# USDA-FS presents termiticide study update

**By Dr. Thomas Shelton, Craig Bell, Shawn Cooper, Dr. Rachel Arango, Dr. Grant Kirker and Dr. Mark Mankowski** | *PMP* Contributors

Like other restricted-use pesticides, soil-applied termiticides must be registered by the federal government prior to use or sale in the United States. Currently, that role is handled by the U.S. Environmental Protection Agency's (EPA's) Office of Chemical Safety and Pollution Prevention (OCSPP). Until 2010, this office was known as the Office of Prevention, Pesticides and Toxic Substances (OPPTS) — an acronym that still appears in historical instances.

The EPA also handles the registration of "kills-only" pesticides whose labels do not make structural protection claims.

Some of these products are not considered restricted-use and can be purchased and applied by homeowners. It is important to note that products sold for homeowner use differ in formulation and in concentration from the restricted-use termiticides containing the same active ingredients.

For the purposes of this article, we are only considering restricted-use termiticides for professional use. Homeowners are advised that, even though some of these products can be obtained over the internet, their use is still restricted to those having proper credentials within their states. It is a crime to use them without holding a valid applicator's certificate or license from the state in which the product is applied.

Prior to sale or use by a pest management professional (PMP), restricted-use termiticides must be registered by the EPA. The EPA requires a six-year study (five years of annually collected data) on the field efficacy of such compounds. Soil-applied termiticide efficacy testing must adhere to the methods described in OCSPP Series 810 Test Guidelines, OPPTS 810.3600 and the standards used by EPA OPPTS, which are described by Pesticide Registration Notice (PRN) 96-97 (EPA, 1998). These methods mimic those already used prior to those dates by the U.S. Forest Service Termite Unit. This unit is currently part of the Durability and Wood Protection Research Work Unit of the Forest Products Laboratory (FS) based in Wisconsin and Mississippi.

The efficacy data collected should indicate whether the product, which is considered to be a candidate termiticide at this point, and its concentration in question prevents termite movement past treated soil — in other words, providing a barrier.

OPPTS 810.3600 codifies the guidelines based on methods developed in the 1930s and 1960s by the FS. Data submitted to the EPA must come from an impartial third party, and the FS currently does that work. These data are used to determine whether tested concentrations, applied as a zone of treated

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Eastern subterranean termite (*Reticulitermes flavipes*)

PHOTO: © GENE WHITE

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soil, are effective at preventing damage to test wood (southern pine) blocks in three field locations in the southeastern United States. These data are reported annually to the cooperator, which usually is the product's manufacturer or registration representative in the U.S.

After five years, the cooperator combines the efficacy data with data from basic toxicological studies conducted by other labs in a registration package for the candidate termiticide. The registration package is then submitted to the OCSPP for consideration. In turn, OCSPP considers the data submitted using the EPA standard (covered below). Those concentrations that satisfy the efficacy standard and other non-target toxicological standards are allowed to be used on the eventual label by the manufacturer.

At this point, the product is federally registered and can be used and sold in the U.S. However, individual states are then allowed to make their own decisions on the product through state regulatory agencies. Our annual termiticide report provides data for currently registered products at their labeled application concentrations — providing efficacy information to PMPs and other industry representatives, and owners of homes and/or other wooden-framed structures.

The FS takes observations at set points throughout the year, with the final observations taken in September. This report describes work and data collected during 2025.

