

Registration form

Termite Control CEU Training Course \$100.00
48 HOUR RUSH ORDER PROCESSING FEE ADDITIONAL \$50.00
Rush service does not include overnight delivery or Fedex fees.

Start and finish dates: _____
You will have 90 days from this date in order to complete this course

Name _____ **Signature** _____
(This will appear on your certificate as above)

Address: _____

City _____ **State** _____ **Zip** _____ **Email** _____

Phone:
Home () _____ **Work** () _____ **Fax** () _____

License or Operator ID # _____ **Exp Date** _____

Class/Grade _____

Please circle which certification you are applying the course CEU's/PDH's.

Commercial Applicator Residential Applicator Industrial Applicator

Pesticide Handler Agricultural Applicator Advisor Aerial Applicator

Other _____

Your certificate will be mailed to you in about two weeks.

Technical Learning College
P.O. Box 420, Payson, AZ 85547-0420
(928) 468-0665 Toll Free (866) 557-1746
info@tlch2o.com Fax (928) 272-0747

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Termite Control Answer Key

Name

Phone Number

Address

Please circle or bold or X the best answer

- | | | | |
|---------------|---------|----------|----------|
| 1. A B C D E | 45. A B | 89. A B | 133. A B |
| 2. A B C D E | 46. A B | 90. A B | 134. A B |
| 3. A B C D E | 47. A B | 91. A B | 135. A B |
| 4. A B C D E | 48. A B | 92. A B | 136. A B |
| 5. A B C D E | 49. A B | 93. A B | 137. A B |
| 6. A B C D E | 50. A B | 94. A B | 138. A B |
| 7. A B C D E | 51. A B | 95. A B | 139. A B |
| 8. A B C D E | 52. A B | 96. A B | 140. A B |
| 9. A B C D E | 53. A B | 97. A B | 141. A B |
| 10. A B C D E | 54. A B | 98. A B | 142. A B |
| 11. A B C D E | 55. A B | 99. A B | 143. A B |
| 12. A B C D E | 56. A B | 100. A B | 144. A B |
| 13. A B C D E | 57. A B | 101. A B | 145. A B |
| 14. A B C D E | 58. A B | 102. A B | 146. A B |
| 15. A B C D E | 59. A B | 103. A B | 147. A B |
| 16. A B C D E | 60. A B | 104. A B | 148. A B |
| 17. A B C D E | 61. A B | 105. A B | 149. A B |
| 18. A B | 62. A B | 106. A B | 150. A B |
| 19. A B | 63. A B | 107. A B | 151. A B |
| 20. A B | 64. A B | 108. A B | 152. A B |
| 21. A B | 65. A B | 109. A B | 153. A B |
| 22. A B | 66. A B | 110. A B | 154. A B |
| 23. A B | 67. A B | 111. A B | 155. A B |
| 24. A B | 68. A B | 112. A B | 156. A B |
| 25. A B | 69. A B | 113. A B | 157. A B |
| 26. A B | 70. A B | 114. A B | 158. A B |
| 27. A B | 71. A B | 115. A B | 159. A B |
| 28. A B | 72. A B | 116. A B | 160. A B |
| 29. A B | 73. A B | 117. A B | 161. A B |
| 30. A B | 74. A B | 118. A B | 162. A B |
| 31. A B | 75. A B | 119. A B | 163. A B |
| 32. A B | 76. A B | 120. A B | 164. A B |
| 33. A B | 77. A B | 121. A B | 165. A B |
| 34. A B | 78. A B | 122. A B | 166. A B |
| 35. A B | 79. A B | 123. A B | 167. A B |
| 36. A B | 80. A B | 124. A B | 168. A B |
| 37. A B | 81. A B | 125. A B | 169. A B |
| 38. A B | 82. A B | 126. A B | 170. A B |
| 39. A B | 83. A B | 127. A B | 171. A B |
| 40. A B | 84. A B | 128. A B | 172. A B |
| 41. A B | 85. A B | 129. A B | 173. A B |
| 42. A B | 86. A B | 130. A B | 174. A B |
| 43. A B | 87. A B | 131. A B | 175. A B |
| 44. A B | 88. A B | 132. A B | |

Please mail this survey along with your final exam

TERMITE CONTROL CEU COURSE PROFESSIONAL DEVELOPMENT COURSE

CUSTOMER SERVICE RESPONSE CARD

DATE: _____

NAME: _____

ADDRESS: _____

E-MAIL _____ PHONE _____

***PLEASE COMPLETE THIS FORM BY CIRCLING THE NUMBER OF THE
APPROPRIATE ANSWER IN THE AREA BELOW.***

1. Please rate the difficulty of your course.

Very Easy 0 1 2 3 4 5 Very Difficult

2. Please rate the difficulty of the testing process.

Very Easy 0 1 2 3 4 5 Very Difficult

3. Please rate the subject matter on the exam to your actual field or work.

Very Similar 0 1 2 3 4 5 Very Different

4. How did you hear about this Course? _____

5. What would you do to improve the Course?

Any other concerns or comments.

