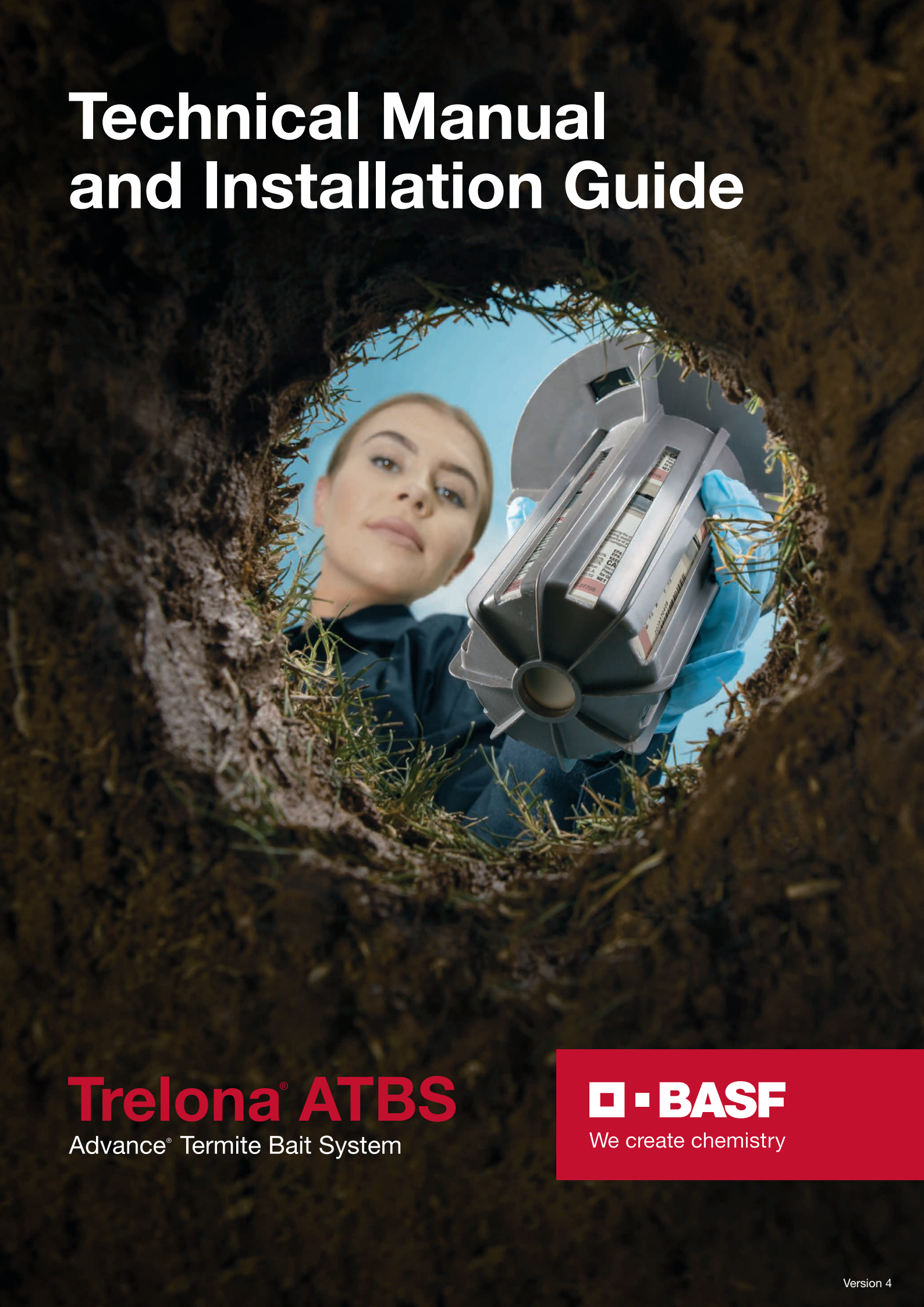
Technical Manual and Installation Guide



Trelona® ATBS

Advance® Termite Bait System

BASF
We create chemistry

Version 4

Innovation that solves your toughest challenges

BASF is dedicated to investing in research that produces quality solutions.

For over 150 years, BASF have developed innovations that help to solve your most pressing challenges, supported by research and an experienced sales and technical team. We are focused on investing and delivering best in class innovations and solutions to the Australian Pest Management Industry - **Trelona® ATBS** is yet another innovation to support professional pest managers in Australia.

This groundbreaking technology supports our existing Termite Management portfolio, providing pest management professionals with the most complete and robust solutions for any situation. We are excited to introduce this revolutionary technology and look forward to bringing other new technologies to you in the future.

