

*Registration form*

**Ant Control CEU Training \$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*

**Print Name** \_\_\_\_\_  
I have read and understood the disclaimer notice found on pages 2 and 4. Signature is required.

**Signature** \_\_\_\_\_

**Address:** \_\_\_\_\_

**City** \_\_\_\_\_ **State** \_\_\_\_\_ **Zip** \_\_\_\_\_

**Phone:**  
**Home** (\_\_\_\_) \_\_\_\_\_ **Work** (\_\_\_\_) \_\_\_\_\_

**Fax** (\_\_\_\_) \_\_\_\_\_ **Email** \_\_\_\_\_

**License or Operator ID #** \_\_\_\_\_ **Exp. Date** \_\_\_\_\_

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

Commercial Applicator\_\_\_\_ Residential Applicator\_\_\_\_ Industrial Applicator\_\_\_\_

Pesticide Handler\_\_\_\_ Agricultural Applicator\_\_\_\_ Adviser\_\_\_\_ Other \_\_\_\_\_

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

**Technical Learning College PO Box 3060, Chino Valley, AZ 86323**  
**Toll Free (866) 557-1746 Fax (928) 272-0747 E-Mail [info@tlch2o.com](mailto:info@tlch2o.com)**

If you've paid on the Internet, please write your Customer# \_\_\_\_\_

*We'll stop mailing the certificate of completion we need your e-mail address.*

*We'll e-mail the certificate to you, if no e-mail address; we will mail it to you.*

## **DISCLAIMER NOTICE**

I understand that it is my responsibility to ensure that this CEU course is either approved or accepted in my State for CEU credit. I understand State laws and rules change on a frequent basis and I believe this course is currently accepted in my State for CEU or contact hour credit, if it is not, I will not hold Technical Learning College responsible. I also understand that this type of study program deals with dangerous conditions and that I will not hold Technical Learning College, Technical Learning Consultants, Inc. (TLC) liable for any errors or omissions or advice contained in this CEU education training course or for any violation or injury, death, neglect, damage caused by this CEU education training or course material suggestion or error. It is my responsibility to call or contact TLC if I need help or assistance and double-check to ensure my registration page and assignment has been received and graded.

*You can obtain a printed version of the course manual from TLC for an additional \$69.95 plus shipping charges.*

## **AFFIDAVIT OF EXAM COMPLETION**

I affirm that I personally completed the entire text of the course. I also affirm that I completed the exam without assistance from any outside source. I understand that it is my responsibility to file or maintain my certificate of completion as required by the state or by the designation organization.

## **Grading Information**

In order to maintain the integrity of our courses we do not distribute test scores, percentages or questions missed. Our exams are based upon pass/fail criteria with the benchmark for successful completion set at 70%. Once you pass the exam, your record will reflect a successful completion and a certificate will be issued to you.

For security purposes, please fax or e-mail a copy of your driver's license and always call us to confirm we've received your assignment and to confirm your identity.

***Thank you...***

**Do not solely depend on TLC's Approval list for it may be outdated.**

**Some States and many employers require the final exam to be proctored.**

<http://www.abctlc.com/downloads/PDF/PROCTORFORM.pdf>

**A second certificate of completion for a second State Agency \$50 processing fee.**

**All downloads are electronically tracked and monitored for security purposes.**

**CUSTOMER SERVICE RESPONSE CARD**

**Ant Control Training Course**

NAME: \_\_\_\_\_

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?

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How about the price of the course?

Poor \_\_\_\_\_ Fair \_\_\_\_\_ Average \_\_\_\_\_ Good \_\_\_\_\_ Great \_\_\_\_\_

How was your customer service?

Poor \_\_\_\_\_ Fair \_\_\_\_\_ Average \_\_\_\_\_ Good \_\_\_\_\_ Great \_\_\_\_\_

Any other concerns or comments.

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## **Important Information about this Course (Disclaimer Notice)**

This CEU course has been prepared to educate pesticide applicators and operators in general safety awareness of dealing with the often-complex and various pesticide treatment sprays, devices, methods, and applications. This course (manual) will cover general laws, regulations, required procedures and accepted policies relating to the use of pesticides and herbicides. It should be noted, however, that the regulation of pesticides and hazardous materials is an ongoing process and subject to change over time. For this reason, a list of resources is provided to assist in obtaining the most up-to-date information on various subjects. This manual is not a guidance document for applicators or operators who are involved with pesticides. It is not designed to meet the requirements of the United States Environmental Protection Agency or your local State environmental protection agency or health department. This course manual will provide general pesticide safety awareness and should not be used as a basis for pesticide treatment method/device guidance. This document is not a detailed pesticide informational manual or a source or remedy for poison control.

Technical Learning College or Technical Learning Consultants, Inc. makes no warranty, guarantee or representation as to the absolute correctness or appropriateness of the information in this manual and assumes no responsibility in connection with the implementation of this information. It cannot be assumed that this manual contains all measures and concepts required for specific conditions or circumstances. This document should be used for educational purposes only and is not considered a legal document. Pesticides are poisonous. Always read and carefully follow all precautions and safety recommendations given on the container label. Store all chemicals in the original labeled containers in a locked cabinet or shed, away from food or feeds, and out of the reach of children, unauthorized persons, pets, and livestock.

Confine chemicals to the property or plants being treated. Avoid drift onto neighboring properties, especially gardens containing fruits and/or vegetables ready to be picked. Dispose of empty containers carefully. Follow label instructions for disposal. Never reuse containers. Make sure empty containers are not accessible to children or animals. Never dispose of containers where they may contaminate water supplies or natural waterways. Do not pour down sink or toilet. Consult your county agricultural commissioner for correct ways of disposing of excess pesticides. You should never burn pesticide containers.

Individuals who are responsible for pesticide storage, mixing and application should obtain and comply with the most recent federal, state, and local regulations relevant to these sites and are urged to consult with the EPA and other appropriate federal, state and local agencies.

**USE PESTICIDES WISELY: ALWAYS READ THE ENTIRE PESTICIDE LABEL CAREFULLY, FOLLOW ALL MIXING AND APPLICATION INSTRUCTIONS AND WEAR ALL RECOMMENDED PERSONAL PROTECTIVE GEAR AND CLOTHING. CONTACT YOUR STATE DEPARTMENT OF AGRICULTURE FOR ANY ADDITIONAL PESTICIDE USE REQUIREMENTS, RESTRICTIONS OR RECOMMENDATIONS.**

**NOTICE: MENTION OF PESTICIDE PRODUCTS IN THIS COURSE DOES NOT CONSTITUTE ENDORSEMENT OF ANY MATERIAL OR HERB OR HERBAL SUPPLEMENT. ALWAYS FOLLOW THE PRODUCT'S LABEL INSTRUCTIONS.**

### **NOTICE**

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### **Grading Information**

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# Ant Control Answer Key

Name \_\_\_\_\_

Phone# \_\_\_\_\_

You are solely responsible in ensuring that this course is accepted for credit by your State. **No refunds.** Did you check with your State agency to ensure this course is accepted for credit?

*Method of Course acceptance confirmation. Please fill this section*

Website \_\_ Telephone Call \_\_ Email \_\_ Spoke to \_\_\_\_\_

Did you receive the approval number, if applicable? \_\_\_\_\_

What is the course approval number, if applicable? \_\_\_\_\_

*You are responsible to ensure that TLC receives the Assignment and Registration Key. Please call us to ensure that we received it.*

**Multiple Choice. Pick only one answer per question.**

**Circle or Mark, X, Underline or Bold the answer. Please circle the number of the assignment version 1 or 2 or 3 or 4 or 5**

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## **ASSIGNMENT INSTRUCTIONS**

1. We will require all students to fax or e-mail a copy of their driver's license with the registration form.
2. You will need to pick one of the following four assignments to complete. This selection process is based upon your last name.
3. If your last name begins with an A to D, you will pick assignment number 1, if your last name begins with the letter E to J, you are to complete assignment number 2 and if your last name begins with the letter K-Q, you will pick assignment number 3, and if your last name begins with the letter R-Z, you will pick assignment number 4.

Assignment #1 for all pest applicators whose last name begins with A-D you will find your assignment on pages 9-44.

Assignment #2 for all pest applicators whose last name begins with the letter E-J, your assignment is found on pages 45-80.

Assignment #3 for all pest applicators whose last name begins K-Q, your assignment is found on pages 81-116.

Assignment #4 for all pest applicators whose last name begins R-Z, your assignment is found on pages 117-152.

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## **2017 Changes to EPA's Farm Worker Protection Standard**

*In late 2015 the Environmental Protection Agency issued the long awaited revision to the Worker Protection Standard (WPS). Although it is now technically active it will not be enforced until 2017 but the original WPS will still be enforced until the end of 2016. Please keep in mind that the WPS covers both restricted use AND general use pesticides.*

*This course contains EPA's federal rule requirements. Please be aware that each state implements pesticide regulations that may be more stringent than EPA's regulations and these frequently are changed. Check with your state environmental/pesticide agency for more information.*



## Ant Control CEU Training Awareness Assignment #1 For Students Names A-D

You will have 90 days from the start of this course to have successfully passed 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. This assignment is available to you in a Word Format on TLC's Website. You can find online assistance for this course on the in the Search function on Adobe Acrobat PDF to help find the answers. Once you have paid the course fee, you will be provided complete course support from Student Services (928) 468-0665.

### Write your answers on the Answer Key found in the front of this assignment.

1. We will require all students to fax or e-mail a copy of their driver's license with the registration form.
2. You will need to pick one of the following four assignments to complete. This selection process is based upon your last name.
3. If your last name begins with an A to D, you will pick assignment number 1, if your last name begins with the letter E to J, you are to complete assignment number 2 and if your last name begins with the letter K-Q, you will pick assignment number 3, and if your last name begins with the letter R-Z, you will pick assignment number 4.

### Multiple Choice, please select one answer and mark it on the answer key.

1. The primary nuisance ant pest of turf is \_\_\_\_\_, a species that is widespread in the United States. In many areas, Lasius seems to be responsible for most, if not virtually all, ant hills on putting greens.
  - A. Superintendents
  - B. Boric acid
  - C. Lasius neoniger,
  - D. Hydramethylnon
  - E. None of the Above or All of the Above
2. Problems arise when the worker ants excavate underground nest chambers, pushing up small mounds of soil. \_\_\_\_\_ is also common in roughs, fairways, lawns, and other sunny turf sites; although there, the mounds are less conspicuous than on greens and tees.
  - A. Superintendents
  - B. Boric acid
  - C. Lasius neoniger,
  - D. Lasius
  - E. None of the Above or All of the Above
3. Baits work because they exploit the ants' behavior of sharing food and nutrients with other ants. Passing nutrients from one ant to another is called \_\_\_\_\_.
  - A. Trophallaxis
  - B. Boric acid
  - C. Lasius neoniger,
  - D. Hydramethylnon
  - E. None of the Above or All of the Above

4. If food contains a slow-acting toxicant and the ant does not detect it, the toxicant is passed throughout the colony by \_\_\_\_\_, before killing its members, including the queen. Ant baits work only if the ants eat the bait. Eliminate any alternate food sources by keeping counters clean and storing food in sealed containers.

- A. Trophallaxis
- B. Boric acid
- C. Lasius neoniger,
- D. Hydramethylnon
- E. None of the Above or All of the Above

5. The Keys to a Successful ant Management Program include the Following: Application of ant baits inside with Advance Carpenter Ant Bait, Maxforce granual, Maxforce gel, or \_\_\_\_\_. Reliance on just one or two of the above steps will generally result in failure to provide any significant relief from interior infestations.

- A. Drione
- B. Talstar G
- C. Lasius neoniger,
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

6. Correcting Conditions

Eliminate any moisture problems; such as leaks or excessive moisture around the foundation. Eliminate any food sources, including honeydew associated with aphids. Branches of trees and shrubs need to be kept cut away from the structure. \_\_\_\_\_ need to be sealed.

- A. Cracks in the structure
- B. Small stones
- C. Branches of trees
- D. Hydramethylnon
- E. None of the Above or All of the Above

Locate and Treat Colonies

7. Drench colonies living in the soil or under items on the exterior with Demand, Suspend, or Tempo. With mulch, be sure to rake it back so you can get good penetration where colonies may be thriving. Follow up with a broadcast application of granule such as \_\_\_\_\_.

- A. Drione
- B. Talstar G
- C. Lasius neoniger,
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

8. Service the Property Regularly

Inspect and service the property regularly to detect and treat any \_\_\_\_\_.

- A. Cracks in the structure
- B. Small stones
- C. Branches of trees
- D. New colonies
- E. None of the Above or All of the Above

9. Regular Perimeter Treatments

Treat the \_\_\_\_\_ regularly to establish a barrier that will keep ants away and out of the structure.

- A. Cracks in the structure
- B. Outside foundation
- C. Branches of trees
- D. New colonies
- E. None of the Above or All of the Above

10. Bait Applications on the Interior

Baits should be employed when inside colonies cannot be located and/or when combined with the strategies already mentioned. Baits such as: Advance Carpenter Ant Bait, Maxforce Granual, Maxforce Gel, Uncle Albert's Gel Bait, or \_\_\_\_\_ can be applied to areas where ants are foraging.

- A. Dr. Moss Liquid Ant Bait
- B. Talstar G
- C. Lasius neoniger,
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

11. With Dr. Moss Liquid Ant Bait, use the Dr. Moss Liquid Ant Bait Station.

The use of indoor bait stations such as the \_\_\_\_\_ will preserve and protect baits. Use the Crusader to apply your dusts or baits into those tight spots or hard to reach places.

- A. Dr. Moss Liquid Ant Bait
- B. Talstar G
- C. Ant Cafes
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

12. Regular Inspections

Regular inspections and service are necessary to find and treat new colonies as they move in from neighboring properties. These \_\_\_\_\_ can keep your home or business pest free.

We suggest a regular treatment on the exterior with Demand, Tempo, or Suspend.

- A. Dr. Moss Liquid Ant Bait
- B. Tempo
- C. Ant Cafes
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

13. General tips for limiting ant infestations include: Keep landscape mulch less than 2 inches thick and at least 12 inches away from foundations. Ensure the \_\_\_\_\_ does not spray directly onto the foundation.

- A. 2 inches thick
- B. Sprinkler system
- C. Ant Cafes
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

14. Consider re-landscaping to \_\_\_\_\_ that are prone to aphids and similar insects. At the very least, treat such plants for aphids regularly.

- A. 2 inches thick
- B. Re-landscaping
- C. Ant Cafes
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

15. Agricultural Pesticide Section

All agricultural employers whose workers perform hand labor operations in fields, forests, nurseries, and greenhouses treated with pesticides, and handle pesticides in these locations are covered by the U.S. Environmental Protection Agency's worker protection standard revised

- \_\_\_\_\_.
- A. 2005
  - B. 1994
  - C. 1974
  - D. 1992
  - E. None of the Above or All of the Above

16. Agricultural employers must be in full compliance with this regulation before April 15, \_\_\_\_\_. Additionally, owners, operators, and their immediate family members must comply with some of the provisions of this standard. This supplement to "A Summary of Federal Laws and Regulations Affecting Agricultural Employers," summarizes this regulation.

- A. 2005
- B. 1994
- C. 1974
- D. 1992
- E. None of the Above or All of the Above

17. Agricultural employers must be in full compliance with the U.S. Environmental Protection Agency's (EPA) 2005 worker protection standard. This standard, which became effective on October 20, 1992, revises EPA's \_\_\_\_\_ worker protection standard. A.

- A. 2005
- B. 1994
- C. 1974
- D. 1992
- E. None of the Above or All of the Above

18. The WPS covers every agricultural employer, including \_\_\_\_\_, who have employees that perform hand labor operations in fields, forests, nurseries, and greenhouses treated with pesticides.

- A. Pesticide application
- B. Pesticide exposure
- C. Commercial agriculture
- D. Livestock producers
- E. None of the Above or All of the Above

19. Unlike other laws and regulations affecting agricultural labor, the WPS does not exempt any employment in \_\_\_\_\_ involving hand labor in fields, but owners or operators and immediate family members are specifically exempt from some provisions.

- A. Pesticide application
- B. Pesticide exposure
- C. Commercial agriculture
- D. Livestock producers
- E. None of the Above or All of the Above

20. The WPS expands coverage to include more employees and expands employers' requirements for training employees who handle pesticides, protecting employees from \_\_\_\_\_, and providing emergency assistance to exposed employees. A.

- A. Pesticide application
- B. Pesticide exposure
- C. Commercial agriculture
- D. Livestock producers
- E. None of the Above or All of the Above

Employers covered by the WPS must:

21. Reduce overall exposure to pesticides by prohibiting handlers from exposing workers during \_\_\_\_\_, excluding workers from areas being treated and areas under a restricted entry interval, and notifying workers about treated areas. Some activities are allowed during restricted entry intervals if workers are properly trained and protected.

- A. Pesticide application
- B. Pesticide exposure
- C. Commercial agriculture
- D. Livestock producers
- E. None of the Above or All of the Above

22. Mitigate exposures by requiring \_\_\_\_\_ supplies be present and emergency assistance be available.

- A. Pesticide application
- B. Pesticide exposure
- C. Commercial agriculture
- D. Livestock producers
- E. None of the Above or All of the Above

23. Inform workers about \_\_\_\_\_ by requiring safety training (workers and handlers), safety posters, access to labeling information, and access to specific information (listing of treated areas on the establishment).

- A. Pesticide application
- B. Pesticide exposure
- C. Commercial agriculture
- D. Pesticide hazards
- E. None of the Above or All of the Above

24. WPS provisions are very complicated and are likely to affect a large number of employers and their workers. States may also issue \_\_\_\_\_ standards that are stricter than the WPS.

- A. Pesticide application
- B. Pesticide exposure
- C. Worker protection
- D. Pesticide hazards
- E. None of the Above or All of the Above

25. Therefore, employers should contact their State agency that regulates the \_\_\_\_\_, Fungicide, and Rodenticide Act in cooperation with the EPA to determine whether they must comply with the WPS and local regulations.

- A. Pesticide application
- B. Federal Insecticide
- C. Commercial agriculture
- D. Worker protection
- E. None of the Above or All of the Above

Background

26. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1947, as amended, sets an overall risk/benefit standard for \_\_\_\_\_, requiring that all pesticides perform their intended function, when used according to labeling directions, without imposing unreasonable risks of adverse effects on human health or the environment (Runyan, 1992).

- A. Pesticide application
- B. Pesticide exposure
- C. Pesticide registration
- D. Pesticide hazards
- E. None of the Above or All of the Above

27. During the congressional discussion of FIFRA amendments in 1972, the Senate Committee on \_\_\_\_\_ (Committee) "found protection of man and the environment to be a broad term encompassing farmers, farmworkers, and others who come into contact with pesticides..." (57 FR 38102).

- A. Pesticide application
- B. Pesticide exposure
- C. Pesticide registration
- D. Agriculture and Forestry
- E. None of the Above or All of the Above

28. The Committee further found "that the bill [The Federal Environmental Pesticide Control Act of 1972 (FEPCA)] requires the Administrator to require that the labeling and classification of pesticides be such as to protect farmers, farmworkers, and others coming in contact with pesticides or \_\_\_\_\_" (57 FR 38102).

- A. Pesticide application
- B. Pesticide residues
- C. Commercial agriculture
- D. Pesticide hazards
- E. None of the Above or All of the Above

29. Given the above mandate, the EPA issued regulations in 1974 dealing with pesticide-related occupational safety and health of workers performing hand labor operations in fields during and after \_\_\_\_\_ (40 CFR).

- A. Pesticide application
- B. Pesticide residues
- C. Commercial agriculture
- D. Application of pesticides
- E. None of the Above or All of the Above

#### Four Basic Requirements

30. These regulations contained four basic requirements:

(1) Workers are not to be sprayed with pesticides;  
(2) There are specific restricted entry intervals (REI) for 12 pesticides, interim restrictive entry levels for certain pesticides, and a general re-entry interval for all other \_\_\_\_\_ prohibiting re-entry into treated areas until sprays have dried, dusts have settled, and vapors have dispersed;

- A. Pesticide application
- B. Pesticide residues
- C. Agricultural pesticides
- D. Pesticide hazards
- E. None of the Above or All of the Above

#### 1974 Regulations

31. The EPA determined that the 1974 regulations did not adequately protect agricultural workers and pesticide handlers who were occupationally \_\_\_\_\_.

- A. Exposed to pesticides
- B. Pesticide residues
- C. Commercial agriculture
- D. Pesticide hazards
- E. None of the Above or All of the Above

Mitigating Exposures

32. \_\_\_\_\_ will be accomplished by requiring decontamination supplies and emergency assistance.
- A. Exposed to pesticides
  - B. Mitigating exposures
  - C. Commercial agriculture
  - D. Pesticide hazards
  - E. None of the Above or All of the Above

Worker Protection Standard for Agricultural Pesticides

33. Provisions of the WPS apply to: Owners or managers of farms, forests, nurseries, or greenhouses where pesticides are used in the production of \_\_\_\_\_.
- A. Agricultural plants
  - B. Mitigating exposures
  - C. Commercial agriculture
  - D. Pesticide hazards
  - E. None of the Above or All of the Above

General Duties of WPS

34. The general duties of the WPS require an agricultural employer or a pesticide handler-employer to: Assure that each worker and handler subject to the standard receives the \_\_\_\_\_.
- A. Required protections
  - B. Agricultural plants
  - C. Commercial agriculture
  - D. Pesticide hazards
  - E. None of the Above or All of the Above

35. Assure that any \_\_\_\_\_ to the standard is used in a manner consistent with the labeling of the pesticide, including the requirements in the standard.
- A. Required protections
  - B. Mitigating exposures
  - C. Pesticide subject
  - D. Pesticide hazards
  - E. None of the Above or All of the Above

36. Provide \_\_\_\_\_ and directions to each person who supervises any worker or handler to assure that each worker or handler receives the required protection. The information and directions must specify which persons are responsible for actions required to comply with the standard.
- A. Required protections
  - B. Sufficient information
  - C. Commercial agriculture
  - D. Pesticide hazards
  - E. None of the Above or All of the Above

37. Require each person who supervises any worker or handler to \_\_\_\_\_ by the worker or handler with the provisions of this standard and to assure that the worker or handler receives the required protection (40 CFR).
- A. Exposed to pesticides
  - B. Sufficient information
  - C. Assure compliance
  - D. Pesticide hazards
  - E. None of the Above or All of the Above

38. The general duties also \_\_\_\_\_ and handler employers from taking any retaliatory actions against workers attempting to comply with this standard, or from taking any action that prevents or discourages any worker or handler from complying or attempting to comply with the WPS.

- A. Assure compliance
- B. Sufficient information
- C. Commercial agriculture
- D. Prohibit agricultural
- E. None of the Above or All of the Above

#### Labeling

39. Requires everyone \_\_\_\_\_ to obey instructions printed on the pesticide container's label.

- A. Applying pesticides
- B. Sufficient information
- C. Commercial agriculture
- D. Prohibit agricultural
- E. None of the Above or All of the Above

#### Summary of WPS Requirements

40. Protection during applications -- Applicators are \_\_\_\_\_ from applying a pesticide in a way that will expose workers or other persons. Workers are excluded from areas while pesticides are being applied.

- A. Applying pesticides
- B. Sufficient information
- C. Prohibited
- D. Prohibit agricultural
- E. None of the Above or All of the Above

41. Restricted-entry intervals -- Restricted-entry intervals must be specified on all agricultural plant pesticide product labels. Workers are excluded from entering a \_\_\_\_\_ area during the restricted-entry interval, with only narrow exceptions.

- A. Applying pesticides
- B. Pesticide-treated
- C. Prohibited
- D. Prohibit agricultural
- E. None of the Above or All of the Above

42. Personal protective equipment -- Personal protective equipment must be provided and maintained for handlers and early-entry workers. Notification to workers -- Workers must be notified about treated areas so they may avoid \_\_\_\_\_.

- A. Emergency decontamination
- B. Pesticide-treated
- C. Prohibited
- D. Inadvertent exposures
- E. None of the Above or All of the Above

43. Decontamination supplies -- Handlers and workers must have an ample supply of water, soap, and towels for routine washing and \_\_\_\_\_.

- A. Emergency decontamination
- B. Pesticide-treated
- C. Commercial agriculture
- D. Inadvertent exposures
- E. None of the Above or All of the Above



44. \_\_\_\_\_ -- Transportation must be made available to a medical care facility if a worker or handler may have been poisoned or injured. Information must be provided about the pesticide to which the person may have been exposed.
- A. Emergency decontamination
  - B. Sufficient information
  - C. Emergency assistance
  - D. Inadvertent exposures
  - E. None of the Above or All of the Above
45. Access to labeling and site-specific information -- Handlers and workers must be informed of pesticide label requirements. Central posting of recent \_\_\_\_\_ is required.
- A. Emergency decontamination
  - B. Pesticide applications
  - C. Emergency assistance
  - D. Inadvertent exposures
  - E. None of the Above or All of the Above
46. "Agricultural Use Requirements - Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains \_\_\_\_\_, decontamination, notification, and emergency assistance.
- A. Emergency decontamination
  - B. Pesticide applications
  - C. Emergency assistance
  - D. Requirements for training
  - E. None of the Above or All of the Above
47. Some pesticide uses are not covered by WPS, even when the Agricultural Use Requirements section is on the labeling. For example, if the pesticide labeling bears an Agricultural Use Requirements section, but the product also can be applied to \_\_\_\_\_, the rights-of-way use is not covered by WPS.
- A. Rights-of-way
  - B. Pesticide applications
  - C. Emergency assistance
  - D. Requirements for training
  - E. None of the Above or All of the Above

#### WPS Requires Restricted Entry to Treated Areas

48. Restricted-entry interval (REI) is the time immediately after a \_\_\_\_\_ when entry into the treated area is prohibited or very limited. REIs are established for all pesticides used in the production of agricultural plants depending on toxicity.
- A. Rights-of-way
  - B. Pesticide application
  - C. Emergency assistance
  - D. Requirements for training
  - E. None of the Above or All of the Above
49. REIs must be specified on all \_\_\_\_\_ product labels. Workers are excluded from entering a pesticide treated area during the REI, with few narrow exceptions.
- A. Rights-of-way
  - B. Pesticide application
  - C. Emergency assistance
  - D. Inadvertent exposures
  - E. None of the Above or All of the Above

WPS Requires Notification of Applications

50. Employers must notify workers about \_\_\_\_\_ on the agricultural establishment if they will be on or within a quarter (1/4) mile of the treated area. I

- A. Rights-of-way
- B. Pesticide application
- C. Emergency assistance
- D. Inadvertent exposures
- E. None of the Above or All of the Above

51. You must provide \_\_\_\_\_ if the pesticide label has this statement in the "Directions for Use" section under the heading "Agricultural Use Requirements":

- A. Rights-of-way
- B. Pesticide application
- C. Emergency assistance
- D. Double notification
- E. None of the Above or All of the Above

52. "Notify workers of the application by warning them orally AND by posting warning signs at entrances to treated areas." If double notification is specified on the pesticide label workers must be orally notified about REIs and treated fields must be physically posted with warning signs during the REI. It is the agricultural establishment's responsibility to post \_\_\_\_\_ in the field if it is required.

- A. Rights-of-way
- B. Warning signs
- C. Emergency assistance
- D. Inadvertent exposures
- E. None of the Above or All of the Above

53. The Spanish portion of the sign may be replaced with a \_\_\_\_\_ read by the majority of non-English speaking workers. In greenhouses and nurseries, smaller signs (4.5" x 5") are acceptable.

- A. Rights-of-way
- B. Pesticide application
- C. Emergency assistance
- D. Substitute language
- E. None of the Above or All of the Above

54. Warning signs must be: If no employees were involved with treatment, or the employees do not \_\_\_\_\_ no posting is required

- A. Rights-of-way
- B. Pesticide application
- C. Emergency assistance
- D. Substitute language
- E. None of the Above or All of the Above

55. \_\_\_\_\_ must be delivered in a manner understood by workers, using an interpreter if necessary.

- A. Oral warnings
- B. Pesticide application
- C. Emergency assistance
- D. Substitute language
- E. None of the Above or All of the Above

56. WPS Requires That Specific Information Regarding Applications and Safety Be Posted at a Central Location. The \_\_\_\_\_ that information be posted (displayed) at a central location is cited by the EPA as one of the most commonly violated provisions.

- A. Oral warnings
- B. Pesticide application
- C. WPS requirement
- D. EPA
- E. None of the Above or All of the Above

#### WHAT IS THE WORKER PROTECTION STANDARD?

57. The WPS requires you to take steps to reduce the risk of pesticide-related illness and injury if you (1) \_\_\_\_\_, or (2) employ workers or pesticide handlers who are exposed to such pesticides.