Termite Control CEU Training Assignment

You will have 90 days from the start of this course to have successfully completed this assignment with a score of 70%. You may e-mail the answers to TLC, info@tlch2o.com or fax the answers to TLC (928) 272-0747.

Answer key in rear.

Identify the following pictures.

1. This is _____?

- A. Soldier
- B. Worker
- C. Swarmer
- D. Queen
- E. Nymph

2. This is _____?

- A. Soldier
- B. Worker
- C. Swarmer
- D. Queen
- E. Nymph

3. This is _____?

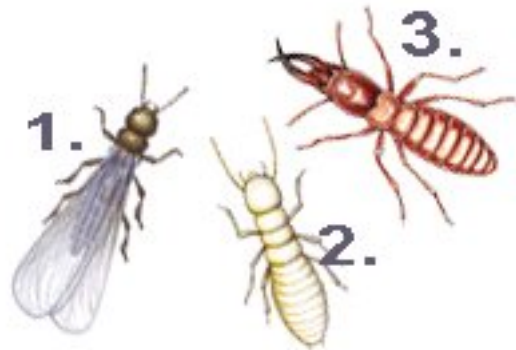
- A. Soldier
- B. Worker
- C. Swarmer
- D. Queen
- E. Nymph

4. This is _____?

- A. Soldier
- B. Worker
- C. Swarmer
- D. Queen
- E. Nymph

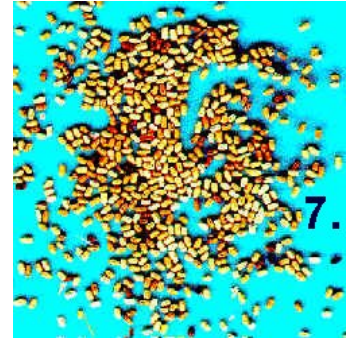
5. These are _____?

- A. Soldiers
- B. Workers
- C. Swarmers
- D. Queens
- E. Nymphs



6. These are?

- A. Mud Holes
- B. Frass
- C. Alates
- D. Fungus
- E. Nuptial



7. These are?

- A. Mud Holes
- B. Frass
- C. Alates
- D. Fungus
- E. Nuptial

8. This is ?

- A. Mud Tubes
- B. Frass
- C. Alates
- D. Fungus
- E. Nuptial



9. This is ?

- A. Mud Tubes
- B. Frass
- C. Alates
- D. Fungus
- E. Nuptial

Identify the pesticide trade name with the common name.

10. **Equity**

- A. Cypermethrin
- B. Bendiocarb
- C. Chlorpyrifos
- D. Permethrin
- E. Isofenphos

11. **Demon TC**

- A. Cypermethrin
- B. Bendiocarb
- C. Chlorpyrifos
- D. Permethrin
- E. Isofenphos

12. **Ficam**

- A. Cypermethrin
- B. Bendiocarb
- C. Chlorpyrifos
- D. Permethrin
- E. Isofenphos

13. **Dursban TC**

- A. Cypermethrin
- B. Bendiocarb
- C. Chlorpyrifos
- D. Permethrin
- E. Isofenphos

14. **Dragnet FT**

- A. Cypermethrin
- B. Bendiocarb
- C. Chlorpyrifos
- D. Permethrin
- E. Isofenphos

15. **Prevail FT**

- A. Cypermethrin
- B. Bendiocarb
- C. Chlorpyrifos
- D. Permethrin
- E. Isofenphos

16. **Pyrfon 6**

- A. Cypermethrin
- B. Bendiocarb
- C. Chlorpyrifos
- D. Permethrin
- E. Isofenphos

17. **Torpedo**

- A. Cypermethrin
- B. Bendiocarb
- C. Chlorpyrifos
- D. Permethrin
- E. Isofenphos

18. There are about 2,500 termite species in the world. North America has 41 termite species, most in the southeast USA. Arizona is the only state without termites.

- A. True
- B. False

19. Florida's eastern subterranean termite colonies have about 25,000 members, but can have 1 million or more. A colony eats about 1 cubic yard of wood a year.

- A. True
- B. False

20. Australian termite colonies can have two hundred termites. The queen can lay 2,000 eggs per day and live as long as 5 years.