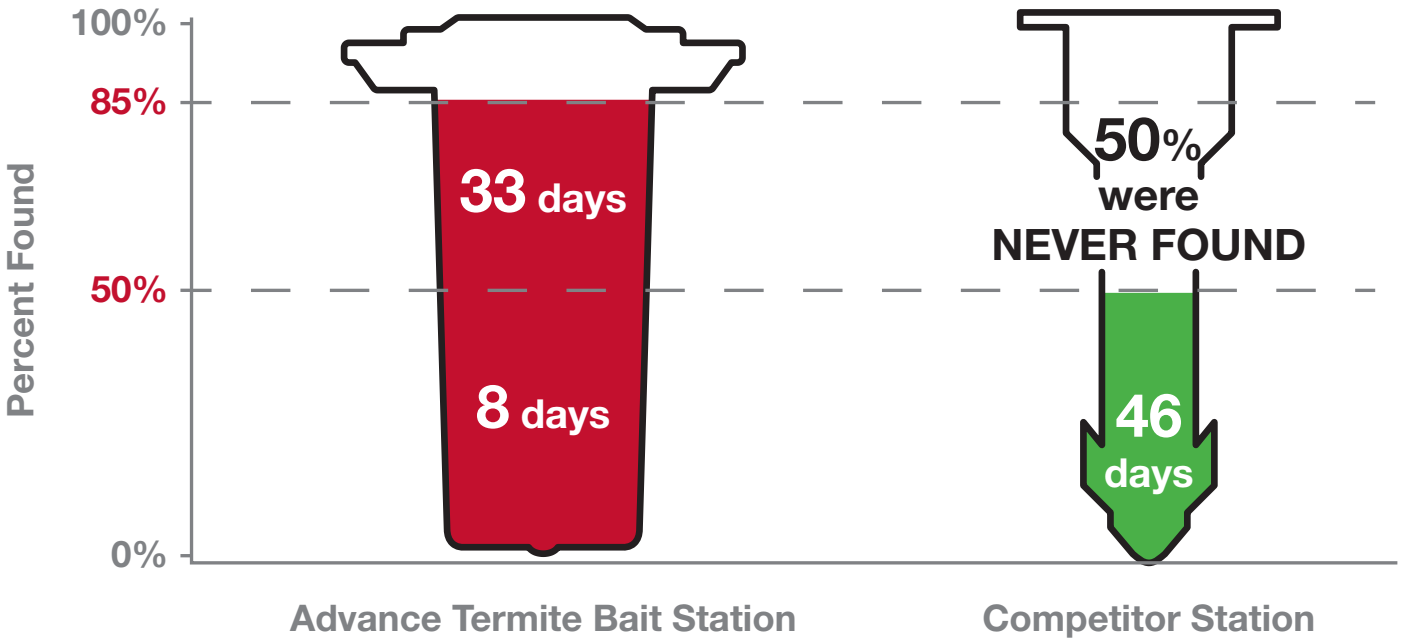
Mark Wilson
National Technical and Development Manager,
BASF Professional and Specialty Solutions

Introduction to Trelona® ATBS

BASF's Advance Termite Bait System (ATBS) with Trelona Bait Cartridge (TBC) sets a benchmark in termite baiting for the Australian market. Powered by a novel active ingredient Novaluron, Trelona requires much less bait for complete colony elimination to be achieved when compared to other termite baits. Trelona ATBS gives pest management professionals the freedom to offer their customers an 'Active Monitoring' System (AMS) or an 'Active on Application' (AoA) System. Trelona ATBS may also be used in combination with BASF's industry leading termiticides, Termidor® Residual Termiticide and Insecticide and Termidor HE Residual Termiticide, so a management system can be tailored for any situation. As an Active on Application System, Trelona ATBS allows pest management professionals to extend out their inspection frequencies while providing year-round protection from the time of installation. The unique ATBS station holds up to 248 grams of bait and has been designed to encourage termite interception and quick feeding. This provides pest management professionals with the peace of mind that their clients' most valuable asset is being protected. Trelona ATBS and Termidor brands are integral tools for termite managers developed by BASF, the leader in termite control since the launch of Termidor in 2002.

System Components

Trelona ATBS has been designed to survive the toughest of conditions while also being simple and efficient to install. The robust in-ground bait stations have been developed to accelerate termite interception and encourage feeding. As an Active Monitoring System, ATBS ensures minimal disturbance during inspection and bait replacement. As an Active on Application System, Trelona ATBS holds more bait than any other comparable system.



Trelona ATBS Bait Stations feature a superior design that leads to fast termite hits. In a university study, termites found the Trelona ATBS Station faster than the competitor's bait station. In this replicated study, Trelona ATBS and the competitor's bait station were placed within 500mm of an active termite colony. Stations were checked daily over 46 days, producing the results above.

2012 University of Delaware study of active termites within one half-metre of both a competitor station and Trelona ATBS station.