Termiticide testing is conducted on Experimental Forests (EF; a subset of National Forests) in the southeastern U.S. While the FS manages all National Forests, EFs are not open to the public. It should be noted that not all National Forests contain EFs. Because the products involved in these studies are not yet labeled or registered, they cannot be used on National Forests, as the product-treated soil could potentially be

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**Table 1.** Number of years that repellent termiticides remained effective in concrete-slab (CS) and ground-board (GB) tests on four field sites applying the EPA guideline and Florida Efficacy Rule.† Fractions of years occurred when products were installed out of cycle. Control = percentage of all untreated plots attacked over the life of the study.

| % Active Ingredient | Test | Arizona | | Florida | | Mississippi | | South Carolina | | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | EPA | FL | EPA | FL | EPA | FL | EPA | FL | SE States |
| **Bifenthrin – Biflex TC (study established 1986 and closed 2011)** | | | | | | | | | | |
| 0.031 | CS | 0 | 9 | 4 | 11 | 2 | 5 | 2 | 4 | 4 |
| 0.062†† | CS | 16 | 16 | 22 | 22 | 7 | 7 | 10 | 16 | 10 |
| 0.125†† | CS | 10 | 15 | 9 | 25 | 2 | 7 | 24 | 25 | 9 |
| 0.25 | CS | 25 | 25 | 25 | 25 | 16 | 17 | 25 | 25 | 25 |
| 0.5 | CS | 6 | 23 | 25 | 25 | 18 | 24 | 25 | 25 | 25 |
| 0.031 | GB | 6 | 7 | 4 | 5 | 2 | 2 | 3 | 4 | 4 |
| 0.5 | GB | 10 | 11 | 14 | 21 | 12 | 15 | 8 | 11 | 14 |
| Control | CS | 52% | | 68% | | 51% | | 59% | | - |
| Control | GB | 68% | | 86% | | 74% | | 84% | | - |
| **Cypermethrin (study established 1982 and closed 2004)** | | | | | | | | | | |
| 0.125 | CS | 1 | 4 | 0.5 | 1.5 | 1 | 3 | 2 | 2 | 2 |
| 0.25†† | CS | 4 | 4 | 10.5 | 12.5 | 3 | 5 | 4 | 4 | 4 |
| 0.5†† | CS | 4 | 5 | 4.5 | 9.5 | 7 | 14 | 12 | 12 | 11.5 |
| 1.0 | CS | 8 | 10 | 7.5 | 21.5 | 6 | 15 | 12 | 16 | 15 |
| 1.0 | GB | 3 | 6 | 4.5 | 4.5 | 5 | 5 | 5 | 6 | 5 |
| Control | CS | 62% | | 66% | | 50% | | 60% | | - |
| Control | GB | 73% | | 75% | | 85% | | 88% | | - |
| **Permethrin – Dragnet (study established 1978 and closed 2004)** | | | | | | | | | | |
| 0.25 | CS | 8 | 10 | 2 | 2 | 1 | 2 | 0.5 | 0.5 | 1 |
| 0.5†† | CS | 13 | 19 | 4 | 4 | 5 | 6 | 4.5 | 4.5 | 4.5 |
| 1.0†† | CS | 15 | 15 | 15 | 25 | 5 | 8 | 10.5 | 11.5 | 10.5 |
| 1.0†† | GB | 9 | 11 | 6 | 6 | 2 | 3 | 0.5 | 3.5 | 3 |
| Control | CS | 50% | | 55% | | 60% | | 53% | | - |
| Control | GB | 43% | | 78% | | 86% | | 84% | | - |
| **Permethrin – Torpedo (study established 1980 and closed 2011)** Controls same as cypermethrin | | | | | | | | | | |
| 0.25 | CS | 9 | 9 | 3 | 7 | 2 | 2 | 0.5 | 0.5 | 1.5 |
| 0.5†† | CS | 11 | 13 | 6 | 9 | 3 | 5 | 1.5 | 4.5 | 5 |
| 1.0†† | CS | 19 | 31 | 25 | 27 | 3 | 7 | 6.5 | 7.5 | 7 |
| 0.5†† | GB | 4 | 4 | 4 | 4 | 1 | 1 | 1.5 | 1.5 | 1.5 |
| 1.0†† | GB | 8 | 9 | 5 | 5 | 2 | 2 | 1.5 | 1.5 | 1.5 |

† **EPA:** years with no penetration through treated soil in any plot.
**FL:** years with no annual damage more severe than ASTM 9 to blocks or boards on 90% or more of the plots per site (each annual evaluation stands alone, not cumulative).
**FL SE States:** years with no annual damage more severe than ASTM 9 to blocks or boards on 90% or more of the plots across the southeastern sites (damage ratings are annual, not cumulative).
†† Registered label rates.