- A. True
- B. False

21. Termite damage to residential and commercial buildings in the U.S. costs more than \$1 billion annually. Subterranean termites, the most destructive of all termite species, account for 95% of the damage.
- A. True
 - B. False
22. Two subterranean termite species, *Reticulitermes flavipes* (Kollar) and *R. tibialis* Banks, are commonly found in United States. Control of these termites costs more than \$1 million each year.
- A. True
 - B. False
23. Subterranean termites feed mainly on soil and live trees that contain cellulose.
- A. True
 - B. False
24. Termites have enzymes (microorganisms) in their intestine which provide protozoa to digest wood.
- A. True
 - B. False
25. Although termites are hard-bodied insects, their smooth-toothed jaws work like shears and can bite off extremely small fragments of wood.
- A. True
 - B. False
26. These termites do not attack live trees, except for the Formosan termite.
- A. True
 - B. False
27. Termites often infest buildings and cause damage to lumber, wood panels, flooring, sheetrock, wallpaper, plastics, paper products, and fabric made of plant fibers.
- A. True
 - B. False
28. Termites attack flooring, carpeting, art work, books, clothing, and furniture. The most serious damage involves the loss of structural strength.
- A. True
 - B. False
29. Subterranean termites are ground-dwelling social insects living in colonies. The two species found in United States have similar habitats. These termites have the ability to adjust the depth of their colony (nest) in soil depending on temperature and moisture requirements.
- A. True
 - B. False
30. The termite colony may be 4-5 feet deep in the ground.
- A. True
 - B. False

31. The Soldiers serve as protection against extreme temperatures and provides a moisture reservoir.
A. True
B. False
32. Termites reach wood or cellulose materials above ground by constructing and traveling through earthen (mud) tubes. The mature colony consists of three castes: reproductives (king and queen), larvae, and nymphs. It takes about 2 to 3 years for a colony to reach its maximum size and it may consist of 60,000 to 200,000 workers.
A. True
B. False
33. In spring and fall, the winged males and females emerge from their parent colonies to form new ones. This activity is called "**frassing**".
A. True
B. False
34. These winged reproductives are yellow or white and have two pair of different size semitransparent wings extending well beyond the body.
A. True
B. False
35. The swarmers are excellent flyers and, when aided by wind, fly only long distances. But many of them are devoured by birds, spiders, ants, and other predators.
A. True
B. False
36. Survivors return to the ground and shed their wings. The wingless males and females pair off (male following female in tandem) until they find a source of wood and moisture in the soil. They dig soil near wood, enter the chamber and seal the opening. After mating, the queen begins laying eggs.
A. True
B. False
37. The royal queen is known to survive up to 5 years.
A. True
B. False
38. The fertilized female usually deposits 6 to 20 eggs during the first six months following the swarming flight and she may lay more than 60,000 eggs in her lifetime. Eggs are yellowish white and hatch after an incubation period of 50 to 60 days.
A. True
B. False
39. The first broods of newly hatched nymphs (young termites) generally develop into Soldiers.
A. True
B. False

40. Full grown workers are soft-bodied, wingless, blind, and creamy white. In early stages, they are fed predigested food by the Soldiers.
A. True
B. False
41. Once workers are able to digest wood, they begin providing food for the entire colony. At this time, the king and queen start feeding on wood.
A. True
B. False
42. The workers undertake all the labor in the colony such as obtaining food, feeding other caste members and immatures, excavating wood for chambers, and constructing tunnels.
A. True
B. False
43. Workers mature within a year and live from 3 to 5 years.
A. True
B. False
44. Workers are creamy white, soft-bodied, wingless, and blind. The head of the worker is enormously elongated, brownish, hard, and equipped with two strong jaws.
A. True
B. False
45. Workers must be fed by Soldiers as they are incapable of feeding themselves. They are less numerous than workers and their sole function is to defend the colony against invaders such as ants.
A. True
B. False
46. Soldiers mature within two years and live up to 8 years.
A. True
B. False
47. Flying ants and swarming termites are often easy to distinguish when these insects are seen around residential and commercial buildings.
A. True
B. False
48. The female assumes a "**calling**" position with her abdomen elevated at a right angle to the rest of her body. She releases a chemical messenger (pheromone) which attracts nearby males.
A. True
B. False
49. Once a male encounters a calling female, she moves off. He follows close behind and they search for a suitable site for the establishment of a nest. As soon as the pair has located a suitable site, they excavate with their jaws a small chamber large enough for the two of them and then seal the entrance. Mating usually occurs within a few hours to weeks after the pair becomes established.
A. True
B. False

50. A single female termite can start a new colony.

- A. True
- B. False

51. Establishment of a colony is dependent upon the survival of both sexes in the nest site and has mated. The pair continues to live together for about one week, and they usually mate periodically but see other termites. The first eggs are laid within one to several months after mating, depending on the nutrition available to the female.