Trelona Advanced Bait Technology

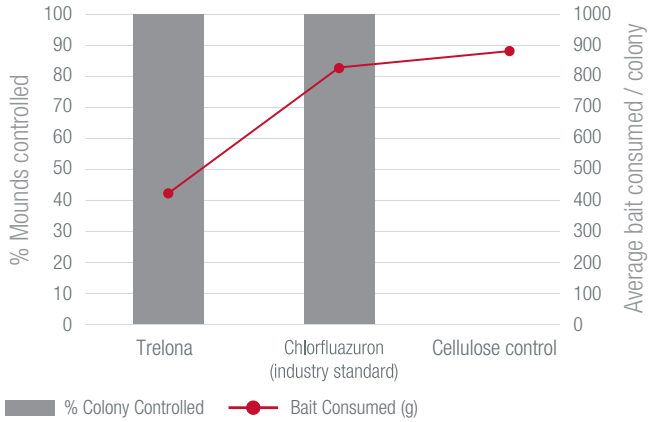
Trelona is powered by a unique active ingredient Novaluron formulated within BASF's patented Puri-cell bait technology. Novaluron is a next generation Chitin Synthesis Inhibitor (CSI), effective on key subterranean termite species including *Mastotermes darwinensis*. The unique patented matrix is highly palatable to all species of termite, while also being robust enough to last five years in tough Australian conditions.

Trelona affected Mastotermes darwiniensis. In this image the body of this Trelona affected Mastotermes darwinensis is covered in mites.

Termites become overrun with mites when colonies become unhealthy and 'normal' grooming and colony management activities decline.

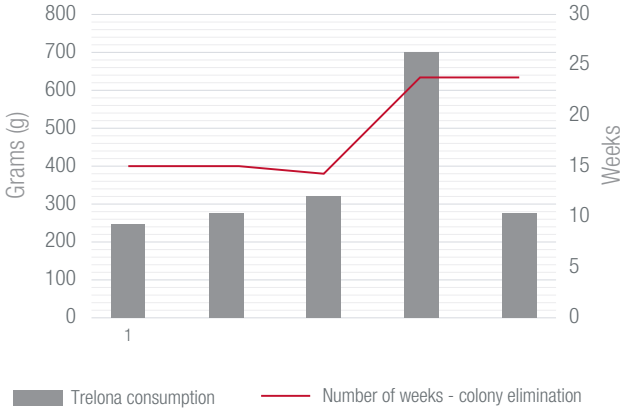
Source: Northern Territory Department of Primary Industries 2016

Mound trials with *Coptotermes acinaciformis* demonstrated less bait required for colony elimination



Source: BASF Australia 2017

Mini house trials with *Mastotermes darwiniensis* - 100% colony elimination



Source: ATP Research 2017

Termite Management

Effective termite management can only be achieved once a thorough termite inspection has been undertaken for any given site. A termite inspection provides the basis for determining the control measures to be implemented and what remediation measures are required to minimise future risk. As part of the inspection, pest management professionals need to consider what treatment options best suit the site and how best to deploy these tools to ensure maximum protection. **Trelona ATBS** and the **Termidor range** of products provide pest management professionals with the most complete suite of tools available to manage termites. Trelona ATBS is the only baiting system designed and tested to be used in conjunction with Termidor, providing pest management professionals and homeowners with ultimate solutions for even the most difficult situations.

Initial Termite Treatment

When termites have entered a structure, a thorough termite inspection is required to determine the extent of the activity, damage and termite species. Only once this is carried out can a termite management plan be developed, which outlines what initial treatment should be undertaken and the future protection plan of the structure. Options for treating the termites in the structure will depend on the level of activity, termite species and where termites are entering the structure.

Chemical treatments such as **Termidor Foam** (dry foam specifically designed for stage one treatments) may be applied directly to termite workings where present in the structure and act to control termites rapidly.

A limited interior application of **Termidor Residual Termiticide and Insecticide** or **Termidor HE Residual Termiticid**e may also be utilised to eradicate termites and protect entry points. Applications should be undertaken as per instructions on the product label and applied around known points of entry.

In some circumstances, above ground baiting may be the best suited treatment option to eradicate termite activity. This process is very effective in situations where the chemical application could be limited, such as where low termite numbers are present. Baiting active termites within a structure provides a means of controlling the colony where foaming is not practical and a protective treatment cannot be undertaken.

The Trelona ATBS system can be used in conjunction with existing above ground baiting systems where required.