- A. Oral warnings
- B. Use such pesticides
- C. WPS requirement
- D. Substitute language
- E. None of the Above or All of the Above

58. If you are an agricultural pesticide user and/or an employer of agricultural workers or pesticide handlers, the WPS requires you to provide to your employees and, in some cases, to yourself and to others: • Information about \_\_\_\_\_,

- A. Oral warnings
- B. Use such pesticides
- C. WPS requirement
- D. Exposure to pesticides
- E. None of the Above or All of the Above

#### INFORMATION

59. To ensure that employees will be informed about exposure to pesticides, the WPS requires \_\_\_\_\_:

- A. Pesticide safety training — for workers and handlers,
- B. Pesticide safety poster — to be displayed for workers and handlers,
- C. Access to labeling information — for pesticide handlers and early-entry workers, and
- D. Access to specific information — centrally located application information of pesticide treatments on the establishment.
- E. ALL of the Above

#### PROTECTION

60. To ensure that employees will be protected from exposures to pesticides, the WPS requires employers to:

• \_\_\_\_\_ early-entry workers who are doing permitted tasks in treated areas during an REI, including special instructions and duties related to correct use of PPE,

- A. Exclude
- B. Prohibit
- C. Notify
- D. Protect
- E. None of the Above or All of the Above

## MITIGATION

61. To mitigate pesticide exposures that employees receive, the WPS requires:

- \_\_\_\_\_— providing handlers and workers an ample supply of water, soap, and towels for routine washing and emergency decontamination.
- A. Providing handlers and workers an ample supply of water
- B. Making transportation available
- C. Emergency assistance
- D. Decontamination supplies
- E. None of the Above or All of the Above

## Terms You Need to Know

62. These definitions will help you determine whether you are affected by the Worker Protection Standard. These key terms have very specific meanings in the WPS. Note that these definitions may be different from definitions found in other state and \_\_\_\_\_.

- A. Federal laws and regulations
- B. Making transportation available
- C. Emergency assistance
- D. Decontamination supplies
- E. None of the Above or All of the Above

63. \_\_\_\_\_: Plants grown or maintained for commercial or research purposes. Examples: food, feed, and fiber plants, trees, turfgrass, flowers, shrubs, ornamentals, and seedlings.

- A. Agricultural plants
- B. Farms
- C. Forests
- D. Greenhouses
- E. None of the Above or All of the Above

64. \_\_\_\_\_: Operations, other than nurseries or forests, that produce agricultural plants outdoors.

- A. Agricultural plants
- B. Farms
- C. Forests
- D. Greenhouses
- E. None of the Above or All of the Above

65. \_\_\_\_\_: Operations that produce agricultural plants outdoors for wood fiber or timber products.

- A. Agricultural plants
- B. Farms
- C. Forests
- D. Greenhouses
- E. None of the Above or All of the Above

66. \_\_\_\_\_: Operations that produce agricultural plants indoors in an area that is enclosed with nonporous covering and that is large enough to allow a person to enter. Examples: polyhouses, mushroom houses and caves, and rhubarb houses, as well as traditional greenhouses.

- A. Agricultural plants
- B. Farms
- C. Forests
- D. Greenhouses
- E. None of the Above or All of the Above

67. \_\_\_\_\_: Operations that produce agricultural plants outdoors for:  
• transplants to another location, or • flower or fern cuttings.

- A. Agricultural plants
- B. Farms
- C. Nurseries
- D. Greenhouses
- E. None of the Above or All of the Above

68. Examples: flowering and foliage plants or trees; tree seedlings; live Christmas trees; vegetable, fruit, and ornamental transplants; and \_\_\_\_\_ produced for sod.

- A. Agricultural plants
- B. Farms
- C. Turf grass
- D. Greenhouses
- E. None of the Above or All of the Above

#### DOES THE WORKER PROTECTION STANDARD APPLY TO YOU?

69. You need the information in this section if: You own or manage a farm, forest, nursery, or \_\_\_\_\_ where pesticides are used in the production of agricultural plants. Even if you are the owner of the farm, forest, nursery, or greenhouse and you or members of your family do all the work there, you are a "WPS employer." A. Agricultural plants

- B. Farms
- C. Turf grass
- D. Greenhouses
- E. None of the Above or All of the Above

70. You hire or contract for the services of agricultural workers to do tasks related to the production of agricultural plants on a \_\_\_\_\_, forest, nursery, or greenhouse.

- A. Agricultural plants
- B. Farm
- C. Turf grass
- D. Greenhouses
- E. None of the Above or All of the Above

71. You operate a business in which you (or people you employ) apply pesticides that are used for the production of agricultural plants on any farm, \_\_\_\_\_, nursery, or greenhouse.

- A. Agricultural plants
- B. Farms
- C. Turf grass
- D. Forest
- E. None of the Above or All of the Above

72. Commercial pesticide handlers and their employees are included with respect to such pesticides even if the pesticide handling task (mixing, loading, disposal, etc.) takes place somewhere other than the farm, forest, \_\_\_\_\_, or greenhouse — at the commercial handling establishment or an airport hangar, for example.

- A. Nursery
- B. Farms
- C. Turf grass
- D. Greenhouses
- E. None of the Above or All of the Above

73. You operate a business in which you (or people you employ) perform tasks as a crop advisor on any farm, forest, nursery, or \_\_\_\_\_.

- A. Agricultural plants
- B. Farms
- C. Turf grass
- D. Greenhouses
- E. None of the Above or All of the Above

74. Under the WPS, you may be both a \_\_\_\_\_ and an employer of workers.

- A. Agricultural plants
- B. Worker
- C. Turf grass
- D. Handler
- E. None of the Above or All of the Above

75. Under the WPS, you may be both a \_\_\_\_\_ and an employer of handlers.

- A. Agricultural plants
- B. Worker
- C. Turf grass
- D. Handler
- E. None of the Above or All of the Above

#### WHO DOES THE WPS PROTECT?

76. Depending on the tasks being performed, you may need to provide the same employee with worker protections on some occasions and \_\_\_\_\_ on other occasions.

- A. Pesticide handler protections
- B. Worker
- C. Worker protections
- D. Handler
- E. None of the Above or All of the Above

#### WORKERS

77. A worker is anyone who: (1) is employed (including self-employed) for any type of compensation and (2) is doing tasks, such as harvesting, weeding, or watering, relating to the production of agricultural plants on a farm, forest, nursery, or greenhouse. This term does not include persons who are employed by a \_\_\_\_\_ to perform tasks as crop advisors.

- A. Commercial establishment
- B. Worker
- C. Pesticide handler protections
- D. Handler
- E. None of the Above or All of the Above

#### PESTICIDE HANDLERS

78. A pesticide handler is anyone who: (1) is employed (including self-employed) for any type of compensation by an agricultural establishment or a commercial pesticide handling establishment that uses pesticides in the production of agricultural plants on a farm, forest, nursery, or greenhouse, and (2) is doing any of the following tasks:

• \_\_\_\_\_, handling, adjusting, or repairing the parts of mixing, loading, or application equipment that may contain pesticide residues,

- A. Handling
- B. Acting
- C. Cleaning
- D. Assisting
- E. None of the Above or All of the Above

79. Entering a greenhouse or other enclosed area after application and before the inhalation exposure level listed on the product labeling has been reached or one of the WPS ventilation criteria have been met to: – operate ventilation equipment, – adjust or remove coverings, such as tarps, used in fumigation, or – check air concentration levels,

• \_\_\_\_\_ a treated area outdoors after application of any soil fumigant to adjust or remove soil coverings, such as tarpaulins,

- A. Disposing
- B. Acting
- C. Entering
- D. Assisting
- E. None of the Above or All of the Above

#### NOT A HANDLER

80. A person is not a handler if he or she only \_\_\_\_\_ that have been emptied or cleaned according to instructions on pesticide product labeling or, if the labeling has no such instructions, have been triple-rinsed or cleaned by an equivalent method, such as pressure rinsing.

- A. Disposing
- B. Handles pesticide containers
- C. Purchase pesticides
- D. Transport unopened containers
- E. None of the Above or All of the Above

81. You are not a handler if you:

- Purchase pesticides and transport them unopened to an establishment.
- Carry unopened containers into a pesticide storage facility.
- \_\_\_\_\_ to the site where they are to be mixed, loaded, or applied.

- A. Disposing
- B. Handles pesticide containers
- C. Purchase pesticides
- D. Transport unopened containers
- E. None of the Above or All of the Above

82. You are a handler if you are loading unopened water-soluble packets into a mixing tank (because you are \_\_\_\_\_ the pesticide).

- A. Disposing
- B. Handles pesticide containers
- C. Mixing and loading
- D. Transport unopened containers
- E. None of the Above or All of the Above

#### Four Basic Requirements of WPS

83. These regulations contain four basic requirements:(3) \_\_\_\_\_ is required for any worker entering a treated area before the specific re-entry period has expired;

- A. Protective clothing
- B. Handles pesticide containers
- C. Mixing and loading
- D. Transport unopened containers
- E. None of the Above or All of the Above

Pesticide

84. Under United States law, a pesticide is also any substance or mixture of substances intended for use as a plant regulator, defoliant, or \_\_\_\_\_.

- A. Disposing
- B. Handles pesticide containers
- C. Mixing and loading
- D. Desiccant
- E. None of the Above or All of the Above

Definition Section

85. The definitions and explanations presented here are limited to key terms to show the standard's range of coverage. Readers seeking more detailed information should contact their State agency that regulates pesticides or their regional EPA office and consult Title 40 Code of Federal Regulations, Part 170, and Title 7 United States Code. \_\_\_\_\_ means any farm, forest, nursery, or greenhouse (40 CFR).

- A. Agricultural emergency
- B. Agricultural plant
- C. Agricultural establishment
- D. Agricultural employer
- E. None of the Above or All of the Above

86. \_\_\_\_\_ means any person who hires or contracts for the services of workers, for any type of compensation, to perform activities related to the production of agricultural plants, or any person who is an owner of or is responsible for the management or condition of an agricultural establishment that uses such workers (40 CFR).

- A. Agricultural emergency
- B. Agricultural plant
- C. Agricultural establishment
- D. Agricultural employer
- E. None of the Above or All of the Above

87. \_\_\_\_\_ means a sudden occurrence or set of circumstances that the agricultural employer could not have anticipated and over which the agricultural employer has no control, requiring entry into a treated area when no alternative practices would prevent or mitigate a substantial economic loss (a loss in profitability greater than that which is expected based on the experience and fluctuations of crop yields in previous years).

- A. Agricultural emergency
- B. Agricultural plant
- C. Agricultural establishment
- D. Agricultural employer
- E. None of the Above or All of the Above

88. The State, tribal, or Federal agency having jurisdiction must declare the existence of circumstances that could cause an agricultural emergency on that \_\_\_\_\_ (40 CFR).

- A. Agricultural emergency
- B. Agricultural plant
- C. Agricultural establishment
- D. Agricultural employer
- E. None of the Above or All of the Above



89. \_\_\_\_\_ means any plant grown or maintained for commercial, research, or other purposes. Included in this definition are food, feed and fiber plants, trees, turf grass, flowers, shrubs, ornamentals, and seedlings (40 CFR).

- A. Agricultural emergency
- B. Agricultural plant
- C. Agricultural establishment
- D. Agricultural employer
- E. None of the Above or All of the Above

90. Farm means any operation, other than a nursery or forest, engaged in the outdoor production of \_\_\_\_\_ (40 CFR, Section 170.3).

- A. Agricultural emergency
- B. Agricultural plants
- C. Agricultural establishment
- D. Agricultural employer
- E. None of the Above or All of the Above

91. \_\_\_\_\_ means any operation engaged in the outdoor production of any agricultural plant to produce wood fiber or timber products (40 CFR).

- A. Forest
- B. Agricultural plants
- C. Mushroom houses
- D. Greenhouse
- E. None of the Above or All of the Above

92. \_\_\_\_\_ means any operation engaged in the production of agricultural plants inside any structure or space that is enclosed with a nonporous covering and is of sufficient size to permit worker entry.

- A. Greenhouse
- B. Agricultural plants
- C. Mushroom houses
- D. Forest
- E. None of the Above or All of the Above

93. Polyhouses, \_\_\_\_\_, rhubarb houses, and similar structures are included, but not malls, atriums, conservatories, arboretums, or office buildings where agricultural plants are present primarily for aesthetic or climatic modification (40 CFR).

- A. Greenhouse
- B. Agricultural plants
- C. Mushroom houses
- D. Forest
- E. None of the Above or All of the Above

94. \_\_\_\_\_ means any agricultural activity performed by hand or with hand tools that causes a worker to have substantial contact with surfaces that may contain pesticide residues. Most hand labor activities, other than operating, moving or repairing irrigation or watering equipment, or scouting, are included (40 CFR).

- A. Hand labor
- B. Agricultural plants
- C. Mushroom houses
- D. Forest
- E. None of the Above or All of the Above

95. Handler means any person employed for any type of compensation who: (1) mixes, loads, transfers, applies, \_\_\_\_\_ containers of pesticides.
- A. Hand labor
  - B. Greenhouse
  - C. Mushroom houses
  - D. Forest
  - E. None of the Above or All of the Above
96. Nursery means any operation engaged in the \_\_\_\_\_ of any agricultural plant to produce cut flowers and ferns or plants that will be used in their entirety in another location.
- A. Hand labor
  - B. Greenhouse
  - C. Outdoor production
  - D. Forest
  - E. None of the Above or All of the Above
97. Owner means any person who has a present possessory interest (fee, leasehold, rental, or other) in an \_\_\_\_\_ covered by this part, unless that person has both leased such agricultural establishment to another person and granted that same person the right and full authority to manage and govern the use of such agricultural establishment (40 CFR).
- A. Hand labor
  - B. Outdoor production
  - C. Agricultural establishment
  - D. Forest
  - E. None of the Above or All of the Above
98. \_\_\_\_\_ means "any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and (2) any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant...".
- A. Hand labor
  - B. Greenhouse
  - C. Pesticide
  - D. Forest
  - E. None of the Above or All of the Above
99. Restricted entry interval means the time after the end of a \_\_\_\_\_ during which entry into the treated area is restricted (40 CFR). Treated area means any area to which a pesticide is being directed or has been directed (40 CFR).
- A. Hand labor
  - B. Treated area
  - C. Mushroom houses
  - D. Pesticide application
  - E. None of the Above or All of the Above
100. Worker means any person, including a self-employed person, who is employed for any type of compensation to perform activities relating to the production of \_\_\_\_\_ on a farm or in a greenhouse, nursery, or forest.
- A. Hand labor
  - B. Greenhouse
  - C. Mushroom houses
  - D. Agricultural plants
  - E. None of the Above or All of the Above

101. These activities include \_\_\_\_\_ tasks (weeding, planting, cultivating, and harvesting) and other tasks in the production of agricultural plants (such as operating or moving irrigation equipment).

- A. Hand labor
- B. Greenhouse
- C. Mushroom houses
- D. Agricultural plants
- E. None of the Above or All of the Above

102. Even when over 99 percent of foraging workers are \_\_\_\_\_, the colony may rebuild to its original numbers.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

103. Location and total \_\_\_\_\_ is the most direct way to eliminate this ant infestation. Ant baits, described above, can again be a useful tool in eradicating inside-the-home ant nests, although baits may not work as well with carpenter ants as with the other species mentioned.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

104. Workers must eat the bait, take it back to the nest, and feed it to the queen and \_\_\_\_\_. This type of control is incompatible with treatments that prevent workers from returning to the nest with the bait.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Larval ants
- E. None of the Above or All of the Above

#### IPM Control Program

105. An Integrated Pest Management (IPM) approach offers a greater chance for \_\_\_\_\_. An IPM approach incorporates all available control methods into a pest management program.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

106. IPM methods include identification, inspection, \_\_\_\_\_, exclusion, and chemical strategies.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Sanitation
- D. Submitted for identification
- E. None of the Above or All of the Above

Collection Tip

107. One way to collect ants \_\_\_\_\_ is to place a dab of honey or sugar water in the center of an index card. Place the index card covered in ants into a plastic bag, then place the bag in the freezer. The cold temperatures will slow the ants down or kill them.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

108. When they are immobilized, the ants can be easily tapped into a vial of alcohol and \_\_\_\_\_.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

109. Various Ants and Ant Control Methods Section

The Acrobat Ant, *Crematogaster* sp., \_\_\_\_\_, in stumps, or dead wood, and occasionally invades the home.

- A. Nests under stones
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

110. These ants have a \_\_\_\_\_ that is often held up over their bodies. They feed primarily on honeydew produced by aphids.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

111. Acrobat ants get their name from their unique habit of sometimes running while holding their abdomen above their thorax when disturbed. This gives them the \_\_\_\_\_ who walks on his or her hands.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

112. These ants do not build large, \_\_\_\_\_. Instead, they are more likely to be found nesting in dead tree limbs, hollow logs, fallen trees, old tree stumps, or even the hollow cavity of a tree.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

113. Acrobat ant colonies can be found in any organic litter or mulch and beneath stacks of firewood, under stepping stones, landscape timbers, bird baths, etc. They are often found in shrubs or ornamentals, feeding on insects and the honeydew produced by aphids. All of these areas must be taken into consideration when eliminating \_\_\_\_\_.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

114. Worker ants enter a homes or other structure by crawling along electrical and phone lines. They also access homes from shrubs or trees that are too close to or touching the building or by simply crawling up the outside walls to enter around windows, doors, cracks, crevices, or through vents. It would be very difficult (if not impossible) to \_\_\_\_\_.

- A. Eliminate all access points
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

115. The \_\_\_\_\_, *Iridomyrmex humilus* (Mayr), workers are light to dark brown and generally nest outdoors. It is not common in areas infested by the red imported fire ant.

- A. Heart-shaped abdomen
- B. Argentine Ant
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

116. The Bigheaded Ant, *Pheidole megacephala* (Fabricius). Worker ants have relatively large heads compared to their bodies. They have a \_\_\_\_\_ and 3-segmented clubs. Their habits are similar to red imported fire ants, feeding on live and dead insects, seeds, and honeydew outdoors, and greasy food sources and sweets indoors.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. 12- segmented antenna
- E. None of the Above or All of the Above

117. Workers of the \_\_\_\_\_, *Paratrechina longicornis*, are fast-running, grayish black ants with long legs and antennae. They nest primarily outdoors, but they will forage in homes. Although they are omnivorous, they are difficult to attract to ant baits.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

118. The little \_\_\_\_\_, *Monomorium minimum*, is a slow-moving, small black ant that is generally not a pest indoors. Workers prey on insects and feed on honeydew produced by sucking-types of insects, such as aphids. The little black ant is versatile, nesting both indoors and outdoors.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

119. Outdoor colonies are found under stones/rocks, in rotting logs, in lawns, or in open areas. \_\_\_\_\_ can be located by the small craters of fine soil which are deposited at their entrances.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

120. Foraging and Feeding of the Black Ant

They feed on \_\_\_\_\_ as a source of honeydew, plant secretions and are predaceous on other insects. In the home the little black ant will feed on almost any food items it can find, such as grease, oil, meats, sweets, fruits and vegetable materials such as corn meal.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

121. The \_\_\_\_\_ is native to the United States and can be found throughout the country. They are most populous in the eastern half of the U.S., in southern California, and in the bay area of San Francisco.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

122. Workers of the \_\_\_\_\_, *Tetramorium caespitum* (Linnaeus), also resemble the fire ant, but on close examination, the head and thorax are roughened with parallel grooves, rather than being smooth.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

Control

123. To avoid further infestations indoors, all \_\_\_\_\_ in exterior walls should be sealed.

- A. Cracks and gaps
- B. Interior walls
- C. Sweet baits
- D. Areas under stones
- E. None of the Above or All of the Above

124. Infested \_\_\_\_\_ and voids in the outside ground-floor walls may be treated by aerosol injection of a suitable insecticide (CB-80, CB-Invader, CB-Strikeforce) or by an application of a dust formulation (Delta Dust). Baiting, however, may also be necessary.

- A. Cracks and gaps
- B. Interior walls
- C. Sweet baits
- D. Areas under stones
- E. None of the Above or All of the Above

125. Baits should be positioned where ant trails have been established. \_\_\_\_\_ are generally the most effective; however, if acceptance is low, a protein-based bait may be considered.

- A. Cracks and gaps
- B. Interior walls
- C. Sweet baits
- D. Areas under stones
- E. None of the Above or All of the Above

126. Carpenter ants tunnel into wood to form nest galleries. If they go unnoticed for several years, they may cause structural damage. Outdoors, the ants use dead trees or tree limbs, stumps, logs or \_\_\_\_\_ as nesting sites.

- A. Cracks and gaps
- B. Areas under stones
- C. Sweet baits
- D. Interior walls
- E. None of the Above or All of the Above

127. Once the carpenter ant nest has been located, control is relatively easy. Treatment options include use of a \_\_\_\_\_ or residual contact insecticide applied as a dust or spray to the nest.

- A. Bait
- B. Areas under stones
- C. Sweet baits
- D. Interior walls
- E. None of the Above or All of the Above

128. Read and follow the product label for best results. It may be necessary to drill small holes in the wall voids, \_\_\_\_\_, and window and doorsills to reach the nest or major part of the colony. Nests can also be removed and infested wood replaced, if feasible.

- A. Cracks and gaps
- B. Areas under stones
- C. Baseboards
- D. Interior walls
- E. None of the Above or All of the Above

129. Carpenter ants are most active in the evening hours, \_\_\_\_\_, both inside the house and outside. By following the ants, you may be able to tell where the nest is.

- A. Foraging for all kinds of food
- B. Push the sawdust
- C. Insecticide dust
- D. Trim all trees
- E. None of the Above or All of the Above

130. Because carpenter ants keep the tunneled galleries very clean and \_\_\_\_\_ and dead insect parts out small holes in the wood, a small, fresh pile of sawdust under the nest timber is the usual sign of an active carpenter ant nest.

- A. Foraging for all kinds of food
- B. Push the sawdust
- C. Insecticide dust
- D. Trim all trees
- E. None of the Above or All of the Above

131. Once a nest is found, treatment is usually easy with either an \_\_\_\_\_ or spray. Injection of insecticide into wall voids or the nest itself may be necessary to insure complete control.

- A. Foraging for all kinds of food
- B. Push the sawdust
- C. Insecticide dust
- D. Trim all trees
- E. None of the Above or All of the Above

132. To prevent further carpenter ant infestations, \_\_\_\_\_ and bushes so branches do not touch the house and correct moisture problems such as leaky roofs and plumbing.

- A. Foraging for all kinds of food
- B. Push the sawdust
- C. Insecticide dust
- D. Trim all trees
- E. None of the Above or All of the Above

133. \_\_\_\_\_ exposed wood construction before it becomes wet. Replace previously ant-infested wood, rotted or water-damaged wooden parts of the structure and eliminate wood/soil contacts. Remove dead stumps on the property and store firewood off the ground and away from the structure.

- A.. Paint and/or seal
- B. Push the sawdust
- C. Insecticide dust
- D. Trim all trees
- E. None of the Above or All of the Above

134. Unlike other home-inhabiting ants, carpenter ants cause structural damage to wood by \_\_\_\_\_ inside wood structures. However, they rarely nest in sound wood, but consistently invade wood that has become wet and started to decay.

- A. Foraging for all kinds of food
- B. Push the sawdust
- C. Insecticide dust
- D. Tunneling and nesting
- E. None of the Above or All of the Above

135. The best way to control carpenter ants that inhabit a dwelling is to find the nest and \_\_\_\_\_.

- A. Destroy it
- B. Continue to produce
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

136. Insecticide sprays inside the home will kill some of the worker ants, but unless the entire nest is treated, the queen will \_\_\_\_\_ additional members of the colony.

- A. Destroy it
- B. Continue to produce
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above



137. Locating a nest can be difficult because nests may be in locations \_\_\_\_\_ or roof rafters. At this point, some homeowners may prefer to work with a professional pest control company.

- A. Destroy it
- B. Continue to produce
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

138. The most likely places to find carpenter ant nests are where wood has been wet and weathered, such as rotting timbers about the foundation, window sills, porches, \_\_\_\_\_, and in rafters under a leaky roof.

- A. Around leaky plumbing
- B. Continue to produce
- C. Within the walls
- D. Perimeter of a home
- E. None of the Above or All of the Above

#### Perimeter Insecticide Treatments

139. The most commonly used method for controlling carpenter ants is treating the \_\_\_\_\_ with a dust or spray. There are several products available for this type of application, but Suspend SC, Talstar Concentrate and Cynoff WP are the best. When used in accordance with their labels they work well.

- A. Destroy it
- B. Perimeter of a home
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

140. These treatments do not keep ants from entering a home from overhead trees and power lines. Also, as a stand alone treatment, they rarely eliminate ants \_\_\_\_\_.

- A. Inside voids and walls
- B. Continue to produce
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

#### Pharaoh Ant *Monomorium pharaonis*

141. Pharaoh workers are very small (about 1/16-inch long), light yellow to reddish brown in color, with the abdomen (hind portion of body) somewhat darker. \_\_\_\_\_.

- A. There is no stinger
- B. Pseudomonas
- C. Sugar ant
- D. Worker ants
- E. None of the Above or All of the Above

#### Pest Status

142. Very common throughout the U.S. and the most commonly occurring indoor ant; in hospitals, it can be a carrier of more than a dozen pathogenic bacteria, including Staphylococcus, Salmonella, \_\_\_\_\_, and Clostridium; these ants do not sting and usually do not bite.

- A. There is no stinger
- B. Pseudomonas
- C. Sugar ant
- D. Worker ants
- E. None of the Above or All of the Above

143. Life Cycle and Habits

Description: Also called the \_\_\_\_\_, odorous or piss ant, these are some of the smallest ants, the workers are about 1/12-16 inch long, with a light tan to reddish body. Over 200 species of ants are known to exist in the U.S. A number of other ant species are occasionally encountered in and around the home.

- A. There is no stinger
- B. Pseudomonas
- C. Sugar ant
- D. Worker ants
- E. None of the Above or All of the Above

Life Cycle

144. Development of \_\_\_\_\_ progresses from eggs (5-6 days), to several larval stages (22-24 days), pre-pupal stage (2 to 3 days), a pupae (9-12 days), and adult ants, thus taking from 38 to 45 days from egg to adult (4 days longer for sexual forms).

- A. Worker ants
- B. Pseudomonas
- C. Sugar ant
- D. Queen ants
- E. None of the Above or All of the Above

145. Colonies consist of one to several hundred \_\_\_\_\_, sterile female worker ants, periodically produced winged male and female reproductive ants (sexuals), and brood (developmental stages).

- A. Worker ants
- B. Pseudomonas
- C. Sugar ant
- D. Queen ants
- E. None of the Above or All of the Above

Female Pharaoh

146. A Female Pharaoh ant can lay \_\_\_\_\_ in her lifetime.

- A. 400 or more eggs
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above

147. Most lay \_\_\_\_\_ per batch in the early days of egg production and only 4 to 7 eggs per batch later.

- A. 400 or more eggs
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above

148. At 80°F and 80 percent relative humidity, eggs hatch in \_\_\_\_\_. The larval period is 18 to 19 days, prepupal period three days and pupal period nine days.

- A. 400 or more eggs
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above

149. About four more days are required to produce sexual female and male forms. The entire life cycle takes about \_\_\_\_\_ depending on temperature and relative humidity. Unlike most ants, they breed continuously throughout the year in heated buildings and mating occurs in the nest.

- A. 38 to 45 days
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above

150. Periodically a queen, together with a few workers carrying \_\_\_\_\_ (eggs, larvae, and pupae), leaves the nest and sets up a new colony elsewhere, quickly spreading an infestation.

- A. Immatures
- B. Fractionating
- C. Thimble
- D. Overcrowding
- E. None of the Above or All of the Above

151. This behavior pattern is known as "satelliting," " \_\_\_\_\_ " or "budding" where part of the colony migrates to a new location rather than by single females dispersing after a reproductive swarm.

- A. Immatures
- B. Fractionating
- C. Thimble
- D. Overcrowding
- E. None of the Above or All of the Above

152. Budding may occur due to \_\_\_\_\_, seasonal changes in the building's central heating and cooling system, or application of a repellent pesticide.

- A. Immatures
- B. Thimble
- C. Fractionating
- D. Overcrowding
- E. None of the Above or All of the Above

153. Nests are often so small they can be contained in a \_\_\_\_\_, located between sheets of paper, in clothing or laundry, furniture, foods, etc.

- A. Immatures
- B. Fractionating
- C. Thimble
- D. Overcrowding
- E. None of the Above or All of the Above

154. They prefer dark, warm areas near hot water pipes and \_\_\_\_\_, in bathrooms, kitchens, intensive care units, operating rooms, etc.

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

155. They are "trail-making" ants and often are found foraging in drains, toilets, \_\_\_\_\_, bedpans, and other unsanitary sites, as well as in sealed packs of sterile dressing, intravenous drip systems, on surgical wounds, food, and medical equipment.

