50 COMMON QUESTIONS ABOUT TERMITES AND THEIR CONTROL

Source: Termiteweb. Article contributed by the kind permission of Teresa Moreno, technical consultant of xylophagous division, of the Environmental Certification Agency, Spain, Miguel Gaju, Professor of the University of Cordoba, and David Mora, Technical Director of Environmental Aplyte, and ISS Facility Service, Spain.

Introduction

One of the most devastating pests of timber are subterranean termites. The presence of these insects in buildings located in cities and suburbs, even in Europe, creates a sense of insecurity in relation to the destructive power that these little creatures can inflict.

But what are termites? How can we identify and detect them. This article lists the 50 most common questions that people have, concerning termites, and their control.

1. What are the termites?

Termites are social insects, commonly of whitish colouration, that live in the ground and eat wood. At first sight, if we break the frame of a damaged door, break a mud tube from the wall or the roof, or if we pick up an infested box from the floor, their appearance is likened to grains of rice on the run.

2. How many species of termites exist?

All around the world, there are more than 2,000 known species; however, just some of them are economically important in agricultural, construction, and housing sectors. In the Iberian Peninsula, there are just three known native species: drywood termites known as Kalotermites flavicollis, the subterranean termites known as Reticulitermes Grassei and Reticulitermes Banyulensis.

3. Where do they live?

Termites that usually attack wood in human property are subterranean termites, e.g; Reticulitermes spp, that nest in the ground and not in wood as commonly supposed. They just come to gnaw on cellulosed elements like wood, which serves to feed the rest of the colony underground. Therefore, the King and the Queen, directly responsible for the growth of the nest, live under the ground, in a very difficult location for man to access.
4. **What comprises a termite colony?**

A termite colony is composed of individuals of different castes. The castes differentiate themselves both in appearance and function, within the colony. There are three different castes: workers, soldiers and reproductives. There may be primary and secondary reproductives. The primary reproductives (or termite alates), come from the nymphs; whereas the secondary reproductives can take the form of semi-adult worker nymphs.

5. **Which are the workers?**

The workers are a few millimetres wide (3-5 mm) and have a whitish colour, which people might confuse for worms. Their function inside the colony, (besides feeding on and collecting wood), is to make and maintain the structure of the termite nest, and take care of the eggs and nymphs.

6. **Which are the soldiers?**

The soldiers look similar to the workers, but their heads are bigger, and their jaws are very well developed for their defensive function within the colony. They are not capable of feeding themselves, so they receive food from the workers.

7. **Which are the nymphs?**

The nymphs are a caste in intermediate stages of growth, and they give rise to alates or termite swarvers. Their appearance is like the worker termites, but juvenile reproductives have bigger size and some little wings, which can differentiate them from the rest.

8. **Which are the secondary reproductives or neotenics?**

This caste is different from the rest, because its head is lightly obscured. Its size is slightly larger than the worker termites. Their function in the colony is to replace the real couple in the laying of eggs, should something happen to them, or to even complement them, in very large nests.

9. **Which are the termite alates?**

The termite alates are the ones founding new nests. They go out of the colony between the months of April and May, flying some meters, and then alighting. They lose their wings, and pair up with the opposite sex to start a new colony. Once they pair up, they look for a place where they can hide and begin the process of mating and egg-laying. Reticulitermes alates could be confused with alates of ants because their colour is dark, almost black.
10. **What is a termite swarming event?**

A termite swarming event is a massive flight of alates taking place in a short span of time. It can be observed in infested houses, as a large group of winged termites going out of the same place and dispersing all around, congregating around the lighting in the house.

11. **When are the termite swarms produced?**

The formation of the termite swarms coincide with changes in temperature and light intensity. These two parameters with, an enough wet environment after the spring rains, create suitable conditions at the end of April and beginning of May (for southern Europe; other regions differ).

12. **How can we know if they are ants or alates?**

The winged form of the termites and ants are similar, but we can distinguish them if we observe that termites don’t have the narrowing in the waist, which can be observed in ants. All the 4 wings of termites are equal in size and with the same shape, in addition to having a translucent colour; whereas the wings of ant alates are different in size and shape; they are also transparent, not translucent.

13. **What do they eat?**

Termites feed themselves with cellulose, a polysaccharide which is part of the composition of wood. Every kind of wood and its derivatives like paper, cardboard, etc., are attacked by termites.

14. **Can they eat materials like MDF or chipboard?**

Both MDF (medium density fibreboard) and chipboard are composed of wood particles joined by a synthetic resin. This resin is not a repellent for termites, as they are going to attack them in the same way, consuming the wood that is contained in these kinds of materials.