- A. True
- B. False

52. When the first eggs hatch, the new nymphs are cared for by the young pair. After two molts, the nymphs assume their role as workers and begin to feed and care for the original pair.

- A. True
- B. False

53. Development of the colony is very fast for several years. Eggs are deposited continuously. After the first group of eggs has been laid, there is a period of several days before another group is laid. This process continues for several years.

- A. True
- B. False

54. As the young queen matures, she lays a greater number of eggs, and her abdomen becomes enlarged from developing eggs. Eventually, a point is reached where the colony size stabilizes. That is, the queen has reached maximum egg production, and the loss of older individuals by death or swarming is approximately the same as the number of new individuals produced each year.

- A. True
- B. False

55. As the colony becomes even older a greater number of swarmers are produced each year. It requires a minimum of 3 to 4 years--and as much as 8 to 10 years--for a colony of our native subterranean termites to become large enough and strong enough to start dispersal flights.

- A. True
- B. False

56. When swarming occurs in a relatively new structure, it is because it was built over or near a strong colony that was not severely damaged during the construction process.

- A. True
- B. False

57. These protozoan inside termites engulf the wood particles as they pass through the intestine and break down the cellulose into simpler compounds that the termite can absorb. This relationship is not beneficial to both species, since the protozoans cause harm to the termites.

- A. True
- B. False

58. Fungi does not play a role in termite nutrition. Certain wood decay fungi are highly poisonous to termites. Partially decayed wood is not more easily digested by termites, and the fungus may make this process more difficult.
A. True
B. False
59. Wood-destroying fungi exhaust the nutritive value of wood for termites, and extensive decay in wood is of no benefit to foraging termites.
A. True
B. False
60. Conversely, when termites attack wood, they usually bring fungus spores on their bodies. When liquid water reaches the damaged wood, it is more easily trapped.
A. True
B. False
61. Moisture is not vital to the survival of termites. Subterranean termites obtain most of their moisture from wood. They maintain contact with wood in order to survive.
A. True
B. False
62. The type of wood has a great effect on the ability of subterranean termites to flourish. They generally prefer pine to oak. They can and do survive in many other types of wood, however.
A. True
B. False
63. Termites have very high tolerance to dry conditions, or extremes of hot and cold. They often must forage far, sometimes above ground, from their initial workings to find food.
A. True
B. False
64. Termites move underground through tunnels. Whenever the termites leave the confines of the soil or the wood in which they are feeding, they construct shelter tubes in which to move from the soil to the wood or the above-ground nest.
A. True
B. False
65. When subterranean termites invade the wood of a structure that is separated from the soil by intervening concrete, masonry or other impervious material, they construct shelter tubes over the surface to the wood.
A. True
B. False
66. Periodically, they return to the moist galleries. Shelter tubes conduct moist air from the soil to the wood. Shelter tubes also provide some protection from air movement and prevent excess water loss. The primary function of shelter tubes probably is to conduct moist air to the termite Queen.
A. True
B. False

67. Once termites have established contact with wood above ground and feeding progresses some distance from the initial shelter tunnel, they often will drop shelter tubes straight down from the wood. Evidence of tube building will be found directly below a suspended tube.

- A. True
- B. False

68. Under certain conditions a fourth type of tube is constructed. Called swarming tubes or swarming "**castles**" they are constructed as flight platforms for swarmers and they have many turret-like projects and flattened horizontal branches that vaguely resemble castle towers. They usually are constructed on the ground to a height 4 to 8 inches (10-20 cm), but sometimes are found projecting from heavily infested wood above ground.

- A. True
- B. False

69. When swarmers are leaving the colony via these tubes, or directly through a hole in wood or soil, the openings are heavily guarded by the king and queen.

- A. True
- B. False

70. The amount of damage that an infestation of subterranean termites might inflict on a structure depends on many factors. The number and size of the attacking colonies and the quality of the environmental conditions (including the wood) are the most important.

- A. True
- B. False

71. Damage usually starts at the mudsill in houses built over a crawl space and with the sole plates of those houses built on concrete slabs. Given enough time, subterranean termites will extend the damage into the wooden floor members, the interior trim and furnishings, and into the walls to the roof timbers.

- A. True
- B. False

72. Severe damage by subterranean termites is not likely to occur in the first 3 or 4 months after construction. If treatment is undertaken with the first evidence of infestation, very little serious structural damage is ever likely to occur. Houses should be carefully inspected at least once a decade in all regions. This will allow detection before damage is a problem.