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

Habitat, Food Source(s), Damage

156. Mouthparts are for chewing. Pharaoh ants are \_\_\_\_\_, feeding on sweets (jelly, particularly mint apple jelly, sugar, honey, etc.), cakes and breads, and greasy or fatty foods (pies, butter, liver, and bacon).

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

157. Nests can be found outdoors and almost anywhere indoors (light sockets, potted plants, wall voids, attics, in any cracks and \_\_\_\_\_) particularly close to sources of warmth and water.

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

Pharaoh Ant Control Measures

158. Pharaoh ants are usually much harder to control than other ants because of their \_\_\_\_\_.

- A. Ability to disperse
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

159. There may be dozens or \_\_\_\_\_ in a single building and when a few colonies are missed during control, populations will quickly rebound. About 90 percent of the colony remains hidden in the nest, so even if 10 percent of the colony is killed by a residual pesticide, the remaining reservoir of ants is enormous.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

160. Conventional contact pesticide applications, especially repellent products such as pyrethrins, may spread infestations to new areas with \_\_\_\_\_ blossoming within the structure.

- A. Multiple colonies
- B. Hundreds of colonies
- C. Ability to disperse
- D. Long term
- E. None of the Above or All of the Above

161. These ants will avoid certain pesticides. Control is difficult and often \_\_\_\_\_ (months to years), depending on the building size, wall voids, etc., especially in hospitals and food plants. Complete cooperation from the property manager and residents is essential for a successful control program.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

#### Inspection

162. Carefully examine the building inside and outside from the roof to the basement, finding the ant distribution, population size, and food sources. Locate ant trails, following them to \_\_\_\_\_.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

163. A single stream of ants moving in one direction may indicate \_\_\_\_\_, not foraging. Mark the established feeding trail with a sticker and date. Trails with many ants coming and going indicate a large colony.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Colony movement
- E. None of the Above or All of the Above

164. \_\_\_\_\_ (dilute honey or peanut butter on three-by-five cards) helps to identify "hot spots," but with experience, one will already know where such places are located.

- A. Ability to disperse
- B. Pre-baiting
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

165. In the winter, these ants tend to concentrate near and \_\_\_\_\_, whereas in the spring and summer, they move to the outside walls and distribute themselves throughout the building. Carefully check areas with moisture, such as pipes, faucets, air conditioners, refrigerators, drains, leaking roofs, etc.

- A. Ability to disperse
- B. Pre-baiting
- C. Multiple colonies
- D. Around heat
- E. None of the Above or All of the Above

#### Prevention

166. When insecticides are prohibited around high-tech equipment and in health areas, use sticky tapes, double-faced adhesive tapes, and \_\_\_\_\_ (glue side out) wrapped around objects as barriers.

- A. Masking tape
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

167. Use a ring \_\_\_\_\_, non-hardening glues, sticky dust mats, or glue boards under equipment legs.

- A. Masking tape.
- B. Petroleum jelly
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

168. Seal cracks and voids with \_\_\_\_\_ after applying low residual repellent insecticides such as chlorpyrifos (Dursban) or Diazinon.

- A. Masking tape.
- B. Petroleum jelly
- C. Caulking compound
- D. Long term
- E. None of the Above or All of the Above

#### Insecticides

169. In areas of active colonies, treat walls and ceiling voids through cracks and crevices with \_\_\_\_\_ and make bait placements.

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

170. Keep the ants in the area long enough to get the \_\_\_\_\_ to the main colony where the workers, larvae and queens are poisoned. (A delayed-action stomach poison is recommended.)

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

171. Repellent insecticides, such as \_\_\_\_\_, will move the colonies, spreading them further throughout the building.

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

172. Research has shown that it is best to use bait placement only where \_\_\_\_\_ are found. This ensures feeding, since some ants have not been able to find the bait even when only one inch away from the bait stations.

- A. Active ant trails
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Non-repellent boric acid dust
- E. None of the Above or All of the Above

173. Intersect the ant trail with bait on a cotton swab taken from the station to ensure instant feeding. \_\_\_\_\_ may change during the season due to changing needs of the developing colonies.

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

#### Methoprene

174. A commercial bait called \_\_\_\_\_ (Pharoid) is marketed for use by pest control operators in a bait that consists of liver, honey, and sponge cake. It is often difficult to use the bait ants prefer; as ants feed on one compound, another compound placed less than 1/4-inch away will be ignored until the ants spill over into the second bait.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

#### Boric Acid

175. Boric acid and methoprene baits work slowly, sometimes taking 15 to 40 weeks or more before ant eradication. A bait containing \_\_\_\_\_ (same as in Maxforce roach bait stations) gives quicker results, 2 to 35 days, according to certain pest control operators.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

176. There may be increased or new ant feeding activity during the early part of the \_\_\_\_\_. No other pesticides, heavy-duty cleaners, or paints should be used during the baiting periods to discourage ant feeding.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

#### Bendiocarb

177. Applications of \_\_\_\_\_ (Ficam), which is odorless, can give fast eradication of Pharaoh ants if treatments are thorough. Ficam 76 percent WP and 91 percent dust are labeled for licensed commercial and pest control operators.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

178. The bait products most recommended for Pharaoh ant control include: (boric acid plus mint apple jelly (Drax), hydramethylnon (Maxforce), methoprene (Pharoid), bendiocarb (Ficam), propoxur (Baygon) and \_\_\_\_\_(Pro-Control)).

- A. Methoprene
- B. Hydramethylnon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

179. After bait stations are placed, one will see ants trailing to and from these bait stations. Do not spray or disturb the ants or \_\_\_\_\_. Ants must be allowed to carry the bait back into their nest where the active ingredient in the bait will eliminate the colony.

- A. Methoprene
- B. Bait stations
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

180. Usually, Pharaoh ant control is best achieved by a licensed pest control operator or applicator who is trained, experienced, and has the proper equipment--an Applicator like yourself. Before using an \_\_\_\_\_, always read the label, follow directions and safety precautions.

- A. Methoprene
- B. Bait stations
- C. Bendiocarb
- D. Insecticide
- E. None of the Above or All of the Above

Red Imported Fire Ants RIFA *Solenopsis invicta*

181. Red imported fire ants (RIFA) are medium sized ants that build mounds of soft soil rarely larger than \_\_\_\_\_.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

182. Some confusion comes from the fact that red imported fire ants come in a variety of sizes (\_\_\_\_\_) with the largest workers 2 or 3 times larger than the smallest.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

Queens

183. Single queen (monogyne form): only one queen per colony or mound; slightly larger workers; members of colonies are territorial; mound densities usually \_\_\_\_\_; fewer ants per acre.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above



184. Multiple queen (polygyne form): dozens of queens per colony; smaller average worker ants; colonies are interconnected; mound densities 100 to \_\_\_\_\_; more ants per acre.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

Difference between Fire Ants and Termites

185. Although most ants are recognizable, some forms of winged ants are often confused with termites, especially during the termite swarming season. The front pair of wings on ants is \_\_\_\_\_, while the four wings of termites are approximately the same size.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

186. Ants have "elbowed" antennae and a " \_\_\_\_\_," being narrow between the thorax and hind abdominal segments.

- A. Thin waist
- B. 1/16 to almost 1/4 inch long
- C. Hair-like
- D. Abdomen
- E. None of the Above or All of the Above

History

187. Fire ants are from South America. They entered the U.S. through \_\_\_\_\_, probably in soil used for ships' ballast. They were accidentally introduced around the 1930s and have been spreading ever since.

- A. Texas
- B. Mobile, Alabama
- C. 1,000+ per acre
- D. Pacific Coast
- E. None of the Above or All of the Above

188. Red imported fire ants are very aggressive, efficient competitors. Since the 1950s, the ant has been spreading northward, westward, and southward from \_\_\_\_\_. Their northward spread depends on temperature.

- A. Texas
- B. Mobile, Alabama
- C. 1,000+ per acre
- D. Pacific Coast
- E. None of the Above or All of the Above

189. Cold winters tend to push them back. Western spread is largely dependent on \_\_\_\_\_. They will mostly be found in urban areas, creek bottoms, irrigated land, etc. The entire Pacific Coast is fertile ground for infestation.

- A. Texas
- B. Water
- C. Temperature
- D. Pacific Coast
- E. None of the Above or All of the Above

#### Medical Importance

190. Fire ants are sensitive to \_\_\_\_\_ or movement and tend to sting when the object they are on moves.

- A. Texas
- B. Water
- C. Temperature
- D. Vibration
- E. None of the Above or All of the Above

#### Is Their Sting Lethal?

191. Only to a very small portion of the population who experience severe allergic reactions. Fire ants inflict a fiery sting, which causes a \_\_\_\_\_ or pustule to form at the site of each sting after several hours. The blisters become itchy while healing and are prone to infection if broken.

- A. Small blister
- B. Swelling and pain
- C. Temperature
- D. Pacific Coast
- E. None of the Above or All of the Above

#### If You are Stung by a Fire Ant:

192. Apply a cold compress to relieve the \_\_\_\_\_. Gently wash the affected area with soap and water and leave the blister intact. People who are allergic to insect stings should seek medical attention immediately. On rare occasions, fire ant stings can cause severe acute allergic reaction (anaphylaxis).

- A. Small blister
- B. Thickening of the tongue
- C. Temperature
- D. Swelling and pain
- E. None of the Above or All of the Above

#### What Should I do if I Get Stung?

193. There really isn't much you can do, except watch the area for excessive swelling, itching, or redness, or other symptoms like shortness of breath, \_\_\_\_\_, sweating, etc., that could indicate a systemic allergic reaction. Treat stings as you would stings of other insects, and keep them clean and intact to avoid getting secondary infections.

- A. Texas
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

#### Are They as Lethal as Killer Bees?

194. They both attack en masse and both can cause fatal allergic reactions, but that's where similarities end. \_\_\_\_\_ can overwhelm and kill even healthy, non-allergic people, but encounters are rather rare.

- A. Africanized bees
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

195. \_\_\_\_\_ can't overwhelm a healthy, mobile person and even hundreds of stings are rarely fatal. However, fire ant mounds are extremely common. So the chance of being killed by bees is higher if you come across them, but the chance of being killed by fire ants is higher only if you are highly allergic or cannot quickly get away from them. The chances of either are very small.

- A. Africanized bees
- B. Water
- C. Fire ants
- D. Thickening of the tongue
- E. None of the Above or All of the Above

#### Impact of Red Imported Fire Ants

196. There are things being done, but it's not an easy problem to solve. First, imported fire ant control using today's methods provides only \_\_\_\_\_ and costs money on a per- area basis.

- A. Temporary suppression
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

197. Research is being supported to document the impact of the imported fire ant on wildlife and evaluate ant management approaches. While some wildlife species are undoubtedly declining due to fire ants, they are also declining due to land use practices and weather extremes, for instance. There is great hope that the \_\_\_\_\_ agents currently under investigation will spread into wildlife areas and permanently reduce imported fire ant populations there.

- A. Periodic treatments
- B. Water
- C. Temperature
- D. Biological control
- E. None of the Above or All of the Above

#### Are the Ants Killing my Trees?

198. The ants are mainly using the trees as a nesting place. Ants in mounds occurring at the base of the trunk are probably not causing any damage to well-established trees and may actually be helpful by preying on other insects that are feeding on parts of the tree and \_\_\_\_\_ by tunneling in the soil.

- A. Periodic treatments
- B. Water
- C. Reducing compaction
- D. Thickening of the tongue
- E. None of the Above or All of the Above

#### Why Do Fire Ants Get into Laundry?

199. This is a convenient place that resembles lots of tunnels for the ants. Often reports of ants in laundry occur following a flood or severe drought and are observed in utility rooms, bathrooms, or near the water heater where ants have access to the area from outside. When it floods they move in into any good dark place but in \_\_\_\_\_, they tend to move to moist areas.

- A. Reducing compaction
- B. Water
- C. Periodic treatments
- D. Drought conditions
- E. None of the Above or All of the Above

Fire Ant Management Approaches

200. Can Fire Ants be Eradicated Completely?

Red imported fire ants cannot be eradicated completely with methods available today. They can be eliminated temporarily from small areas, with proper\_\_\_\_\_. Their biology and spread make it economically, technically, and ecologically impossible to eradicate them from larger areas.

- A. Reducing compaction
- B. Water
- C. Periodic treatments
- D. Control methods
- E. None of the Above or All of the Above

**You are finished with your examination, please fax or e-mail your answer key and registration page to TLC. Always call us to ensure we've received the work.**

## Ant Control CEU Training Awareness Assignment #2 For Students Names E-J

You will have 90 days from the start of this course to have successfully passed 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. This assignment is available to you in a Word Format on TLC's Website. You can find online assistance for this course on the in the Search function on Adobe Acrobat PDF to help find the answers. Once you have paid the course fee, you will be provided complete course support from Student Services (928) 468-0665.

Write your answers on the Answer Key found in the front of this assignment.

1. We will require all students to fax or e-mail a copy of their driver's license with the registration form.
2. You will need to pick one of the following four assignments to complete. This selection process is based upon your last name.
3. If your last name begins with an A to D, you will pick assignment number 1, if your last name begins with the letter E to J, you are to complete assignment number 2 and if your last name begins with the letter K-Q, you will pick assignment number 3, and if your last name begins with the letter R-Z, you will pick assignment number 4.

**Multiple Choice, Please select one answer and mark it on the answer key.**

Ant Introduction

1. All ants live in colonies, which consist of a(n) \_\_\_\_\_ (queen), short-lived males, and workers (sterile females).
  - A. Egg-laying female
  - B. Fly to new locations
  - C. Depositing a chemical message
  - D. Trail pheromone
  - E. None of the Above or All of the Above
2. The ants you see foraging in your garden or kitchen are workers. Workers that find food communicate with other workers by depositing a \_\_\_\_\_ on the substrate as they crawl back to the nest.
  - A. Egg-laying female
  - B. Chemical message
  - C. Depositing a chemical message
  - D. Trail pheromone
  - E. None of the Above or All of the Above
3. Although we cannot smell it, \_\_\_\_\_ this "chemical message" stick to the substrate for long periods of time and helps other ants find the food at the end of the trail.
  - A. Egg-laying female
  - B. Fly to new locations
  - C. Depositing a chemical message
  - D. Trail pheromone
  - E. None of the Above or All of the Above

4. In the spring, ants develop wings and chemical message and invade homes to forage for food \_\_\_\_\_ or to establish a new nest.
- Egg-laying female
  - Fly to new locations
  - Depositing a chemical message
  - Trail pheromone
  - None of the Above or All of the Above
5. Ants are a major annoyance to homeowners and are difficult to control. You should not \_\_\_\_\_ of good sanitation to eliminate food sources, although good sanitation may not control an ant infestation by itself.
- Fondness for honeydew
  - Kill foraging ants and destroy nests
  - Underestimate the importance
  - Thin-waisted
  - None of the Above or All of the Above
6. Although we do not like sharing our homes with ants, they are beneficial organisms in the balance of nature. In nature, ants \_\_\_\_\_ of dead and decaying plant and animal organic matter. They also aerate the soil with their nests.
- Greatly reduce the amount
  - Kill foraging ants and destroy nests
  - Combination of good sanitation
  - Thin-waisted
  - None of the Above or All of the Above
7. Many ant species have a \_\_\_\_\_ that aphids produce from feeding on plants. Large numbers of ants crawling on a plant may be a sign of serious aphid infestation.
- Fondness for honeydew
  - Kill foraging ants and destroy nests
  - Combination of good sanitation
  - Thin-waisted
  - None of the Above or All of the Above
8. Ant infestations are \_\_\_\_\_ should be used depending on nest location and food preferences of the ants.
- Fondness for honeydew
  - Kill foraging ants and destroy nests
  - Combination of good sanitation
  - Not easy to control and different strategies
  - None of the Above or All of the Above
9. Ants can be controlled with a \_\_\_\_\_, removing pheromone trails, caulking entry points, and eliminating active nests.
- Fondness for honeydew
  - Kill foraging ants and destroy nests
  - Combination of good sanitation
  - Thin-waisted
  - None of the Above or All of the Above
10. Insecticide sprays and baits can be used to \_\_\_\_\_, but strategies designed to prevent further infestations should be used in conjunction with chemical treatment.
- Fondness for honeydew
  - Kill foraging ants and destroy nests
  - Combination of good sanitation
  - None of the Above or All of the Above

## Termites

11. Termites also \_\_\_\_\_ during the spring and look similar to flying ants. Examine them closely to make sure that you have the correct pest!

- A. Fondness for honeydew
- B. Kill foraging ants and destroy nests
- C. Combination of good sanitation
- D. Develop wings and swarm
- E. None of the Above or All of the Above

12. Ants are \_\_\_\_\_ and have elbowed antennae.

- A. Fondness for honeydew
- B. Kill foraging ants and destroy nests
- C. Combination of good sanitation
- D. Thin-waisted
- E. None of the Above or All of the Above

13. \_\_\_\_\_ have thicker waists and have antennae that resemble strings of tiny beads. You may need a magnifying glass to examine antennal features.

- A. Ant(s)
- B. Termite(s)
- C. Insecticide(s)
- D. Dilutions
- E. None of the Above or All of the Above

14. As a group, \_\_\_\_\_ have a wide food range, feeding on sweet foods, greasy materials, starchy substances, wood, and all kinds of plant and animal materials. Part of the reason that ants become a nuisance in our homes is that they often like the same kinds of food that we do.

- A. Insecticide(s)
- B. Dilutions
- C. Ant(s)
- D. Termite(s)
- E. None of the Above or All of the Above

## Ant Control

15. There are two categories of \_\_\_\_\_ that will be encountered with an ant problem. The best control strategy depends on the type of infestation.

- A. Ant(s)
- B. Termite(s)
- C. Insecticide(s)
- D. Dilutions
- E. None of the Above or All of the Above

16. \_\_\_\_\_ that live outside will travel inside the home to search for food. Some species may ultimately reside in houses, discussed later in this section.

- A. Ant(s)
- B. Termite(s)
- C. Insecticide(s)
- D. Dilutions
- E. None of the Above or All of the Above

17. To prevent both of these scenarios, follow these procedures: First, \_\_\_\_\_ should be sealed to eliminate passages into the home. If you do not seal entry points, ants will probably find their way into your house at some later time.

- A. Ant(s)
- B. Termite(s)
- C. Cracks and crevices
- D. Dilutions
- E. None of the Above or All of the Above

18. Second, scrub around entry points with a \_\_\_\_\_ (to remove the trail pheromone) and spray a residual insecticide around entry points.

- A. Ant(s)
- B. Termite(s)
- C. Insecticide(s)
- D. Dilutions
- E. None of the Above or All of the Above

19. Bait treatments and \_\_\_\_\_ can be used to control ants in the outside nest. To be effective, baits must be placed in areas where ants frequent, be eaten, and be taken back to the nest.

- A. Successfully drench
- B. Bait treatments
- C. Insecticide(s)
- D. Dilutions
- E. None of the Above or All of the Above

20. There are several different kinds of \_\_\_\_\_ available, and you may have to do a little trial-and-error to find the proper bait. Because the ants must get back to the nest for satisfactory control, this strategy may be incompatible with insecticide sprays, which may kill worker ants before they can get back to the nest with the bait.

- A. Successfully drench
- B. Baits
- C. Insecticide(s)
- D. Dilutions
- E. None of the Above or All of the Above

21. The successful use of a bait may take several weeks or more. Insecticide dilutions can be used outside to \_\_\_\_\_ ant nests. Be sure to follow label recommendations for correct procedures when applying the insecticide.

- A. Successfully drench
- B. Bait treatments
- C. Insecticide(s)
- D. Dilutions
- E. None of the Above or All of the Above

22. There are some types of ants that actually \_\_\_\_\_ your home, instead of merely entering to forage for food and returning outdoors.

- A. Successfully drench
- B. Bait treatments
- C. Establish a nest inside
- D. Dilutions
- E. None of the Above or All of the Above



23. Ants in this category may be present year round, although they will be more active in the \_\_\_\_\_.

- A. Warmer months
- B. Bait treatments
- C. Establish a nest inside
- D. Dilutions
- E. None of the Above or All of the Above

24. Ant species that may live in United States homes include crazy ants, odorous house ants, pavement ants, pharaoh ants, thief ants, and \_\_\_\_\_.

- A. Successfully drench
- B. Bait treatments
- C. Carpenter ants
- D. Dilutions
- E. None of the Above or All of the Above

25. All of these ants may infest food products. Spraying a \_\_\_\_\_ to control foraging workers may provide only short-term control.

- A. Residual insecticide
- B. Bait treatments
- C. Establish a nest inside
- D. Dilutions
- E. None of the Above or All of the Above

#### Carpenter Ants

26. Carpenter ants are usually larger than most other house- infesting ants. They vary in color from a dull black or reddish yellow color to a combination of black and dull red or reddish-orange. Worker ants range in size from 5/16 to 7/16 inches long. Carpenter ants tunnel into wood to form nest galleries. If they go unnoticed for several years, they may cause structural damage. Outdoors, the ants use dead trees or tree limbs, stumps, logs or \_\_\_\_\_ as nesting sites.

- A. Cracks and gaps
- B. Areas under stones
- C. Sweet baits
- D. Interior walls
- E. None of the Above or All of the Above

27. Once the carpenter ant nest has been located, control is relatively easy. Treatment options include use of a \_\_\_\_\_ or residual contact insecticide applied as a dust or spray to the nest.

- A. Bait
- B. Areas under stones
- C. Sweet baits
- D. Interior walls
- E. None of the Above or All of the Above

28. Read and follow the product label for best results. It may be necessary to drill small holes in the wall voids, \_\_\_\_\_, and window and doorsills to reach the nest or major part of the colony. Nests can also be removed and infested wood replaced, if feasible.

- A. Cracks and gaps
- B. Areas under stones
- C. Baseboards
- D. Interior walls
- E. None of the Above or All of the Above

29. Carpenter ants are most active in the evening hours, \_\_\_\_\_, both inside the house and outside. By following the ants, you may be able to tell where the nest is.
- A. Foraging for all kinds of food
  - B. Push the sawdust
  - C. Insecticide dust
  - D. Trim all trees
  - E. None of the Above or All of the Above
30. Because carpenter ants keep the tunneled galleries very clean and \_\_\_\_\_ and dead insect parts out small holes in the wood, a small, fresh pile of sawdust under the nest timber is the usual sign of an active carpenter ant nest.
- A. Foraging for all kinds of food
  - B. Push the sawdust
  - C. Insecticide dust
  - D. Trim all trees
  - E. None of the Above or All of the Above
31. Once a nest is found, treatment is usually easy with either an \_\_\_\_\_ or spray. Injection of insecticide into wall voids or the nest itself may be necessary to reinsure complete control.
- A. Foraging for all kinds of food
  - B. Push the sawdust
  - C. Insecticide dust
  - D. Trim all trees
  - E. None of the Above or All of the Above
32. To prevent further carpenter ant infestations, \_\_\_\_\_ and bushes so branches do not touch the house and correct moisture problems such as leaky roofs and plumbing.
- A. Foraging for all kinds of food
  - B. Push the sawdust
  - C. Insecticide dust
  - D. Trim all trees
  - E. None of the Above or All of the Above
33. \_\_\_\_\_ exposed wood construction before it becomes wet. Replace previously ant-infested wood, rotted or water-damaged wooden parts of the structure and eliminate wood/soil contacts. Remove dead stumps on the property and store firewood off the ground and away from the structure.
- A. Paint and/or seal
  - B. Push the sawdust
  - C. Insecticide dust
  - D. Trim all trees
  - E. None of the Above or All of the Above
34. Unlike other home-inhabiting ants, carpenter ants cause structural damage to wood by \_\_\_\_\_ inside wood structures. However, they rarely nest in sound wood, but consistently invade wood that has become wet and started to decay.
- A. Foraging for all kinds of food
  - B. Push the sawdust
  - C. Insecticide dust
  - D. Tunneling and nesting
  - E. None of the Above or All of the Above

35. The best way to control carpenter ants that inhabit a dwelling is to find the nest and \_\_\_\_\_.

- A. Destroy it
- B. Continue to produce
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

36. Insecticide sprays inside the home will kill some of the worker ants, but unless the entire nest is treated, the queen will \_\_\_\_\_ additional members of the colony.

- A. Destroy it
- B. Continue to produce
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

37. Locating a nest can be difficult because nests may be in locations \_\_\_\_\_ or roof rafters. At this point, some homeowners may prefer to work with a professional pest control company.

- A. Destroy it
- B. Continue to produce
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

38. The most likely places to find carpenter ant nests are where wood has been wet and weathered, such as rotting timbers about the foundation, window sills, porches, \_\_\_\_\_, and in rafters under a leaky roof.

- A. Around leaky plumbing
- B. Continue to produce
- C. Within the walls
- D. Perimeter of a home
- E. None of the Above or All of the Above

#### Perimeter Insecticide Treatments

39. The most commonly used method for controlling carpenter ants is treating the \_\_\_\_\_ with a dust or spray. There are several products available for this type of application, but Suspend SC, Talstar Concentrate and Cynoff WP are the best. When used in accordance with their labels they work well.

- A. Destroy it
- B. Perimeter of a home
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

40. These treatments do not keep ants from entering a home from overhead trees and power lines. Also, as a stand alone treatment, they rarely eliminate ants \_\_\_\_\_.

- A. Inside voids and walls
- B. Continue to produce
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

Pharaoh Ant *Monomorium pharaonis*

41. Pharaoh workers are very small (about 1/16-inch long), light yellow to reddish brown in color, with the abdomen (hind portion of body) somewhat darker. \_\_\_\_\_. The petiole (narrow waist between the thorax and abdomen) has two nodes and the thorax has no spines. Eyes are well-developed. The antennal segments end in a distinct club with three progressively longer segments. This is in contrast to the thief ant's 2-segmented club.

- A. There is no stinger
- B. *Pseudomonas*
- C. Sugar ant
- D. Worker ants
- E. None of the Above or All of the Above

Pest Status

42. Very common throughout the U.S. and the most commonly occurring indoor ant; in hospitals, it can be a carrier of more than a dozen pathogenic bacteria, including *Staphylococcus*, *Salmonella*, \_\_\_\_\_, and *Clostridium*; these ants do not sting and usually do not bite.

- A. There is no stinger
- B. *Pseudomonas*
- C. Sugar ant
- D. Worker ants
- E. None of the Above or All of the Above

43. Life Cycle and Habits

Description: Also called the \_\_\_\_\_, odorous or piss ant, these are some of the smallest ants, the workers are about 1/12-16 inch long, with a light tan to reddish body. Over 200 species of ants are known to exist in the U.S. A number of other ant species are occasionally encountered in and around the home.

- A. There is no stinger
- B. *Pseudomonas*
- C. Sugar ant
- D. Worker ants
- E. None of the Above or All of the Above

Winged stage

Life Cycle

44. Development of \_\_\_\_\_ progresses from eggs (5-6 days), to several larval stages (22-24 days), pre-pupal stage (2 to 3 days), a pupae (9-12 days), and adult ants, thus taking from 38 to 45 days from egg to adult (4 days longer for sexual forms).

- A. Worker ants
- B. *Pseudomonas*
- C. Sugar ant
- D. Queen ants
- E. None of the Above or All of the Above

45. Colonies consist of one to several hundred \_\_\_\_\_, sterile female worker ants, periodically produced winged male and female reproductive ants (sexuals), and brood (developmental stages).

- A. Worker ants
- B. *Pseudomonas*
- C. Sugar ant
- D. Queen ants
- E. None of the Above or All of the Above

Female Pharaoh

46. A Female Pharaoh ant can lay \_\_\_\_\_ in her lifetime.

- A. 400 or more eggs
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above

47. Most lay \_\_\_\_\_ per batch in the early days of egg production and only 4 to 7 eggs per batch later.

- A. 400 or more eggs
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above

48. At 80°F and 80 percent relative humidity, eggs hatch in \_\_\_\_\_. The larval period is 18 to 19 days, prepupal period three days and pupal period nine days.

- A. 400 or more eggs
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above

49. About four more days are required to produce sexual female and male forms. The entire life cycle takes about \_\_\_\_\_ depending on temperature and relative humidity.

- A. 38 to 45 days
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above

50. Periodically a queen, together with a few workers carrying \_\_\_\_\_ (eggs, larvae, and pupae), leaves the nest and sets up a new colony elsewhere, quickly spreading an infestation.

- A. Immatures
- B. Fractionating
- C. Thimble
- D. Overcrowding
- E. None of the Above or All of the Above

51. This behavior pattern is known as "satelliting," " \_\_\_\_\_ " or "budding" where part of the colony migrates to a new location rather than by single females dispersing after a reproductive swarm.