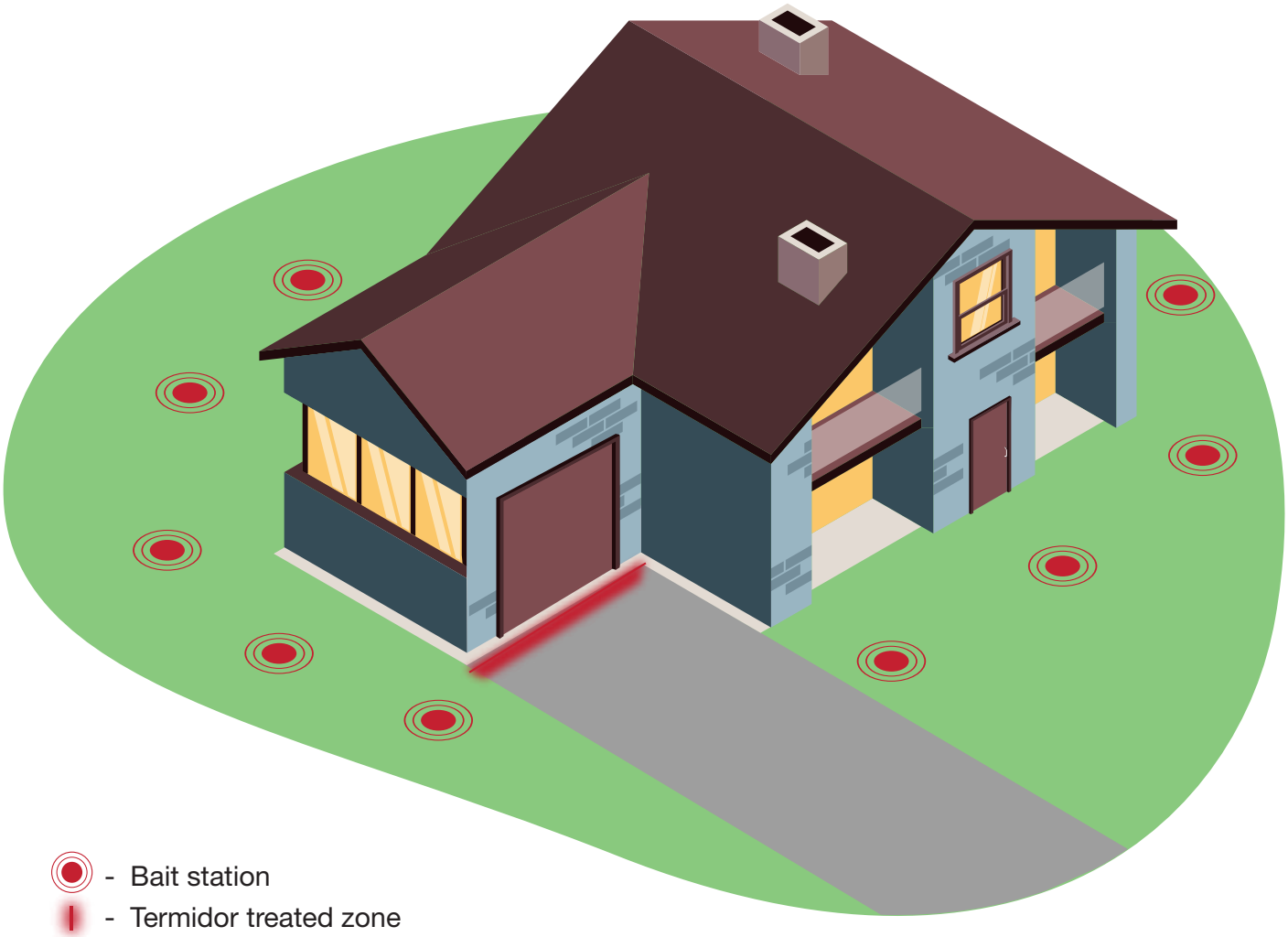
NB: All Termidor products must be installed by a licenced professional.

Installation

Advance Termite Bait System (ATBS)

The Trelona ATBS system may be used on active sites or as a preventative system.

ATBS stations should be installed around a structure at approximate intervals of 3m and ideally between 300mm - 600mm from the outside walls. Stations can also be placed in additional areas where termites are active or where conducive conditions exist around the property.



- Bait station
- Termidor treated zone

Based on a 70 Lm house with
3 metre spacings between stations

Installation

Step 1.

To create the required opening for the **ATBS in-ground station**, an auger of 75-80mm is required and a hole should be excavated to a depth of at least 170mm to allow the station to be installed to a neat finish, close to the ground level. If possible, it is recommended that the hole is excavated an additional 50-80mm below the depth of the base of the station to create a natural sump to allow the excess moisture to drain **(Figure 1).**


Figure 1

Step 2.

The station can now be inserted into the ground **(Figure 2)**. It is important to get the station as flush as possible to the ground level to reduce any trip hazards or collisions with lawn mowers. Remove the grass from under the collar of the station, this will get the station into a low-profile position and stop grass growing underneath the station over time.


Figure 2

Step 3.

Once inserted in the soil, the fins under the station collar are designed to reduce rotation so it doesn't come loose when servicing. Upon installation, if your station collar is not resting on soil, it may be necessary to step on the station to firmly lock it into the soil **(Figure 3).** The ATBS stations are constructed from a strong durable plastic and can withstand some direct force. With your foot placed over the top of the station, press down until the station's fins have bedded down in the soil.

If you are installing Trelona ATBS stations from an Active on Application (AoA) kit 2 x Trelona Bait Cartridges (TBC) will be pre-loaded in the stations, if installing as an Active Monitoring System (AMS) add a TMB and TBC to the station. It may be necessary to put stations into areas where concrete or tarmac is present. This would require a core to be cut through the surface to gain access for the in-concrete station to be installed. Concrete or tarmac cutting should be carried out by someone trained in this field; you may use a professional concrete cutting company to do this service on your behalf. It is recommended when cutting through concrete that utility services are identified before commencing this activity.