**EDITOR'S NOTE:**
For the charts above and on the opposite page, the data for the program that can be made public at press time have remained the same since they were first printed in the March 2015 issue of *Pest Management Professional* magazine. Please note the inclusion of brand names and manufacturer names are for data purposes only, and does not imply endorsement by the USDA-FS.

TABLES: U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE

**Table 2.** Number of years that non-repellent termiticides remained effective in concrete-slab (CS) and ground-board (GB) tests on four field sites applying the EPA guideline and Florida Efficacy Rule.† Fractions of years occurred when products were installed out of cycle. Control = percentage of all untreated plots attacked over the life of the study.

| % Active Ingredient | Test | Arizona | | Florida | | Mississippi | | South Carolina | | FL |
|---|---|---|---|---|---|---|---|---|---|---|
| | | EPA | FL | EPA | FL | EPA | FL | EPA | FL | SE States |
| **Imidacloprid – Premise 75 WSP (study established 1992 and closed 2007)** | | | | | | | | | | |
| 0.025 | CS | 15 | 15 | 15 | 15 | 1 | 1 | 3 | 4 | 2 |
| 0.05†† | CS | 15 | 15 | 6 | 12 | 2 | 2 | 10 | 10 | 6 |
| 0.1†† | CS | 15 | 15 | 15 | 15 | 2 | 4 | 5 | 15 | 8 |
| 0.15 | CS | 15 | 15 | 15 | 15 | 3 | 4 | 5 | 15 | 5 |
| 0.2 | CS | 15 | 15 | 15 | 15 | 2 | 5 | 5 | 5 | 5 |
| 0.25 | CS | 15 | 15 | 12 | 15 | 2 | 2 | 8 | 9 | 8 |
| 0.3 | CS | 15 | 15 | 15 | 15 | 5 | 5 | 5 | 11 | 14 |
| 0.4 | CS | 15 | 15 | 12 | 15 | 5 | 9 | 5 | 14 | 15 |
| 0.1†† | GB | 3 | 7 | 2 | 2 | 1 | 1 | 2 | 2 | 2 |
| 0.2 | GB | 8 | 14 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 0.3 | GB | 5 | 6 | 2 | 2 | 2 | 2 | 1 | 2 | 2 |
| 0.4 | GB | 5 | 7 | 2 | 3 | 2 | 2 | 4 | 5 | 2 |
| Control | CS | 33% | | 77% | | 75% | | 36% | | - |
| Control | GB | 40% | | 95% | | 96% | | 70% | | - |
| **Fipronil – Termidor 80 WG (study established 1994 and closed 2010)** | | | | | | | | | | |
| Only five treated GB plots were attacked during the life of the study, but due to the low attacks at untreated control plots and multiple products in the test site, it was impossible to evaluate treatment effects. For additional information refer to the 2006 Termiticide Report (*PMP*, February 2007, page 66). | | | | | | | | | | |