15. **Are they active throughout the whole year?**

Termites are active throughout the whole year. For this reason, the woods that are present in a house are in risk of being attacked continuously. Although it is true that during winter, their metabolism slows down, the kind of temperature and humidity existing inside today’s houses makes for a favourable environment for continuous termite activity.
16. Is it true that termites can destroy a building whose frame is made by wood?

Yes, it is true, unless the building’s frame is made of termite treated wood, or naturally termite resistant wood.

17. Can they eat the heart of a wood beam?

All the volume of a beam/balk has cellulose, including the heart; for this reason, the whole balk can be devoured by termites. They begin to eat it from the inside out, leaving a hollow shell in the end.

18. How is a termite colony formed?

Usually, a termite colony begins when a royal couple find a favourable place to protect themselves and their nest. After the first step, egg laying begins, proceeded by the hatching of the nymphs. Another way a colony starts is the accidental transport of infected wood that normally, is used for heating and is accumulated above the floor; from this, termites may move to a hole or crack in the floor to form a nest. A part of the colony can be isolated too, so that some of their members can turn into secondary reproductives.

19. There are termites in my house for many years and I do not see big damage. Must I worry?

Damages produced by termites are not visible over a short period. Generally, damage is detected when termites have been working for years eating the wooden elements; as explained earlier, they leave the wood surface untouched. For this reason, when termite damage is detected, it is very important to treat them early, to avoid even worse damage later on.

20. How long is the lifespan of a termite colony?

For some species, termite colonies can last for an unlimited period of time; since when the royal couple disappears, they can be replaced by other members of the colony.

21. How can know if I have termites in my house?

If we pay attention, termite damage can be detected. Many times, we can observe undulations in the surface painting of woodwork, which, if we press with the finger, will cave in. Sometimes we can observe discoloration of the wood surface. Another sign of the presence of termites is the appearance of mud tubes over the walls or hanging from wooden beams.
22. What must I do if there are termites?

If you have termites, maybe you are not the only one and your neighbours are affected too. It is important to bring it to the authorities’ attention, since this is a problem which usually affects more than one home. The next step is to find a termite control company, with experience in termite treatment and control. Furthermore, we must make sure that the means used to eliminate the colonies are as safe (environment-wise), as possible.

23. Which elements of a property do they usually attack?

In modern housing structure, frames of doors and windows of the first floor are frequently attacked. In older buildings, termites attack the beams in the ceiling and landings too, placed over door thresholds and windows. Boxes on the floor and documents kept in shelves in contact with the walls are attractive to termites, too.

24. Do preventive measures exist to prevent termites from spreading?

To avoid termites spreading in an uncontrolled way, you can take a series of measures. One of the most important is to eliminate the sources of moisture that exist in your home. Avoid storing wood in contact with the floor; use some mounting supports of iron, to place under it. Keep cellulose material away from floors and walls, to prevent termites accessing them.

25. What are the mud tubes they make?

Termites make mud tubes to protect themselves from the external environment and avoid their desiccation. The tubes they make are composed of soil they collect from the ground and their excrement, which is blended with their saliva, to obtain a mixture.

26. Can they cross concrete?

Termites cannot cross concrete; they make use of the cracks and chinks in the concrete caused by natural contraction and dilation of the concrete due to temperature changes.

27. If they live in the ground. How can they climb to the beams of the ceilings?

To access their meal, termites use the present cracks and hollows in walls to build their trails. Air chambers, electric pipes, and any kind of hollow present in the structure, are used in their incursions searching for food.
28. **If affected wood is eliminated, are termites eliminated too?**

Termites live in big underground colonies and they only climb to the ground surface seeking food. If we eliminate the affected wood, we don't eliminate the problem, since we are only destroying the termites which are feeding from the wood at the moment: a minimal part of the colony.

29. **If there are old trails, is it possible that they have gone?**

When we find signs of old activity, this is indicative of the presence of termites. Termites change the places where they feed, because of external condition changes. It does not mean the termites have disappeared.

30. **How are they introduced in cities?**

It is possible they were there before the founding of the city, and persist through residual populations. Another way is through old wood or affected wood being deposited into the city.

31. **Do termites have any good function?**

In a natural environment, termites have an indispensable function: to recycle wood back into the natural ecological system.

32. **Are they like woodworm?**

Both woodworm and termites are insects; the woodworms belong to the coleopteran order popularly known as beetles, while termites belong to the isopteran order. Their external aspect is different. In wood, we can find the larva of the woodworm; it has whitish colour, cylindrical body, no legs, and hard sclerotized jaws. Adults have brown colour, with six legs, with their first pair of wings completely sclerotized, forming a hard shield over the length of the body, under it there is the second pair of wings.

As for termites, the majority of the castes have white colour, and six legs. The winged termites are almost black, have six legs, and their four wings which are of the same size, with translucent black colour and this length doubles the body of the insect. The presence of cylindrical holes about 3 mm in diameter (or over 5-7 mm in case of the big ones) is one of the symptoms which determine the presence of small woodworm.
33. Must we use oil or any insecticide of domestic use?

