

Longevity of Trelona® Termite Bait Cartridges

Technical Information Bulletin

Field studies conducted with **Trelona ATBS** annual bait stations have demonstrated that **Trelona** termite bait cartridges (TBC) can last five years or longer under different environmental conditions while maintaining palatability to termites. This bulletin discusses these findings and recommendations for replacement and maintenance of **Trelona** TBCs.

Efficacy and Replacement of Aged Termite Bait Cartridges (TBC):

2022 Center for Urban & Structural Entomology

Texas A&M University Study¹ findings:

- Both new and aged **Trelona** TBCs were highly effective in killing termites.
- **Trelona** TBCs used in the field and aged through one, three and five years were efficacious, with little to no difference between the year classes or brand new TBCs.
- Aged bait provided efficacy to foraging native termites (*Reticulitermes* spp.).
- Termite mortality was not statistically different between **Trelona** TBCs that were new, one-year field-aged, three-year field-aged, or five-year field-aged.

Study set-up:

- Termite Genus: *Reticulitermes* spp. (Collected: College Station, TX)
- **Trelona** bait cartridges aged in field at structural sites within in-ground **Trelona** bait stations in South Texas.
- Treatments:
 1. Fresh **Trelona** TBC
 2. One-year aged **Trelona** TBC
 3. Three-year aged **Trelona** TBC
 4. Five-year aged **Trelona** TBC
 5. New matrix with no a.i. (untreated control)
- Five replicates of 500 termites per treatment.
- Termite mortality recorded: 14, 30, 60, 90 & 120 DAT (days after treatment)
- Arenas placed on platforms within sweater boxes, base of box filled with water to 1 cm depth (Fig. 1.). Humidity aids termite acclimation. Termites were allowed to acclimate in the arenas for at least two weeks prior to treatment. Bait (5 g) from each selected TBC placed in the “feeding container” of each arena (Fig. 2.). Termites foraged from feeding container to arena overtime (Figs. 3 & 4).

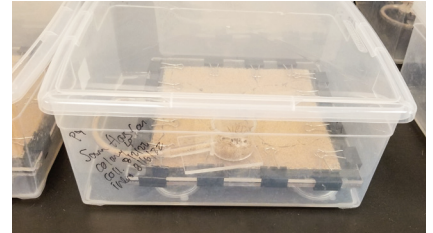


Fig. 1. Termite foraging arena in sweater box

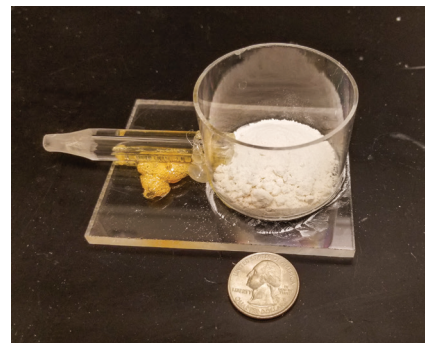


Fig. 2. Trelona Bait (5 g) in feeding container



Fig. 3. Termites from nest arena foraging into TBC feeding container



Fig. 4. Termites from nest arena foraging into TBC feeding container at 87 days.

Results:

- 90-100% mortality approached at 90-120 days after feeding (termites must molt for **Trelona** to provide effects).
- Performance of field-aged **Trelona** bait whether one-year, three-year or five-year aged was statistically indistinguishable from new un-aged bait.
- At 120 days, all treatments exceeded 95% mean mortality: a statistically and dramatically different result than the 21.9% mean mortality observed in the untreated controls.

Take-Aways from the Study

- **Trelona ATBS** annual bait station TBCs can remain efficacious for at least five years post application.
- It isn't necessary to replace TBCs based on calendar or elapsed time.
- Having highly efficacious TBCs in the stations for longer periods of time helps lower the overall cost of the **Trelona ATBS** annual bait station service offering.
- Follow the label directions for TBC replacement based on feeding and cartridge matrix removal. (www.pestcontrol.basf.us).
- The **Trelona ATBS** Annual Bait Stations Best Practices - Cartridge Replacement Technical Bulletin is an available resource (www.pestcontrol.basf.us).



If you have questions, contact your BASF Sales Specialist, Technical Representative or visit pestcontrol.basf.us

Mortality (%) of *Reticulitermes* spp. exposed to aged Trelona Bait over time

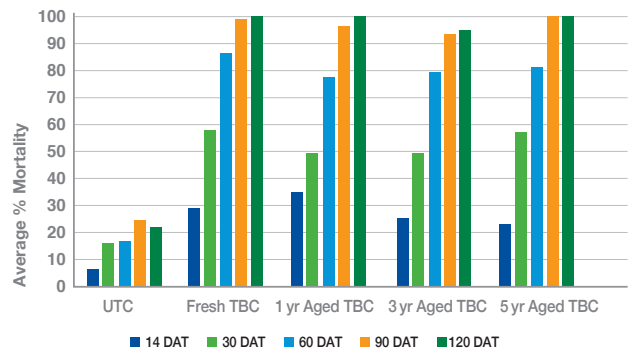


Fig. 5. Efficacy of new and aged Trelona Termite Bait Cartridges and untreated controls on Eastern Subterranean Termites over time.

Mean Percentage Termite Mortality vs Time

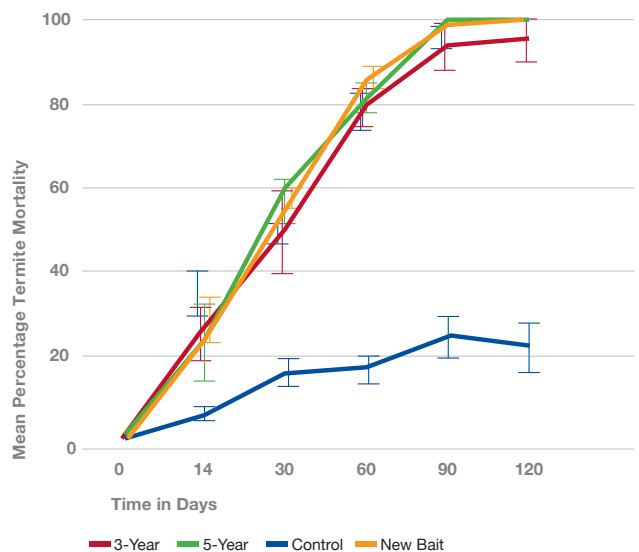


Fig. 6. Mean percentage of *Reticulitermes* spp. mortality for each treatment (new, aged & untreated). Error bars constructed using one standard error from the mean.

¹BASF P&SS Sponsored Study 20DAR011, Center for Urban & Structural Entomology, Texas A&M University.

Always read and follow label directions.

Trelona is a registered trademark of BASF.
© 2023 BASF Corporation. All rights reserved. PSS 23-1229