| Control | CS | 14% | | 18% | | 2% | | 3% | | - |
| Control | GB | 9% | | 8% | | 16% | | 11% | | - |
| **Fipronil – Termidor SC (study established 1999 and closed 2011)** | | | | | | | | | | |
| 0.06†† | CS | 12 | 12 | 11.5 | 11.5 | 8 | 12 | 8 | 8 | 11.5+ |
| 0.125†† | CS | 12 | 12 | 11.5 | 11.5 | 8 | 12 | 12 | 12 | 11.5+ |
| 0.25 | CS | 12 | 12 | 11.5 | 11.5 | 12 | 12 | 12 | 12 | 11.5+ |
| 0.06†† | GB | 10 | 12 | 9.5 | 11.5 | 9 | 10 | 5 | 11 | 10.5+ |
| 0.125†† | GB | 12 | 12 | 11.5 | 11.5 | 8 | 11 | 10 | 10 | 11.5+ |
| 0.25 | GB | 0 | 9 | 2.5 | 11.5 | 2 | 2 | 12 | 12 | 11.5+ |
| Control | CS | 1% | | 67% | | 85% | | 50% | | - |
| Control | GB | 50% | | 97% | | 86% | | 88% | | - |
| **Chlorfenapyr – Phantom (study established 1996 and closed 2011)** | | | | | | | | | | |
| 0.125†† | CS | 15 | 15 | 1 | 7 | 1 | 1 | 6 | 7 | 1 |
| 0.25†† | CS | 15 | 15 | 11 | 11 | 2 | 5 | 5 | 15 | 6 |
| 0.5 | CS | 15 | 15 | 15 | 15 | 4 | 4 | 15 | 15 | 15 |
| 0.75 | CS | 15 | 15 | 1 | 1 | 5 | 5 | 15 | 15 | 15 |
| 1.0 | CS | 15 | 15 | 15 | 15 | 5 | 7 | 8 | 8 | 7 |
| 2.0 | CS | 15 | 15 | 15 | 15 | 1 | 9 | 15 | 15 | 15 |
| 0.25†† | GB | 9 | 11 | 0 | 0 | 2 | 6 | 5 | 8 | 6 |
| 0.5 | GB | 5 | 10 | 1 | 8 | 4 | 4 | 12 | 15 | 5 |
| 0.75 | GB | 15 | 15 | 4 | 7 | 5 | 12 | 11 | 15 | 8 |
| 1.0 | GB | 8 | 15 | 9 | 11 | 5 | 11 | 11 | 11 | 11 |
| 2.0 | GB | 6 | 11 | 15 | 15 | 12 | 12 | 8 | 14 | 12 |
| Control | CS | 19% | | 66% | | 79% | | 44% | | - |
| Control | GB | 54% | | 87% | | 99% | | 95% | | - |
| **Chlorantraniliprole – Altriset (study established 2004 and closed 2015)** | | | | | | | | | | |
| 0.025 | CS | 3 | 5 | 1 | 7 | 2 | 5 | 11 | 11 | 7 |
| 0.05†† | CS | 5 | 6 | 3 | 11 | 9 | 11 | 4 | 4 | 11 |
| 0.1 | CS | 2 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| 0.25 | CS | 4 | 11 | 11 | 11 | 11 | 11 | 11 | 11 | 11 |
| 0.025 | GB | 2 | 5 | 0 | 1 | 1 | 2 | 1 | 2 | 1 |
| 0.05†† | GB | 2 | 2 | 0 | 2 | 2 | 4 | 1 | 2 | 2 |
| 0.1 | GB | 4 | 7 | 1 | 6 | 4 | 6 | 2 | 4 | 4 |
| 0.25 | GB | 2 | 4 | 2 | 9 | 2 | 8 | 4 | 8 | 8 |
| Control | CS | 5% | | 63% | | 88% | | 49% | | - |
| Control | GB | 13% | | 82% | | 88% | | 89% | | - |

