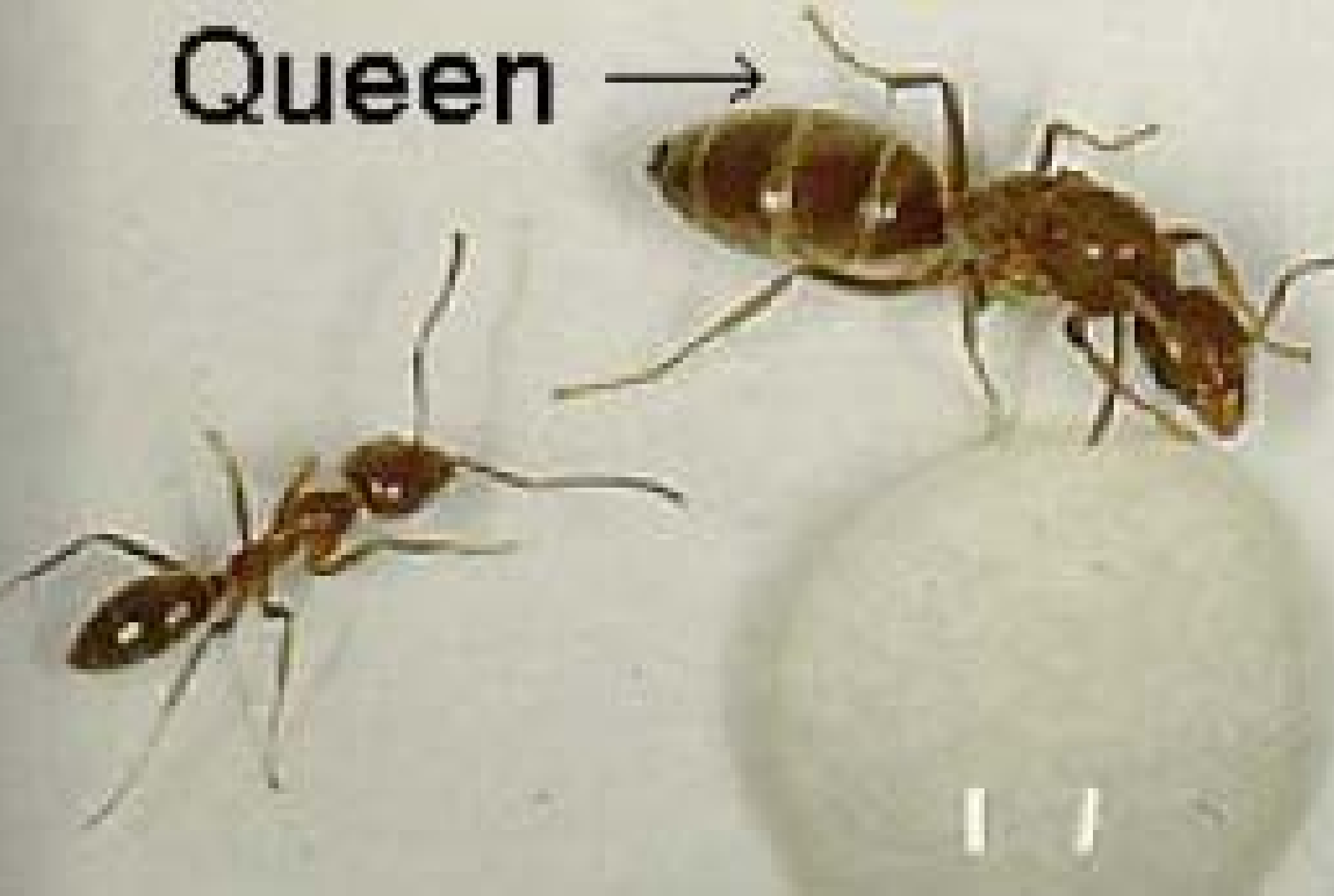






Argentine ant dispersal:

Queen





corbis

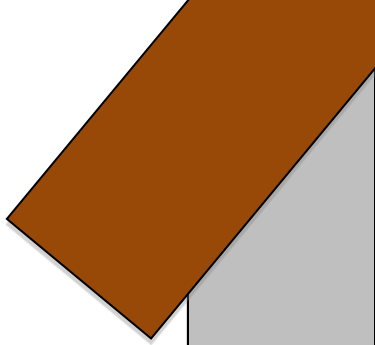




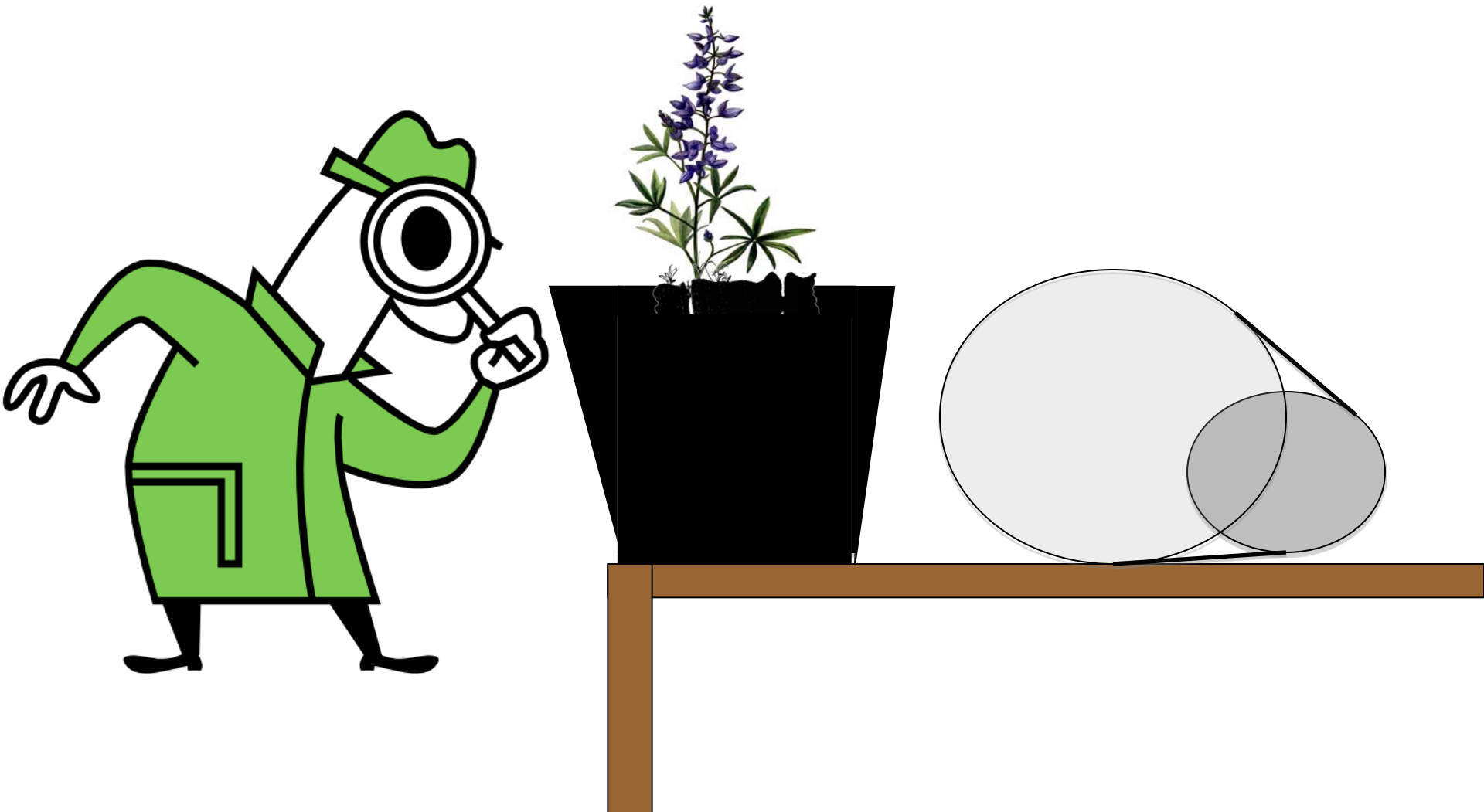




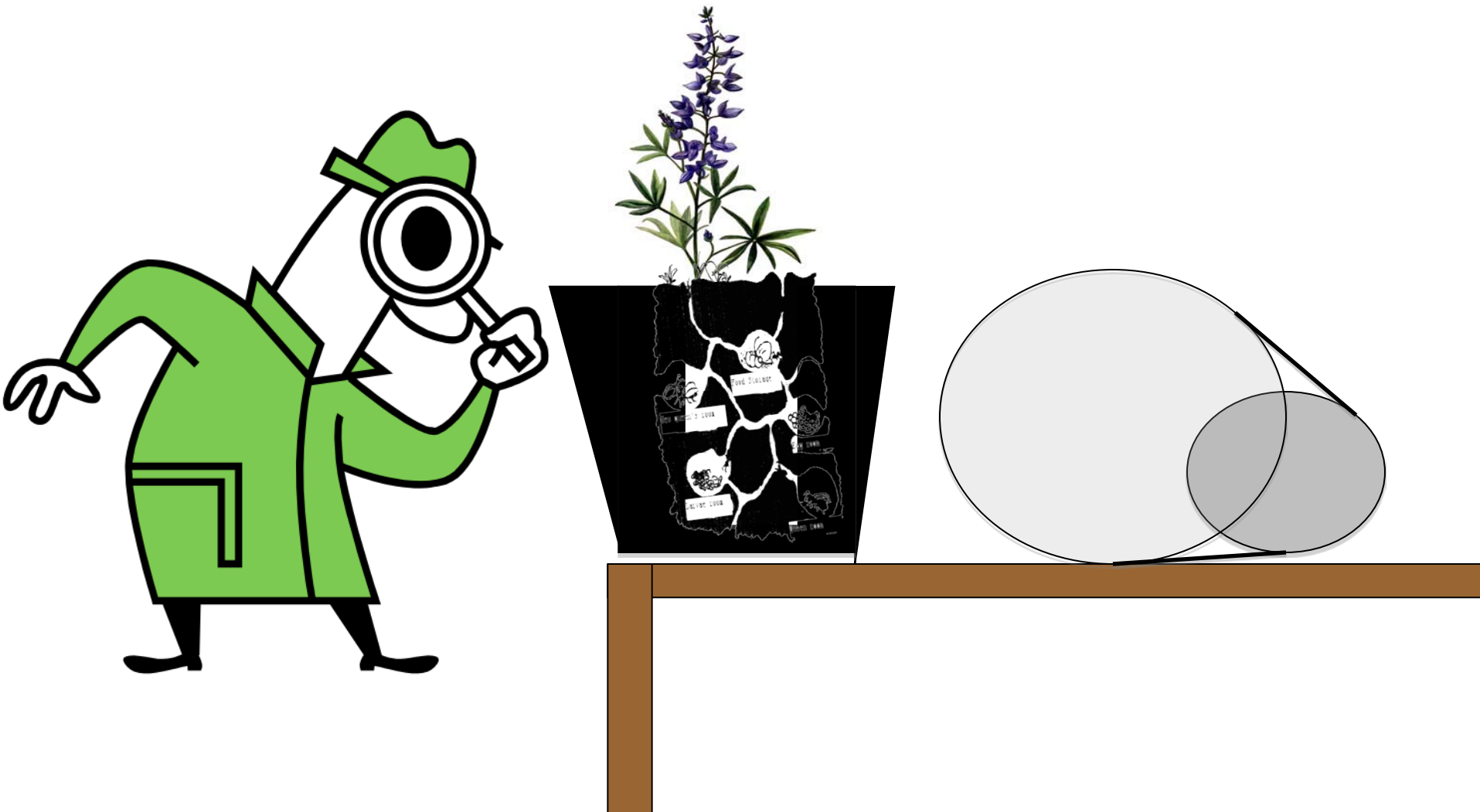




Simply taking the plants out of the pots to look for the ants doesn't work..



Because the ants are very good at hiding close to the roots...



But you can flood the out...



Water

Identification basics:

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Size:

Argentine ants are small
(but not tiny)

Identification basics:

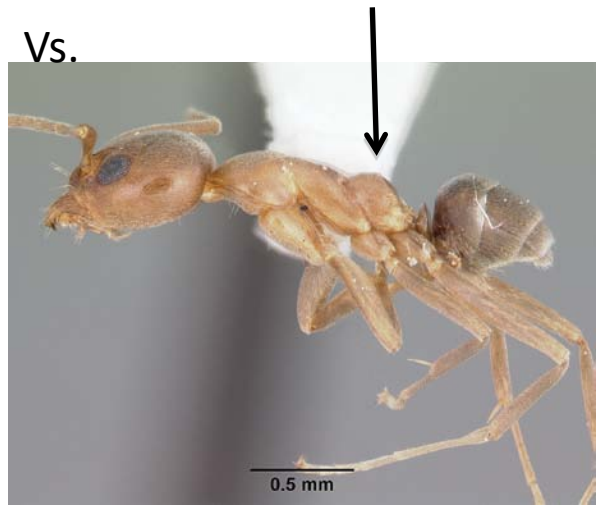
Two back humps
(*Formica* spp.)