Figure 3

Step 4.

Once the core is cut you may need to remove some additional soil from under the concrete to make room for the ATBS **Concrete Bait Station (CBS)**. Trial fit the station to check if the sleeve drops down into the void. The sleeve will have to be at least 5mm below the depth of the base of the steel cap as they are a similar diameter and will stop the cap fitting flush. If the sleeve goes down too deep, or there is some soil subsidence, it may be necessary to add some soil back into the hole. Once you have the sleeve in the correct position you will be ready to add your AMS or AoA components and fit the steel cap **(Figure 4).**

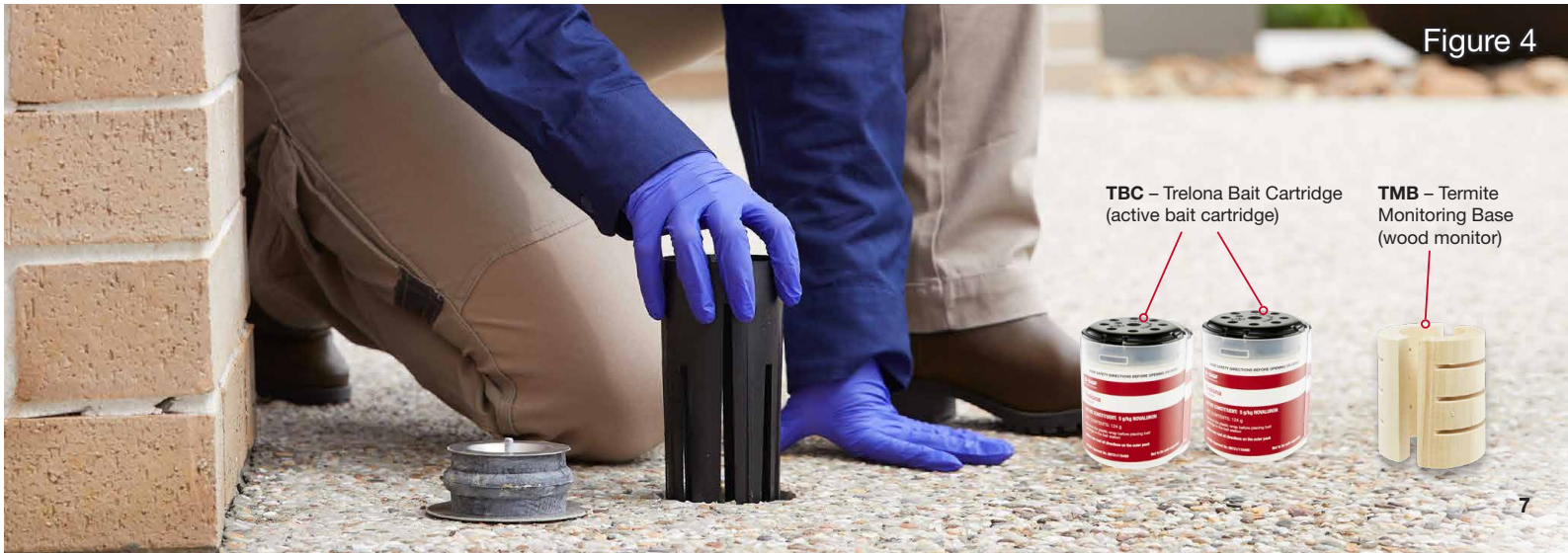


Figure 4

Trelona® ATBS

Active on Application System
Active Monitoring System

Trelona (Termite) Bait Cartridge

The **Trelona Bait Cartridge (TBC)** contains a highly palatable compressed Puri-cell formulation with the inclusion of the novel active ingredient Novaluron. Novaluron is a chitin synthesis inhibitor and when consumed by termites it impairs the ability of a termite to properly synthesise chitin - an essential polymer required for the formation of termite exoskeletons. In Australian trials, the Trelona termite bait demonstrated outstanding performance. Colony elimination was achieved with significantly less bait when compared to industry standard baits.

Active on Application System - AoA

The Trelona ATBS system can be installed as an Active on Application (AoA) System. For an AoA System, install ATBS stations as outlined above (refer to section – Installation). Load each ATBS station with two 124g Trelona Termite Bait cartridges, so that a total of 248g is available in every station. Pre-loaded AoA stations are also available. AoA Systems are designed to provide immediate protection to the structure even when you are not there, providing protection for your customers in-between visits.

Active Monitoring System - AMS

The ATBS stations, both in-ground and in-concrete, can also be used as an Active Monitoring System (AMS), which comprises two components; a **Termite Monitoring Base (TMB)** and a **Trelona Bait Cartridge (TBC)**.

The TMB is machined with horizontal grooves and is sourced from a premium wood species. The TMB is placed into the base of the station first - this creates significant wood to soil contact and provides a conducive environment for termites.