† **EPA:** years with no penetration through treated soil in any plot.
**FL:** years with no annual damage more severe than ASTM 9 to blocks or boards on 90% or more of the plots per site (each annual evaluation stands alone, not cumulative).
**FL SE States:** years with no annual damage more severe than ASTM 9 to blocks or boards on 90% or more of the plots across the southeastern sites (damage ratings are annual, not cumulative).
†† Registered label rates.

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contacted by the public. EFs are set aside for forestry research and provide FS scientists with more latitude in the types of studies that can be performed there.

The work described here is limited to *Reticulitermes* spp., the native subterranean termites found in the southeastern U.S. While there are other termite genera (specifically, *Coptotermes* spp.) established in urban areas near those forests, we have yet to find them observed on infested blocks in the EFs where the work is conducted. Therefore, our test data only reflect the response of *Reticulitermes* spp. to the candidate termiticides.

This work is performed on three EFs: the Harrison EF (HEF) near Gulfport, Miss.; the Chipola EF near Panama City, Fla.; and the Calhoun EF near Clinton, S.C.

## Testing program status

In 2025, one new product was installed and evaluation continued for two candidate termiticides. Thus, if year zero is the product's installation year, we have one product in year zero, one product in year three, and one in year eight. Efficacy data for all current, federally labeled soil-applied termiticides in the U.S. are found in Tables 1 and 2 (*Pest Management Professional,* or *PMP,* March 2015). Candidate products can be withdrawn from testing at any time by their manufacturers.

Our policy is to only report data from federally registered products, and only at label rates. This prevents possible off-label concentration applications and the use of agricultural products using the same active ingredients. Because of this policy, if there are products that have gone through this evaluation process but have not been registered by the EPA, those data will not appear in the tables of this report.

## General methods

Manufacturer representatives (cooperators) request that the FS termiticide testing program provide product efficacy data as an unbiased third-party using the methods described in the 810.3600 guidance document. The products tested are the intended commercial formulations; the FS does not test



PHOTOS: U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE

▲ **Fig. 1. Prior to treatment on the Calhoun EF in South Carolina, Dr. Mark Mankowski, left, and Shawn Cooper, right, remove roots and rocks from a plot.**

active ingredients independent of formulation. The FS also does not test formulated products other than the intended commercial product.

The data collected must be with the final formulated product, submitted as a product in a registration package to EPA OCSPP. New formulations for the same active ingredient require entirely new studies. For example, four different studies were installed for four different formulations of fipronil in the 1990s.

During the field work, cooperator personnel can observe and assist to a limited extent, such as mixing concrete or clearing trees from plot areas. However,

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cooperators are *not* allowed to help with mixing candidate termiticides, treating plots or determining wood block damage (evaluations). All FS personnel who mix and apply candidate products have current commercial pesticide applicator certificates (Category X) and many years of experience with the FS testing protocol.

The OPPTS 810.3600 (EPA, 1998) document describes two tests for soil barrier efficacy of candidate products. The original 1938 ground board method and the (~1968) concrete slab method are each described later in this report. The FS also provides samples of treated soil and conducts both installation of the product and annual observations of test wood.

This document, which requires five years of efficacy data for candidate termiticides, states that "data derived from such testing should provide complete resistance to termite attack for a period of five years, based upon annual reinspection." As a result, these studies take

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PHOTO: U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE

**Fig. 2. The ground board test plot on the Chipola Experimental Forest in Florida.**

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a minimum total of six years to complete. Collaborators can request reading plots for longer periods of time to gather more data if they choose.

Product manufacturers are updated annually on their product's performance. The EPA — and eventually, state regulatory agencies once the product obtains federal registration — are free to contact the FS regarding the data or methods used to obtain them. The public can request information about the methods used, but any data discussions are limited to the regulatory agencies.

## Test methods

Test methods are described in the annual termiticide report each year (*PMP,* October 2025 and all earlier FS annual termiticide reports). Because no procedural changes have been made, the language used to describe them remains constant.

The ground board test and the modified ground board (or concrete slab) test are specified for efficacy testing of candidate products by the EPA. Ten replicates of each concentration, including water-only controls, are installed for each candidate termiticide in the Harrison, Chipola and Calhoun EFs. Individual plots are laid out within rectangular areas in the forest and cannot be reused once treated. Soil in these plots is prepared by clearing out roots and debris prior to treatment (see Fig. 1, p. 57).

The ground board test employs a 24-by-24-inch area that is cleared of debris, roots and rocks. Then, a 17-by-17-inch area is treated with the candidate termiticide at the concentrations requested by the manufacturer, at the sub-foundation rate of 1 gallon per 10 square feet. After drying, a 6-by-6-by-1-inch southern pine (*Pinus* spp.) sapwood board, sourced from the East Mississippi Lumber Co. in Starkville, Miss., is centered on the exposed, termiticide-treated soil and held in place with a brick (see Fig. 2, p. 58).