- A. Immatures
- B. Fractionating
- C. Thimble
- D. Overcrowding
- E. None of the Above or All of the Above

52. Budding may occur due to \_\_\_\_\_, seasonal changes in the building's central heating and cooling system, or application of a repellent pesticide.

- A. Immatures
- B. Thimble
- C. Fractionating
- D. Overcrowding
- E. None of the Above or All of the Above

53. Nests are often so small they can be contained in a \_\_\_\_\_, located between sheets of paper, in clothing or laundry, furniture, foods, etc.

- A. Immatures
- B. Fractionating
- C. Thimble
- D. Overcrowding
- E. None of the Above or All of the Above

54. They prefer dark, warm areas near hot water pipes and \_\_\_\_\_, in bathrooms, kitchens, intensive care units, operating rooms, etc.

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

55. They are "trail-making" ants and often are found foraging in drains, toilets, \_\_\_\_\_, bedpans, and other unsanitary sites, as well as in sealed packs of sterile dressing, intravenous drip systems, on surgical wounds, food, and medical equipment.

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

Habitat, Food Source(s), Damage

56. Mouthparts are for chewing. Pharaoh ants are \_\_\_\_\_, feeding on sweets (jelly, particularly mint apple jelly, sugar, honey, etc.), cakes and breads, and greasy or fatty foods (pies, butter, liver, and bacon).

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

57. Nests can be found outdoors and almost anywhere indoors (light sockets, potted plants, wall voids, attics, in any cracks and \_\_\_\_\_) particularly close to sources of warmth and water.

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

Pharaoh Ant Control Measures

58. Pharaoh ants are usually much harder to control than other ants because of their \_\_\_\_\_.

- A. Ability to disperse
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

59. There may be dozens or \_\_\_\_\_ in a single building and when a few colonies are missed during control, populations will quickly rebound. About 90 percent of the colony remains hidden in the nest, so even if 10 percent of the colony is killed by a residual pesticide, the remaining reservoir of ants is enormous.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

60. Conventional contact pesticide applications, especially repellent products such as pyrethrins, may spread infestations to new areas with \_\_\_\_\_ blossoming within the structure.

- A. Multiple colonies
- B. Hundreds of colonies
- C. Ability to disperse
- D. Long term
- E. None of the Above or All of the Above

61. These ants will avoid certain pesticides. Control is difficult and often \_\_\_\_\_ (months to years), depending on the building size, wall voids, etc., especially in hospitals and food plants. Complete cooperation from the property manager and residents is essential for a successful control program.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

#### Inspection

62. Carefully examine the building inside and outside from the roof to the basement, finding the ant distribution, population size, and food sources. Locate ant trails, following them to \_\_\_\_\_.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

63. A single stream of ants moving in one direction may indicate \_\_\_\_\_, not foraging. Mark the established feeding trail with a sticker and date. Trails with many ants coming and going indicate a large colony.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Colony movement
- E. None of the Above or All of the Above

64. \_\_\_\_\_ (dilute honey or peanut butter on three-by-five cards) helps to identify "hot spots," but with experience, one will already know where such places are located.

- A. Ability to disperse
- B. Pre-baiting
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

65. In the winter, these ants tend to concentrate near and \_\_\_\_\_, whereas in the spring and summer, they move to the outside walls and distribute themselves throughout the building. Carefully check areas with moisture, such as pipes, faucets, air conditioners, refrigerators, drains, leaking roofs, etc.

- A. Ability to disperse
- B. Pre-baiting
- C. Multiple colonies
- D. Around heat
- E. None of the Above or All of the Above

#### Prevention

66. When insecticides are prohibited around high-tech equipment and in health areas, use sticky tapes, double-faced adhesive tapes, and \_\_\_\_\_ (glue side out) wrapped around objects as barriers.

- A. Masking tape
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

67. Use a ring \_\_\_\_\_, non-hardening glues, sticky dust mats, or glue boards under equipment legs.

- A. Masking tape.
- B. Petroleum jelly
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

68. Seal cracks and voids with \_\_\_\_\_ after applying low residual repellent insecticides such as chlorpyrifos (Dursban) or Diazinon.

- A. Masking tape.
- B. Petroleum jelly
- C. Caulking compound
- D. Long term
- E. None of the Above or All of the Above

#### Insecticides

69. In areas of active colonies, treat walls and ceiling voids through cracks and crevices with \_\_\_\_\_ and make bait placements.

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

70. Keep the ants in the area long enough to get the \_\_\_\_\_ to the main colony where the workers, larvae and queens are poisoned. (A delayed-action stomach poison is recommended.)

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above



71. Repellent insecticides, such as \_\_\_\_\_, will move the colonies, spreading them further throughout the building.

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

72. Research has shown that it is best to use bait placement only where \_\_\_\_\_ are found. This ensures feeding, since some ants have not been able to find the bait even when only one inch away from the bait stations.

- A. Active ant trails
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Non-repellent boric acid dust
- E. None of the Above or All of the Above

73. Intersect the ant trail with bait on a cotton swab taken from the station to ensure instant feeding. \_\_\_\_\_ may change during the season due to changing needs of the developing colonies. An effective bait is a 99 percent boric acid formulation mixed at a 5 percent concentration by weight in mint apple jelly (about two level tablespoons of powdered boric acid per 10 ounces of mint apple jelly). Another bait is 2 percent boric acid and 98 percent light corn syrup.

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

#### Methoprene

74. A commercial bait called \_\_\_\_\_ (Pharorid) is marketed for use by pest control operators in a bait that consists of liver, honey, and sponge cake. It is often difficult to use the bait ants prefer; as ants feed on one compound, another compound placed less than 1/4-inch away will be ignored until the ants spill over into the second bait.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

#### Boric Acid

75. Boric acid and methoprene baits work slowly, sometimes taking 15 to 40 weeks or more before ant eradication. A bait containing \_\_\_\_\_ (same as in Maxforce roach bait stations) gives quicker results, 2 to 35 days, according to certain pest control operators.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

76. Bait stations may include jumbo size plastic drinking straw sections, medicine (pill) dispensing cups, plastic vial caps and/or drafting (masking) tape. Placement can be made on the rear lip of kitchen counters, at plumbing pipe-wall junctions, on window sills, behind wall electrical outlets, above door frames, etc., in less accessible areas of pets or young children. There may be increased or new ant feeding activity during the early part of the \_\_\_\_\_.

No other pesticides, heavy-duty cleaners, or paints should be used during the baiting periods to discourage ant feeding.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

Bendiocarb

77. Applications of \_\_\_\_\_ (Ficam), which is odorless, can give fast eradication of Pharaoh ants if treatments are thorough. Ficam 76 percent WP and 91 percent dust are labeled for licensed commercial and pest control operators.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

78. The bait products most recommended for Pharaoh ant control include: (boric acid plus mint apple jelly (Drax), hydramethylnon (Maxforce), methoprene (Pharorid), bendiocarb (Ficam), propoxur (Baygon) and \_\_\_\_\_ (Pro-Control)).

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

79. After bait stations are placed, one will see ants trailing to and from these bait stations. Do not spray or disturb the ants or \_\_\_\_\_. Ants must be allowed to carry the bait back into their nest where the active ingredient in the bait will eliminate the colony.

- A. Methoprene
- B. Bait stations
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

80. Usually, Pharaoh ant control is best achieved by a licensed pest control operator or applicator who is trained, experienced, and has the proper equipment--an Applicator like yourself. Before using an \_\_\_\_\_, always read the label, follow directions and safety precautions.

- A. Methoprene
- B. Bait stations
- C. Bendiocarb
- D. Insecticide
- E. None of the Above or All of the Above

Red Imported Fire Ants RIFA *Solenopsis invicta*

81. Red imported fire ants (RIFA) are medium sized ants that build mounds of soft soil rarely larger than\_\_\_\_\_. The ants emerge out aggressively when they are disturbed and sting. Their sting usually leaves a white pustule the next day. Harvester ants are much larger and make large bare areas with a single entrance hole to the colony. Leaf cutter ants are also much larger and do not have a distinctive built-up mound, but do have many entrance holes over a very large area. Other small to medium-sized ants that build small mounds will actually run away from disturbances and aren't fire ants.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

82. Some confusion comes from the fact that red imported fire ants come in a variety of sizes (\_\_\_\_\_) with the largest workers 2 or 3 times larger than the smallest. Native fire ants are less common in imported fire ant infested areas. *Solenopsis geminata* is the most common native fire ant species encountered. To the unaided eye, they are almost identical to red imported fire ants. However, *geminata* will have a few larger workers with large, square-shaped heads. These ants specialize in collecting and milling seeds.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

Queens

83. Single queen (monogyne form): only one queen per colony or mound; slightly larger workers; members of colonies are territorial; mound densities usually\_\_\_\_\_; fewer ants per acre.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

84. Multiple queen (polygyne form): dozens of queens per colony; smaller average worker ants; colonies are interconnected; mound densities 100 to\_\_\_\_\_; more ants per acre.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

Difference between Fire Ants and Termites

85. Although most ants are recognizable, some forms of winged ants are often confused with termites, especially during the termite swarming season. The front pair of wings on ants is \_\_\_\_\_, while the four wings of termites are approximately the same size.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

86. Ants have "elbowed" antennae and a " \_\_\_\_\_," being narrow between the thorax and hind abdominal segments. Termites have the thorax and abdomen broadly connected and their antennae are straight and hair-like.

- A. Thin waist
- B. 1/16 to almost 1/4 inch long
- C. Hair-like
- D. Abdomen
- E. None of the Above or All of the Above

#### History

87. Where are Fire Ants From?

Fire ants are from South America. They entered the U.S. through \_\_\_\_\_, probably in soil used for ships' ballast. They were accidentally introduced around the 1930s and have been spreading ever since.

- A. Texas
- B. Mobile, Alabama
- C. 1,000+ per acre
- D. Pacific Coast
- E. None of the Above or All of the Above

We Didn't Used to Have Fire Ants When I Was a Child. Why Do We Have Them Now?

88. Red imported fire ants are very aggressive, efficient competitors. Since the 1950s, the ant has been spreading northward, westward, and southward from \_\_\_\_\_. Their northward spread depends on temperature.

- A. Texas
- B. Mobile, Alabama
- C. 1,000+ per acre
- D. Pacific Coast
- E. None of the Above or All of the Above

89. Cold winters tend to push them back. Western spread is largely dependent on \_\_\_\_\_. They will mostly be found in urban areas, creek bottoms, irrigated land, etc. The entire Pacific Coast is fertile ground for infestation. The bad news is that they are probably here to stay. The good news is that with relatively little cost and effort, you can prevent most of the problems they cause using currently available methods.

- A. Texas
- B. Water
- C. Temperature
- D. Pacific Coast
- E. None of the Above or All of the Above

#### Medical Importance

Why Do Fire Ants Appear to Sting at the Same Time?

90. Fire ants are sensitive to \_\_\_\_\_ or movement and tend to sting when the object they are on moves.

- A. Texas
- B. Water
- C. Temperature
- D. Vibration
- E. None of the Above or All of the Above

### Is Their Sting Lethal?

91. Only to a very small portion of the population who experience severe allergic reactions. Fire ants inflict a fiery sting, which causes a \_\_\_\_\_ or pustule to form at the site of each sting after several hours. The blisters become itchy while healing and are prone to infection if broken.

- A. Small blister
- B. Swelling and pain
- C. Temperature
- D. Pacific Coast
- E. None of the Above or All of the Above

### If You are Stung by a Fire Ant:

92. Apply a cold compress to relieve the \_\_\_\_\_. Gently wash the affected area with soap and water and leave the blister intact. People who are allergic to insect stings should seek medical attention immediately. On rare occasions, fire ant stings can cause severe acute allergic reaction (anaphylaxis).

- A. Small blister
- B. Thickening of the tongue
- C. Temperature
- D. Swelling and pain
- E. None of the Above or All of the Above

### What Should I do if I Get Stung?

93. There really isn't much you can do, except watch the area for excessive swelling, itching, or redness, or other symptoms like shortness of breath, \_\_\_\_\_, sweating, etc., that could indicate a systemic allergic reaction.

- A. Texas
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

### Are They as Lethal as Killer Bees?

94. They both attack en masse and both can cause fatal allergic reactions, but that's where similarities end. \_\_\_\_\_ can overwhelm and kill even healthy, non-allergic people, but encounters are rather rare.

- A. Africanized bees
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

95. \_\_\_\_\_ can't overwhelm a healthy, mobile person and even hundreds of stings are rarely fatal. However, fire ant mounds are extremely common. So the chance of being killed by bees is higher if you come across them, but the chance of being killed by fire ants is higher only if you are highly allergic or cannot quickly get away from them. The chances of either are very small.

- A. Africanized bees
- B. Water
- C. Fire ants
- D. Thickening of the tongue
- E. None of the Above or All of the Above

#### Impact of Red Imported Fire Ants

96. There are things being done, but it's not an easy problem to solve. First, imported fire ant control using today's methods provides only \_\_\_\_\_ and costs money on a per- area basis.

- A. Temporary suppression
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

97. Research is being supported to document the impact of the imported fire ant on wildlife and evaluate ant \_\_\_\_\_. While some wildlife species are undoubtedly declining due to fire ants, they are also declining due to land use practices and weather extremes, for instance. There is great hope that the biological control agents currently under investigation will spread into wildlife areas and permanently reduce imported fire ant populations there.

- A. Periodic treatments
- B. Water
- C. Temperature
- D. Management approaches
- E. None of the Above or All of the Above

#### Are the Ants Killing my Trees?

98. The ants are mainly using the trees as a nesting place. Ants in mounds occurring at the base of the trunk are probably not causing any damage to well-established trees and may actually be helpful by preying on other insects that are feeding on parts of the tree and \_\_\_\_\_ by tunneling in the soil.

- A. Periodic treatments
- B. Water
- C. Reducing compaction
- D. Thickening of the tongue
- E. None of the Above or All of the Above

#### Why Do Fire Ants Get into Laundry?

99. When it floods they move in into any good dark place but in \_\_\_\_\_, they tend to move to moist areas.

- A. Reducing compaction
- B. Water
- C. Periodic treatments
- D. Drought conditions
- E. None of the Above or All of the Above

#### Fire Ant Management Approaches

##### 100. Can Fire Ants be Eradicated Completely?

Red imported fire ants cannot be eradicated completely with methods available today. They can be eliminated temporarily from small areas, with proper \_\_\_\_\_.

- A. Reducing compaction
- B. Water
- C. Periodic treatments
- D. Control methods
- E. None of the Above or All of the Above

What is the Best Product for Killing Fire Ants?

101. There probably is no single "best" method for managing RIFA. \_\_\_\_\_ does not like to endorse any specific products but will mention products, that we have tested in the field.

- A. Reducing compaction
- B. Periodic treatments
- C. Temperature
- D. Technical Learning College
- E. None of the Above or All of the Above

How Do I Eliminate Them from My Yard?

102. There is no single, easy answer for every situation. Most people with more than a handful of mounds will be most satisfied with just bait or the \_\_\_\_\_.

- A. Texas
- B. Water
- C. Technical Learning College
- D. Thickening of the tongue
- E. None of the Above or All of the Above

What is the "Two-Step Method" for Controlling Imported Fire Ants?

103. One proven method of reducing imported fire ant populations in heavily-infested home lawns and ornamental turf is called the " \_\_\_\_\_ " of fire ant control. Briefly, it's the: once or twice per year broadcast application of a bait product (e.g., Amdro®, Logic®, Award®, or Ascend® and others) and waiting several days to a week before.

- A. Two-Step Method
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

104. Otherwise, wait for the bait treatment to take effect. This method reduces the \_\_\_\_\_ on use of individual mound treatments and is suitable for treating larger areas.

- A. Over-reliance
- B. Two-Step Method
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

Why Tackle Fire Ants in the Fall?

105. An ideal time to apply bait-formulated fire ant insecticides is from late August through October to allow the \_\_\_\_\_ to reduce fire ant populations over the winter.

- A. Over-reliance
- B. Two-Step Method
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

106. \_\_\_\_\_ can work quite well if the ants are out foraging to pick it up. It is best to treat in the late afternoon or evening. You will need to know if thunderstorms are a possibility, be sure there is no dew on the grass, and make sure the bait will not have to sit in the hot sun all day. Most of the bait will be picked up by morning.

- A. Over-reliance
- B. Two-Step Method
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

Which Bait do I Use? Baits Take Too Long. Baits Don't Work.

107. The key to using baits is patience. Applied properly and using a fresh bait product, a broadcast application will give 80% to 90% control, rarely 100%. For instance, Amdro® is the fastest acting, giving maximum control in 3 to 6 weeks. Logic® or Award®, when applied late in the year, may take several months to provide \_\_\_\_\_, but will suppress ant colonies for a year or more.

- A. Over-reliance
- B. Maximum control
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

108. One approach, for heavy imported fire ant infestations is to treat with \_\_\_\_\_® first for fast knockdown, then come back with Logic®/Award® for longer durations of control as ants start to re-infest the area some months in the future. Other baits include Siege®, Award®, Ascend®, and Raid® Fire Ant Killer.

- A. Amdro
- B. Two-Step Method
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

109. The baits do work when used properly. The thing to remember is the ants collect the bait as a source of food. Baits will go rancid in a relatively short time, as does other food that contains \_\_\_\_\_.

- A. Amdro
- B. Oil
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

110. Additionally, putting the bait out at the right time of day and at the correct rate (1 to 1 1/2 lb/acre) is critical. If the ants are not actively foraging, they will not pick up the bait. The best times to make bait applications generally are midmorning after the dew has evaporated, or late afternoon on hot days when the air begins to cool. Always read and follow closely the directions provided on the product label before using any \_\_\_\_\_.

- A. Pesticide
- B. Oil
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

111. The United States Department of Agriculture is conducting research on the \_\_\_\_\_ fly as one of several potential biological control agents for helping to control fire ants. However, this research is in the beginning stages. We may be years away from any type of control these flies may provide.

- A. Amdro
- B. Phorid
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above



112. Even in South America, where the imported fire ants and parasitic flies come from, the flies only affect about 3% of the ants in a colony. Some biological control agents that have already been marketed include predaceous mites, parasitic nematodes, and the fungus called \_\_\_\_\_.

- A. Amdro
- B. Phorid
- C. Insecticides
- D. *Beuveria bassiana*.
- E. None of the Above or All of the Above

#### Why Don't We Use Mirex?

113. Mirex was an effective ant killer, but it was one of the most persistent compounds ever made. Mirex belongs to a group of chemicals that have mostly been banned from sale or use because their ingredients, or their \_\_\_\_\_, accumulated in biological systems.

- A. Degradation products
- B. Spectracide
- C. Raid
- D. Toxins
- E. None of the Above or All of the Above

#### Over-the-Counter Baits

114. Over-the-counter baits at consumer retailers are limited to Amdro and Combat (hydramenthylnon); Raid Ant Bait (abamectin) - which is now an old product; \_\_\_\_\_

- A. Degradation products
- B. Spectracide
- C. Raid
- D. Toxins
- E. None of the Above or All of the Above

#### Step One: Baits

115. Fire ant baits consist of pesticides on processed corn grits coated with soybean oil. Worker ants take the bait back to the colony, where it is shared with the queen, which then either dies or becomes infertile. Baits currently available include Amdro, Siege, Logic, Award, Ascend, or \_\_\_\_\_ Fire Ant Killer. Baits are slow-acting and require weeks or months to achieve 80% to 90% control.

- A. Degradation products
- B. Spectracide
- C. Raid
- D. Toxins
- E. None of the Above or All of the Above

#### Bait Products

116. Bait products can be used to easily treat large areas effectively. They contain extremely low amounts of \_\_\_\_\_.

- A. Degradation products
- B. Spectracide
- C. Raid
- D. Toxins
- E. None of the Above or All of the Above

117. For best results:

\* Use fresh bait, preferably from an unopened container.

\* Apply when the ground and grass are dry and no rain is expected for the next\_\_\_\_\_.

\* Apply when worker ants are actively looking for food, usually in late afternoon or in the evening.

- A. 30 minutes
- B. Spectracide
- C. Raid
- D. 24 to 48 hours
- E. None of the Above or All of the Above

118. To test, put a small pile of bait next to a mound and see if the ants have found it within

\_\_\_\_\_.

- A. 30 minutes
- B. Spectracide
- C. Raid
- D. 24 to 48 hours
- E. None of the Above or All of the Above

Step Two

119. Individual Mound Treatments

Granular products are relatively fast acting and usually require putting granules on and around the mound and then sprinkling \_\_\_\_\_ of water on them without disturbing the mound. Closely follow directions on the label.

- A. 30 minutes
- B. 1 to 2 gallons
- C. 2 to 3 gallons
- D. 24 to 48 hours
- E. None of the Above or All of the Above

120. Organic: Pouring \_\_\_\_\_ of very hot or boiling water on the mound will kill ants about 60% of the time. Otherwise, the ants will probably just move to another location.

- A. 30 minutes
- B. 1 to 2 gallons
- C. 2 to 3 gallons
- D. 24 to 48 hours
- E. None of the Above or All of the Above

121. Ghost ants look like tiny, white apparitions who suddenly appear and seem to disappear just as quickly. Workers are 1/16 inch (1.5 mm) in length. The legs, pedicel, gaster, and antennae are pale, almost translucent, in color and the head and thorax are darker. For this reason, the ghost ant is also known in some areas as the\_\_\_\_\_.

- A. Black-headed ant
- B. Spectracide
- C. Pharaoh ant
- D. 24 to 48 hours
- E. None of the Above or All of the Above

Reproduction

122. Colonies of ghost ants tend to be moderate to large in size and multiple queens are present. New colonies are started by "budding" where one or more reproductive females, several workers, and possibly some brood (larvae and pupae) migrate to a new nesting site. Their biology is similar to the \_\_\_\_\_.

- A. Black-headed ant
- B. Spectracide
- C. Pharaoh ant
- D. 24 to 48 hours
- E. None of the Above or All of the Above

Distribution

123. \_\_\_\_\_ are found in warm climates and can be a big problem in tropical areas of the world.

- A. Black-headed ant
- B. Spectracide
- C. Pharaoh ant
- D. Ghost ants
- E. None of the Above or All of the Above

124. Ghost ants have been reported in many areas of the United States, as well as in Canada, Puerto Rico, and the \_\_\_\_\_.

- A. Caribbean Islands
- B. Florida
- C. Pharaoh ant
- D. Ghost ants
- E. None of the Above or All of the Above

125. Foraging activity indoors is typically concentrated in the kitchen or bathroom, with a high need of water, although any room can be affected. The nesting habits are similar to Pharaoh ants. Outside, they can be found nesting in soil of \_\_\_\_\_, under stones, under and inside logs and firewood.

- A. Potted plants
- B. Spectracide
- C. Branches of trees
- D. Ghost ants
- E. None of the Above or All of the Above

126. They also nest in cavities and crevices in trees and shrubs. Ghost ants will enter structures, usually by trailing from nests along the foundation or by \_\_\_\_\_ and/or shrubs that contact the structure.

- A. Potted plants
- B. Spectracide
- C. Branches of trees
- D. Ghost ants
- E. None of the Above or All of the Above

127. Ghost ants will also forage on \_\_\_\_\_ although not as readily as they will on sweets. Trails are often very difficult to see due to the tiny size and pale coloration of these ants.

- A. Potted plants
- B. Spectracide
- C. Branches of trees
- D. Grease deposits
- E. None of the Above or All of the Above

Foraging and feeding

128. Workers follow scent trails along the edges of structures for protection. They can often be spotted trailing under the \_\_\_\_\_ and up the sides of the building, searching for entry points.

- A. Potted plants
- B. Butterfly houses
- C. Edge of carpets
- D. Branches of trees
- E. None of the Above or All of the Above

Implication

129. Due to their predacious nature ghost ants are a particular problem in \_\_\_\_\_ and other facilities that raise or store live insects. They will attack the valued insects and will carry off the eggs and larvae of flies and butterflies.

- A. Potted plants
- B. Butterfly houses
- C. Edge of carpets
- D. Branches of trees
- E. None of the Above or All of the Above

Recommended Products and Treatment

130. \_\_\_\_\_ is the preferred treatment over typical residual spraying, to eliminate the entire colony. The use of residual sprays or dusts will cause stress on the colonies, causing them to split into sub-colonies that scatter to other areas in the structure. This is also called budding.

- A. Budding
- B. Butterfly houses
- C. Baiting
- D. Slow-acting
- E. None of the Above or All of the Above

131. After spraying, the problem can be worse than at the beginning. When you bait, you will want a \_\_\_\_\_ bait.

- A. Budding
- B. Butterfly houses
- C. Carbohydrates sugars
- D. Slow-acting
- E. None of the Above or All of the Above

132. Ants require \_\_\_\_\_, proteins, and greases. They find a variety of these sources in nature. Examples are: other insects (proteins and greases), nectar, aphid honeydew, and plant products (sugar and carbohydrates).

- A. Budding
- B. Butterfly houses
- C. Carbohydrates sugars
- D. Slow-acting
- E. None of the Above or All of the Above

133. The Recommended Products for the Protein/Grease Eating Cycle Would Be:

\* \_\_\_\_\_ Ant Bait Stations

- A. Potted plants
- B. Butterfly houses
- C. Maxforce
- D. Gel Bait
- E. None of the Above or All of the Above

134. The Recommended Products for the Sugar Eating Cycle Would Be:

\_\_\_\_\_ Granular Ant Bait is an excellent choice for the outside, feeding all their dietary needs.

- A. Uncle Albert's
- B. Dr. Moss
- C. Maxforce
- D. Gel Bait
- E. None of the Above or All of the Above

Key

135. The key to using baits is patience. Applied properly and using a fresh bait product, a broadcast application will give 80% to 90% control, rarely 100%. For instance, Amdro® is the fastest acting, giving maximum control in 3 to 6 weeks. Logic® or Award®, when applied late in the year, may take several months to provide maximum control, but will suppress ant colonies for a year or more. One approach, for example, for heavy imported fire ant infestations is to treat with Amdro® first for fast knockdown, then come back with Logic®/Award® for longer duration of control as ants start to re-infest the area some months in the future. Other baits include Siege®, Award®, Ascend®, and \_\_\_\_\_.

- A. Uncle Albert's
- B. Dr. Moss
- C. Maxforce
- D. Raid® Fire Ant Killer
- E. None of the Above or All of the Above

Regular Inspections

136. Regular inspections and service are necessary to find and treat new colonies as they move in from neighboring properties. These perimeter treatments can keep your home or business pest free. We suggest a regular treatment on the exterior with \_\_\_\_\_, Tempo, or Suspend.

- A. Uncle Albert's
- B. Demand
- C. Maxforce
- D. Raid® Fire Ant Killer
- E. None of the Above or All of the Above

Locate and Treat Colonies

137. Drench colonies living in the soil or under items on the exterior with Demand, Suspend, or \_\_\_\_\_. With mulch, be sure to rake it back to get good penetration where colonies may be thriving. Follow up with a broadcast application of granule such as Talstar G.

- A. Demand
- B. Tempo
- C. Maxforce
- D. Uncle Albert's
- E. None of the Above or All of the Above

138. If you know with some certainty where the colony is living inside, then you can treat them directly by drilling a small hole into the wall void at the base (directly above the baseboard) and injecting a dust, such as \_\_\_\_\_, Drione, or Borid Turbo.

- A. Demand
- B. Delta Dust
- C. Maxforce
- D. Uncle Albert's
- E. None of the Above or All of the Above

139. General tips for limiting ant infestations include:

\* Consider re-landscaping to avoid using plants that are prone to \_\_\_\_\_.  
At the very least, treat such plants for aphids regularly.

- A. Demand
- B. Delta Dust
- C. Maxforce
- D. Uncle Albert's
- E. None of the Above or All of the Above

140. Check carpet edges and \_\_\_\_\_. Inspect electrical outlets and telephone jacks, especially in the kitchen and bathroom. Check walls around possible entryways (window and door frames, utility lines, weep holes, etc.) for trails of ants as well as along edges and corners. Follow any trails of ants back to their nest. If the ants are associated with an outside/perimeter wall, then go outside and look for ants trailing along the wall on the opposite side.

- A. Cabinets
- B. Tempo
- C. Maxforce
- D. Shoe moldings
- E. None of the Above or All of the Above

141. Place such prebaits where ants have been seen, in electrical outlet boxes, along carpet edges, in food \_\_\_\_\_, etc.

- A. Cabinets
- B. Tempo
- C. Maxforce
- D. Shoe moldings
- E. None of the Above or All of the Above

142. Outside, inspect along the foundation wall, patio, and sidewalks by pulling back the grass and/or mulch. Then pull back any mulch at the base of trees and shrubs with a rake. Check debris in tree/shrub crotches using a \_\_\_\_\_ because fire ants also nest here.