Vs.
No back humps
(*Camponotus* spp.)



One back hump
On “lower back”
(Argentine ants)



Identification resources:

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Antweb.org:

**1. Field Guide
to the Genera of California**

**2. Cal Academy of Sciences
Bay Area Ant Survey**

AntWeb field guide to the Genera of California



Leptothorax



Linepithema



Liometopum



Manica



Northern California

Southern California

Image NASA

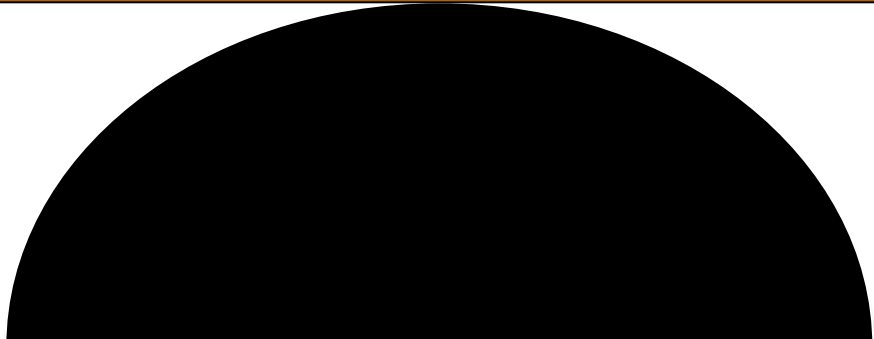
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Image © 2007 TerraMetrics

Google



This sure beats walking!



How do we stop the hitch-hiking?



This sure beats walking!

Short answer:

Short answer:

May need a Quarantine/Bait System (QBS)

But is a “Quarantine/Bait System”
really necessary?

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really necessary?

Answer with 5 Questions:

Q1. Are Argentine ants already at the restoration site?

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Search on coyote brush trunks and branches