- A. True
- B. False

73. Should evidence of termites be found, there is no cause for extreme alarm or undue haste. Treatment within 2 years is recommended.

- A. True
- B. False

74. Termites primarily communicate via touch. Each colony develops its own characteristic touch and are often seen touching themselves.

- A. True
- B. False

75. Any intruder is instantly recognized and an alarm sound is released that triggers the soldiers to attack the intruder. If a worker finds a new source of food, it recruits others to that food source by using their fingers.

- A. True
- B. False

76. The proportion of castes in the colony is also regulated chemically. Nymphs can develop into workers, soldiers, or reproductive adults, depending on colony needs.

- A. True
- B. False

77. Sound is another means of termite communication. Soldiers and workers can bang a primitive drum that the Queen has made. The vibrations are perceived by other termites in the colony and serve to mobilize the colony to defend itself.

- A. True
- B. False

78. Mutual exchange of foods enhances recognition of colony members.

- A. True
- B. False

79. It is not important for homeowners to recognize the signs of a subterranean termite infestation. That is the responsibility of the pesticide applicator.

- A. True
- B. False

80. Subterranean termites may be detected by the sudden emergence of winged termites (alates or swarmers), or by the presence of mud tubes and wood damage.

- A. True
- B. False

81. Termites actually feed on almost anything that contains cellulose, the main component of wood, including wood paneling, paper products, cardboard boxes, art canvases, the paper covering of sheetrock, carpeting, etc. While foraging and feeding, they may tunnel through non-cellulosic materials, such as plastic and foamboard.

- A. True
- B. False

82. According to some research, a colony containing 60,000 workers could consume the equivalent of one foot of a 2" x 4" piece of lumber in slightly over 2 years.

- A. True
- B. False

83. From a practical perspective, serious termite damage usually takes about 3-8 weeks.

- A. True
- B. False

84. Winged termites are attracted to light, and their shed wings in window sills, cobwebs, or on other surfaces often may be the only evidence that a swarm occurred indoors.

- A. True
- B. False

85. The presence of winged termites or their shed wings inside a home should be a warning of a termite infestation.
A. True
B. False
86. Termite swarmers have crooked, antennae; a thin waist; and two pair of long, equal-length wings that do not break off easily.
A. True
B. False
87. Winged termites can be differentiated from winged ants, which have elbowed antennae, a constricted waist, and two pair of unequal-length wings (forewings are larger than hind wings) that are not easily detached.
A. True
B. False
88. Ants also generally are softer-bodied than termites.
A. True
B. False
89. Other signs of ant presence include mud tubes and mud protruding from cracks between boards and beams.
A. True
B. False
90. Subterranean termites transport soil and water above ground to construct earthen runways (shelter tubes) that allow them to tunnel across exposed areas to reach wood.
A. True
B. False
91. Shelter tubes protect them from the drying effects of air and from natural enemies, such as ants. These tubes usually are about 1/4 to 1 inch wide, and termites use them as passageways between the soil and wood.
A. True
B. False
92. To determine if an infestation is active, shelter tubes should never be broken or scraped away and then monitored to determine whether the termites repair them or construct new ones. Houses should be inspected bi-annually for mud tubes.
A. True
B. False
93. Termite damage to the wood's surface often is not evident because termites excavate galleries within materials as they feed. Wood attacked by subterranean termites generally has a honeycombed appearance because termites feed along the grain on the softer spring growth wood. Their excavations in wood often are packed with soil, and fecal spotting is evident.
A. True
B. False

94. When inspecting for termites, it is useful to probe wood with a knife or flat blade screwdriver to detect areas that have been hollowed. Severely damaged wood may have a solid sound when it is tapped.
A. True
B. False
95. Subterranean termites reduce wood to a powdery mass, and they create wood particles or pellets, just as do many other wood-boring insects.
A. True
B. False
96. The mass emergence of winged termites in the spring is often the first sign of an infestation. In the majority of cases, they emerge in homes near sources of heat - furnaces and water heaters. The appearance of winged termites means that the infestation has been around for at least 3 or 4 years. Therefore it is likely some damage has already been done, so it is important to find where the termites have been feeding, how much damage has been done, and how much repair is needed.
A. True
B. False
97. A qualified professional termite control service should be hired to apply an appropriate termiticide to protect the building from further damage. Other means of detecting infestations include knocking on walls, floors, sub-floor wood, joists, etc. and listening for the tapping of soldiers, and looking for shelter tubes on the outside of the building and under the sub-floor.
A. True
B. False
98. Because subterranean termites have a constant demand for water, one should closely examine areas near moist soil, such as below dripping outside faucets, leaking underground sprinkler pipes and nozzles, and below downspouts.
A. True
B. False
99. Where damage or termites are suspected, prod with a sharp narrow implement to check the soundness of the supporting wood structure. The detection of termite infestations is best left to professionals who have the experience to do it thoroughly and accurately. Termites can enter a building from one or more points so it is important to locate all points of entry for control purposes.
A. True
B. False
100. Preventive practices are a critical aspect of termite management. Prevention of subterranean termite infestation of wooden structures centers upon disrupting their ability to locate moisture, food (wood), and shelter.
A. True
B. False