The second component used in the AMS is the Trelona Bait Cartridge. The TBC contains Puri-cell tablets which are formulated with highly purified cellulose, a preferred food source for termites. The TBC should be placed in the bait station on top of the TMB. The AMS allows termites to easily find the TMB, building numbers when feeding on the timber and travelling upwards into the TBC. When termites move to feed in the compressed TBC, they will exploit this food source and start the process of taking the bait matrix back to feed the colony. When handling these Active Monitoring components, disposable gloves should be worn to avoid contamination that could deter termites from entering the station.

When both Active Monitoring components have been added to the in-ground station, place the lid on top and twist clockwise with the Spider key tool, locking the lid in place.

When baiting with an in-concrete station, add the Active Monitoring components into the station and place the steel cap in the concrete hole. Use a hex socket or spanner to tighten the lid mechanism, ensuring the lid is secure. If this station is placed in an area with foot traffic, consider a steel cap with an abrasive finish to reduce the risk of a slip hazard.

After installing your ATBS stations, document the placement with the use of a site plan, mapping of your stations will be a record of how the site is set out. Number each station so that they can be identified in future reporting of the site. Keep your site plan up to date as in the future you may add or remove stations depending on the conditions.

Station inspection and maintenance

Maintaining Active on Application System - AoA

Step 1.

Remove the lid of the station by using the Spider key tool, pull out the top **Trelona Bait Cartridge (TBC)** with long nose pliers or a probing tool. When the TBC is removed check for any termite activity on the cartridge and inspect the second TBC for any signs of activity.

- If no activity is found, proceed to Step 2.
- If live termite activity is found go to Step 3.

Step 2.

Assess the condition of both TBC that you removed in Step 1. Replace the cartridge if it has more than 50% consumption, mould or other issues that render it un-serviceable. A thorough assessment of bait cartridges should occur every 12 months.

If any of the cartridges need replacing, the Trelona Bait is supplied in an individual cartridge, sealed in a plastic wrapper. This packaging needs to be removed prior to installing bait into the station. Remember disposable gloves must be worn whilst handling bait cartridges when they are removed from the plastic wrapper. The TBC can be added without the need or addition of water. Load both TBCs into the station and place the lid back on the station and secure by rotating clockwise using the Spider key tool.

Active stations should be inspected on a 8-12 weekly basis until termites are intercepted.

Note, during warmer months or in areas where *Mastotermes darwiniensis* occur inspections may be carried out more frequently. (1-2 months).

No further steps are needed.

Step 3.

If active termites are found on inspection and there is more that 50% consumption of either of the TBCs, they should be replaced. Trelona Bait is supplied in an individual cartridge sealed in a plastic wrapper; this packaging needs to be removed prior to the bait being installed into the station. Remember, disposable gloves must be worn whilst handling bait cartridges when they are removed from the plastic wrapper. The TBC can be added without the addition of water. A thorough assessment of bait cartridges should occur every 12 months.

Replace the lid back on the station and secure it by rotating clockwise using the Spider key tool. Active stations should be inspected on a 4-8 weekly basis and replenished as required. Once the colony has been eliminated 3-6 monthly inspection intervals may be reinstated.

Laboratory stability studies have demonstrated that Trelona cartridges remain stable for up to 10 years when stored in appropriate conditions. Australian field studies demonstrate, that baits remain efficacious and palatable for a period of up to 5 years. These studies are ongoing and recommendations will be updated as data becomes available. Although there are no label requirements to replace uneaten cartridges, it is recommended that cartridges be assessed for mould and excess water damage and replaced as required. A thorough assessment of bait cartridges should occur every 12 months.

When installing ATBS as an AoA System

TBC can be added to the ATBS station as an active bait from installation, making the active bait available from day one. During this installation, two 124g Trelona Bait cartridges should be added to each ATBS station. Station inspections should be carried out at 3-6 monthly intervals until termites are intercepted. Note, during warmer months or in areas where *Mastotermes darwiniensis* occur, inspections may be carried out more frequently, the first inspection post installation may also be sooner (1-2 months post installation) should the structure be under attack.

Maintaining Active Monitoring Station - AMS

Step 1.

Remove the lid of the station by using the Spider key tool, pull out the **Trelona Bait Cartridge (TBC)** with long nose pliers or a probing tool. When the TBC is removed check for termite activity in both the cartridge and the TMB.

- If no activity is found, proceed to Step 2.
- If live termite activity is found go to Step 5.

Step 2.

Assess the condition of the **Termite Monitoring Base (TMB)** and if it needs to be replaced, use the pliers to remove both halves of the timber monitor. Clean out the station of any debris or soil that would prevent the TMB from being installed. Re-install the original TMB is serviceable or install a new TMB in to the station.

Step 3.

Assess the condition of the TBC you removed in Step 1. Replace if it has been affected by mould or other issues that render it un-serviceable. If the TBC is serviceable, drop it back in the station or if not, add a new TBC into the station on top of the TMB.

Step 4.

Place the lid back on the station and secure it by rotating clockwise using the Spider key tool, add your activity and actions to your inspection report. Inspection can be scheduled for this station in another 8 -12 weeks. No further Steps are needed.