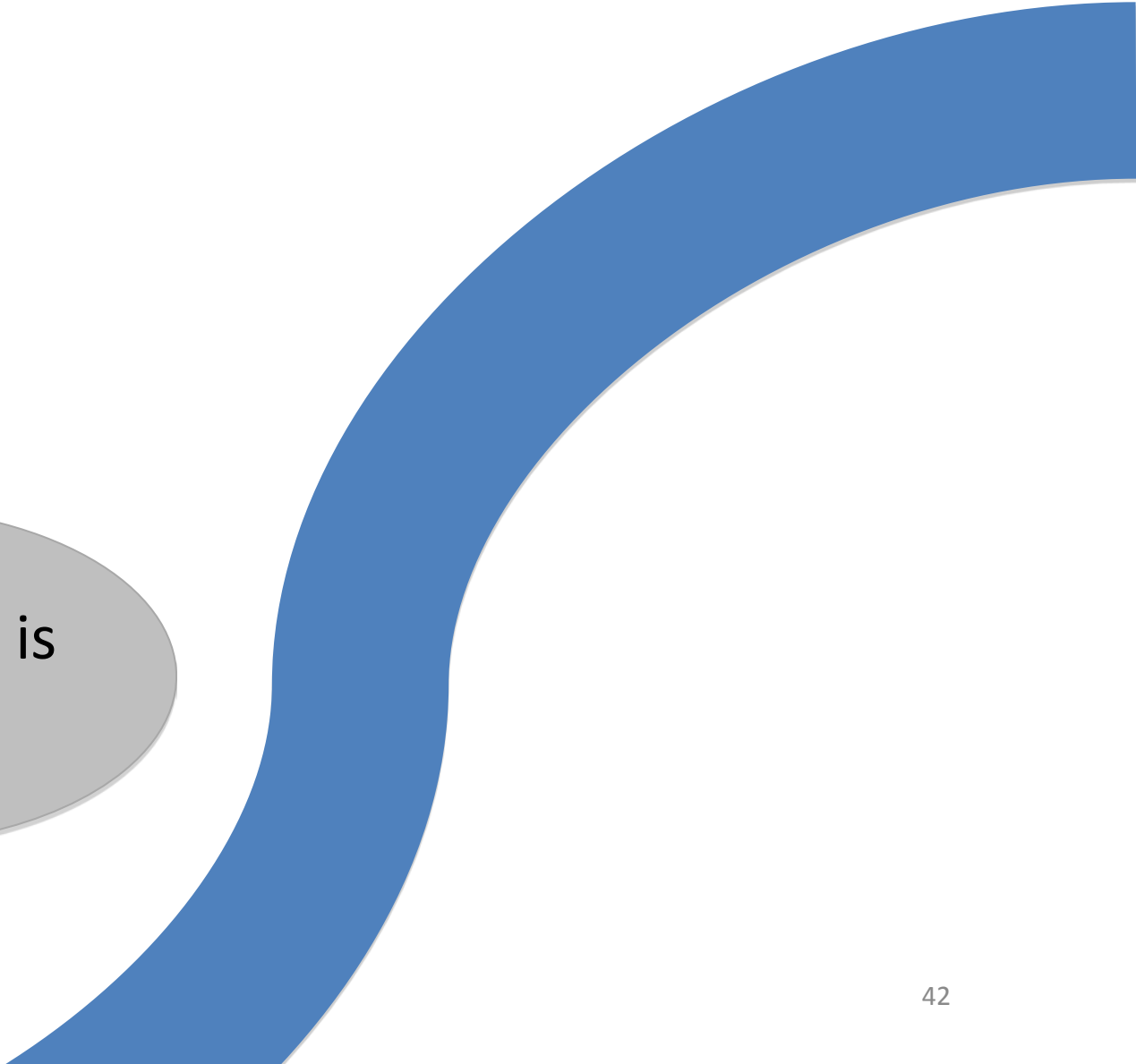


Q2. Are Argentine ants likely to get to the restoration site on their own?

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Look for Argentine ants in areas close by


Just remember:
Argentine ants are picky hikers!



This stream is
too wide!



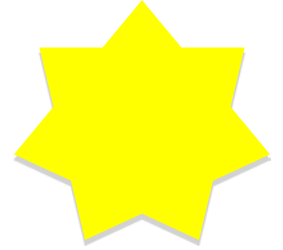
Just remember:
Argentine ants are picky hikers!



It's too cold and dry
to cross that hill!



Just remember:
Argentine ants are picky hikers!