The concrete slab test is essentially a modification of the ground board test. In this test, a 24-by-24-inch area is cleared and prepped as described earlier in this report. A 17-by-17-inch area is treated as in the ground board test.

After treatment, the soil is covered by a 6-mil-thick polyethylene vapor barrier (Lowe's item #810482). A 21-by-21-inch concrete slab is poured around a 4-inch-diameter polyvinyl chloride (PVC) pipe that is placed at the center of the square (see Fig. 3, at right).

Once the concrete has set, the vapor barrier is cut out (see Fig. 4, top and bottom, on p. 62) and removed from the bottom interior of the PVC pipe. A 3.5-by-2.5-by-1.5-inch rectangular pine sapwood block is placed on the treated soil at the bottom of the pipe. To prevent weathering of the treated soil, a PVC cap is placed on the pipe. Completed plots are laid out in a grid pattern within the forest.



PHOTO: U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE

**Fig. 3.** Craig Bell and Dr. Grant Kirker pour concrete slabs on the Chipola Experimental Forest in Florida.

Mixed solutions of candidate termiticides are applied to the soil at the pre-construction horizontal treatment rate of 1 gallon per 10 square feet in both test configurations. Wood placed in each plot is evaluated annually for termite damage using the Gulfport scale (described on p. 62; see Table

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3 on p. 63). The presence or absence of live termites infesting test blocks or boards is also noted.





PHOTOS: U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE

**▶ Fig. 4. Top: After treatment and a day for the concrete to dry, the vapor barrier must be cut from inside the polyvinyl chloride (PVC) tube. Bottom: The vapor barrier has been cut, and test wood is now in place.**

## Soil sampling

During product installations, two extra ground board and concrete slab plots per concentration are added for soil pesticide residue analysis. One 4-inch-long soil sample core per residue analysis plot is collected, measuring 1 inch in diameter, after initial installation and on each subsequent year of the study (see Fig. 5, p. 64).

After each soil core is taken, a 1-inch diameter PVC spacer is placed in the sampling location to prevent the same place from being sampled again later. The ground board and concrete slab plots designated for soil sample collection have no wood blocks in the plots and therefore cannot have termite feeding observations. The collected soil samples are shipped to the product manufacturer for residue analysis of their product.

## The Gulfport scale

Termite feeding data is assessed using the Gulfport scale: 0 = no damage, 1 = nibbles-to-surface etching; 2 = light damage with penetration; 3 = moderate damage; 4 = heavy damage; and 5 = board or block destroyed.

The Gulfport scale was developed in the late 1930s by the FS termiticide unit to give an estimate of the level of termite feeding on wood examined when the study plot is annually evaluated. The scale was first published in 1959 by Dr. Arthur F. Verrall. The Gulfport scale can be compared to other termite feeding standards such as the ASTM laboratory wood damage scale in standard ASTM D 3345-22. Table 3, above, shows a comparison of the two scales.

The damage/feeding scales described are categorical and, in nature, termite damage does not readily jump from one of these conditions to the next. Termite feeding would be more accurately represented if wood mass loss could be measured, but this is difficult to perform in the field in a short amount of time and without the ability to equilibrate the wood block to a constant weight. The rating scale system, therefore, allows for fast collection of damage data.

In the field, the block ratings are not evenly distributed across these categories. This is partly because of the size of the categories, with rating “3” taking up both a substantial portion of the potential block damage, as well as the largest chunk of study data each year for products reaching end-of-life date.

Regardless, while it might be possible to make statistical comparisons using non-parametric methods, these are unnecessary as the standard established by the EPA is a pass/fail system. Furthermore, the categories can be important for state regulatory standards, which in some

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**Table 3.** Rough equivalencies between the two termite feeding scales — the Gulfport scale and the ASTM scale — for assessing termite feeding damage to wood.

| Gulfport | ASTM |
|---|---|
| 0 | 10 |
| 1 | 9 |
| 2 | 8 |
| 3 | 7 |
| 4 | 4 |
| 5 | 0 |

TABLE: U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE

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states can set percentages of allowable damage to blocks (see "Performance standards" below).