Step 5.

If active termites are found on inspection, assess the TBC, and if less than 50% has been consumed the cartridge can be reinstalled in the station. If more than 50% of the bait has been consumed the cartridge should be replaced. Trelona Termite Bait comes in an individual cartridge sealed in a plastic wrapper, this packaging needs to be removed prior to installing the bait into the station. Remember, disposable gloves must be worn whilst handling bait cartridges. The TBC can be added without the addition of water.

Replace the lid back on the station and secure by rotating clockwise using the Spider Key tool. This station information should be added to your report and inspected again at 4-8 weekly intervals, replenishing the bait as required.

Step 6.

Once a colony has been eliminated, a replacement TMB and TBC can be reinserted, and the Active Monitoring program can be re-established on 8-12 week intervals.

When Installing ATBS as an AMS

Regular inspection of the ATBS Active Monitoring System is critical to the operation of the system. Station inspections should be carried out on a regular schedule of between **8-12 weeks** apart. Note that during warmer months or in areas where *Mastotermes darwiniensis* occur, inspections may be carried more frequently.

Controlling ants around Trelona ATBS stations

Ants can be a challenge in and around termite bait stations. It is important to keep ants out of the station so that termites don't have to defend themselves, or potentially retreat from station, hindering the baiting process.

BASF's **Seclira® WSG insecticide** can be used to treat ants around infested ATBS stations.
Apply Seclira to ant trails, areas where ants are foraging, and nest entrances close to the station.

Amdro® Ant Granules can also be used. With the station lid closed, gently shake the granules around the bait station leaving up to a 300mm radius around the station. Concentrate the application on ant nests near the station to reduce the pressure. This treatment will be effective on the Singapore ant, Coastal Brown ant, Tropical fire ant or Ginger ant, Greenhead ant and Red imported fire ant.

If there are ants present inside the station we recommend using Seclira Pressurised Insecticide or Seclira WSG to the inside of the station lid. Remove the lid from the station place face down away from the station. Apply the product and allow to dry before refitting the lid to the station.