Not enough
bushes...



Q3. Do Argentine ants actually occur at the nursery site?

Q4. Are you planting a lot of plants?



Q5. Or are you planting a lot?



Bait only

Vs. Quarantine only

Vs. Bait and Quarantine

Setting up a Bait and Quarantine System:

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3 Considerations

C1:Where should the system be located?

C2:What kind of barrier?

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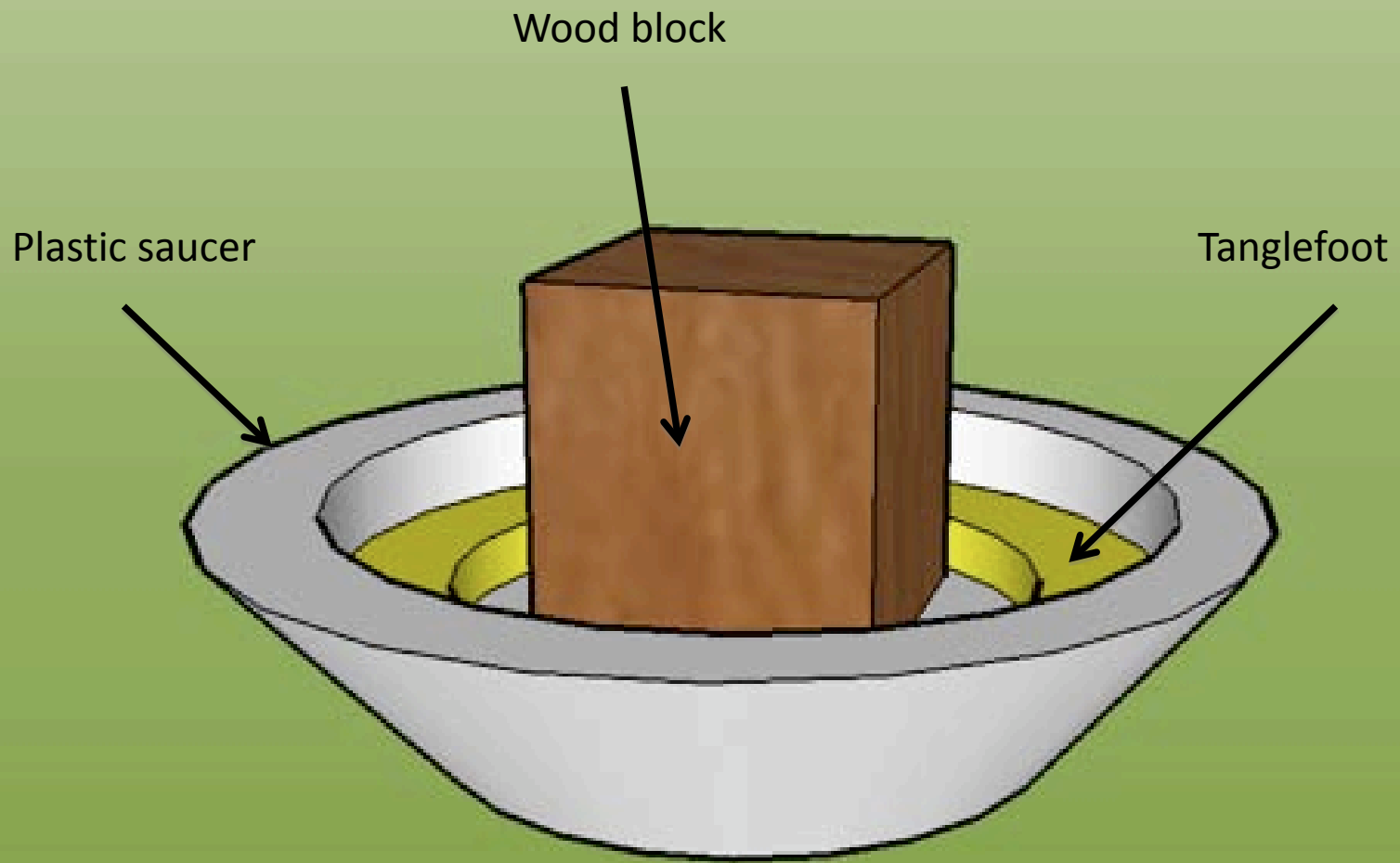