- A. Cabinets
- B. Foundation
- C. Screwdriver
- D. Shoe moldings
- E. None of the Above or All of the Above

143. Turn over any stones, bricks, logs, firewood, and debris on the ground especially near the \_\_\_\_\_; as much as possible such items should be eliminated.

- A. Cabinets
- B. Screwdriver
- C. Foundation
- D. Shoe moldings
- E. None of the Above or All of the Above

144. Treat nests with an appropriately labeled pesticide. If there is continual ghost ant invasion from the outside, a perimeter treatment using a \_\_\_\_\_ or wettable powder formulation of pyrethroid should be applied.

- A. Cabinets
- B. Screwdriver
- C. Foundation
- D. Microencapsulated
- E. None of the Above or All of the Above

IPM Control Program

145. An Integrated Pest Management (IPM) approach offers a greater chance for control of ants. An IPM approach incorporates all available control methods into a pest management program. IPM methods include identification, \_\_\_\_\_, sanitation, exclusion, and chemical strategies.

- A. Inspection
- B. Screwdriver
- C. Foundation
- D. Microencapsulated
- E. None of the Above or All of the Above

Collection Tip

146. One way to collect ants for identification is to place a dab of honey or sugar water in the center of an index card. Place the index card covered in ants into a \_\_\_\_\_, then place the bag in the freezer.

- A. Cabinets
- B. Plastic bag
- C. Foundation
- D. Inspection
- E. None of the Above or All of the Above

Leaf Cutter Ants *Atta texana*

147. Leaf cutter ants are \_\_\_\_\_; like fire ants, they establish a mound outside. Found mainly in the United States in south central and eastern Texas and into parts of western Louisiana, they are also called "cut ants" or "parasol ants."

- A. Cabinets
- B. Mounded ants
- C. Fire ants
- D. Shoe moldings
- E. None of the Above or All of the Above

148. Leaf cutter ants are mainly a rural, agriculture pest, but can be found in \_\_\_\_\_. Leaf cutter ants usually come to your attention when plants, trees or shrubs are being stripped of their leaves. They usually select one type of plant to feed off, ignoring others.

- A. Subdivisions
- B. Mounded ants
- C. Western Louisiana
- D. Shoe moldings
- E. None of the Above or All of the Above

149. Leaf-cutter ants are major agricultural pests in Central and \_\_\_\_\_. It has been estimated they do \$1 billion damage per year in crop losses in North and South America.

- A. Cabinets
- B. South America
- C. Western Louisiana
- D. Shoe moldings
- E. None of the Above or All of the Above

150. Although primarily an agricultural pest, this insect on occasion may invade the home for cereals. In the United States, the Texas leaf-cutting ant occurs in \_\_\_\_\_ and Louisiana. This ant is believed to cause a total yearly loss of \$5 million in the United States.

- A. Texas
- B. South America
- C. Western Louisiana
- D. Shoe moldings
- E. None of the Above or All of the Above

#### Appearance

151. The worker ants range in size from \_\_\_\_\_. They are red, with two nodes. The winged reproductives or swarmers produced by the leaf cutter ant colonies are quite big. The females are well over 2 inches long.

- A. 1/16"-to 1/2 "
- B. Mounded ants
- C. Western Louisiana
- D. 2 inches
- E. None of the Above or All of the Above

#### Inspection

152. A nest will have many entrances with craters of loose soil that have been deposited above. During the summer, workers forage during the \_\_\_\_\_.

- A. Night
- B. Mounded ants
- C. Western Louisiana
- D. Daytime
- E. None of the Above or All of the Above

153. They will forage in the \_\_\_\_\_ during the spring and fall, unless it is rainy or overcast. A "trail" of leaves can lead you to a nest, as well. Try to discover the entrances to the nest for possible treatment.

- A. Daytime
- B. Mounded ants
- C. Western Louisiana
- D. Night
- E. None of the Above or All of the Above

#### Diet

154. Using their, \_\_\_\_\_ they completely strip trees and other plants of their foliage, carrying back the leaves to their vast underground nests, where millions of ants live. It is in these chambers that leaf-cutters do something very unusual with the leaves that they bring back to the nest.

- A. Scissor-like jaws
- B. Pulp-like material
- C. Leaf-cutters
- D. Containing fungus
- E. None of the Above or All of the Above

155. The leaves are not eaten; they are chewed into a \_\_\_\_\_, which soon sprouts a fungus.

- A. Scissor-like jaws
- B. Pulp-like material
- C. Leaf-cutters
- D. Containing fungus
- E. None of the Above or All of the Above



#### Nests

156. The nest may cover 3,000 to 4,500 square feet and may be 8 feet or more deep. A nest has many chambers \_\_\_\_\_, perhaps two to three dozen, and many dozens of entrances.

- A. Scissor-like jaws
- B. Pulp-like material
- C. Leaf-cutters
- D. Containing fungus
- E. None of the Above or All of the Above

#### Beneficial Insects

157. Leaf-cutter ants help maintain the health of the environment. The by-products from the leaves, fungi, and ant wastes \_\_\_\_\_.

- A. Scissor-like jaws
- B. Pulp-like material
- C. Fertilize the soil
- D. Containing fungus
- E. None of the Above or All of the Above

#### Recommended Products and Treatments

158. It is recommended that you drench the mounds with a weakened diluted \_\_\_\_\_; such as Conquer. However, the nest may be deep, and often located near bodies of water, so if in doubt, call your local extension agency for their recommendations.

- A. Scissor-like jaws
- B. Pulp-like material
- C. Leaf-cutters
- D. Containing fungus
- E. None of the Above or All of the Above

#### History

159. Since the early 1900s, \_\_\_\_\_ have spread to almost every corner of the globe by hitchhiking on cargo ships. The invaders live in unusually cooperative super colonies that span states, as in California, and whole regions, like the entire Mediterranean coast, according to Argentine ant specialist Neil Tsutsui of the University of California at Davis.

- A. Scissor-like jaws
- B. Pulp-like material
- C. Inbred animals
- D. Argentine ants
- E. None of the Above or All of the Above

160. However, new research is revealing that the impressive expansion of what has become the most common household pest in the world has also led to intense inbreeding that's now causing the ants to become \_\_\_\_\_ toward their own kind.

- A. Unnaturally hostile
- B. Inbred animals
- C. Leaf-cutters
- D. Argentine ants
- E. None of the Above or All of the Above

161. "It's sort of an unusual state of affairs," said Tsutsui of the Californian super colony. "Because most invading Argentine ants sprang from a few ants that came on ships, they tend to have a limited variety of genes in their colonies, like any \_\_\_\_\_ would. That's very different from Argentine ants in their native Argentina, however", said Tsutsui.

- A. Scissor-like jaws
- B. Inbred animals
- C. Leaf-cutters
- D. Argentine ants
- E. None of the Above or All of the Above

162. "In their native habitat, Argentine ant colonies can hold a wide array of ants with diverse genes. That makes the ants remarkably tolerant of Argentine ants that are \_\_\_\_\_, something they can detect through odor", explained biologist David Queller of Rice University.

- A. Unnaturally hostile
- B. Genetically different
- C. Leaf-cutters
- D. Inbred animals
- E. None of the Above or All of the Above

163. "Because the globe-trotting ants have formed very large colonies in foreign lands with very little genetic diversity, they now react \_\_\_\_\_ to ants that smell like they are not part of their big, inbred family", said Tsutsui. "

- A. Unnaturally hostile
- B. Genetically different
- C. Unusually aggressively
- D. Inbred animals
- E. None of the Above or All of the Above

164. "The irony of the situation is that the \_\_\_\_\_ actually could benefit from the influx of new genes", said Tsutsui. "In large gene pools there are often useful genes hidden in the population that help species survive disease outbreaks or changes in their environment. By attacking the more genetically diverse ants, the super colonies could be hurting their long-term survival".

- A. History of life
- B. Argentine ant
- C. Super colonies
- D. Odorous house ant
- E. None of the Above or All of the Above

165. "On a more theoretical level, it's just fascinating to watch a species switch from being unusually cooperative to being aggressive", said Queller, "because those are two fundamental survival strategies seen throughout the \_\_\_\_\_".

- A. History of life
- B. Argentine ant
- C. Super colonies
- D. Odorous house ant
- E. None of the Above or All of the Above

Characteristics

166. Size: About 1/8"-inch long.

Color: Brown. It is most often confused with the \_\_\_\_\_, but the node of the Argentine ant has a sharp, pointed peak, while that of the odorous house ant is flat in shape and is hidden by the gaster.

- A. History of life
- B. Argentine ant
- C. Super colonies
- D. Odorous house ant
- E. None of the Above or All of the Above

167. The Argentine ant is a one node, small, shiny, brown ant with only one size of worker.

Workers are usually about 1/12 to \_\_\_\_\_ long.

- A. History of life
- B. 1/8 inch
- C. Super colonies
- D. 1/4 inch
- E. None of the Above or All of the Above

Habitat and Behavior

168. This species is common in the Southeastern US, and is a major problem in \_\_\_\_\_.

- A. Southern California
- B. Southeastern US
- C. Super colonies
- D. California
- E. None of the Above or All of the Above

Super Huge Colonies

169. An Argentine ant colony can suffer the loss of 99% of the colony's individuals, and the colony can still survive and rebuild. No significant natural enemy of this species currently exists in the \_\_\_\_\_.

- A. Southern California
- B. Southeastern US
- C. United States
- D. California
- E. None of the Above or All of the Above

Control

170. This Ant is Successful and Very Hard to Control Because: Different Argentine ant colonies in a same general locale are not enemies. Even the many queens in a \_\_\_\_\_ or separate colonies are friendly to each other.

- A. Single colony
- B. Infest or colonize
- C. Argentine ants
- D. Omnivorous
- E. None of the Above or All of the Above

171. Argentine ants are not too "picky" when choosing a suitable site to \_\_\_\_\_.

They readily move their nests during the changing seasons and other conditions.

- A. Single colony
- B. Infest or colonize
- C. Argentine ants
- D. Omnivorous
- E. None of the Above or All of the Above

172. These pests are \_\_\_\_\_; they seem to never be in short supply of food.

- A. Single colony
- B. Infest or colonize
- C. Argentine ants
- D. Omnivorous
- E. None of the Above or All of the Above

173. Each colony of \_\_\_\_\_ contains a multitude of workers.

- A. Single colony
- B. Infest or colonize
- C. Argentine ants
- D. Omnivorous
- E. None of the Above or All of the Above

174. Each worker is more courageous and harder worker than most ants. Creatures that attempt to prey on \_\_\_\_\_ are confronted with an army of stubborn bugs that never run from a fight!

- A. Single colony
- B. Infest or colonize
- C. Argentine ants
- D. Omnivorous
- E. None of the Above or All of the Above

175. The queens of most ant species are usually \_\_\_\_\_ machines. The queen ant of Argentines actually helps in the care, grooming, and feeding of her young.

- A. Single colony
- B. Infest or colonize
- C. Egg-laying
- D. Omnivorous
- E. None of the Above or All of the Above

176. A \_\_\_\_\_ (as seen with fire ants and carpenter ants) has about 1 chance in 1,000 of surviving and successfully reproducing. The Argentine ant queen always succeeds!

This ant pest has no natural enemies (of any importance) in the United States.

- A. Single colony
- B. Infest or colonize
- C. Argentine ants
- D. Swarmer reproductive
- E. None of the Above or All of the Above

#### Control of Argentine Ants

177. Argentine ants are difficult to control for the following reasons:

All ants are \_\_\_\_\_ (complete metamorphosis), having an egg, larval, pupal, and adult stage. Foraging adult ants are only a fraction of the total colony. Broadcast spraying around the perimeter of the house targets only the foraging adult ants in the colony. Control will be temporary since the colony will simply send out more foraging ants when others are killed.

- A. Southern California
- B. Holometabolous
- C. Super colonies
- D. California
- E. None of the Above or All of the Above

178. The colony supports \_\_\_\_\_ if ant populations are large. If a broadcast spray around the house is the primary method of control, the Argentine ant workers and queens will scatter. When the ants scatter in sufficient numbers, new colonies can be formed. The one main colony can split into several smaller ones, all of which have the potential to grow. Thus, broadcast spraying alone can make the problem worse.

- A. Southern California
- B. Multiple queens
- C. Super colonies
- D. Not territorial
- E. None of the Above or All of the Above

179. Unlike many other \_\_\_\_\_, Argentine ants from different colonies do not fight. Therefore, their spread is less limited because they are not territorial.

- A. Ant species
- B. Multiple queens
- C. Super colonies
- D. Not territorial
- E. None of the Above or All of the Above

180. After the chemical breaks down, the ants will return because they are constantly \_\_\_\_\_ for food, water, and nesting sites.

- A. Scouting and foraging
- B. Southeastern US
- C. Super colonies
- D. California
- E. None of the Above or All of the Above

181. Potted plants are a favorite nesting site. Moving infested pots into the house can create an \_\_\_\_\_.

- A. Southern California
- B. Southeastern US
- C. Super colonies
- D. Indoor infestation
- E. None of the Above or All of the Above

182. These characteristics combine to create a \_\_\_\_\_. Argentine ant control is an ongoing effort.

- A. Chemical strategies
- B. Pest control nightmare
- C. Super colonies
- D. Pest management
- E. None of the Above or All of the Above

#### IPM Control Program

183. An Integrated Pest Management (IPM) approach offers a greater chance for control of the Argentine ant. An IPM approach incorporates all available control methods into a \_\_\_\_\_ program. IPM methods include identification, inspection, sanitation, exclusion, and chemical strategies.

- A. Chemical strategies
- B. Pest control nightmare
- C. Super colonies
- D. Pest management
- E. None of the Above or All of the Above

Collection Tip

184. One way to collect ants for identification is to place a dab of honey or sugar water in the center of an index card. Place the index card covered in ants into a plastic bag, then place the bag in the freezer. The \_\_\_\_\_ will slow the ants down or kill them. When they are immobilized, the ants can be easily tapped into a vial of alcohol and submitted for identification.

- A. Chemical strategies
- B. Pest control nightmare
- C. Cold temperatures
- D. Pest management
- E. None of the Above or All of the Above

Inspection

185. If trails are not obvious, placing an index card with a dab of honey or sugar water where ants have been seen may help locate \_\_\_\_\_ as ants recruit to the sugar source. In general, treatments are not effective if they are not placed where ants are found.

- A. Chemical strategies
- B. Pest control nightmare
- C. Established trails
- D. Pest management
- E. None of the Above or All of the Above

Sanitation

186. Eliminate sources of moisture (such as leaky faucets, plumbing, and free-standing water) and food because these ants are \_\_\_\_\_.

Clean windows of dead insects. These ants will feed on dead insects.

- A. Scavengers
- B. Pest control nightmare
- C. Established trails
- D. Pest management
- E. None of the Above or All of the Above

187. Remove the food source if ants are trailing to food. With a mild detergent, wipe ant trails after food is removed to erase the \_\_\_\_\_. The trail pheromone is a special chemical that foraging ants lay down to guide other foraging ants to food or to a new nesting place.

- A. Scavengers
- B. Pest control nightmare
- C. Established trails
- D. Trail pheromone
- E. None of the Above or All of the Above

Physical Exclusion

188. \_\_\_\_\_ and crevices in the house.

\* Keep branches from coming in contact with your house (ants will walk on them into the house).

- A. Scavengers
- B. Caulk cracks
- C. Established trails
- D. Trail pheromone
- E. None of the Above or All of the Above

#### Chemical

189. Apply chemicals judiciously. Precision spot treatments at points of entry into the house, such as around window sills and door thresholds, may be effective. Broadcast spraying for these ants is unwise. A \_\_\_\_\_ will make the area repellent to ants. Ants will not feed on bait that is placed in the vicinity of a repellent liquid insecticide.

- A. Chemical strategies
- B. Caulk cracks
- C. Liquid insecticide
- D. Pest management
- E. None of the Above or All of the Above

190. Bait stations designed for outdoor and indoor use have been reported to be effective in killing these ants. Look for products with delayed toxicants, such as \_\_\_\_\_ and sulfluramid.

- A. Chemical strategies
- B. Hydramethylnon
- C. Liquid insecticide
- D. Pest management
- E. None of the Above or All of the Above

191. 1 percent \_\_\_\_\_ in a 10 percent sugar solution is a homemade remedy for many sweet-loving ants, such as the Argentine ant.

- A. Chemical strategies
- B. Boric acid
- C. Established trails
- D. Hydramethylnon
- E. None of the Above or All of the Above

#### Odorous House Ant

192. This native species, found throughout the United States, produces a \_\_\_\_\_ when crushed. It smells like a "rotten coconut". I like to call these nasty little critters "Piss Ants".

- A. Chemical strategies
- B. Boric acid
- C. Foul odor
- D. Hydramethylnon
- E. None of the Above or All of the Above

#### Appearance

193. The workers are about 1/16 to 1/8" (2.4 to 3.25mm) long, and their bodies are brown to black. The antennae have \_\_\_\_\_.

- A. Chemical strategies
- B. Boric acid
- C. Foul odor
- D. 12 segments
- E. None of the Above or All of the Above

#### Reproduction

194. Females in the nest lay one egg daily. It takes an average of \_\_\_\_\_ for the young to reach adulthood.

- A. 24 days
- B. Boric acid
- C. Day and night
- D. 12 segments
- E. None of the Above or All of the Above

Inspection

195. They forage \_\_\_\_\_, and their nests can occur in a great variety of situations. Inside, these ants usually construct their nests in wall voids, especially around hot water pipes and heaters, in crevices in sinks, cupboards, etc.

- A. 24 days
- B. Boric acid
- C. Day and night
- D. Hydramethylnon
- E. None of the Above or All of the Above

Diet

196. They are extremely fond of honeydew and attend such honeydew-excreting insects as plantlice (aphids), scale insects, \_\_\_\_\_, etc.

- A. Mealybugs
- B. Boric acid
- C. Day and night
- D. Honeydew
- E. None of the Above or All of the Above

IPM Control Program

197. An IPM approach incorporates all available control methods into a pest management program. IPM methods include identification, \_\_\_\_\_, sanitation, exclusion, and chemical strategies.

- A. Mealybugs
- B. Boric acid
- C. Inspection
- D. Hydramethylnon
- E. None of the Above or All of the Above

198. Ants can be a real nuisance on golf courses when their nesting and \_\_\_\_\_ occur in high-profile areas.

- A. Mealybugs
- B. Mound-building
- C. Inspection
- D. Hydramethylnon
- E. None of the Above or All of the Above

199. Golf superintendents often report problems eliminating these pests with \_\_\_\_\_.

- A. Diazinon
- B. Boric acid
- C. Conventional insecticides
- D. Hydramethylnon
- E. None of the Above or All of the Above

200. The results have been promising, and some of these new products are already catching on with \_\_\_\_\_.

- A. Superintendents
- B. Boric acid
- C. Conventional insecticides
- D. Hydramethylnon
- E. None of the Above or All of the Above

**You are finished with your examination, please fax or e-mail your answer key and registration page to TLC. Always call us to ensure we've received the work.**



## Ant Control CEU Training Awareness Assignment #3 For Names K-Q

You will have 90 days from the start of this course to have successfully passed 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. This assignment is available to you in a Word Format on TLC's Website. You can find online assistance for this course on the in the Search function on Adobe Acrobat PDF to help find the answers. Once you have paid the course fee, you will be provided complete course support from Student Services (928) 468-0665.

Write your answers on the Answer Key found in the front of this assignment.

1. We will require all students to fax or e-mail a copy of their driver's license with the registration form.
2. You will need to pick one of the following four assignments to complete. This selection process is based upon your last name.
3. If your last name begins with an A to D, you will pick assignment number 1, if your last name begins with the letter E to J, you are to complete assignment number 2 and if your last name begins with the letter K-Q, you will pick assignment number 3, and if your last name begins with the letter R-Z, you will pick assignment number 4.

### Multiple Choice, Please select one answer and mark it on the answer key.

1. Even when over 99 percent of foraging workers are \_\_\_\_\_, the colony may rebuild to its original numbers.
  - A. Killed by insecticide sprays
  - B. Destruction of the nest
  - C. Control of ants
  - D. Submitted for identification
  - E. None of the Above or All of the Above
2. Location and total \_\_\_\_\_ is the most direct way to eliminate this ant infestation.
  - A. Killed by insecticide sprays
  - B. Destruction of the nest
  - C. Control of ants
  - D. Submitted for identification
  - E. None of the Above or All of the Above
3. Workers must eat the bait, take it back to the nest, and feed it to the queen and \_\_\_\_\_. This type of control is incompatible with treatments that prevent workers from returning to the nest with the bait.
  - A. Killed by insecticide sprays
  - B. Destruction of the nest
  - C. Control of ants
  - D. Larval ants
  - E. None of the Above or All of the Above

IPM Control Program

4. An Integrated Pest Management (IPM) approach offers a greater chance for \_\_\_\_\_.  
An IPM approach incorporates all available control methods into a pest management program.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

5. IPM methods include identification, inspection, \_\_\_\_\_, exclusion, and chemical strategies.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Sanitation
- D. Submitted for identification
- E. None of the Above or All of the Above

Collection Tip

6. One way to collect ants \_\_\_\_\_ is to place a dab of honey or sugar water in the center of an index card. Place the index card covered in ants into a plastic bag, then place the bag in the freezer. The cold temperatures will slow the ants down or kill them.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

7. When they are immobilized, the ants can be easily tapped into a vial of alcohol and \_\_\_\_\_.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

8. Various Ants and Ant Control Methods Section

The Acrobat Ant, *Crematogaster* sp., \_\_\_\_\_, in stumps, or dead wood, and occasionally invades the home.

- A. Nests under stones
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

9. These ants have a \_\_\_\_\_ that is often held up over their bodies. They feed primarily on honeydew produced by aphids.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

10. Acrobat ants get their name from their unique habit of sometimes running while holding their abdomen above their thorax when disturbed. This gives them the \_\_\_\_\_ who walks on his or her hands.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

11. These ants do not build large, \_\_\_\_\_. Instead, they are more likely to be found nesting in dead tree limbs, hollow logs, fallen trees, old tree stumps, or even the hollow cavity of a tree.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

12. Acrobat ant colonies can be found in any organic litter or mulch and beneath stacks of firewood, under stepping stones, landscape timbers, bird baths, etc. They are often found in shrubs or ornamentals, feeding on insects and the honeydew produced by aphids. All of these areas must be taken into consideration when eliminating \_\_\_\_\_.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

13. Worker ants enter a homes or other structure by crawling along electrical and phone lines. They also access homes from shrubs or trees that are too close to or touching the building or by simply crawling up the outside walls to enter around windows, doors, cracks, crevices, or through vents. It would be very difficult (if not impossible) to \_\_\_\_\_.

- A. Eliminate all access points
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

14. The \_\_\_\_\_, *Iridomyrmex humilus* (Mayr), workers are light to dark brown and generally nest outdoors. It is not common in areas infested by the red imported fire ant.

- A. Heart-shaped abdomen
- B. Argentine Ant
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

15. The Bigheaded Ant, *Pheidole megacephala* (Fabricius). Worker ants have relatively large heads compared to their bodies. They have a \_\_\_\_\_ and 3-segmented clubs.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. 12- segmented antenna
- E. None of the Above or All of the Above

16. Workers of the \_\_\_\_\_, *Paratrechina longicornis*, are fast-running, grayish black ants with long legs and antennae. They nest primarily outdoors, but they will forage in homes.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

17. The little \_\_\_\_\_, *Monomorium minimum*, is a slow-moving, small black ant that is generally not a pest indoors. Workers prey on insects and feed on honeydew produced by sucking-types of insects, such as aphids.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

18. Outdoor colonies are found under stones/rocks, in rotting logs, in lawns, or in open areas. \_\_\_\_\_ can be located by the small craters of fine soil which are deposited at their entrances.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

19. Foraging and Feeding of the Black Ant

They feed on \_\_\_\_\_ as a source of honeydew, plant secretions and are predaceous on other insects. In the home the little black ant will feed on almost any food items it can find, such as grease, oil, meats, sweets, fruits and vegetable materials such as corn meal.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

20. The \_\_\_\_\_ is native to the United States and can be found throughout the country. They are most populous in the eastern half of the U.S., in southern California, and in the bay area of San Francisco.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

21. Workers of the \_\_\_\_\_, *Tetramorium caespitum* (Linnaeus), also resemble the fire ant, but on close examination, the head and thorax are roughened with parallel grooves, rather than being smooth.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

Control

22. To avoid further infestations indoors, all \_\_\_\_\_ in exterior walls should be sealed.

- A. Cracks and gaps
- B. Interior walls
- C. Sweet baits
- D. Areas under stones
- E. None of the Above or All of the Above

23. Infested \_\_\_\_\_ and voids in the outside ground-floor walls may be treated by aerosol injection of a suitable insecticide (CB-80, CB-Invader, CB-Strikeforce) or by an application of a dust formulation (Delta Dust). Baiting, however, may also be necessary.

- A. Cracks and gaps
- B. Interior walls
- C. Sweet baits
- D. Areas under stones
- E. None of the Above or All of the Above

24. Baits should be positioned where ant trails have been established. \_\_\_\_\_ are generally the most effective; however, if acceptance is low, a protein-based bait may be considered.

- A. Cracks and gaps
- B. Interior walls
- C. Sweet baits
- D. Areas under stones
- E. None of the Above or All of the Above

Carpenter Ants

25. Carpenter ants tunnel into wood to form nest galleries. If they go unnoticed for several years, they may cause structural damage. Outdoors, the ants use dead trees or tree limbs, stumps, logs or \_\_\_\_\_ as nesting sites.

- A. Cracks and gaps
- B. Areas under stones
- C. Sweet baits
- D. Interior walls
- E. None of the Above or All of the Above

26. Once the carpenter ant nest has been located, control is relatively easy. Treatment options include use of a \_\_\_\_\_ or residual contact insecticide applied as a dust or spray to the nest.

- A. Bait
- B. Areas under stones
- C. Sweet baits
- D. Interior walls
- E. None of the Above or All of the Above

27. Read and follow the product label for best results. It may be necessary to drill small holes in the wall voids, \_\_\_\_\_, and window and doorsills to reach the nest or major part of the colony. Nests can also be removed and infested wood replaced, if feasible.

- A. Cracks and gaps
- B. Areas under stones
- C. Baseboards
- D. Interior walls
- E. None of the Above or All of the Above

28. Carpenter ants are most active in the evening hours, \_\_\_\_\_, both inside the house and outside. By following the ants, you may be able to tell where the nest is.
- A. Foraging for all kinds of food
  - B. Push the sawdust
  - C. Insecticide dust
  - D. Trim all trees
  - E. None of the Above or All of the Above
29. Because carpenter ants keep the tunneled galleries very clean and \_\_\_\_\_ and dead insect parts out small holes in the wood, a small, fresh pile of sawdust under the nest timber is the usual sign of an active carpenter ant nest.
- A. Foraging for all kinds of food
  - B. Push the sawdust
  - C. Insecticide dust
  - D. Trim all trees
  - E. None of the Above or All of the Above
30. Once a nest is found, treatment is usually easy with either an \_\_\_\_\_ or spray. Injection of insecticide into wall voids or the nest itself may be necessary to reinsure complete control.
- A. Foraging for all kinds of food
  - B. Push the sawdust
  - C. Insecticide dust
  - D. Trim all trees
  - E. None of the Above or All of the Above
31. To prevent further carpenter ant infestations, \_\_\_\_\_ and bushes so branches do not touch the house and correct moisture problems such as leaky roofs and plumbing.
- A. Foraging for all kinds of food
  - B. Push the sawdust
  - C. Insecticide dust
  - D. Trim all trees
  - E. None of the Above or All of the Above
32. \_\_\_\_\_ exposed wood construction before it becomes wet. Replace previously ant-infested wood, rotted or water-damaged wooden parts of the structure and eliminate wood/soil contacts. Remove dead stumps on the property and store firewood off the ground and away from the structure.
- A. Paint and/or seal
  - B. Push the sawdust
  - C. Insecticide dust
  - D. Trim all trees
  - E. None of the Above or All of the Above
33. Unlike other home-inhabiting ants, carpenter ants cause structural damage to wood by \_\_\_\_\_ inside wood structures. However, they rarely nest in sound wood, but consistently invade wood that has become wet and started to decay.
- A. Foraging for all kinds of food
  - B. Push the sawdust
  - C. Insecticide dust
  - D. Tunneling and nesting
  - E. None of the Above or All of the Above

34. The best way to control carpenter ants that inhabit a dwelling is to find the nest and \_\_\_\_\_.
- A. Destroy it
  - B. Continue to produce
  - C. Within the walls
  - D. Around leaky plumbing
  - E. None of the Above or All of the Above
35. Insecticide sprays inside the home will kill some of the worker ants, but unless the entire nest is treated, the queen will \_\_\_\_\_ additional members of the colony.
- A. Destroy it
  - B. Continue to produce
  - C. Within the walls
  - D. Around leaky plumbing
  - E. None of the Above or All of the Above
36. Locating a nest can be difficult because nests may be in locations \_\_\_\_\_ or roof rafters. At this point, some homeowners may prefer to work with a professional pest control company.
- A. Destroy it
  - B. Continue to produce
  - C. Within the walls
  - D. Around leaky plumbing
  - E. None of the Above or All of the Above
37. The most likely places to find carpenter ant nests are where wood has been wet and weathered, such as rotting timbers about the foundation, window sills, porches, \_\_\_\_\_, and in rafters under a leaky roof.
- A. Around leaky plumbing
  - B. Continue to produce
  - C. Within the walls
  - D. Perimeter of a home
  - E. None of the Above or All of the Above

#### Perimeter Insecticide Treatments

38. The most commonly used method for controlling carpenter ants is treating the \_\_\_\_\_ with a dust or spray. There are several products available for this type of application, but Suspend SC, Talstar Concentrate and Cynoff WP are the best. When used in accordance with their labels they work well.
- A. Destroy it
  - B. Perimeter of a home
  - C. Within the walls
  - D. Around leaky plumbing
  - E. None of the Above or All of the Above
39. These treatments do not keep ants from entering a home from overhead trees and power lines. Also, as a stand alone treatment, they rarely eliminate ants \_\_\_\_\_.
- A. Inside voids and walls
  - B. Continue to produce
  - C. Within the walls
  - D. Around leaky plumbing
  - E. None of the Above or All of the Above

Pharaoh Ant *Monomorium pharaonis*

40. Pharaoh workers are very small (about 1/16-inch long), light yellow to reddish brown in color, with the abdomen (hind portion of body) somewhat darker. \_\_\_\_\_.