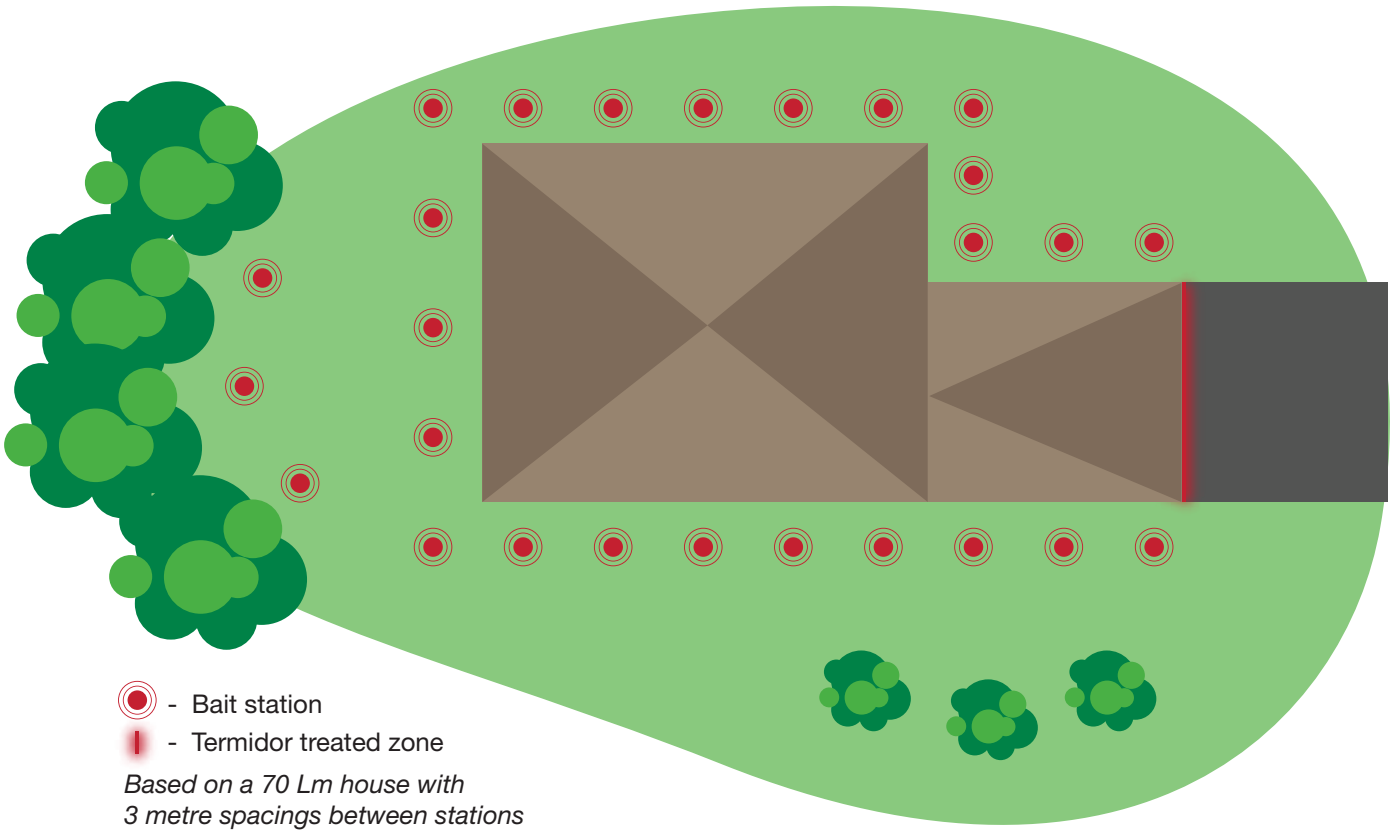
Managing termites around structures

Trelona ATBS is compatible with and designed to be used in conjunction with the complete Termidor range, and is registered for combination termite treatments.

A combination treatment allows for a Trelona ATBS system to be installed to a structure with Termidor Residual or Termidor HE applied to soil in high risk areas.

Structures that can have a complete Termidor Residual or Termidor HE soil treatment for the protection of the structure, can now have the added benefit of Trelona ATBS stations placed in conducive areas, around the structure and garden areas.

The flexibility of this label means that if a structure has a construction type where a liquid Termidor soil treatment cannot be continuous, a combination treatment with both systems can now be installed to give maximum protection on complex structures.



- Bait station
- Termidor treated zone

Based on a 70 Lm house with 3 metre spacings between stations

Trelona® ATBS system components

1. TBS – Termite Bait Station (in-ground bait station)
2. TMB – Termite Monitoring Base (wood monitor)
3. TBC – Trelona Bait Cartridge (active bait cartridge)
4. CBS – Concrete Bait Station (in-concrete bait station)
5. The Spider key - station access tool
6. AoA – Active on Application System (Ready to use station)
7. TBS replacement lid

1. TBS – Termite Bait Station (bait station)

2. TMB – Termite Monitoring Base (wood monitor)

3. TBC – Trelona Bait Cartridge (active bait cartridge)

4. CBS – Concrete Bait Station (in-concrete bait station)

5. The Spider key – station access tool

6. AoA – Active on Application System (Ready to use station)

7. TBS replacement lid

Trelona® ATBS

Label Instructions

Directions For Use

SITUATION	PESTS	CRITICAL COMMENTS
For use in areas conducive to termite foraging	Subterranean termites including (but not limited to): *Coptotermes acinaciformis,* *Mastotermes darwiniensis,* *Schedorhinotermes* spp.	Install TRELONA in and around structures to be monitored or protected. TRELONA may be installed as an Active Monitoring System with a single Trelona Bait cartridge in each station or as an active on application system with two Trelona Bait cartridges in each station. For further detail refer to General Instructions.

NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION

General Instructions

The active ingredient, Novaluron, is an insect development inhibitor. When consumed by a termite, Novaluron impairs the ability of a termite to properly synthesize chitin and inhibits the termite's ability to moult. Moulting is the process by which termites, at certain points in their development, shed their existing exoskeleton and form a replacement exoskeleton. Termites that attempt to moult after ingesting an amount of bait sufficient to impair their moulting process either die or are incapacitated by their inability to complete the moulting process. Insect development inhibitors such as novaluron are characterised as slow acting toxicants; however, their action is slow only when they affect a termite at the point in its life cycle when it moults. Because all the termites in a colony DO NOT moult at the same time, the effect of novaluron on the colony as a whole is progressive. This progressive effect is one of the key attributes of novaluron enabling termite colony effects.

Sufficient consumption of bait by a termite colony can cause a decline in the number of colony members. Such a decline, if sustained by continued consumption of bait by the colony, can significantly impair the colony vitality. Further, continued consumption of bait by remaining colony members may ultimately result in the total elimination of the colony. The extent of the decline of the colony, the speed of its decline and the possibility of its elimination depends upon the extent to which bait is made continuously available to a colony for consumption and the extent to which members of the colony consume it. Adherence to the DIRECTIONS FOR USE can increase the likelihood of colony elimination; however, conditions or circumstances beyond the control of the user may prevent or substantially delay colony elimination. Such conditions may include, but are not limited to, alternate non-bait food sources that reduce the extent to which the colony depends on the bait as a food source, excess moisture, low or high temperatures or abandonment of feeding on the bait by the colony.

Trelona® ATBS

Advance® Termite Bait System

Key advantages of Trelona ATBS

- ✓ Use less bait for entire colony elimination
- ✓ An Active on Application System providing full protection from day one
- ✓ Can be used in conjunction with the Termidor® range
- ✓ Up to 6 months peace of mind between professional visits

Scan for more information,
visit **pest-control.basf.com.au**
or call **1800 558 399**

BASF
We create chemistry

ALWAYS READ AND FOLLOW LABEL DIRECTIONS BEFORE USING ANY PRODUCT IN THIS GUIDE.

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