C2:What kind of barrier?

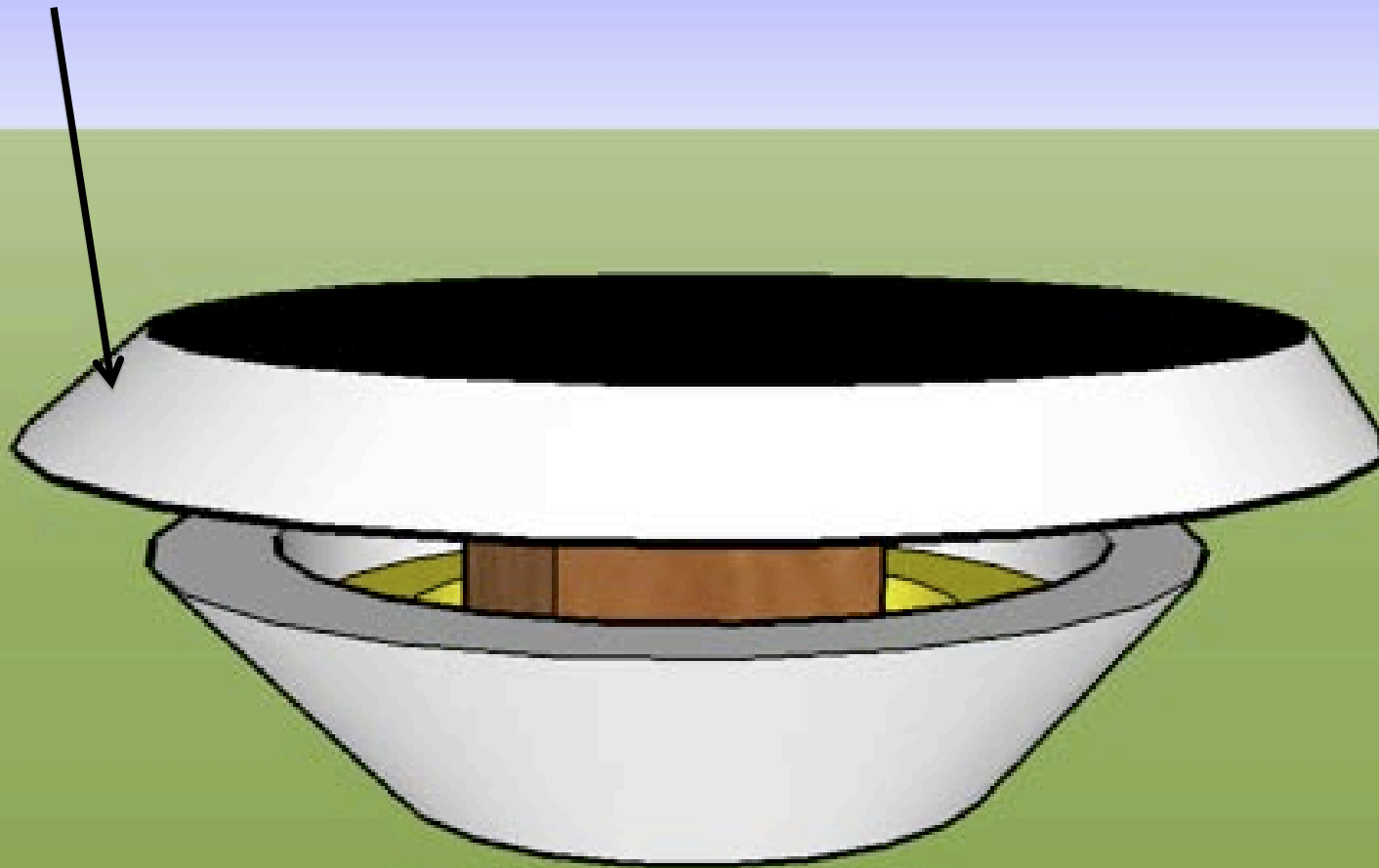


C2:What kind of barrier?