- A. There is no stinger
- B. *Pseudomonas*
- C. Sugar ant
- D. Worker ants
- E. None of the Above or All of the Above

Pest Status

41. Very common throughout the U.S. and the most commonly occurring indoor ant; in hospitals, it can be a carrier of more than a dozen pathogenic bacteria, including *Staphylococcus*, *Salmonella*, \_\_\_\_\_, and *Clostridium*; these ants do not sting and usually do not bite.

- A. There is no stinger
- B. *Pseudomonas*
- C. Sugar ant
- D. Worker ants
- E. None of the Above or All of the Above

42. Life Cycle and Habits

Description: Also called the \_\_\_\_\_, odorous or piss ant, these are some of the smallest ants, the workers are about 1/12-16 inch long, with a light tan to reddish body.

- A. There is no stinger
- B. *Pseudomonas*
- C. Sugar ant
- D. Worker ants
- E. None of the Above or All of the Above

Winged stage

Life Cycle

43. Development of \_\_\_\_\_ progresses from eggs (5-6 days), to several larval stages (22-24 days), pre-pupal stage (2 to 3 days), a pupae (9-12 days), and adult ants, thus taking from 38 to 45 days from egg to adult (4 days longer for sexual forms).

- A. Worker ants
- B. *Pseudomonas*
- C. Sugar ant
- D. Queen ants
- E. None of the Above or All of the Above

44. Colonies consist of one to several hundred \_\_\_\_\_, sterile female worker ants, periodically produced winged male and female reproductive ants (sexuals), and brood (developmental stages).

- A. Worker ants
- B. *Pseudomonas*
- C. Sugar ant
- D. Queen ants
- E. None of the Above or All of the Above

Female Pharaoh

45. A Female Pharaoh ant can lay \_\_\_\_\_ in her lifetime.

- A. 400 or more eggs
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above



46. Most lay \_\_\_\_\_ per batch in the early days of egg production and only 4 to 7 eggs per batch later.
- A. 400 or more eggs
  - B. 10 to 12 eggs
  - C. 5 to 7 days
  - D. 38 to 45 days
  - E. None of the Above or All of the Above
47. At 80°F and 80 percent relative humidity, eggs hatch in \_\_\_\_\_. The larval period is 18 to 19 days, prepupal period three days and pupal period nine days.
- A. 400 or more eggs
  - B. 10 to 12 eggs
  - C. 5 to 7 days
  - D. 38 to 45 days
  - E. None of the Above or All of the Above
48. About four more days are required to produce sexual female and male forms. The entire life cycle takes about \_\_\_\_\_ depending on temperature and relative humidity.
- A. 38 to 45 days
  - B. 10 to 12 eggs
  - C. 5 to 7 days
  - D. 38 to 45 days
  - E. None of the Above or All of the Above
49. Periodically a queen, together with a few workers carrying \_\_\_\_\_ (eggs, larvae, and pupae), leaves the nest and sets up a new colony elsewhere, quickly spreading an infestation.
- A. Immatures
  - B. Fractionating
  - C. Thimble
  - D. Overcrowding
  - E. None of the Above or All of the Above
50. This behavior pattern is known as "satelliting," " \_\_\_\_\_ " or "budding" where part of the colony migrates to a new location rather than by single females dispersing after a reproductive swarm.
- A. Immatures
  - B. Fractionating
  - C. Thimble
  - D. Overcrowding
  - E. None of the Above or All of the Above
51. Budding may occur due to \_\_\_\_\_, seasonal changes in the building's central heating and cooling system, or application of a repellent pesticide.
- A. Immatures
  - B. Thimble
  - C. Fractionating
  - D. Overcrowding
  - E. None of the Above or All of the Above

52. Nests are often so small they can be contained in a \_\_\_\_\_, located between sheets of paper, in clothing or laundry, furniture, foods, etc. Nests usually occur in wall voids, under floors, behind baseboards, in trash containers, under stones, in cement or stone wall voids, in linens, light fixtures, etc.

- A. Immatures
- B. Fractionating
- C. Thimble
- D. Overcrowding
- E. None of the Above or All of the Above

53. They prefer dark, warm areas near hot water pipes and \_\_\_\_\_, in bathrooms, kitchens, intensive care units, operating rooms, etc.

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

54. They are "trail-making" ants and often are found foraging in drains, toilets, \_\_\_\_\_, bedpans, and other unsanitary sites, as well as in sealed packs of sterile dressing, intravenous drip systems, on surgical wounds, food, and medical equipment.

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

Habitat, Food Source(s), Damage

55. Mouthparts are for chewing. Pharaoh ants are \_\_\_\_\_, feeding on sweets (jelly, particularly mint apple jelly, sugar, honey, etc.), cakes and breads, and greasy or fatty foods (pies, butter, liver, and bacon).

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

56. Nests can be found outdoors and almost anywhere indoors (light sockets, potted plants, wall voids, attics, in any cracks and \_\_\_\_\_) particularly close to sources of warmth and water.

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

Pharaoh Ant Control Measures

57. Pharaoh ants are usually much harder to control than other ants because of their \_\_\_\_\_.

- A. Ability to disperse
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

58. There may be dozens or \_\_\_\_\_ in a single building and when a few colonies are missed during control, populations will quickly rebound. About 90 percent of the colony remains hidden in the nest, so even if 10 percent of the colony is killed by a residual pesticide, the remaining reservoir of ants is enormous.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

59. Conventional contact pesticide applications, especially repellent products such as pyrethrins, may spread infestations to new areas with \_\_\_\_\_ blossoming within the structure.

- A. Multiple colonies
- B. Hundreds of colonies
- C. Ability to disperse
- D. Long term
- E. None of the Above or All of the Above

60. These ants will avoid certain pesticides. Control is difficult and often \_\_\_\_\_ (months to years), depending on the building size, wall voids, etc., especially in hospitals and food plants. Complete cooperation from the property manager and residents is essential for a successful control program.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

#### Inspection

61. Carefully examine the building inside and outside from the roof to the basement, finding the ant distribution, population size, and food sources. Locate ant trails, following them to \_\_\_\_\_.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

62. A single stream of ants moving in one direction may indicate \_\_\_\_\_, not foraging. Mark the established feeding trail with a sticker and date. Trails with many ants coming and going indicate a large colony.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Colony movement
- E. None of the Above or All of the Above

63. \_\_\_\_\_ (dilute honey or peanut butter on three-by-five cards) helps to identify "hot spots," but with experience, one will already know where such places are located.

- A. Ability to disperse
- B. Pre-baiting
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

64. In the winter, these ants tend to concentrate near and \_\_\_\_\_, whereas in the spring and summer, they move to the outside walls and distribute themselves throughout the building.

- A. Ability to disperse
- B. Pre-baiting
- C. Multiple colonies
- D. Around heat
- E. None of the Above or All of the Above

#### Prevention

65. When insecticides are prohibited around high-tech equipment and in health areas, use sticky tapes, double-faced adhesive tapes, and \_\_\_\_\_ (glue side out) wrapped around objects as barriers.

- A. Masking tape
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

66. Use a ring \_\_\_\_\_, non-hardening glues, sticky dust mats, or glue boards under equipment legs.

- A. Masking tape.
- B. Petroleum jelly
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

67. Seal cracks and voids with \_\_\_\_\_ after applying low residual repellent insecticides such as chlorpyrifos (Dursban) or Diazinon.

- A. Masking tape.
- B. Petroleum jelly
- C. Caulking compound
- D. Long term
- E. None of the Above or All of the Above

#### Insecticides

68. In areas of active colonies, treat walls and ceiling voids through cracks and crevices with \_\_\_\_\_ and make bait placements.

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

69. Keep the ants in the area long enough to get the \_\_\_\_\_ to the main colony where the workers, larvae and queens are poisoned. (A delayed-action stomach poison is recommended.)

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

70. Repellent insecticides, such as \_\_\_\_\_, will move the colonies, spreading them further throughout the building.

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

71. Research has shown that it is best to use bait placement only where \_\_\_\_\_ are found. This ensures feeding, since some ants have not been able to find the bait even when only one inch away from the bait stations.

- A. Active ant trails
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Non-repellent boric acid dust
- E. None of the Above or All of the Above

72. Intersect the ant trail with bait on a cotton swab taken from the station to ensure instant feeding. \_\_\_\_\_ may change during the season due to changing needs of the developing colonies.

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

#### Methoprene

73. A commercial bait called \_\_\_\_\_ (Pharoid) is marketed for use by pest control operators in a bait that consists of liver, honey, and sponge cake.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

#### Boric Acid

74. Boric acid and methoprene baits work slowly, sometimes taking 15 to 40 weeks or more before ant eradication. A bait containing \_\_\_\_\_ (same as in Maxforce roach bait stations) gives quicker results, 2 to 35 days, according to certain pest control operators.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

75. There may be increased or new ant feeding activity during the early part of the \_\_\_\_\_. No other pesticides, heavy-duty cleaners, or paints should be used during the baiting periods to discourage ant feeding.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

Bendiocarb

76. Applications of \_\_\_\_\_(Ficam), which is odorless, can give fast eradication of Pharaoh ants if treatments are thorough. Ficam 76 percent WP and 91 percent dust are labeled for licensed commercial and pest control operators.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

77. The bait products most recommended for Pharaoh ant control include: (boric acid plus mint apple jelly (Drax), hydramethylon (Maxforce), methoprene (Pharoid), bendiocarb (Ficam), propoxur (Baygon) and \_\_\_\_\_(Pro-Control)).

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

78. After bait stations are placed, one will see ants trailing to and from these bait stations. Do not spray or disturb the ants or \_\_\_\_\_. Ants must be allowed to carry the bait back into their nest where the active ingredient in the bait will eliminate the colony.

- A. Methoprene
- B. Bait stations
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

79. Usually, Pharaoh ant control is best achieved by a licensed pest control operator or applicator who is trained, experienced, and has the proper equipment--an Applicator like yourself. Before using an \_\_\_\_\_, always read the label, follow directions and safety precautions.

- A. Methoprene
- B. Bait stations
- C. Bendiocarb
- D. Insecticide
- E. None of the Above or All of the Above

Red Imported Fire Ants RIFA *Solenopsis invicta*

80. Red imported fire ants (RIFA) are medium sized ants that build mounds of soft soil rarely larger than \_\_\_\_\_. The ants emerge out aggressively when they are disturbed and sting.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

81. Some confusion comes from the fact that red imported fire ants come in a variety of sizes (\_\_\_\_\_ ) with the largest workers 2 or 3 times larger than the smallest. Native fire ants are less common in imported fire ant infested areas.
- A. 18" in diameter
  - B. 1/16 to almost 1/4 inch long
  - C. 1,000+ per acre
  - D. 2080 mounds per acre
  - E. None of the Above or All of the Above

#### Queens

82. Single queen (monogyne form): only one queen per colony or mound; slightly larger workers; members of colonies are territorial; mound densities usually \_\_\_\_\_; fewer ants per acre.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

83. Multiple queen (polygyne form): dozens of queens per colony; smaller average worker ants; colonies are interconnected; mound densities 100 to \_\_\_\_\_; more ants per acre.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

#### Difference between Fire Ants and Termites

84. Although most ants are recognizable, some forms of winged ants are often confused with termites, especially during the termite swarming season. The front pair of wings on ants is \_\_\_\_\_, while the four wings of termites are approximately the same size.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

85. Ants have "elbowed" antennae and a " \_\_\_\_\_," being narrow between the thorax and hind abdominal segments. Termites have the thorax and abdomen broadly connected and their antennae are straight and hair-like.

- A. Thin waist
- B. 1/16 to almost 1/4 inch long
- C. Hair-like
- D. Abdomen
- E. None of the Above or All of the Above

## History

86. Where are Fire Ants From?

Fire ants are from South America. They entered the U.S. through \_\_\_\_\_, probably in soil used for ships' ballast. They were accidentally introduced around the 1930s and have been spreading ever since.

- A. Texas
- B. Mobile, Alabama
- C. 1,000+ per acre
- D. Pacific Coast
- E. None of the Above or All of the Above

87. Red imported fire ants are very aggressive, efficient competitors. Since the 1950s, the ant has been spreading northward, westward, and southward from \_\_\_\_\_. Their northward spread depends on temperature.

- A. Texas
- B. Mobile, Alabama
- C. 1,000+ per acre
- D. Pacific Coast
- E. None of the Above or All of the Above

88. Cold winters tend to push them back. Western spread is largely dependent on \_\_\_\_\_. They will mostly be found in urban areas, creek bottoms, irrigated land, etc. The entire Pacific Coast is fertile ground for infestation.

- A. Texas
- B. Water
- C. Temperature
- D. Pacific Coast
- E. None of the Above or All of the Above

89. Fire ants are sensitive to \_\_\_\_\_ or movement and tend to sting when the object they are on moves.

- A. Texas
- B. Water
- C. Temperature
- D. Vibration
- E. None of the Above or All of the Above

## Is Their Sting Lethal?

90. Only to a very small portion of the population who experience severe allergic reactions. Fire ants inflict a fiery sting, which causes a \_\_\_\_\_ or pustule to form at the site of each sting after several hours. The blisters become itchy while healing and are prone to infection if broken.

- A. Small blister
- B. Swelling and pain
- C. Temperature
- D. Pacific Coast
- E. None of the Above or All of the Above



If You are Stung by a Fire Ant:

91. Apply a cold compress to relieve the \_\_\_\_\_.

Gently wash the affected area with soap and water and leave the blister intact. People who are allergic to insect stings should seek medical attention immediately.

- A. Small blister
- B. Thickening of the tongue
- C. Temperature
- D. Swelling and pain
- E. None of the Above or All of the Above

What Should I do if I Get Stung?

92. There really isn't much you can do, except watch the area for excessive swelling, itching, or redness, or other symptoms like shortness of breath, \_\_\_\_\_, sweating, etc., that could indicate a systemic allergic reaction.

- A. Texas
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

Are They as Lethal as Killer Bees?

93. They both attack en masse and both can cause fatal allergic reactions, but that's where similarities end. \_\_\_\_\_ can overwhelm and kill even healthy, non-allergic people, but encounters are rather rare.

- A. Africanized bees
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

94. \_\_\_\_\_ can't overwhelm a healthy, mobile person and even hundreds of stings are rarely fatal.

- A. Africanized bees
- B. Water
- C. Fire ants
- D. Thickening of the tongue
- E. None of the Above or All of the Above

Impact of Red Imported Fire Ants

95. There are things being done, but it's not an easy problem to solve. First, imported fire ant control using today's methods provides only \_\_\_\_\_ and costs money on a per- area basis.

- A. Temporary suppression
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

96. Research is being supported to document the impact of the imported fire ant on wildlife and evaluate ant \_\_\_\_\_. While some wildlife species are undoubtedly declining due to fire ants, they are also declining due to land use practices and weather extremes, for instance. There is great hope that the biological control agents currently under investigation will spread into wildlife areas and permanently reduce imported fire ant populations there.

- A. Periodic treatments
- B. Water
- C. Temperature
- D. Management approaches
- E. None of the Above or All of the Above

Are the Ants Killing my Trees?

97. The ants are mainly using the trees as a nesting place. Ants in mounds occurring at the base of the trunk are probably not causing any damage to well-established trees and may actually be helpful by preying on other insects that are feeding on parts of the tree and \_\_\_\_\_ by tunneling in the soil.

- A. Periodic treatments
- B. Water
- C. Reducing compaction
- D. Thickening of the tongue
- E. None of the Above or All of the Above

Why Do Fire Ants Get into Laundry?

98. When it floods they move in into any good dark place but in \_\_\_\_\_, they tend to move to moist areas.

- A. Reducing compaction
- B. Water
- C. Periodic treatments
- D. Drought conditions
- E. None of the Above or All of the Above

Fire Ant Management Approaches

99. Can Fire Ants be Eradicated Completely?

Red imported fire ants cannot be eradicated completely with methods available today. They can be eliminated temporarily from small areas, with proper \_\_\_\_\_.

- A. Reducing compaction
- B. Water
- C. Periodic treatments
- D. Control methods
- E. None of the Above or All of the Above

What is the Best Product for Killing Fire Ants?

100. There probably is no single "best" method for managing RIFA.

\_\_\_\_\_ does not like to endorse any specific products but will mention products, that we have tested in the field.

- A. Reducing compaction
- B. Periodic treatments
- C. Temperature
- D. Technical Learning College
- E. None of the Above or All of the Above

How Do I Eliminate Them from My Yard?

101. There is no single, easy answer for every situation. Most people with more than a handful of mounds will be most satisfied with just bait or the \_\_\_\_\_. Remember, no method is 100% effective all the time, though some come close, and no method is permanent. The ants will reinvade, with new colonies probably appearing after the next rain and certainly within a year.

- A. Texas
- B. Water
- C. Technical Learning College
- D. Thickening of the tongue
- E. None of the Above or All of the Above

What is the "Two-Step Method" for Controlling Imported Fire Ants?

102. One proven method of reducing imported fire ant populations in heavily-infested home lawns and ornamental turf is called the " \_\_\_\_\_ " of fire ant control. Briefly, it's the: once or twice per year broadcast application of a bait product (e.g., Amdro®, Logic®, Award®, or Ascend® and others) and waiting several days to a week before.

- A. Two-Step Method
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

103. Otherwise, wait for the bait treatment to take effect. This method reduces the \_\_\_\_\_ on use of individual mound treatments and is suitable for treating larger areas.

- A. Over-reliance
- B. Two-Step Method
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

Why Tackle Fire Ants in the Fall?

104. An ideal time to apply bait-formulated fire ant insecticides is from late August through October to allow the \_\_\_\_\_ to reduce fire ant populations over the winter.

- A. Over-reliance
- B. Two-Step Method
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

It's been Dry and I Don't See Them. Are they Still Around? Why Should I Treat Them Now?

105. \_\_\_\_\_ can work quite well if the ants are out foraging to pick it up. It is best to treat in the late afternoon or evening. You will need to know if thunderstorms are a possibility, be sure there is no dew on the grass, and make sure the bait will not have to sit in the hot sun all day. Most of the bait will be picked up by morning.

- A. Over-reliance
- B. Two-Step Method
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

Which Bait do I Use? Baits Take Too Long. Baits Don't Work.

106. The key to using baits is patience. Applied properly and using a fresh bait product, a broadcast application will give 80% to 90% control, rarely 100%. For instance, Amdro® is the fastest acting, giving maximum control in 3 to 6 weeks. Logic® or Award®, when applied late in the year, may take several months to provide \_\_\_\_\_, but will suppress ant colonies for a year or more.

- A. Over-reliance
- B. Maximum control
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

107. One approach, for heavy imported fire ant infestations is to treat with \_\_\_\_\_® first for fast knockdown, then come back with Logic®/Award® for longer durations of control as ants start to re-infest the area some months in the future. Other baits include Siege®, Award®, Ascend®, and Raid® Fire Ant Killer.

- A. Amdro
- B. Two-Step Method
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

108. The baits do work when used properly. The thing to remember is the ants collect the bait as a source of food. Baits will go rancid in a relatively short time, as does other food that contains \_\_\_\_\_.

- A. Amdro
- B. Oil
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

109. Always read and follow closely the directions provided on the product label before using any \_\_\_\_\_.

- A. Pesticide
- B. Oil
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

110. The United States Department of Agriculture is conducting research on the \_\_\_\_\_ fly as one of several potential biological control agents for helping to control fire ants. However, this research is in the beginning stages. We may be years away from any type of control these flies may provide.

- A. Amdro
- B. Phorid
- C. Insecticides
- D. Baits
- E. None of the Above or All of the Above

111. Even in South America, where the imported fire ants and parasitic flies come from, the flies only affect about 3% of the ants in a colony. Some biological control agents that have already been marketed include predaceous mites, parasitic nematodes, and the fungus called \_\_\_\_\_.

- A. Amdro
- B. Phorid
- C. Insecticides
- D. *Beuveria bassiana*.
- E. None of the Above or All of the Above

#### Why Don't We Use Mirex?

112. Mirex was an effective ant killer, but it was one of the most persistent compounds ever made. Mirex belongs to a group of chemicals that have mostly been banned from sale or use because their ingredients, or their \_\_\_\_\_, accumulated in biological systems.

- A. Degradation products
- B. Spectracide
- C. Raid
- D. Toxins
- E. None of the Above or All of the Above

#### Over-the-Counter Baits

113. Over-the-counter baits at consumer retailers are limited to Amdro and Combat (hydramenthylnon); Raid Ant Bait (abamectin) - which is now an old product; \_\_\_\_\_ Ant Bait (pyriproxyfen) which is formulated at 1/10th "conventional" formulation concentration and costs 10 times as much to apply as conventionally formulated products.

- A. Degradation products
- B. Spectracide
- C. Raid
- D. Toxins
- E. None of the Above or All of the Above

#### Step One: Baits

114. Baits currently available include Amdro, Siege, Logic, Award, Ascend, or \_\_\_\_\_ Fire Ant Killer. Baits are slow-acting and require weeks or months to achieve 80% to 90% control.

- A. Degradation products
- B. Spectracide
- C. Raid
- D. Toxins
- E. None of the Above or All of the Above

#### Bait Products

115. Bait products can be used to easily treat large areas effectively. They contain extremely low amounts of \_\_\_\_\_.

- A. Degradation products
- B. Spectracide
- C. Raid
- D. Toxins
- E. None of the Above or All of the Above

116. For best results:

Apply when the ground and grass are dry and no rain is expected for the next \_\_\_\_\_.

- A. 30 minutes
- B. Spectracide
- C. Raid
- D. 24 to 48 hours
- E. None of the Above or All of the Above

117. To test, put a small pile of bait next to a mound and see if the ants have found it within \_\_\_\_\_.

- A. 30 minutes
- B. Spectracide
- C. Raid
- D. 24 to 48 hours
- E. None of the Above or All of the Above

#### Step Two

#### 118. Individual Mound Treatments

Granular products are relatively fast acting and usually require putting granules on and around the mound and then sprinkling \_\_\_\_\_ of water on them without disturbing the mound. Closely follow directions on the label.

- A. 30 minutes
- B. 1 to 2 gallons
- C. 2 to 3 gallons
- D. 24 to 48 hours
- E. None of the Above or All of the Above

119. Organic: Pouring \_\_\_\_\_ of very hot or boiling water on the mound will kill ants about 60% of the time. Otherwise, the ants will probably just move to another location. Very hot or boiling water will kill the grass or surrounding vegetation that it is poured upon. Other natural or organic methods include mound drench products containing plant derived ingredients (e.g. botanical insecticides) and biological control agents.

- A. 30 minutes
- B. 1 to 2 gallons
- C. 2 to 3 gallons
- D. 24 to 48 hours
- E. None of the Above or All of the Above

120. Ghost ants look like tiny, white apparitions who suddenly appear and seem to disappear just as quickly. Workers are 1/16 inch (1.5 mm) in length. The legs, pedicel, gaster, and antennae are pale, almost translucent, in color and the head and thorax are darker. For this reason, the ghost ant is also known in some areas as the \_\_\_\_\_.

- A. Black-headed ant
- B. Spectracide
- C. Pharaoh ant
- D. 24 to 48 hours
- E. None of the Above or All of the Above

#### Reproduction

121. Colonies of ghost ants tend to be moderate to large in size and multiple queens are present. New colonies are started by "budding" where one or more reproductive females, several workers, and possibly some brood (larvae and pupae) migrate to a new nesting site. Their biology is similar to the \_\_\_\_\_.

- A. Black-headed ant
- B. Spectracide
- C. Pharaoh ant
- D. 24 to 48 hours
- E. None of the Above or All of the Above

Distribution

122. \_\_\_\_\_ are found in warm climates and can be a big problem in tropical areas of the world.

- A. Black-headed ant
- B. Spectracide
- C. Pharaoh ant
- D. Ghost ants
- E. None of the Above or All of the Above

123. Ghost ants have been reported in many areas of the United States, as well as in Canada, Puerto Rico, and the \_\_\_\_\_.

- A. Caribbean Islands
- B. Florida
- C. Pharaoh ant
- D. Ghost ants
- E. None of the Above or All of the Above

124. Foraging activity indoors is typically concentrated in the kitchen or bathroom, with a high need of water, although any room can be affected. The nesting habits are similar to Pharaoh ants. Outside, they can be found nesting in soil of \_\_\_\_\_, under stones, under and inside logs and firewood.

- A. Potted plants
- B. Spectracide
- C. Branches of trees
- D. Ghost ants
- E. None of the Above or All of the Above

125. They also nest in cavities and crevices in trees and shrubs. Ghost ants will enter structures, usually by trailing from nests along the foundation or by \_\_\_\_\_ and/or shrubs that contact the structure.

- A. Potted plants
- B. Spectracide
- C. Branches of trees
- D. Ghost ants
- E. None of the Above or All of the Above

126. Ghost ants will also forage on \_\_\_\_\_ although not as readily as they will on sweets. Trails are often very difficult to see due to the tiny size and pale coloration of these ants.

- A. Potted plants
- B. Spectracide
- C. Branches of trees
- D. Grease deposits
- E. None of the Above or All of the Above

Foraging and feeding

127. Workers follow scent trails along the edges of structures for protection. They can often be spotted trailing under the \_\_\_\_\_ and up the sides of the building, searching for entry points.

- A. Potted plants
- B. Butterfly houses
- C. Edge of carpets
- D. Branches of trees
- E. None of the Above or All of the Above

Implication

128. Due to their predacious nature ghost ants are a particular problem in \_\_\_\_\_ and other facilities that raise or store live insects. They will attack the valued insects and will carry off the eggs and larvae of flies and butterflies.

- A. Potted plants
- B. Butterfly houses
- C. Edge of carpets
- D. Branches of trees
- E. None of the Above or All of the Above

Recommended Products and Treatment

129. Baiting is the preferred treatment over typical residual spraying, to eliminate the entire colony. The use of residual sprays or dusts will \_\_\_\_\_, causing them to split into sub-colonies that scatter to other areas in the structure. This is also called budding.

- A. Budding
- B. Butterfly houses
- C. Cause stress on the colonies
- D. Slow-acting
- E. None of the Above or All of the Above

130. After spraying, the problem can be worse than at the beginning. When you bait, you will want a \_\_\_\_\_ bait.

- A. Budding
- B. Butterfly houses
- C. Carbohydrates sugars
- D. Slow-acting
- E. None of the Above or All of the Above

131. Ants require \_\_\_\_\_, proteins, and greases. They find a variety of these sources in nature. Examples are: other insects (proteins and greases), nectar, aphid honeydew, and plant products (sugar and carbohydrates).

- A. Budding
- B. Butterfly houses
- C. Carbohydrates sugars
- D. Slow-acting
- E. None of the Above or All of the Above

132. The Recommended Products for the Protein/Grease Eating Cycle Would Be:

\* \_\_\_\_\_ Ant Bait Stations

- A. Potted plants
- B. Butterfly houses
- C. Maxforce
- D. Gel Bait
- E. None of the Above or All of the Above

133. The Recommended Products for the Sugar Eating Cycle Would Be:

\* Maxforce Ant Killer Bait Gel

\* \_\_\_\_\_ Gel Bait

\* Revenge Liquid Ant Bait

\* Maxforce Granular Ant Bait is an excellent choice for the outside, feeding all their dietary needs.