101. Avoid moisture accumulation near the foundation, which provides water needed for termite survival. Divert water away from the foundation with properly functioning downspouts, gutters, and splash blocks. Soil needs to be graded or sloped away from the foundation in order for surface water to drain away from the building.

- A. True
- B. False

102. Conventional soil treatments rely on creating a chemical barrier in the soil that is toxic to termites contacting it. Many also have repellent characteristics and termites avoid treated soil. To achieve termite control for long periods of time, such termiticides must be applied as a continuous barrier in the soil next to and under the foundation.

- A. True
- B. False

103. If there are untreated gaps in the soil, termites may circumvent the chemical treatment. Hence, such treatments during preconstruction can provide for more uniform coverage. Once a home is constructed, the chemical has to be injected through drill holes and trenching around the foundation, which can result in less accurate coverage.

- A. True
- B. False

104. Effective termite control does not require specialized equipment and often 10 or more gallons of prepared termiticide solution per house, depending on size, basement, etc.

- A. True
- B. False

105. Termiticides that act by creating a chemical barrier in the soil include bifenthrin (Talstar®), cypermethrin (Demon®, Prevail®), and permethrin (Dragnet®, Prelude®). Chlorpyrifos (Dursban®) can be used only during preconstruction and only until December 31, 2009.

- A. True
- B. False

106. In reference to "**spot treatments only**" using chemical barrier termiticides only in areas of the house where termites are seen, most pest management firms will refuse such treatments or will not guarantee such treatments. The reason is that termites have a very high probability of finding other untreated points of entry into the structure.

- A. True
- B. False

107. Localized spot treatments are considered safe except in re-treatment situations.

- A. True
- B. False

108. The most recent termiticides to be marketed are non-repellent to termites, but show delayed toxicity as termites forage through treated soil, which they do not avoid. As termites penetrate the "**treated zone**," they contact the active ingredient, which causes delayed mortality and also possibly allows the termites to be overcome by lethal microbes.

- A. True
- B. False

109. (From the above question) The toxicant is thought to be passed to nest mates through grooming activities and social food exchange (trophallaxis). Control usually is achieved within 3 months.

- A. True
- B. False

110. As with soil barrier termiticides, specialized application equipment and large volumes of chemical solution are needed. Non-repellent termiticides include fipronil (Termidor®), imidacloprid (Premise®), and chlorfenapyr (Phantom®).

- A. True
- B. False

111. Bait technology uses wood or a cellulose matrix favored by protozoa that is impregnated with a slow-acting non-toxic chemical.

- A. True
- B. False

112. Termite workers feed upon the bait and transfer it by grooming or trophallaxis to other colony members, eventually reducing or eliminating the entire colony.

- A. True
- B. False

113. Termites are site-specific, but rather, they forage among a single food sites, which results in the bait being encountered by many colony members. The toxicant necessarily is fast acting because termites tend to avoid sites where sick and dead termites accumulate.

- A. True
- B. False

114. Typically, in-ground stations are inserted in the soil next to the structure and near known or suspected sites of termite activity.

- A. True
- B. False

115. In-ground stations often initially contain untreated wood that serves as a monitoring device.

- A. True
- B. False

116. The monitoring wood is replaced with the toxicant once termites have been detected feeding on it. In addition, aboveground stations may be installed inside or on the structure in the vicinity of damaged wood and shelter tubes.

- A. True
- B. False

117. Aboveground stations do not contain bait. It is very important that these systems are properly installed and diligently serviced. Annual inspections of a baiting system usually are necessary, except during inclement winter weather. Successful termite baiting necessitates proper monitoring and maintenance of the stations.

- A. True
- B. False

118. Baits work much as fast as soil termiticides, and the homeowner should be aware of the possibility of a lengthy baiting billing process.

- A. True
- B. False

119. Several months or more may elapse before the termites locate stations, then termites must feed on sufficient amounts of the toxicant.

- A. True
- B. False

120. An often-cited advantage of termite baits is that they are "**environmentally-friendly**" because they use very small quantities of chemical and decrease the potential for environmental contamination.