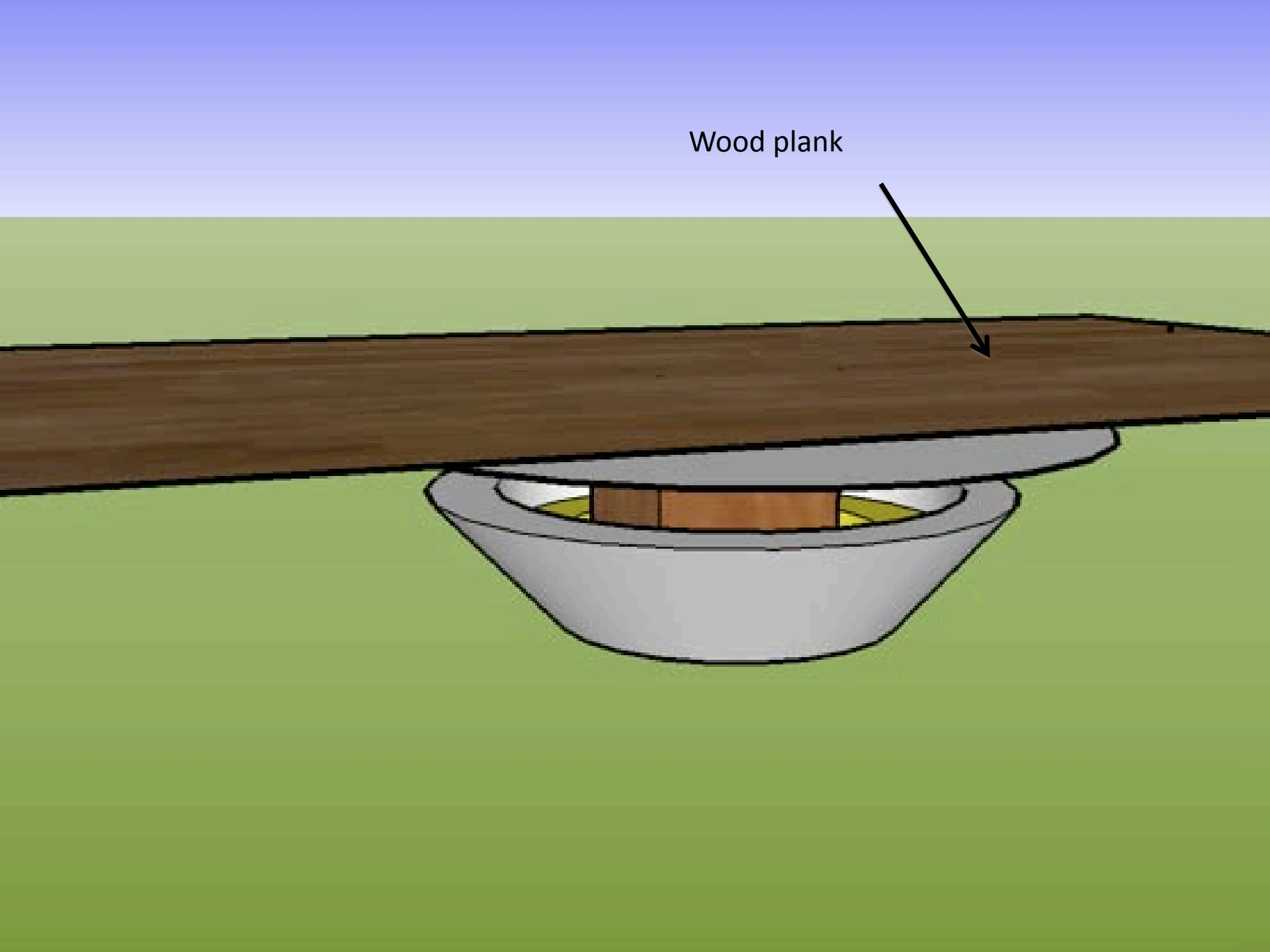




Large upside-down saucer

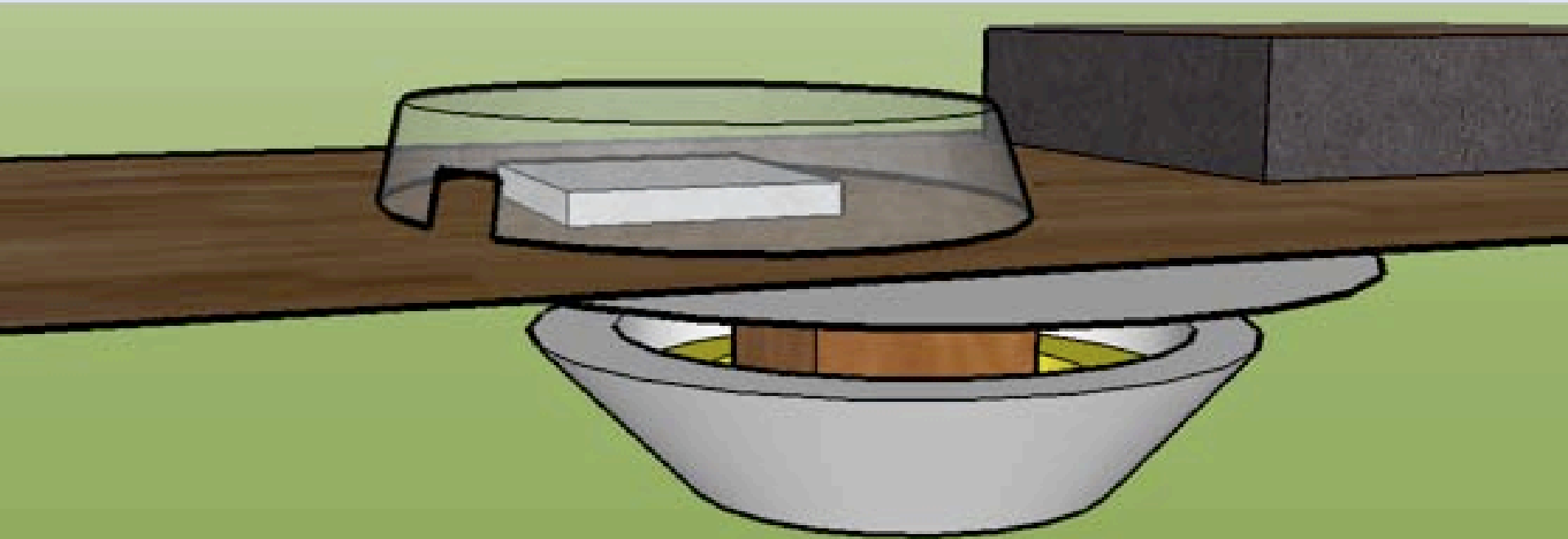


Wood plank



C3:What kind of bait?

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One suggestion: Boric acid baits
(but make sure to get approvals)

Results from recent Quarantine and Bait System (500 plants)



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Cost

- 3 extra person-hours
- \$400 in re-usable supplies
- \$50 in non-reusable supplies

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Benefit

- Infestation rates:
 - During random monitoring at the nursery: 6% (n=50 plants)
 - After quarantine and bait system: 0% (n=64 plants)

Next Steps:

1. Get the info out!

Lessons:

1. Erosion control and Dirt:
Don't use infested materials
2. Baiting in the field:
Cut-off access to food sources

Thanks:

Mid-Peninsula Open Space District

Acterra Native Plant Nursery

Diane Renshaw, consulting biologist

Stanford University

Jasper Ridge Biological Preserve

Former colleagues at TRA Environmental Science

Catalina Island Native Plant Nursery

Cristina Sandoval (Coal Oil Point)

Thanks to YOU!



How to Get Ants Outta Your Plants!