## Performance standards

The EPA has a single standard for termiticide efficacy: five years of complete control. In other words, no termite feeding on a wooden block in any plot within five years of soil application.

While there is a single federal standard, all states can create their own individual standards. The individual state lead agencies for structural pest control make decisions regarding the use or sale of a product via either a state-specific regulatory standard (such as the Florida Termiticide Efficacy Rule, Florida Department of Agriculture, 2003) or using their own judgment of the FS efficacy data on a product. Several state lead agencies have chosen to make these decisions collectively through the Association of Structural Pest Control Regulatory Officials (ASPCRO).





▲ **Fig. 5.** **At left is a concrete slab for soil sampling. At right, Shawn Cooper and Dr. Grant Kirker take core soil samples from beneath a concrete slab.**

PHOTOS: U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE

Tables 1 (p. 54) and 2 (p. 55) present the efficacy data for each location individually, using both

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the EPA guideline and the Florida Rule. Discussions of the differences between the two standards have been covered in many of the past annual reports, most notably in the April 2016 issue of *PMP.* Both standards have remained unchanged in the meantime.

## Latest test results

Data collected through 2025 for all repellent (Table 1, p. 54) and nonrepellent (Table 2, p. 55) termiticides are available through **MyPMP.net/tag/termiticide-testing-program.** No new products entered the market in 2025, and all currently registered soil-applied termiticide products have had their studies closed at the request of their respective manufacturers.

## USDA-FS reorganization



**Dr. Thomas "Guy" Shelton**

On Sept. 30, 2026, Dr. Thomas "Guy" Shelton retired from his position as project leader for the USDA-FS Termiticide Testing Program. The *Pest Management Professional* staff wishes him well in his future endeavors.

At press time, **FS.usda.gov/about-agency/reorganization** provides the current reorganization progress and facility evaluations for the FS. Maps of facilities are at the bottom of the page.

Please refer all inquiries to **SM.FS.pressoffice@usda.gov.**

Thus, there are no new products whose data can be revealed and no additional data for currently available products in the tables.

The tables and data in this report are the same as the 2014 report (*PMP,* March 2015). All recently collected data are for unregistered products, which remain confidential until after EPA registration, with accepted label concentrations.

Altriset, with the active ingredient chlorantraniliprole, still appears in Table 2 because it retains its federal registration for use in the U.S. While its manufacturer, Syngenta Crop Protection, no longer produces Altriset, the remaining stock still can be sold and applied. The data are provided here should the public need them when considering Altriset use.

## New methodology progress

An additional methodology currently under review is intended to provide efficacy of field-collected treated soil against a known termite pressure. The sample study continues, but no new alterations to the methods have been necessary as of this writing.

## Conclusions

Efficacy data for proposed soil-applied termiticides have been provided by the USDA-FS for federal needs (military or regulatory) since 1938. Over that time span, this program has provided termiticide barrier efficacy performance data to regulatory agencies at the state and federal levels for all soil-applied termiticides with structural protection language on their labels.

These data also are provided to the public in the hope that it allows the public to make informed decisions regarding the protection of wood in service from termite feeding and assists pest management companies in making decisions about which termiticide products to offer their customers. **PMP**

**Bell** and **Cooper** are biological science technicians; **Dr. Grant Kirker** is a research forest products technologist; and **Drs. Rachel Arango, Mark Mankowski** and **Thomas Shelton** are research entomologists. All are with the USDA-FS Forest Products Laboratory, Durability and Wood Protection Research Unit — **Drs. Arango** and **Kirker** in Madison, Wis., and everyone else in Starkville, Miss.

## REFERENCES

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**MORE ONLINE:** For access to previous USFS Termiticide Reports, visit **MyPMP.net/tag/termiticide-testing-program.**