- A. Uncle Albert's
- B. Dr. Moss
- C. Maxforce
- D. Gel Bait
- E. None of the Above or All of the Above



Key

134. One approach, for example, for heavy imported fire ant infestations is to treat with Amdro® first for fast knockdown, then come back with Logic®/Award® for longer duration of control as ants start to re-infest the area some months in the future. Other baits include Siege®, Award®, Ascend®, and\_\_\_\_\_.

- A. Uncle Albert's
- B. Dr. Moss
- C. Maxforce
- D. Raid® Fire Ant Killer
- E. None of the Above or All of the Above

Regular Inspections

135. These perimeter treatments can keep your home or business pest free. We suggest a regular treatment on the exterior with\_\_\_\_\_, Tempo, or Suspend.

- A. Uncle Albert's
- B. Demand
- C. Maxforce
- D. Raid® Fire Ant Killer
- E. None of the Above or All of the Above

Locate and Treat Colonies

136. Drench colonies living in the soil or under items on the exterior with Demand, Suspend, or\_\_\_\_\_.

- A. Demand
- B. Tempo
- C. Maxforce
- D. Uncle Albert's
- E. None of the Above or All of the Above

137. If you know with some certainty where the colony is living inside, then you can treat them directly by drilling a small hole into the wall void at the base (directly above the baseboard) and injecting a dust, such as\_\_\_\_\_, Drione, or Borid Turbo.

- A. Demand
- B. Delta Dust
- C. Maxforce
- D. Uncle Albert's
- E. None of the Above or All of the Above

138. General tips for limiting ant infestations include:

\* Consider re-landscaping to avoid using plants that are prone to\_\_\_\_\_.  
At the very least, treat such plants for aphids regularly.

- A. Demand
- B. Delta Dust
- C. Maxforce
- D. Uncle Albert's
- E. None of the Above or All of the Above

139. Check carpet edges and\_\_\_\_\_. Inspect electrical outlets and telephone jacks, especially in the kitchen and bathroom.

- A. Cabinets
- B. Tempo
- C. Maxforce
- D. Shoe moldings
- E. None of the Above or All of the Above

140. If the nest(s) cannot be located, it may be necessary to prebait with sweets such as jelly in short pieces of soda straw to draw the ants out. Place such prebaits where ants have been seen, in electrical outlet boxes, along carpet edges, in food \_\_\_\_\_, etc.

- A. Cabinets
- B. Tempo
- C. Maxforce
- D. Shoe moldings
- E. None of the Above or All of the Above

141. Outside, inspect along the foundation wall, patio, and sidewalks by pulling back the grass and/or mulch. Then pull back any mulch at the base of trees and shrubs with a rake. Check debris in tree/shrub crotches using a \_\_\_\_\_ because fire ants also nest here.

- A. Cabinets
- B. Foundation
- C. Screwdriver
- D. Shoe moldings
- E. None of the Above or All of the Above

142. Turn over any stones, bricks, logs, firewood, and debris on the ground especially near the \_\_\_\_\_; as much as possible such items should be eliminated.

- A. Cabinets
- B. Screwdriver
- C. Foundation
- D. Shoe moldings
- E. None of the Above or All of the Above

143. Treat nests with an appropriately labeled pesticide. If there is continual ghost ant invasion from the outside, a perimeter treatment using a \_\_\_\_\_ or wettable powder formulation of pyrethroid should be applied.

- A. Cabinets
- B. Screwdriver
- C. Foundation
- D. Microencapsulated
- E. None of the Above or All of the Above

#### IPM Control Program

144. An Integrated Pest Management (IPM) approach offers a greater chance for control of ants. An IPM approach incorporates all available control methods into a pest management program. IPM methods include identification, \_\_\_\_\_, sanitation, exclusion, and chemical strategies.

- A. Inspection
- B. Screwdriver
- C. Foundation
- D. Microencapsulated
- E. None of the Above or All of the Above

#### Collection Tip

145. One way to collect ants for identification is to place a dab of honey or sugar water in the center of an index card. Place the index card covered in ants into a \_\_\_\_\_, then place the bag in the freezer.

- A. Cabinets
- B. Plastic bag
- C. Foundation
- D. Inspection
- E. None of the Above or All of the Above

Leaf Cutter Ants *Atta texana*

146. Leaf cutter ants are \_\_\_\_\_; like fire ants, they establish a mound outside.

- A. Cabinets
- B. Mounded ants
- C. Fire ants
- D. Shoe moldings
- E. None of the Above or All of the Above

147. Leaf cutter ants are mainly a rural, agriculture pest, but can be found in \_\_\_\_\_. Leaf cutter ants usually come to your attention when plants, trees or shrubs are being stripped of their leaves. The usually select one type of plant to feed off, ignoring others.

- A. Subdivisions
- B. Mounded ants
- C. Western Louisiana
- D. Shoe moldings
- E. None of the Above or All of the Above

148. Leaf-cutter ants are major agricultural pests in Central and \_\_\_\_\_. It has been estimated they do \$1 billion damage per year in crop losses in North and South America.

- A. Cabinets
- B. South America
- C. Western Louisiana
- D. Shoe moldings
- E. None of the Above or All of the Above

149. Although primarily an agricultural pest, this insect on occasion may invade the home for cereals. In the United States, the Texas leaf-cutting ant occurs in \_\_\_\_\_ and Louisiana. This ant is believed to cause a total yearly loss of \$5 million in the United States.

- A. Texas
- B. South America
- C. Western Louisiana
- D. Shoe moldings
- E. None of the Above or All of the Above

Appearance

150. The worker ants range in size from \_\_\_\_\_. They are red, with two nodes. The winged reproductives or swarmers produced by the leaf cutter ant colonies are quite big. The females are well over 2 inches long.

- A. 1/16"-to 1/2 "
- B. Mounded ants
- C. Western Louisiana
- D. 2 inches
- E. None of the Above or All of the Above

Inspection

151. A nest will have many entrances with craters of loose soil that have been deposited above. During the summer, workers forage during the \_\_\_\_\_.

- A. Night
- B. Mounded ants
- C. Western Louisiana
- D. Daytime
- E. None of the Above or All of the Above

152. They will forage in the \_\_\_\_\_ during the spring and fall, unless it is rainy or overcast.

- A. Daytime
- B. Mounded ants
- C. Western Louisiana
- D. Night
- E. None of the Above or All of the Above

#### Diet

153. Using their, \_\_\_\_\_ they completely strip trees and other plants of their foliage, carrying back the leaves to their vast underground nests, where millions of ants live.

- A. Scissor-like jaws
- B. Pulp-like material
- C. Leaf-cutters
- D. Containing fungus
- E. None of the Above or All of the Above

154. The leaves are not eaten; they are chewed into a \_\_\_\_\_, which soon sprouts a fungus.

- A. Scissor-like jaws
- B. Pulp-like material
- C. Leaf-cutters
- D. Containing fungus
- E. None of the Above or All of the Above

#### Nests

155. The nest may cover 3,000 to 4,500 square feet and may be 8 feet or more deep. A nest has many chambers \_\_\_\_\_, perhaps two to three dozen, and many dozens of entrances.

- A. Scissor-like jaws
- B. Pulp-like material
- C. Leaf-cutters
- D. Containing fungus
- E. None of the Above or All of the Above

#### Beneficial Insects

156. Leaf-cutter ants help maintain the health of the environment. The by-products from the leaves, fungi, and ant wastes \_\_\_\_\_.

- A. Scissor-like jaws
- B. Pulp-like material
- C. Fertilize the soil
- D. Containing fungus
- E. None of the Above or All of the Above

#### Recommended Products and Treatments

157. It is recommended that you drench the mounds with a weakened diluted \_\_\_\_\_; such as Conquer.

- A. Scissor-like jaws
- B. Pulp-like material
- C. Leaf-cutters
- D. Containing fungus
- E. None of the Above or All of the Above

History

158. Since the early 1900s, \_\_\_\_\_ have spread to almost every corner of the globe by hitchhiking on cargo ships.

- A. Scissor-like jaws
- B. Pulp-like material
- C. Inbred animals
- D. Argentine ants
- E. None of the Above or All of the Above

159. However, new research is revealing that the impressive expansion of what has become the most common household pest in the world has also led to intense inbreeding that's now causing the ants to become \_\_\_\_\_ toward their own kind.

- A. Unnaturally hostile
- B. Inbred animals
- C. Leaf-cutters
- D. Argentine ants
- E. None of the Above or All of the Above

160. "It's sort of an unusual state of affairs," said Tsutsui of the Californian super colony. "Because most invading Argentine ants sprang from a few ants that came on ships, they tend to have a limited variety of genes in their colonies, like any \_\_\_\_\_ would.

- A. Scissor-like jaws
- B. Inbred animals
- C. Leaf-cutters
- D. Argentine ants
- E. None of the Above or All of the Above

161. "In their native habitat, Argentine ant colonies can hold a wide array of ants with diverse genes. That makes the ants remarkably tolerant of Argentine ants that are \_\_\_\_\_, something they can detect through odor", explained biologist David Queller of Rice University.

- A. Unnaturally hostile
- B. Genetically different
- C. Leaf-cutters
- D. Inbred animals
- E. None of the Above or All of the Above

162. "Because the globe-trotting ants have formed very large colonies in foreign lands with very little genetic diversity, they now react \_\_\_\_\_ to ants that smell like they are not part of their big, inbred family", said Tsutsui. "

- A. Unnaturally hostile
- B. Genetically different
- C. Unusually aggressively
- D. Inbred animals
- E. None of the Above or All of the Above

163. "The irony of the situation is that the \_\_\_\_\_ actually could benefit from the influx of new genes", said Tsutsui. "In large gene pools there are often useful genes hidden in the population that help species survive disease outbreaks or changes in their environment. By attacking the more genetically diverse ants, the super colonies could be hurting their long-term survival".

- A. History of life
- B. Argentine ant
- C. Super colonies
- D. Odorous house ant
- E. None of the Above or All of the Above

164. "On a more theoretical level, it's just fascinating to watch a species switch from being unusually cooperative to being aggressive", said Queller, "because those are two fundamental survival strategies seen throughout the \_\_\_\_\_".

- A. History of life
- B. Argentine ant
- C. Super colonies
- D. Odorous house ant
- E. None of the Above or All of the Above

#### Characteristics

165. Size: About 1/8"-inch long.

Color: Brown. It is most often confused with the \_\_\_\_\_, but the node of the Argentine ant has a sharp, pointed peak, while that of the odorous house ant is flat in shape and is hidden by the gaster.

- A. History of life
- B. Argentine ant
- C. Super colonies
- D. Odorous house ant
- E. None of the Above or All of the Above

166. The Argentine ant is a one node, small, shiny, brown ant with only one size of worker.

Workers are usually about 1/12 to \_\_\_\_\_ long. The queen ants are much larger, sometimes reaching 1/4 inch in length.

- A. History of life
- B. 1/8 inch
- C. Super colonies
- D. 1/4 inch
- E. None of the Above or All of the Above

#### Habitat and Behavior

167. This species is common in the Southeastern US, and is a major problem

in \_\_\_\_\_. A 1990 survey of urban pest ants in California showed this ant to comprise 25% of all samples collected.

- A. Southern California
- B. Southeastern US
- C. Super colonies
- D. California
- E. None of the Above or All of the Above

#### Super Huge Colonies

168. An Argentine ant colony can suffer the loss of 99% of the colony's individuals, and the colony can still survive and rebuild. No significant natural enemy of this species currently exists in the \_\_\_\_\_.

- A. Southern California
- B. Southeastern US
- C. United States
- D. California
- E. None of the Above or All of the Above

Control

169. This Ant is Successful and Very Hard to Control Because: Different Argentine ant colonies in a same general locale are not enemies. Even the many queens in a \_\_\_\_\_ or separate colonies are friendly to each other.

- A. Single colony
- B. Infest or colonize
- C. Argentine ants
- D. Omnivorous
- E. None of the Above or All of the Above

170. Argentine ants are not too "picky" when choosing a suitable site to \_\_\_\_\_. They readily move their nests during the changing seasons and other conditions.

- A. Single colony
- B. Infest or colonize
- C. Argentine ants
- D. Omnivorous
- E. None of the Above or All of the Above

171. These pests are \_\_\_\_\_; they seem to never be in short supply of food.

- A. Single colony
- B. Infest or colonize
- C. Argentine ants
- D. Omnivorous
- E. None of the Above or All of the Above

172. Each colony of \_\_\_\_\_ contains a multitude of workers.

- A. Single colony
- B. Infest or colonize
- C. Argentine ants
- D. Omnivorous
- E. None of the Above or All of the Above

173. Each worker is more courageous and harder worker than most ants. Creatures that attempt to prey on \_\_\_\_\_ are confronted with an army of stubborn bugs that never run from a fight!

- A. Single colony
- B. Infest or colonize
- C. Argentine ants
- D. Omnivorous
- E. None of the Above or All of the Above

174. The queens of most ant species are usually \_\_\_\_\_ machines. The queen ant of Argentines actually helps in the care, grooming, and feeding of her young.

- A. Single colony
- B. Infest or colonize
- C. Egg-laying
- D. Omnivorous
- E. None of the Above or All of the Above

175. A \_\_\_\_\_ (as seen with fire ants and carpenter ants) has about 1 chance in 1,000 of surviving and successfully reproducing.

- A. Single colony
- B. Infest or colonize
- C. Argentine ants
- D. Swarmer reproductive
- E. None of the Above or All of the Above

#### Control of Argentine Ants

176. Argentine ants are difficult to control for the following reasons: All ants are \_\_\_\_\_ (complete metamorphosis), having an egg, larval, pupal, and adult stage. Foraging adult ants are only a fraction of the total colony.

- A. Southern California
- B. Holometabolous
- C. Super colonies
- D. California
- E. None of the Above or All of the Above

177. The colony supports \_\_\_\_\_ if ant populations are large. If a broadcast spray around the house is the primary method of control, the Argentine ant workers and queens will scatter.

- A. Southern California
- B. Multiple queens
- C. Super colonies
- D. Not territorial
- E. None of the Above or All of the Above

178. Unlike many other \_\_\_\_\_, Argentine ants from different colonies do not fight. Therefore, their spread is less limited because they are not territorial.

- A. Ant species
- B. Multiple queens
- C. Super colonies
- D. Not territorial
- E. None of the Above or All of the Above

179. After the chemical breaks down, the ants will return because they are constantly \_\_\_\_\_ for food, water, and nesting sites.

- A. Scouting and foraging
- B. Southeastern US
- C. Super colonies
- D. California
- E. None of the Above or All of the Above

180. Heavy mulch against the walls of houses creates pockets of moisture that these ants need. Potted plants are a favorite nesting site. Moving infested pots into the house can create an \_\_\_\_\_.

- A. Southern California
- B. Southeastern US
- C. Super colonies
- D. Indoor infestation
- E. None of the Above or All of the Above



181. These characteristics combine to create a \_\_\_\_\_. Argentine ant control is an ongoing effort. Due to the large size of colonies and their rapid mobility, even if one colony is eliminated, another will move into the area over time.

- A. Chemical strategies
- B. Pest control nightmare
- C. Super colonies
- D. Pest management
- E. None of the Above or All of the Above

#### IPM Control Program

182. An Integrated Pest Management (IPM) approach offers a greater chance for control of the Argentine ant. An IPM approach incorporates all available control methods into a \_\_\_\_\_ program.

- A. Chemical strategies
- B. Pest control nightmare
- C. Super colonies
- D. Pest management
- E. None of the Above or All of the Above

#### Collection Tip

183. The \_\_\_\_\_ will slow the ants down or kill them. When they are immobilized, the ants can be easily tapped into a vial of alcohol and submitted for identification.

- A. Chemical strategies
- B. Pest control nightmare
- C. Cold temperatures
- D. Pest management
- E. None of the Above or All of the Above

#### Inspection

184. If trails are not obvious, placing an index card with a dab of honey or sugar water where ants have been seen may help locate \_\_\_\_\_ as ants recruit to the sugar source. In general, treatments are not effective if they are not placed where ants are found.

- A. Chemical strategies
- B. Pest control nightmare
- C. Established trails
- D. Pest management
- E. None of the Above or All of the Above

#### Sanitation

185. Eliminate sources of moisture (such as leaky faucets, plumbing, and free-standing water) and food because these ants are \_\_\_\_\_.

Clean windows of dead insects. These ants will feed on dead insects.

- A. Scavengers
- B. Pest control nightmare
- C. Established trails
- D. Pest management
- E. None of the Above or All of the Above

186. Remove the food source if ants are trailing to food. With a mild detergent, wipe ant trails after food is removed to erase the \_\_\_\_\_. The trail pheromone is a special chemical that foraging ants lay down to guide other foraging ants to food or to a new nesting place.

- A. Scavengers
- B. Pest control nightmare
- C. Established trails
- D. Trail pheromone
- E. None of the Above or All of the Above

#### Physical Exclusion

187. \_\_\_\_\_ and crevices in the house.

\* Keep branches from coming in contact with your house (ants will walk on them into the house).

- A. Scavengers
- B. Caulk cracks
- C. Established trails
- D. Trail pheromone
- E. None of the Above or All of the Above

#### Chemical

188. Apply chemicals judiciously. Precision spot treatments at points of entry into the house, such as around window sills and door thresholds, may be effective. Broadcast spraying for these ants is unwise. A \_\_\_\_\_ will make the area repellent to ants. Ants will not feed on bait that is placed in the vicinity of a repellent liquid insecticide.

- A. Chemical strategies
- B. Caulk cracks
- C. Liquid insecticide
- D. Pest management
- E. None of the Above or All of the Above

189. Bait stations designed for outdoor and indoor use have been reported to be effective in killing these ants. Look for products with delayed toxicants, such as \_\_\_\_\_ and sulfluramid.

- A. Chemical strategies
- B. Hydramethylnon
- C. Liquid insecticide
- D. Pest management
- E. None of the Above or All of the Above

190. 1 percent \_\_\_\_\_ in a 10 percent sugar solution is a homemade remedy for many sweet-loving ants, such as the Argentine ant. There are several disadvantages to this bait. First, it is very slow-acting.

- A. Chemical strategies
- B. Boric acid
- C. Established trails
- D. Hydramethylnon
- E. None of the Above or All of the Above

#### Odorouse House Ant

191. This native species, found throughout the United States, produces a \_\_\_\_\_ when crushed. It smells like a "rotten coconut". I like to call these nasty little critters "Piss Ants".

- A. Chemical strategies
- B. Boric acid
- C. Foul odor
- D. Hydramethylnon
- E. None of the Above or All of the Above

#### Appearance

192. The workers are about 1/16 to 1/8" (2.4 to 3.25mm) long, and their bodies are brown to black. The antennae have \_\_\_\_\_.

- A. Chemical strategies
- B. Boric acid
- C. Foul odor
- D. 12 segments
- E. None of the Above or All of the Above

#### Reproduction

193. Females in the nest lay one egg daily. It takes an average of \_\_\_\_\_ for the young to reach adulthood. The nest colonies range from 100 to 10,000 ants, but can be driven away by invading Argentine ants. Argentine ants generate strong pheromone trails when foraging. They can be easily tracked. In many areas, you will see them pathing three and four abreast.

- A. 24 days
- B. Boric acid
- C. Day and night
- D. 12 segments
- E. None of the Above or All of the Above

#### Inspection

194. They forage \_\_\_\_\_, and their nests can occur in a great variety of situations. Inside, these ants usually construct their nests in wall voids, especially around hot water pipes and heaters, in crevices in sinks, cupboards, etc. Outside, they are found in exposed soil, usually shallow, often located beneath a board, brick, stone walk, etc. They are most likely to enter buildings when their honeydew supply or sweet supply of food is reduced; such as during rainy weather or with leaf fall in the autumn.

- A. 24 days
- B. Boric acid
- C. Day and night
- D. HydramethylNon
- E. None of the Above or All of the Above

#### Diet

195. They can feed on anything from other insects, honeydew, seeds, and plant secretions, but do prefer sweets. They are extremely fond of honeydew and attend such honeydew-excreting insects as plantlice (aphids), scale insects, \_\_\_\_\_, etc.

- A. Mealybugs
- B. Boric acid
- C. Day and night
- D. Honeydew
- E. None of the Above or All of the Above

#### IPM Control Program

196. An Integrated Pest Management (IPM) approach offers a greater chance for control of ants. An IPM approach incorporates all available control methods into a pest management program. IPM methods include identification, \_\_\_\_\_, sanitation, exclusion, and chemical strategies.

- A. Mealybugs
- B. Boric acid
- C. Inspection
- D. HydramethylNon
- E. None of the Above or All of the Above

197. Ants can be a real nuisance on golf courses when their nesting and \_\_\_\_\_ occur in high-profile areas. Ant mounds disrupt the smoothness and uniformity of putting surfaces, dull mower blades, and can smother closely-mowed turf.

- A. Mealybugs
- B. Mound-building
- C. Inspection
- D. HydramethylNon
- E. None of the Above or All of the Above

198. Golf superintendents often report problems eliminating these pests with \_\_\_\_\_.

- A. Diazinon
- B. Boric acid
- C. Conventional insecticides
- D. Hydramethylnon
- E. None of the Above or All of the Above

199. The results have been promising, and some of these new products are already catching on with \_\_\_\_\_. We are also studying the beneficial aspects of turf-infesting ants, especially their importance as predators on eggs and larvae of other insect pests.

- A. Superintendents
- B. Boric acid
- C. Conventional insecticides
- D. Hydramethylnon
- E. None of the Above or All of the Above

200. The primary nuisance ant pest of turf is \_\_\_\_\_, a species that is widespread in the United States. In many areas, Lasius seems to be responsible for most, if not virtually all, ant hills on putting greens.

- A. Superintendents
- B. Boric acid
- C. Lasius neoniger,
- D. Hydramethylnon
- E. None of the Above or All of the Above

**You are finished with your examination, please fax or e-mail your answer key and registration page to TLC. Always call us to ensure we've received the work.**

## Ant Control CEU Training Awareness Assignment #4 For Students Names R-Z

You will have 90 days from the start of this course to have successfully passed 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. This assignment is available to you in a Word Format on TLC's Website. You can find online assistance for this course on the in the Search function on Adobe Acrobat PDF to help find the answers. Once you have paid the course fee, you will be provided complete course support from Student Services (928) 468-0665.

Write your answers on the Answer Key found in the front of this assignment.

1. We will require all students to fax or e-mail a copy of their driver's license with the registration form.
2. You will need to pick one of the following four assignments to complete. This selection process is based upon your last name.
3. If your last name begins with an A to D, you will pick assignment number 1, if your last name begins with the letter E to J, you are to complete assignment number 2 and if your last name begins with the letter K-Q, you will pick assignment number 3, and if your last name begins with the letter R-Z, you will pick assignment number 4.

### Multiple Choice, Please select one answer and mark it on the answer key.

1. The primary nuisance ant pest of turf is \_\_\_\_\_, a species that is widespread in the United States. In many areas, Lasius seems to be responsible for most, if not virtually all, ant hills on putting greens.
  - A. Superintendents
  - B. Boric acid
  - C. Lasius neoniger,
  - D. Hydramethylnon
  - E. None of the Above or All of the Above
2. Problems arise when the worker ants excavate underground nest chambers, pushing up small mounds of soil. \_\_\_\_\_ is also common in roughs, fairways, lawns, and other sunny turf sites; although there, the mounds are less conspicuous than on greens and tees.
  - A. Superintendents
  - B. Boric acid
  - C. Lasius neoniger,
  - D. Lasius
  - E. None of the Above or All of the Above
3. Baits work because they exploit the ants' behavior of sharing food and nutrients with other ants. Passing nutrients from one ant to another is called \_\_\_\_\_.
  - A. Trophallaxis
  - B. Boric acid
  - C. Lasius neoniger,
  - D. Hydramethylnon
  - E. None of the Above or All of the Above

4. If food contains a slow-acting toxicant and the ant does not detect it, the toxicant is passed throughout the colony by \_\_\_\_\_, before killing its members, including the queen. Ant baits work only if the ants eat the bait. Eliminate any alternate food sources by keeping counters clean and storing food in sealed containers.

- A. Trophallaxis
- B. Boric acid
- C. Lasius neoniger,
- D. Hydramethylnon
- E. None of the Above or All of the Above

5. The Keys to a Successful ant Management Program include the Following: Application of ant baits inside with Advance Carpenter Ant Bait, Maxforce granual, Maxforce gel, or \_\_\_\_\_. Reliance on just one or two of the above steps will generally result in failure to provide any significant relief from interior infestations.

- A. Drione
- B. Talstar G
- C. Lasius neoniger,
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

6. Correcting Conditions

Eliminate any moisture problems; such as leaks or excessive moisture around the foundation. Eliminate any food sources, including honeydew associated with aphids. Branches of trees and shrubs need to be kept cut away from the structure. \_\_\_\_\_ need to be sealed.

- A. Cracks in the structure
- B. Small stones
- C. Branches of trees
- D. Hydramethylnon
- E. None of the Above or All of the Above

Locate and Treat Colonies

7. Drench colonies living in the soil or under items on the exterior with Demand, Suspend, or Tempo. With mulch, be sure to rake it back so you can get good penetration where colonies may be thriving. Follow up with a broadcast application of granule such as \_\_\_\_\_.

- A. Drione
- B. Talstar G
- C. Lasius neoniger,
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

8. Service the Property Regularly

Inspect and service the property regularly to detect and treat any \_\_\_\_\_.

- A. Cracks in the structure
- B. Small stones
- C. Branches of trees
- D. New colonies
- E. None of the Above or All of the Above

9. Regular Perimeter Treatments

Treat the \_\_\_\_\_ regularly to establish a barrier that will keep ants away and out of the structure.

- A. Cracks in the structure
- B. Outside foundation
- C. Branches of trees
- D. New colonies
- E. None of the Above or All of the Above

10. Bait Applications on the Interior

Baits should be employed when inside colonies cannot be located and/or when combined with the strategies already mentioned. Baits such as: Advance Carpenter Ant Bait, Maxforce Granual, Maxforce Gel, Uncle Albert's Gel Bait, or \_\_\_\_\_ can be applied to areas where ants are foraging.

- A. Dr. Moss Liquid Ant Bait
- B. Talstar G
- C. Lasius neoniger,
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

11. With Dr. Moss Liquid Ant Bait, use the Dr. Moss Liquid Ant Bait Station.

The use of indoor bait stations such as the \_\_\_\_\_ will preserve and protect baits. Use the Crusader to apply your dusts or baits into those tight spots or hard to reach places.

- A. Dr. Moss Liquid Ant Bait
- B. Talstar G
- C. Ant Cafes
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

12. Regular Inspections

Regular inspections and service are necessary to find and treat new colonies as they move in from neighboring properties. These \_\_\_\_\_ can keep your home or business pest free.

We suggest a regular treatment on the exterior with Demand, Tempo, or Suspend.

- A. Dr. Moss Liquid Ant Bait
- B. Tempo
- C. Ant Cafes
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

13. General tips for limiting ant infestations include: Keep landscape mulch less than 2 inches thick and at least 12 inches away from foundations. Ensure the \_\_\_\_\_ does not spray directly onto the foundation.

- A. 2 inches thick
- B. Sprinkler system
- C. Ant Cafes
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

14. Consider re-landscaping to \_\_\_\_\_ that are prone to aphids and similar insects. At the very least, treat such plants for aphids regularly.

- A. 2 inches thick
- B. Re-landscaping
- C. Ant Cafes
- D. Uncle Albert's Gel Bait
- E. None of the Above or All of the Above

15. Agricultural Pesticide Section

All agricultural employers whose workers perform hand labor operations in fields, forests, nurseries, and greenhouses treated with pesticides, and handle pesticides in these locations are covered by the U.S. Environmental Protection Agency's worker protection standard revised

- \_\_\_\_\_.
- A. 2005
  - B. 1994
  - C. 1974
  - D. 1992
  - E. None of the Above or All of the Above

16. Agricultural employers must be in full compliance with this regulation before April 15, \_\_\_\_\_. Additionally, owners, operators, and their immediate family members must comply with some of the provisions of this standard. This supplement to "A Summary of Federal Laws and Regulations Affecting Agricultural Employers," summarizes this regulation.

- A. 2005
- B. 1994
- C. 1974
- D. 1992
- E. None of the Above or All of the Above

17. Agricultural employers must be in full compliance with the U.S. Environmental Protection Agency's (EPA) 2005 worker protection standard. This standard, which became effective on October 20, 1992, revises EPA's \_\_\_\_\_ worker protection standard. A.

- A. 2005
- B. 1994
- C. 1974
- D. 1992
- E. None of the Above or All of the Above

18. The WPS covers every agricultural employer, including \_\_\_\_\_, who have employees that perform hand labor operations in fields, forests, nurseries, and greenhouses treated with pesticides.