Oil and insecticide are only of use against drywood termites. For subterranean termites, you only scare them temporarily, and compel them to attack wood elsewhere in your home.

34. How can I contact an expert in termites to ask his advise?

Nowadays, the Internet allows contact with specialized companies on control of subterranean termites. For example, ISS FACILITY SERVICES Company, has a free advice service through an online form in www.termitas.org

35. Are home remedies to eliminate them effective?

The home remedies often suggested, are totally ineffective, and help disperse the infestation even more, as the termites change their place of feeding to other spots in your home.

36. Which are the methods of termite control that exist nowadays?

Nowadays, in the market, two types of treatments against termites; each one presents some different features. They are chemical barriers and inhibitor baits.

37. In which does the treatment by injection or chemical barrier consists?

Chemical barrier treatment consists of injecting liquid insecticide in the floor, walls, and wooden elements in the building.

38. How is anti-termite treatment by injection carried out?

The treatment of injection must be carried out making drills in the floor, walls and wooden elements, each twenty centimetres, and pressure inject the insecticide liquid, using some valves to avoid the exit of the injected insecticide. Around the house perimeter, a trench is excavated and the insecticide is applied into this trench.

39. Which are the advantages of an injection treatment?

The advantage of this kind of treatment is that it gives rapid protection, as the insecticide, injected in the underground and wooden elements, kills termites when it comes into contact with them, leaving a residual effect that temporarily protects the building.
40. **What are the disadvantages of an injection treatment?**

The chemical barriers do not eliminate the complete colony; they will just eliminate those termites with which will come into contact. The insecticide liquid does not last forever, and will biodegrade over time. Also, it may break up large termite colonies into smaller colonies if large groups of termites with young are separated. Finally, the insecticide may seep into the water table, posing an environmental threat.

41. **What is bait treatment?**

The treatment by baits consists of the installation of control stations on the floor and in the places where termites are detected. Baits laced with termite poison are placed into these stations.

42. **How can we carry out bait treatment?**

The treatment with baits must be carried out by companies with qualified staff, and trained in the management of termites. The stations must be distributed along the whole surface of the treated zone, so that maximum exposure to the termites becomes possible.

43. **What is the chitin of the termites?**

These insects have an external skeleton. This skeleton is made by different compounds, one of these is chitin. The chitin is a macromolecule that is part of the exoskeleton of the insects and has its own features of hardness and flexibility.

44. **What is an inhibitor of the synthesis of the chitin?**

The inhibitors of the synthesis of the chitin, are molecules synthesized in a laboratory that, in a commercial way, is used as active material in termite baits. These substances impede the production of this molecule; so that a new skeleton cannot make for the moult, fundamental activity that termites need for their growth.

45. **What is the trophallaxis between termites?**

Termites have societies. These societies present relation behaviours between the members that form a colony. One of these social behaviours is the one known as trophallaxis. Trophallaxis consists of the transference of food from one termite to another, via mouth to mouth, or anus to mouth. In the case of anus to mouth, within the food transferred, is part of the intestinal bacteria that is used to digest the cellulose which wood contains.
46. Do baits to control termites really work?

Existing systems with baits are guaranteed by the scientific community, and by the experience of many official companies. In this respect we can state in a restricted sense that baits work.

The baiting system makes use of the social behaviour of trophallaxis in termites, in a way that the active poison that baits contain, is distributed within the colony; it not only affects the termites that ate the bait, but all those that are fed by them later on, back in the colony.

47. How much time it takes to eliminate a termite colony, using baits?

The time taken is going to depend on two factors: the points of contact with the colony, and the colony size. The more control stations are occupied, the more will be the quantity of bait being eaten and distributed around. The bigger the colony, the more will be the number of termites to eliminate. The statistics show that, as an average, we need six months to completely eliminate a colony; although in some cases, this period will be reduced while in other cases, more time is needed.

48. Which are the advantages of bait treatment?

The treatment with baits allow the total elimination of the termite colony; avoiding those inherent problems with chemical barriers, like when they are broken, or when the insecticide is not spread in a right way over the treated surface. It also avoids the fragmentation of the colony too, preventing sub-colonies from arising, which can continue to attack the building once the chemical barrier’s effects have worn off.

49. Which are the disadvantages of a treatment by baits?

The bait systems need time to work, which may take months. In the meantime, damage will still occur.

50. If I decide to hire a company to control the termites, what must I know?

Before you hire a company to control the termites, it is important that you have time to get familiar with the different treatment types. Also, any product used to control termites, must be approved for environmental use. The treatments must also be carried out by properly accredited and trained companies.