Insec(tc)ure*: Are you insecure about your insect cures?

A University of Tennessee Urban IPM Lab Newsletter for the Pest Management Industry

The Nationwide Formosan Subterranean Termite Survey Has Begun

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Coptotermes formosanus (Shiraki), or the Formosan subterranean termite (FST), is an invasive species that was first discovered in mainland US in the late 1950s and, thus far, has been detected in 11 US states (Figure 1). This year, the North American Termite Survey (NATS) Working Group intends to define its US distribution better.



Figure 1. Confirmed detections of the Formosan subterranean termite in the mainland US through April 30, 2025. Not all detections are currently active. Credit: EDDMapS, https://www.eddmaps.org/distribution/uscounty.cfm?sub=4303.

Formosan subterranean termites can be trickier to manage than our native subterranean *Reticulitermes* termites for several reasons. FSTs often create above-ground nests without connection to the soil, surviving on the cellulose and moisture in a structure that would render a solitary soil treatment useless. When relying on liquid termiticide applications, the carton nest (chewed wood or other cellulose, saliva, and feces) in the structure is often removed/treated to manage FST successfully, yet another practice Tennessee pest management professionals (PMPs) don't typically perform. Nests in trees are common and could be overlooked by Tennessee PMPs who are unaccustomed to searching trees for termite activity. In addition, a mature FST colony can contain four million individuals, which may be 10 times as many individuals in a mature native subterranean termite colony. Thus, FSTs can consume wood more quickly than the smaller *Reticulitermes* colonies. So, it's essential to know where FSTs are found in our state and, more importantly, to be able to identify them because introductions can occur anywhere.

Trapping collaborators



NATS collaborators in the southeast and California have created a network to aid FST detections by distributing trap kits and seeking submissions of FSTs. In Tennessee, 32 Formosan subterranean termite (FST) trap kits have been sent to 31 pest management professionals, Extension agents and specialists, a Tennessee Department of Agriculture inspector, and others (Figure 2). Thanks to everyone who is participating. They'll be placing glue boards under an LED light this week (Figure 3) to trap the FST swarmers which fly at dusk and are attracted to lights. Our native subterranean termites fly during the day. Traps will be placed near previously known detections and near likely FST introduction sites such as marinas, railroad tie storage areas, used mobile homes imported from the Gulf Coast states, companies involved with international trade, urban areas, areas with large field days, fairs or music festivals, and offices along our southern border. Privately owned boats can aid FST dispersal (Chouvenc 2025) so placement at marinas may be integral to detection. Glue boards will be inspected and replaced once a week through the second week in July. Previous alate swarms have occurred from early May to the end of June in Tennessee, so we are trapping a few weeks before and after the recorded swarm period. At the end of the study, glue boards will be sent to the UT Extension Soil, Plant and Pest Center in Nashville and forwarded to me so I can confirm the FST identification. Key identification characteristics of FST alates (also called swarmers or reproductives) include wings covered in hairs; two darkened wing veins along the front edge of the wings; a distance of 12 - 15 mm from the tip of the head to the tip of the intact wings; and caramel/orange/light brown body color (Figure 4).



FST detection in the past
FST trap collaborator confirmed for 2025

Figure 2. Previous detections of Formosan subterranean termites and locations where FST traps will be placed this year.





Figure 3. Formosan subterranean termite traps (fruit fly glue boards) were placed under lights in an urban university garden (A) and near a marina (B).



Figure 4. Formosan subterranean termite alates are 12-15 mm from the tip of the head to the tip of the wing (A) and the wings are covered with hairs (B). Credit: K. Vail (A) and J. Chandler and G. Phillips (B).

Specimen submission for nontrapping collaborators

You can still participate in the FST survey if you aren't one of the Tennessee FST trapping collaborators. Suspected FST alates or soldiers (tear-dropped head capsule) can be sent to the UT Extension Soil, Plant and Pest Center (SPPC), 5201 Marchant Dr, Nashville, TN 37211-5112 with "Attn: Karen" in the address. Typically, we charge \$15 to identify a specimen originating from a structure (tiny.utk.edu/SPPCUrbanPayment), but since this ID is for a research project, we do not require a fee. Place specimens in a plastic container, such as an empty medicine vial, and cover with a tissue before sealing. The vial will prevent the insect from being crushed in the mail. Specimens can be stored in less than 3 ounces of an ethanol-based hand sanitizer or propylene glycol before shipping to help prevent decay. Please include your name, the location (GPS, or street address, city, county and zip code) and the date the swarm occurred, or the soldier was collected. If you would like the location to remain private, please indicate so and we will only list the county in the EDDMapS database. Photos of suspect FSTs can also be submitted to kvail@utk.edu. Please include the same data. I will probably request the physical specimen to confirm the ID. Or you can submit a photo and the required data directly into EDDMapS at https://www.eddmaps.org/report/#.

For more information about the NATS FST survey, see https://termitesurvey.org/.

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Jarvis Mimes Achieves ACE Status



That's one big, well-deserved smile you see on Jarvis Mimes of The Pest Guy in Memphis, TN. Jarvis is an alumnus of our UT 2024 ACE Exam Prep Course and he just passed the Entomological Society of America's Associate Certified Entomologist (ACE) exam. This is an extraordinary achievement as it was once estimated that only 40% of pest management professionals pass the exam. Way to go Jarvis.

If you are interested in learning more about the ACE credential and taking our 2025 ACE Exam Prep Course, registration and the course schedule can be found at <u>https://tiny.utk.edu/ACEPrepFall2025</u>

Upcoming Category 7 Training Opportunities

TPCA Summer Conference, July 23-25, The Chattanoogan, Chattanooga - https://www.tpca.info/event-6082531

11th Annual Tennessee Bed Bug, Cockroach and Rodent Management Meeting, Knoxville, TN, August 6th

Ant Identification Workshop, Agriculture and Natural Resources Building, UT, Knoxville, August 14

WDO/GRC Licensing Training, August 19, Murfreesboro, TN, https://psep.tennessee.edu/



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