

Background information on termites in Canada

What is a termite?

Termites have been known to build towers, hollow trees, move soil and destroy houses, and they are around the size of an ant. However, termites are usually slower and fatter than ants and they are usually white in colour. Termites are part of the same group of insects as cockroaches, and they feed on dead plant material, such as wood and soil.

Termites generally inhabit dark nests and tunnels. Some termites have wings and are a darker colour, and they are the ones that leave the nests to harvest food and to eventually start new colonies, while the termites that stay in the shelter are wingless and paler. The flying termites can shed their wings when they find a new nest, and the wings grow back when it is time to hunt for food once again. Termites feed on the cellulose that is in plant fiber. This is a rich energy source but is difficult to digest.

Termites live in colonies that can have several hundred to several million termites living in the nest. A queen can lay as many as several thousand eggs in a day. Termites use swarm intelligence to gather their food, and within the colony there are several roles for the termites, including workers, soldiers, and breeders.

The egg-laying queens are kept within the colony nest at all times. A female termite that has flown, mated and produced eggs is termed a 'queen', and there can be many queens within a colony. The male termite is usually the only one in the colony and mates with all of the queens to produce offspring.

The termite workers are usually blind, as their eyes are undeveloped. They are responsible for creating the nest walls using soil, wood, and saliva. The soldier termites are used when ants attack, and they have an over-developed jaw to attack; yet this makes it difficult for them to eat, so the workers feed them.

What do termites do?

Termites can cause major structural damage to buildings, crops and plantation forests as they pick away at the wood fibers. Termites can go undetected for years, consuming the wood without people noticing until the structure is too severely damaged. Termites can also damage paper, cloth and carpets.

Termites feed on materials, such as wood and cloth, yet they do not digest it. Rather they use most of their intake to build their colony nests and to protect themselves from sunlight and rain. They usually build their nests in the walls of houses, as there is a large amount of food nearby for them, and they can go undetected for years.

Termites can damage houses, yards, cars, boats, and planes – all of this costing us money, time, and energy. Termites have been known to cause more than \$1 billion in



damage in U.S homes each year. According to Pest Control Canada, termites cause more damage than tornadoes, hail storms, windstorms and hurricanes combined. Termites can infest almost every part of your home, including your backyard. They enter your house through a small crack or opening in the wood and they never stop eating – they work 24 hours a day.

Geography:

Globally, termites are generally found within 50 degrees North and South. They tend to be found in the tropics and Mediterranean, but there are thousands of reported termite cases in Canada every year.

In Canada, termites are native only to southern B.C, yet they appear across Canada, despite being considered non-native. This is due to people introducing them to new areas through the movement of infested materials from the U.S. There has been a record of termites in Ontario since the 1920's, and in Toronto since 1938. The termites most likely arrived in shipping cargo from the U.S. Every province in Canada has had hundreds of termite infestation cases, and the number continues to grow.

Over 20% of Canadians live in termite-infested municipalities, and the termite epidemic is increasing as urban sprawl continues.

Threat:

The number of termite cases has gone up dramatically over the past 70 years, being called an epidemic by some. In the city of Toronto, 1,000 city blocks, or 10% of the city houses, are known to have termite infestation – and the number keeps growing.

Termites can feed on more than just wood – they can feed on paper, books, insulation, pool filtration systems, and clothes. While termites are usually more of a threat in the spring, they can appear throughout the year, especially after warmer temperatures and rainfall.

What are the costs?

The average cost of controlling termites is \$2,000, and there is an average property depreciation of 10% as many home buyers will not purchase a house with a termite bond. The municipal governments in Canada have turned away from supporting termite control, so the damage continues and the cost rises. Not only will the termites destroy your house, they will create shelter tubes throughout your walls that will need to be removed, costing thousands of dollars in repair.

Health Concerns:

The conventional way to treat termites is through a chemical barrier, where a toxin is used to create a barrier in the soil under the foundation of the house or structure. Yet this toxin presents a huge health risk to those people inhabiting the structure and even the neighbourhood. Furthermore, the toxins seep into the soil and cause damage to the



Earth. While there have been developments in the treatment of termites, such as the bait system, the termite problem persists. The bait system may not be harmful to our health, but it can take several months to work, leaving you with even more structural damage.

Solutions:

Not only can the control of termites initially cost thousands of dollars, there is no guarantee that the termites won't return and continue feeding on your wood structure. Termite control comes in 4 forms: physical, biological, chemical, and cultural.

Physical control includes putting shields or barriers on your structure so termites cannot gain access. This is a bit of an eyesore, so the cultural control is preferred by most. The biological control includes placing other species in contact with the termites, such as nematodes, flies and fungi, in order to kill the termites. This control method is not effective unless it is in a small, controlled area, which it rarely is. Chemical control is hazardous for our health.

The cultural control is the best method to avoid termite damage as well as health and cost risks for the homeowner. The cultural control method includes using pre-treated wood, like Bluwood, as termites cannot consume it.

Helpful links:

Urban Entomology Program University of Toronto
www.utoronto.ca/forest/termite/termite.html

Harvard University fact sheet on Eastern Subterranean Termites
www.uos.harvard.edu/ehs/pes_termites.shtml

LSUAgCenter – Comparison of Termites and Methods of Control
www.lsuagcenter.com/en/environment/insects/Termites/formosan_termites/native_formosan/index.htm

Dr.Don's Termite Pages
www.labyrinth.net.au/~dewart/world.htm

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