- A. True
- B. False

121. Bait application causes quite a bit of disruptive noise and disturbance compared to soil treatments.

- A. True
- B. False

122. Baits cannot be used in structures with wells or cisterns, sub-slab heating ducts, and other features that may include a soil treatment.

- A. True
- B. False

123. Baits cannot be used in sensitive environments.

- A. True
- B. False

124. Bait products that are available for licensed pest management professionals include the Sentricon® Termite Colony Elimination System (hexaflumuron [Recruit® II bait] or noviflumuron [Recruit® III bait]), FirstLine® Termite Defense System (sulfluramid), Exterra® Termite Interception and Baiting System (diflubenzuron [Labyrinth® bait]), Subterfuge® Termite Bait (hydramethylnon), and Outpost® Termite Bait Response (diflubenzuron).

- A. True
- B. False

125. Spectracide Terminate® (sulfluramid) and Termirid® 613 (borate) can be purchased by homeowners. However, Terminate® is not recommended as sole protection against termites, and an active infestation should be treated by a professional.

- A. True
- B. False

126. Termirid® can be used to bait subterranean termite populations.

- A. True
- B. False

127. Borates (disodium octaborate tetrahydrate [Tim-bor®, Bora-Care®, Jecta®], Impel®) and pressure-treatments (creosote, chromated copper arsenate [CCA]) protect wood against termites and wood-decay fungi.

- A. True
- B. False

128. Even creosote-treated railroad ties and telephone poles, and CCA-treated wood, over time, can be subject to termite attack. Termites can build mud tubes over treated surfaces.

- A. True
- B. False

129. Termites can gain entry through cut and cracked ends or areas (creosote-treated railroad ties and telephone poles, and CCA-treated wood) where the chemical has not sufficiently penetrated.

- A. True
- B. False

130. Wood treatments are primarily used to supplement other termite control measures, because termites are able to attack untreated wood in other areas of the structure. It is advisable to use pressure-treated wood in situations where wood is in direct contact with soil or exposed to rainfall.

- A. True
- B. False

131. Borates are not soluble in water, so borate-treated wood does not need to be protected from constant rewetting.

- A. True
- B. False

132. Borates may be applied to wood by homeowners. As of 1 January 2007, CCA-treated wood will no longer be available for use in most residential settings because of concerns regarding its arsenic content.

- A. True
- B. False

133. Physical barriers are particularly appropriate during the preconstruction phase to provide protection of the structure from subterranean termites.

- A. True
- B. False

134. One such physical barrier is stainless-steel wire mesh (TermiMesh®) that is fitted around pipes, posts, or foundations. The newest physical barrier, Impasse® Termite System, contains a liquid termiticide (lambda-cyhalothrin) locked in between two layers of heavy plastic that is installed before the concrete slab is poured. It is supplemented with Impasse® Termite Blocker, which uses special fittings around plumbing and electrical pipes and conduits.

- A. True
- B. False

135. Certain species of parasitic round worms (nematodes) will infest and kill termites and other soil insects. They have been promoted and marketed by a few companies.

- A. True
- B. False

136. Limited success with nematode treatments may be attributed to the ability of termites to recognize and wall-off infected individuals, hence limiting the spread of nematodes throughout the colony.

- A. True
- B. False

137. Soil moisture and soil type do not limit the nematode's ability to move in the soil and locate termites.

- A. True
- B. False

138. A fungus *Metarhizium anisopliae* (Bio-Blast®) is a biological termiticide that requires special application and handling techniques. It is not labeled for aboveground application to termite infestations in structures, but is labeled for application to the soil.

- A. True
- B. False

139. Spray effectiveness is enhanced when applied to many foraging termites because infected termites can pass the fungus to nest mates.

- A. True
- B. False

140. It is difficult to infect a large enough number of termites for the infection to spread throughout the colony. Furthermore, it provides no long-lasting residual activity, and the fungal spores die with the dead termites. Insufficient research has been conducted to indicate whether this is an effective method for controlling termites.

- A. True
- B. False

141. The western subterranean termite, *Reticulitermes hesperus*, is native to most forest areas where it performs the important task of breaking down the large quantities of dead and fallen trees and other sources of cellulose that continuously accumulate in the forests.

- A. True
- B. False

142. The western subterranean termite is not a social insect, living alone and will gather once a year in groups of a few thousand to sometimes millions of individuals.

- A. True
- B. False

143. Large colonies will subdivide if food sources are abundant. Winged adults do not appear until the colony is 1 or 2 years old, then limited emergences will occur each year.

- A. True
- B. False

144. The Formosan subterranean termite, *Coptotermes formosanus* (Shiraki), was first described as a species in 1909 from specimens collected on the Asian island of Formosa.

