

Termites

Termites are social insects with various castes. Most of the members are white in color. Only the king, the queen, and swarmers are darkly pigmented. Soldiers' heads are reddish. Most people encounter termites during spring when termite swarmers leave their natal nests.

Each subterranean termite colony contains reproductives (a king, a queen), larvae, nymphs, workers, and soldiers. The majority of colony members are workers. They look for food, feed the other members of the colony, and maintain the nest and foraging tunnels. Soldiers have rectangular brownish heads and long mandibles. The reproductives play an important role in the growth and expansion of colonies. Thus, killing the queen will not cause the colony to die. A mature colony has 60,000 to one million individuals.

Subterranean termites naturally occur in forests and urban environments where cellulose materials (such as stumps, mulch, dead trees) exist. Most of the houses in the U.S. contain wood materials. When the wood materials become moist or contacts the soil, termites will find their way into the wood. Workers constantly forage for food. Their only food is cellulose material such as wood and paper. Under ideal conditions, a termite colony of 60,000 would consume about five grams, or 1/5 ounce of wood each day. A subterranean termite colony may cover 260 feet linear distance. A new subterranean termite colony can be formed in two ways:

1. a pair of swarmers mate, drop wings, and build a nest
2. budding from an existing colony.

The swarming adults only appear once or twice from mature colonies every year. Hundreds or thousands of swarmers leave the nest during warm sunny days between April-June. This is when most home owners first notice termites in their homes. After a brief flight, the swarmers soon drop their wings and form pairs. They then look for a moist, sheltered place to build a nest. It takes several years for the colony to mature and produce swarmers. As the colony grows, part of it may separate from the main colony and form a new colony.

Prevention

It is usually much easier and cheaper to conduct preventive work than to treat an infestation. Thus, property owners should follow common sense rules to avoid expensive treatment and repair afterwards.

First, avoid wood to soil contact or use treated wood if wood has to be used in a moist area. Ideally, any wood in a structure should be at least six inches above the soil. Repaint any wood that is close to the ground every few years to prevent moisture intrusion. Do not bury any wood materials (stumps, branches, wood debris) when building a home. Do not place cellulose materials (such as fire wood, mulch) immediately adjacent to a house. Using rocks or rubber mulch near the house will reduce the probability of termites remaining near the house. Cut down shrubs or large trees and remove stumps near the foundation to reduce the presence of roots and plant debris.

Second, reduce moisture and promptly repair leaks. The gutters and down spouts should be properly installed and maintained. Seal cracks and holes on exterior walls to prevent moisture getting inside the walls. Crawl spaces should be properly ventilated.

Third, use treated wood or steel in porches and other areas that are susceptible to termite attack. Fourth, install stainless steel mesh or pesticide-impregnated sheeting for new construction. These technologies are currently not widely used in the U.S.

Control

Once termites are found in a home, treatment is necessary to kill them. There are two types of treatments commonly used: soil treatment and baiting. Proper treatment requires special training, equipment, and materials. Homeowners should look for licensed professionals to properly eliminate termite infestations.

A soil treatment requires digging a trench around the exterior perimeter of the house. A liquid insecticide is then applied to the trench to form a continuous barrier between the house and the soil outside of the house. In conjunction with the exterior treatment, the insecticide may also be applied locally inside homes in areas where termite activities are found. In areas covered by concrete or wood, small holes are drilled every 12 inches or as the label directs. Insecticides are then injected with a rod and the holes are plugged

or otherwise filled. Because termites nest in the soil and constantly travel back and forth between the soil and the wood, they come in contact with the treated soil. When properly treated, a colony may be eliminated within one or two months. The soil treatment can be effective for more than five years.

Baiting is another commonly used termite treatment method. In this method, plastic tubes are installed underground at approximately 10 foot intervals encircling the house. Each tube contains wood and/or toxic bait. The bait tubes are examined regularly, from monthly to annually, depending on the type of bait tubes being used. Termites foraging around the house will eventually find the wood or bait. The bait is more palatable than the wood and contains a slow acting material. Termite workers eat the bait and bring the material to the rest of the members of the colony. A colony will be killed over a few months once termites find the bait. Above ground termite bait stations can be placed inside houses where termite activity is found . Each termite bait needs to be inspected periodically (quarterly to annually) to ensure enough bait remains, and that termites are eliminated.

In general, liquid treatment is often cheaper than bait treatment, depending upon the size of the structure to be treated. Liquid treatment provides immediate protection to the structure. Disadvantages are:

1. The procedures are somewhat destructive (such as drilling holes into concrete surfaces, digging a trench).
2. A large volume of insecticides is applied to the environment.
3. Structures with a well, spring, or cistern nearby cannot be treated with liquid insecticides due to possible water contamination issues.

Bait treatment has little environmental impact because the bait is contained inside capped plastic tubes. After termites are eliminated, the bait can be removed and no pesticides remain on the property. The equipment needed for bait treatment is simple. The treatment causes little destruction to the property. Disadvantages of this method include:

1. It may take several months or more for termites to find the stations.
2. The lag time between monitoring and baiting extends the period to achieve termite control.
3. The baits need to be inspected periodically and maintained.
4. Homeowners, their children, or pets may dislodge the bait stations through gardening, playing, or mowing activities.

Do I Need Annual Termite Inspection Service?

Pest control companies often recommend annual inspection services after termite treatment to detect future termite activity. This is helpful to detect termite infestation early. Homes surrounded by large trees, old stumps, or beds of deep mulch are more likely to have new infestations over time. Alternatively, homeowners may use over-the-counter monitoring stations for monitoring termite activity. Strategically place the monitors in areas that favor termite survival such as in the mulch, besides a stump or wooden deck. Inspect the monitors a few times a year between April-November. Termite infestations in the northeastern U.S. almost always start from outside. Installing monitoring stations around homes is a good proactive method for detecting new termite activity.

Reference

Mallis, A., S. A. Hedges, and D. Moreland. (2004) Mallis handbook of pest control, 9th edition, GIE Media, Inc.