

# Termite Infestations

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**Jody Green**  
*Extension Educator*

Termites are eusocial insects, defined by having overlapping generations, cooperative care of young and a reproductive division of labor. They have a caste system where different castes fulfill a distinct role within the colony. Termites are cryptic, soil-dwelling insects requiring high moisture, temperature and humidity to survive.

The only termites found in Nebraska are subterranean termites. Subterranean termites live in decentralized nests underground, close to a food source, connected by tunnels and mud tubes.

In natural ecosystems, termites are beneficial creatures, breaking down cellulose material such as decaying plant material, decomposing trees and leaf litter. Termites become a problem

in urban areas, because our building materials and structures are constructed of wood products and are, therefore, susceptible to termite damage.

It costs homeowners billions of dollars annually to prevent, control and repair termite damage. Termites have a nonstop appetite for cellulose materials, which include wood products, trees, firewood, drywall paper, cardboard, paper and cotton fabric. Only mature colonies, those established and growing for years, produce swarming termites (winged reproductives).





Homeowners typically discover a termite infestation in one of two ways:

- 1) During swarm season, when winged termites emerge from hidden locations.
- 2) When inaccessible areas of the structure are made accessible during home renovation or repair.

## Know the Difference Between Swarming Termites and Ants

Termite swarms in Nebraska are seasonal, occurring in the spring from March to May. They typically occur on a warm day after significant rainfall. During a swarm, winged reproductive termites come out of the woodwork to find a mate, pair-off and disperse. Termite swarmers are not strong fliers; their wings and bodies are often found caught in cobwebs and along windowsills. Many of them do not survive. The reproductive caste does no damage to the structure; their function is to produce offspring and grow the population.

To complicate matters, swarming ants may be mistaken for swarming termites.  
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	Winged Reproductive	Antennae	Waist	Food Source	Galleries
<b>TERMITE</b>	4-wings of equal size and length.  Shown magnified. Actual size about 3/8" body length	Straight, bead-like antennae.	Broad waist with no distinction between thorax and abdomen.  Reproductive after their wings have fallen off	Cellulose material such as plant material, wood, cardboard, paper and cotton.	Galleries with the grain, the softer springwood eaten and packed with mud.
<b>CARPENTER ANT</b>	Pair of forewings larger than pair of hind wings.  Shown magnified. Actual size about 1/4-1/2" body length	Elbowed antennae	Slender waist with node or pedicel between thorax and abdomen.  Reproductive after they shed their wings	Diverse diet may consist of carbohydrates, protein and fats. They do not eat wood.	Galleries cut into wood grain, smooth and clear of mud. Coarse sawdust with insect parts kicked out of galleries.

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termites as the timing of dispersal flights often overlap. It is important to identify the swarming insect as either termite or ant because there is great variations between treatment options and protocols.

When swarms occur, remain calm. Collect a few intact specimens in a container to have them identified before beginning any insecticide treatment program. Extension offers free pest diagnostic services Monday–Friday, 8 a.m.–4:30 p.m. at 444 Cherrycreek Road, Suite A, Lincoln.

An extensive termite infestation will likely require a professional soil application by a pest control company, but ant infestations are not as labor-intensive, complex or expensive.

## Castes

There are three main castes in a subterranean termite colony: workers, soldiers and reproductives.

Worker termites are approximately 1/8" long, creamy-white and soft-bodied, with no eyes and beadlike antennae. Like their name implies, workers do all the work and they are most numerous in the colony. They forage for food, feed and groom other castes and incorporate wood debris, saliva and fecal material to construct, maintain and repair the tunnels and mud tubes in which to travel.

Soldier termites are slightly larger than workers, creamy-white, soft-bodied, with enlarged, hardened, rectangular head capsules bearing large, developed mandibles. Soldiers typically make up less than three percent of the colony. They protect the colony from predators and defend the nest. They do not have eyes and cannot feed themselves so rely on workers for nourishment.

## Environment

Termites must maintain a certain level of moisture to maintain colony function. The constant connection with the soil allows them to transfer moisture from the ground to their colonies. Without the source of moisture, their soft-bodies would desiccate. They can detect air movement with the sensory hairs on their bodies. Termites are most active in the warmer months, but in heated buildings can continue to be active and feeding year round.



Termite damage under a window frame. Notice the galleries with the grain are packed with mud.

## Infestations

Termites can feed for years without detection by entering buildings unnoticed through cracks in the slab or foundation. They can travel unseen in the soil, voids or in mud tubes. Just because you have termites on your property does not mean your house is at high risk for termite feeding and damage. Termites forage in a radial pattern (much like a wheel), so explorations appear random, but have a greater chance of bumping into a food source. Termites will be attracted to and concentrate feeding where conducive conditions exist in and around the structure.

Conducive conditions include wood-soil contact (i.e. storing firewood on the ground next to the house, landscape timbers), moisture problems (i.e. leaky pipes, condensation, damaged windows, flat roof, faulty skylights), vegetation along outside perimeter (i.e. ivy, high mulch), dirt-filled porches, improper grade, poor drainage (i.e. downspouts, gutters, spigots), high humidity in crawlspaces and structural damage due to wind or rain.

## Damage

The extent of the damage will depend on the size of the colony and the duration of feeding. Termites consume the softer springwood and leave the harder summerwood, leaving mud frass (excrement) packed in the galleries in place of wood. Other signs of damage include mud or shelter tubes, dips or holes in hardwood floors and mud spots, bubbles or peeling paint on the walls. If the infestation is active, the moisture level will be above 20 percent and you may see live termites with some probing.



Mud tube running from soil in crawlspace over foundation block to the wooden sill plate.

## Treatment Options

If you have any questions with regards to whether or not you have a termite infestation, bring (or take a photo and send) specimens or damage samples to the Extension office. Once it is confirmed, you have a termite infestation, a trained and certified termite professional is recommended.

There are many pest management companies that perform termite work. Deal with reliable firms, consult the Better Business Bureau, check for liability insurance, ask for references and comparison shop.

Different types of treatments will vary in cost and liquid treatments (i.e. trench and rod, sub-slab injection, foam voids) differ greatly from baiting systems. Each company should write an inspection report complete with a detailed map, which includes dimensions of the structure, areas of active infestation, location of damage, where, how, and with what product the structure will be treated.