- A. True
- B. False

145. The Formosan subterranean termite has been found in Japan, Sri Lanka, Phillipines, Guam, Hawaii, South Africa and the continental United States. Although officially reported in Hawaii in 1913, newspaper reports indicate that the termite was on the island as early as 1869.

- A. True
- B. False

146. The first report of the Formosan termite in the continental U.S. was from a San Francisco shipyard in 1975.

- A. True
- B. False

147. These differ from the native subterranean termites, Formosan termites initiate new colonies by sending out Soldiers from established colonies.

- A. True
- B. False

148. The Formosan swarms occur from May to June in Florida and Louisiana and from May to July in South Carolina.

- A. True
- B. False

149. Formosan termite swarms occur from dusk to midnight and the alates are attracted to sounds. After a long flight (usually not more than 200-500 yards) the alates lose their wings, pair off, and seek a small crevices in moist wood to begin the new colony.

- A. True
- B. False

150. It takes 7 years for a mature Formosan termite colony to develop from a queen, which lay approximately 200 eggs/day.

- A. True
- B. False

151. Formosan termite colonies can have a population of 1 million foraging workers, soldiers, a primary king, and several secondary reproductives.

- A. True
- B. False

152. The foraging territory of a mature Formosan termite colony can occupy several hundred square feet.

- A. True
- B. False

153. The Formosan termite is not known to attack living plants but will attack structural lumber.

- A. True
- B. False

154. This termite is often described as not-aggressive in both its feeding habits and foraging tenacity.
A. True
B. False
155. They can eat through concrete but rather attack non-cellulose materials like plastic, asphalt, and thin sheets of soft metal.
A. True
B. False
156. Laboratory studies indicate that the individual Formosan termite eats slightly less wood than the native subterranean termites the larger colony populations found with this termite can cause severe structural damage to unprotected homes in 7 years.
A. True
B. False
157. The Formosan subterranean termite usually enters structures from colonies maintaining contact with ground to provide the necessary moisture requirements.
A. True
B. False
158. The Formosan termite, more than the native subterranean species, is able to initiate colonies, which have no ground contact (aerial colonies).
A. True
B. False
159. The damage caused by the Formosan termite is similar in many respects to the damage done by native ants.
A. True
B. False
160. Termite feeding will follow the grain in a piece of structural lumber but the Formosan termite is more likely to feed on both the summer and spring wood leaving a larger hollow space in the damaged lumber.
A. True
B. False
161. Formosan termites usually fill their feeding galleries with soil and excrement whereas the galleries of the Native subterranean termite are cleaner, practically soil free and covered with whitish spots.
A. True
B. False
162. In severe infestations, Formosan termites will fill hollow spaces, or even wall voids, with a combination of termite's excrement, macerated wood, saliva and soil.
A. True
B. False

163. This material called carton can be used by the Formosan termite to form nest-like structures and is unique to the Formosan termites.

- A. True
- B. False

164. Carton nests are constructed away from the feeding site and a single colony may have several of these auxiliary nests – each containing secondary reproductives.

- A. True
- B. False

165. Three castes forms of subterranean termites are often found at the site of an infestation; alates, soldiers and workers. Only the king and queen can be used for identification.

- A. True
- B. False

166. Workers of the Formosan termite have an oval shape head compared to the oblong shape of the native subterranean soldiers.

- A. True
- B. False

167. The Formosan workers have a well developed fontanelle which forms a tube-like structure located on the front margin of the head just above the mandibles.

- A. True
- B. False

168. When disturbed the workers emit a milky white fluid from this opening whereas native termite workers do not eject any noticeable substance.

- A. True
- B. False

169. The proportion of soldiers to workers in native subterranean termite colonies is approximately 1-2 to 100 (1-2%) in contrast to the Formosan termite colony which contains 40-50 soldiers to every 100 workers (40-50%).

- A. True
- B. False

170. Subterranean termites most commonly live in the soil where they can avoid temperature extremes and obtain the moisture essential to their existence.

- A. True
- B. False

171. Subterranean termites construct numerous scattered nursery areas where reproductives are found together with piles of eggs and young termites.

- A. True
- B. False

172. These nursery areas can be in buried stumps, logs, dead roots or pieces of lumber left in the backfill after building construction.

- A. True
- B. False

173. Nursery areas can also be found in the wood of structures. These areas can be as far down as 3 to 6 m below ground level.

- A. True
- B. False

174. Because subterranean termites can get moisture from the soil, they can attack any dry wood or other source of cellulose within foraging distance of the colony.

- A. True
- B. False

175. Subterranean termites will not attack untreated fence posts and attached boards, utility poles, but will attack any other food sources such as cardboard, paper, fiberboard in, on, or close to the ground.

- A. True
- B. False

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