- A. Pesticide application
- B. Pesticide exposure
- C. Commercial agriculture
- D. Livestock producers
- E. None of the Above or All of the Above

19. Unlike other laws and regulations affecting agricultural labor, the WPS does not exempt any employment in \_\_\_\_\_ involving hand labor in fields, but owners or operators and immediate family members are specifically exempt from some provisions.

- A. Pesticide application
- B. Pesticide exposure
- C. Commercial agriculture
- D. Livestock producers
- E. None of the Above or All of the Above

20. The WPS expands coverage to include more employees and expands employers' requirements for training employees who handle pesticides, protecting employees from \_\_\_\_\_, and providing emergency assistance to exposed employees. A.

- A. Pesticide application
- B. Pesticide exposure
- C. Commercial agriculture
- D. Livestock producers
- E. None of the Above or All of the Above



Employers covered by the WPS must:

21. Reduce overall exposure to pesticides by prohibiting handlers from exposing workers during \_\_\_\_\_, excluding workers from areas being treated and areas under a restricted entry interval, and notifying workers about treated areas. Some activities are allowed during restricted entry intervals if workers are properly trained and protected.

- A. Pesticide application
- B. Pesticide exposure
- C. Commercial agriculture
- D. Livestock producers
- E. None of the Above or All of the Above

22. Mitigate exposures by requiring \_\_\_\_\_ supplies be present and emergency assistance be available.

- A. Pesticide application
- B. Pesticide exposure
- C. Commercial agriculture
- D. Livestock producers
- E. None of the Above or All of the Above

23. Inform workers about \_\_\_\_\_ by requiring safety training (workers and handlers), safety posters, access to labeling information, and access to specific information (listing of treated areas on the establishment).

- A. Pesticide application
- B. Pesticide exposure
- C. Commercial agriculture
- D. Pesticide hazards
- E. None of the Above or All of the Above

24. WPS provisions are very complicated and are likely to affect a large number of employers and their workers. States may also issue \_\_\_\_\_ standards that are stricter than the WPS.

- A. Pesticide application
- B. Pesticide exposure
- C. Worker protection
- D. Pesticide hazards
- E. None of the Above or All of the Above

25. Therefore, employers should contact their State agency that regulates the \_\_\_\_\_, Fungicide, and Rodenticide Act in cooperation with the EPA to determine whether they must comply with the WPS and local regulations.

- A. Pesticide application
- B. Federal Insecticide
- C. Commercial agriculture
- D. Worker protection
- E. None of the Above or All of the Above

Background

26. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) of 1947, as amended, sets an overall risk/benefit standard for \_\_\_\_\_, requiring that all pesticides perform their intended function, when used according to labeling directions, without imposing unreasonable risks of adverse effects on human health or the environment (Runyan, 1992).

- A. Pesticide application
- B. Pesticide exposure
- C. Pesticide registration
- D. Pesticide hazards
- E. None of the Above or All of the Above

27. During the congressional discussion of FIFRA amendments in 1972, the Senate Committee on \_\_\_\_\_ (Committee) "found protection of man and the environment to be a broad term encompassing farmers, farmworkers, and others who come into contact with pesticides..." (57 FR 38102).

- A. Pesticide application
- B. Pesticide exposure
- C. Pesticide registration
- D. Agriculture and Forestry
- E. None of the Above or All of the Above

28. The Committee further found "that the bill [The Federal Environmental Pesticide Control Act of 1972 (FEPCA)] requires the Administrator to require that the labeling and classification of pesticides be such as to protect farmers, farmworkers, and others coming in contact with pesticides or \_\_\_\_\_" (57 FR 38102).

- A. Pesticide application
- B. Pesticide residues
- C. Commercial agriculture
- D. Pesticide hazards
- E. None of the Above or All of the Above

29. Given the above mandate, the EPA issued regulations in 1974 dealing with pesticide-related occupational safety and health of workers performing hand labor operations in fields during and after \_\_\_\_\_ (40 CFR).

- A. Pesticide application
- B. Pesticide residues
- C. Commercial agriculture
- D. Application of pesticides
- E. None of the Above or All of the Above

#### Four Basic Requirements

30. These regulations contained four basic requirements:

(1) Workers are not to be sprayed with pesticides;  
(2) There are specific restricted entry intervals (REI) for 12 pesticides, interim restrictive entry levels for certain pesticides, and a general re-entry interval for all other \_\_\_\_\_ prohibiting re-entry into treated areas until sprays have dried, dusts have settled, and vapors have dispersed;

- A. Pesticide application
- B. Pesticide residues
- C. Agricultural pesticides
- D. Pesticide hazards
- E. None of the Above or All of the Above

#### 1974 Regulations

31. The EPA determined that the 1974 regulations did not adequately protect agricultural workers and pesticide handlers who were occupationally \_\_\_\_\_.

- A. Exposed to pesticides
- B. Pesticide residues
- C. Commercial agriculture
- D. Pesticide hazards
- E. None of the Above or All of the Above

Mitigating Exposures

32. \_\_\_\_\_ will be accomplished by requiring decontamination supplies and emergency assistance.
- A. Exposed to pesticides
  - B. Mitigating exposures
  - C. Commercial agriculture
  - D. Pesticide hazards
  - E. None of the Above or All of the Above

Worker Protection Standard for Agricultural Pesticides

33. Provisions of the WPS apply to: Owners or managers of farms, forests, nurseries, or greenhouses where pesticides are used in the production of \_\_\_\_\_.
- A. Agricultural plants
  - B. Mitigating exposures
  - C. Commercial agriculture
  - D. Pesticide hazards
  - E. None of the Above or All of the Above

General Duties of WPS

34. The general duties of the WPS require an agricultural employer or a pesticide handler-employer to: Assure that each worker and handler subject to the standard receives the \_\_\_\_\_.
- A. Required protections
  - B. Agricultural plants
  - C. Commercial agriculture
  - D. Pesticide hazards
  - E. None of the Above or All of the Above

35. Assure that any \_\_\_\_\_ to the standard is used in a manner consistent with the labeling of the pesticide, including the requirements in the standard.
- A. Required protections
  - B. Mitigating exposures
  - C. Pesticide subject
  - D. Pesticide hazards
  - E. None of the Above or All of the Above

36. Provide \_\_\_\_\_ and directions to each person who supervises any worker or handler to assure that each worker or handler receives the required protection. The information and directions must specify which persons are responsible for actions required to comply with the standard.
- A. Required protections
  - B. Sufficient information
  - C. Commercial agriculture
  - D. Pesticide hazards
  - E. None of the Above or All of the Above

37. Require each person who supervises any worker or handler to \_\_\_\_\_ by the worker or handler with the provisions of this standard and to assure that the worker or handler receives the required protection (40 CFR).
- A. Exposed to pesticides
  - B. Sufficient information
  - C. Assure compliance
  - D. Pesticide hazards
  - E. None of the Above or All of the Above

38. The general duties also \_\_\_\_\_ and handler employers from taking any retaliatory actions against workers attempting to comply with this standard, or from taking any action that prevents or discourages any worker or handler from complying or attempting to comply with the WPS.

- A. Assure compliance
- B. Sufficient information
- C. Commercial agriculture
- D. Prohibit agricultural
- E. None of the Above or All of the Above

#### Labeling

39. Requires everyone \_\_\_\_\_ to obey instructions printed on the pesticide container's label.

- A. Applying pesticides
- B. Sufficient information
- C. Commercial agriculture
- D. Prohibit agricultural
- E. None of the Above or All of the Above

#### Summary of WPS Requirements

40. Protection during applications -- Applicators are \_\_\_\_\_ from applying a pesticide in a way that will expose workers or other persons. Workers are excluded from areas while pesticides are being applied.

- A. Applying pesticides
- B. Sufficient information
- C. Prohibited
- D. Prohibit agricultural
- E. None of the Above or All of the Above

41. Restricted-entry intervals -- Restricted-entry intervals must be specified on all agricultural plant pesticide product labels. Workers are excluded from entering a \_\_\_\_\_ area during the restricted-entry interval, with only narrow exceptions.

- A. Applying pesticides
- B. Pesticide-treated
- C. Prohibited
- D. Prohibit agricultural
- E. None of the Above or All of the Above

42. Personal protective equipment -- Personal protective equipment must be provided and maintained for handlers and early-entry workers. Notification to workers -- Workers must be notified about treated areas so they may avoid \_\_\_\_\_.

- A. Emergency decontamination
- B. Pesticide-treated
- C. Prohibited
- D. Inadvertent exposures
- E. None of the Above or All of the Above

43. Decontamination supplies -- Handlers and workers must have an ample supply of water, soap, and towels for routine washing and \_\_\_\_\_.

- A. Emergency decontamination
- B. Pesticide-treated
- C. Commercial agriculture
- D. Inadvertent exposures
- E. None of the Above or All of the Above

44. \_\_\_\_\_ -- Transportation must be made available to a medical care facility if a worker or handler may have been poisoned or injured. Information must be provided about the pesticide to which the person may have been exposed.
- A. Emergency decontamination
  - B. Sufficient information
  - C. Emergency assistance
  - D. Inadvertent exposures
  - E. None of the Above or All of the Above
45. Access to labeling and site-specific information -- Handlers and workers must be informed of pesticide label requirements. Central posting of recent \_\_\_\_\_ is required.
- A. Emergency decontamination
  - B. Pesticide applications
  - C. Emergency assistance
  - D. Inadvertent exposures
  - E. None of the Above or All of the Above
46. "Agricultural Use Requirements - Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains \_\_\_\_\_, decontamination, notification, and emergency assistance.
- A. Emergency decontamination
  - B. Pesticide applications
  - C. Emergency assistance
  - D. Requirements for training
  - E. None of the Above or All of the Above
47. Some pesticide uses are not covered by WPS, even when the Agricultural Use Requirements section is on the labeling. For example, if the pesticide labeling bears an Agricultural Use Requirements section, but the product also can be applied to \_\_\_\_\_, the rights-of-way use is not covered by WPS.
- A. Rights-of-way
  - B. Pesticide applications
  - C. Emergency assistance
  - D. Requirements for training
  - E. None of the Above or All of the Above

#### WPS Requires Restricted Entry to Treated Areas

48. Restricted-entry interval (REI) is the time immediately after a \_\_\_\_\_ when entry into the treated area is prohibited or very limited. REIs are established for all pesticides used in the production of agricultural plants depending on toxicity.
- A. Rights-of-way
  - B. Pesticide application
  - C. Emergency assistance
  - D. Requirements for training
  - E. None of the Above or All of the Above
49. REIs must be specified on all \_\_\_\_\_ product labels. Workers are excluded from entering a pesticide treated area during the REI, with few narrow exceptions.
- A. Rights-of-way
  - B. Pesticide application
  - C. Emergency assistance
  - D. Inadvertent exposures
  - E. None of the Above or All of the Above

WPS Requires Notification of Applications

50. Employers must notify workers about \_\_\_\_\_ on the agricultural establishment if they will be on or within a quarter (1/4) mile of the treated area. I

- A. Rights-of-way
- B. Pesticide application
- C. Emergency assistance
- D. Inadvertent exposures
- E. None of the Above or All of the Above

51. You must provide \_\_\_\_\_ if the pesticide label has this statement in the "Directions for Use" section under the heading "Agricultural Use Requirements":

- A. Rights-of-way
- B. Pesticide application
- C. Emergency assistance
- D. Double notification
- E. None of the Above or All of the Above

52. "Notify workers of the application by warning them orally AND by posting warning signs at entrances to treated areas." If double notification is specified on the pesticide label workers must be orally notified about REIs and treated fields must be physically posted with warning signs during the REI. It is the agricultural establishment's responsibility to post \_\_\_\_\_ in the field if it is required.

- A. Rights-of-way
- B. Warning signs
- C. Emergency assistance
- D. Inadvertent exposures
- E. None of the Above or All of the Above

53. The Spanish portion of the sign may be replaced with a \_\_\_\_\_ read by the majority of non-English speaking workers. In greenhouses and nurseries, smaller signs (4.5" x 5") are acceptable.

- A. Rights-of-way
- B. Pesticide application
- C. Emergency assistance
- D. Substitute language
- E. None of the Above or All of the Above

54. Warning signs must be: If no employees were involved with treatment, or the employees do not \_\_\_\_\_ no posting is required

- A. Rights-of-way
- B. Pesticide application
- C. Emergency assistance
- D. Substitute language
- E. None of the Above or All of the Above

55. \_\_\_\_\_ must be delivered in a manner understood by workers, using an interpreter if necessary.

- A. Oral warnings
- B. Pesticide application
- C. Emergency assistance
- D. Substitute language
- E. None of the Above or All of the Above

56. WPS Requires That Specific Information Regarding Applications and Safety Be Posted at a Central Location. The \_\_\_\_\_ that information be posted (displayed) at a central location is cited by the EPA as one of the most commonly violated provisions.

- A. Oral warnings
- B. Pesticide application
- C. WPS requirement
- D. EPA
- E. None of the Above or All of the Above

#### WHAT IS THE WORKER PROTECTION STANDARD?

57. The WPS requires you to take steps to reduce the risk of pesticide-related illness and injury if you (1) \_\_\_\_\_, or (2) employ workers or pesticide handlers who are exposed to such pesticides.

- A. Oral warnings
- B. Use such pesticides
- C. WPS requirement
- D. Substitute language
- E. None of the Above or All of the Above

58. If you are an agricultural pesticide user and/or an employer of agricultural workers or pesticide handlers, the WPS requires you to provide to your employees and, in some cases, to yourself and to others: • Information about \_\_\_\_\_,

- A. Oral warnings
- B. Use such pesticides
- C. WPS requirement
- D. Exposure to pesticides
- E. None of the Above or All of the Above

#### INFORMATION

59. To ensure that employees will be informed about exposure to pesticides, the WPS requires \_\_\_\_\_:

- A. Pesticide safety training — for workers and handlers,
- B. Pesticide safety poster — to be displayed for workers and handlers,
- C. Access to labeling information — for pesticide handlers and early-entry workers, and
- D. Access to specific information — centrally located application information of pesticide treatments on the establishment.
- E. ALL of the Above

#### PROTECTION

60. To ensure that employees will be protected from exposures to pesticides, the WPS requires employers to:

• \_\_\_\_\_ early-entry workers who are doing permitted tasks in treated areas during an REI, including special instructions and duties related to correct use of PPE,

- A. Exclude
- B. Prohibit
- C. Notify
- D. Protect
- E. None of the Above or All of the Above

## MITIGATION

61. To mitigate pesticide exposures that employees receive, the WPS requires:

- \_\_\_\_\_— providing handlers and workers an ample supply of water, soap, and towels for routine washing and emergency decontamination.
- A. Providing handlers and workers an ample supply of water
- B. Making transportation available
- C. Emergency assistance
- D. Decontamination supplies
- E. None of the Above or All of the Above

## Terms You Need to Know

62. These definitions will help you determine whether you are affected by the Worker Protection Standard. These key terms have very specific meanings in the WPS. Note that these definitions may be different from definitions found in other state and \_\_\_\_\_.

- A. Federal laws and regulations
- B. Making transportation available
- C. Emergency assistance
- D. Decontamination supplies
- E. None of the Above or All of the Above

63. \_\_\_\_\_: Plants grown or maintained for commercial or research purposes. Examples: food, feed, and fiber plants, trees, turfgrass, flowers, shrubs, ornamentals, and seedlings.

- A. Agricultural plants
- B. Farms
- C. Forests
- D. Greenhouses
- E. None of the Above or All of the Above

64. \_\_\_\_\_: Operations, other than nurseries or forests, that produce agricultural plants outdoors.

- A. Agricultural plants
- B. Farms
- C. Forests
- D. Greenhouses
- E. None of the Above or All of the Above

65. \_\_\_\_\_: Operations that produce agricultural plants outdoors for wood fiber or timber products.

- A. Agricultural plants
- B. Farms
- C. Forests
- D. Greenhouses
- E. None of the Above or All of the Above

66. \_\_\_\_\_: Operations that produce agricultural plants indoors in an area that is enclosed with nonporous covering and that is large enough to allow a person to enter. Examples: polyhouses, mushroom houses and caves, and rhubarb houses, as well as traditional greenhouses.

- A. Agricultural plants
- B. Farms
- C. Forests
- D. Greenhouses
- E. None of the Above or All of the Above



67. \_\_\_\_\_: Operations that produce agricultural plants outdoors for:  
• transplants to another location, or • flower or fern cuttings.
- A. Agricultural plants
  - B. Farms
  - C. Nurseries
  - D. Greenhouses
  - E. None of the Above or All of the Above

68. Examples: flowering and foliage plants or trees; tree seedlings; live Christmas trees; vegetable, fruit, and ornamental transplants; and \_\_\_\_\_ produced for sod.
- A. Agricultural plants
  - B. Farms
  - C. Turf grass
  - D. Greenhouses
  - E. None of the Above or All of the Above

DOES THE WORKER PROTECTION STANDARD APPLY TO YOU?

69. You need the information in this section if: You own or manage a farm, forest, nursery, or \_\_\_\_\_ where pesticides are used in the production of agricultural plants. Even if you are the owner of the farm, forest, nursery, or greenhouse and you or members of your family do all the work there, you are a "WPS employer."
- A. Agricultural plants
  - B. Farms
  - C. Turf grass
  - D. Greenhouses
  - E. None of the Above or All of the Above

70. You hire or contract for the services of agricultural workers to do tasks related to the production of agricultural plants on a \_\_\_\_\_, forest, nursery, or greenhouse.
- A. Agricultural plants
  - B. Farm
  - C. Turf grass
  - D. Greenhouses
  - E. None of the Above or All of the Above

71. You operate a business in which you (or people you employ) apply pesticides that are used for the production of agricultural plants on any farm, \_\_\_\_\_, nursery, or greenhouse.
- A. Agricultural plants
  - B. Farms
  - C. Turf grass
  - D. Forest
  - E. None of the Above or All of the Above

72. Commercial pesticide handlers and their employees are included with respect to such pesticides even if the pesticide handling task (mixing, loading, disposal, etc.) takes place somewhere other than the farm, forest, \_\_\_\_\_, or greenhouse — at the commercial handling establishment or an airport hangar, for example.
- A. Nursery
  - B. Farms
  - C. Turf grass
  - D. Greenhouses
  - E. None of the Above or All of the Above

73. You operate a business in which you (or people you employ) perform tasks as a crop advisor on any farm, forest, nursery, or \_\_\_\_\_.

- A. Agricultural plants
- B. Farms
- C. Turf grass
- D. Greenhouses
- E. None of the Above or All of the Above

74. Under the WPS, you may be both a \_\_\_\_\_ and an employer of workers.

- A. Agricultural plants
- B. Worker
- C. Turf grass
- D. Handler
- E. None of the Above or All of the Above

75. Under the WPS, you may be both a \_\_\_\_\_ and an employer of handlers.

- A. Agricultural plants
- B. Worker
- C. Turf grass
- D. Handler
- E. None of the Above or All of the Above

#### WHO DOES THE WPS PROTECT?

76. Depending on the tasks being performed, you may need to provide the same employee with worker protections on some occasions and \_\_\_\_\_ on other occasions.

- A. Pesticide handler protections
- B. Worker
- C. Worker protections
- D. Handler
- E. None of the Above or All of the Above

#### WORKERS

77. A worker is anyone who: (1) is employed (including self-employed) for any type of compensation and (2) is doing tasks, such as harvesting, weeding, or watering, relating to the production of agricultural plants on a farm, forest, nursery, or greenhouse. This term does not include persons who are employed by a \_\_\_\_\_ to perform tasks as crop advisors.

- A. Commercial establishment
- B. Worker
- C. Pesticide handler protections
- D. Handler
- E. None of the Above or All of the Above

#### PESTICIDE HANDLERS

78. A pesticide handler is anyone who: (1) is employed (including self-employed) for any type of compensation by an agricultural establishment or a commercial pesticide handling establishment that uses pesticides in the production of agricultural plants on a farm, forest, nursery, or greenhouse, and (2) is doing any of the following tasks:

• \_\_\_\_\_, handling, adjusting, or repairing the parts of mixing, loading, or application equipment that may contain pesticide residues,

- A. Handling
- B. Acting
- C. Cleaning
- D. Assisting
- E. None of the Above or All of the Above

79. Entering a greenhouse or other enclosed area after application and before the inhalation exposure level listed on the product labeling has been reached or one of the WPS ventilation criteria have been met to: – operate ventilation equipment, – adjust or remove coverings, such as tarps, used in fumigation, or – check air concentration levels,

• \_\_\_\_\_ a treated area outdoors after application of any soil fumigant to adjust or remove soil coverings, such as tarpaulins,

- A. Disposing
- B. Acting
- C. Entering
- D. Assisting
- E. None of the Above or All of the Above

#### NOT A HANDLER

80. A person is not a handler if he or she only \_\_\_\_\_ that have been emptied or cleaned according to instructions on pesticide product labeling or, if the labeling has no such instructions, have been triple-rinsed or cleaned by an equivalent method, such as pressure rinsing.

- A. Disposing
- B. Handles pesticide containers
- C. Purchase pesticides
- D. Transport unopened containers
- E. None of the Above or All of the Above

81. You are not a handler if you:

- Purchase pesticides and transport them unopened to an establishment.
- Carry unopened containers into a pesticide storage facility.
- \_\_\_\_\_ to the site where they are to be mixed, loaded, or applied.

- A. Disposing
- B. Handles pesticide containers
- C. Purchase pesticides
- D. Transport unopened containers
- E. None of the Above or All of the Above

82. You are a handler if you are loading unopened water-soluble packets into a mixing tank (because you are \_\_\_\_\_ the pesticide).

- A. Disposing
- B. Handles pesticide containers
- C. Mixing and loading
- D. Transport unopened containers
- E. None of the Above or All of the Above

#### Four Basic Requirements of WPS

83. These regulations contain four basic requirements:(3) \_\_\_\_\_ is required for any worker entering a treated area before the specific re-entry period has expired;

- A. Protective clothing
- B. Handles pesticide containers
- C. Mixing and loading
- D. Transport unopened containers
- E. None of the Above or All of the Above

Pesticide

84. Under United States law, a pesticide is also any substance or mixture of substances intended for use as a plant regulator, defoliant, or \_\_\_\_\_.

- A. Disposing
- B. Handles pesticide containers
- C. Mixing and loading
- D. Desiccant
- E. None of the Above or All of the Above

Definition Section

85. The definitions and explanations presented here are limited to key terms to show the standard's range of coverage. Readers seeking more detailed information should contact their State agency that regulates pesticides or their regional EPA office and consult Title 40 Code of Federal Regulations, Part 170, and Title 7 United States Code. \_\_\_\_\_ means any farm, forest, nursery, or greenhouse (40 CFR).

- A. Agricultural emergency
- B. Agricultural plant
- C. Agricultural establishment
- D. Agricultural employer
- E. None of the Above or All of the Above

86. \_\_\_\_\_ means any person who hires or contracts for the services of workers, for any type of compensation, to perform activities related to the production of agricultural plants, or any person who is an owner of or is responsible for the management or condition of an agricultural establishment that uses such workers (40 CFR).

- A. Agricultural emergency
- B. Agricultural plant
- C. Agricultural establishment
- D. Agricultural employer
- E. None of the Above or All of the Above

87. \_\_\_\_\_ means a sudden occurrence or set of circumstances that the agricultural employer could not have anticipated and over which the agricultural employer has no control, requiring entry into a treated area when no alternative practices would prevent or mitigate a substantial economic loss (a loss in profitability greater than that which is expected based on the experience and fluctuations of crop yields in previous years).

- A. Agricultural emergency
- B. Agricultural plant
- C. Agricultural establishment
- D. Agricultural employer
- E. None of the Above or All of the Above

88. The State, tribal, or Federal agency having jurisdiction must declare the existence of circumstances that could cause an agricultural emergency on that \_\_\_\_\_ (40 CFR).

- A. Agricultural emergency
- B. Agricultural plant
- C. Agricultural establishment
- D. Agricultural employer
- E. None of the Above or All of the Above

89. \_\_\_\_\_ means any plant grown or maintained for commercial, research, or other purposes. Included in this definition are food, feed and fiber plants, trees, turf grass, flowers, shrubs, ornamentals, and seedlings (40 CFR).

- A. Agricultural emergency
- B. Agricultural plant
- C. Agricultural establishment
- D. Agricultural employer
- E. None of the Above or All of the Above

90. Farm means any operation, other than a nursery or forest, engaged in the outdoor production of \_\_\_\_\_ (40 CFR, Section 170.3).

- A. Agricultural emergency
- B. Agricultural plants
- C. Agricultural establishment
- D. Agricultural employer
- E. None of the Above or All of the Above

91. \_\_\_\_\_ means any operation engaged in the outdoor production of any agricultural plant to produce wood fiber or timber products (40 CFR).

- A. Forest
- B. Agricultural plants
- C. Mushroom houses
- D. Greenhouse
- E. None of the Above or All of the Above

92. \_\_\_\_\_ means any operation engaged in the production of agricultural plants inside any structure or space that is enclosed with a nonporous covering and is of sufficient size to permit worker entry.

- A. Greenhouse
- B. Agricultural plants
- C. Mushroom houses
- D. Forest
- E. None of the Above or All of the Above

93. Polyhouses, \_\_\_\_\_, rhubarb houses, and similar structures are included, but not malls, atriums, conservatories, arboretums, or office buildings where agricultural plants are present primarily for aesthetic or climatic modification (40 CFR).

- A. Greenhouse
- B. Agricultural plants
- C. Mushroom houses
- D. Forest
- E. None of the Above or All of the Above

94. \_\_\_\_\_ means any agricultural activity performed by hand or with hand tools that causes a worker to have substantial contact with surfaces that may contain pesticide residues. Most hand labor activities, other than operating, moving or repairing irrigation or watering equipment, or scouting, are included (40 CFR).

- A. Hand labor
- B. Agricultural plants
- C. Mushroom houses
- D. Forest
- E. None of the Above or All of the Above

95. Handler means any person employed for any type of compensation who: (1) mixes, loads, transfers, applies, \_\_\_\_\_ containers of pesticides.
- A. Hand labor
  - B. Greenhouse
  - C. Mushroom houses
  - D. Forest
  - E. None of the Above or All of the Above
96. Nursery means any operation engaged in the \_\_\_\_\_ of any agricultural plant to produce cut flowers and ferns or plants that will be used in their entirety in another location.
- A. Hand labor
  - B. Greenhouse
  - C. Outdoor production
  - D. Forest
  - E. None of the Above or All of the Above
97. Owner means any person who has a present possessory interest (fee, leasehold, rental, or other) in an \_\_\_\_\_ covered by this part, unless that person has both leased such agricultural establishment to another person and granted that same person the right and full authority to manage and govern the use of such agricultural establishment (40 CFR).
- A. Hand labor
  - B. Outdoor production
  - C. Agricultural establishment
  - D. Forest
  - E. None of the Above or All of the Above
98. \_\_\_\_\_ means "any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest, and (2) any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant...".
- A. Hand labor
  - B. Greenhouse
  - C. Pesticide
  - D. Forest
  - E. None of the Above or All of the Above
99. Restricted entry interval means the time after the end of a \_\_\_\_\_ during which entry into the treated area is restricted (40 CFR). Treated area means any area to which a pesticide is being directed or has been directed (40 CFR).
- A. Hand labor
  - B. Treated area
  - C. Mushroom houses
  - D. Pesticide application
  - E. None of the Above or All of the Above
100. Worker means any person, including a self-employed person, who is employed for any type of compensation to perform activities relating to the production of \_\_\_\_\_ on a farm or in a greenhouse, nursery, or forest.
- A. Hand labor
  - B. Greenhouse
  - C. Mushroom houses
  - D. Agricultural plants
  - E. None of the Above or All of the Above

101. These activities include \_\_\_\_\_ tasks (weeding, planting, cultivating, and harvesting) and other tasks in the production of agricultural plants (such as operating or moving irrigation equipment).

- A. Hand labor
- B. Greenhouse
- C. Mushroom houses
- D. Agricultural plants
- E. None of the Above or All of the Above

102. Even when over 99 percent of foraging workers are \_\_\_\_\_, the colony may rebuild to its original numbers.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

103. Location and total \_\_\_\_\_ is the most direct way to eliminate this ant infestation. Ant baits, described above, can again be a useful tool in eradicating inside-the-home ant nests, although baits may not work as well with carpenter ants as with the other species mentioned.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

104. Workers must eat the bait, take it back to the nest, and feed it to the queen and \_\_\_\_\_. This type of control is incompatible with treatments that prevent workers from returning to the nest with the bait.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Larval ants
- E. None of the Above or All of the Above

#### IPM Control Program

105. An Integrated Pest Management (IPM) approach offers a greater chance for \_\_\_\_\_. An IPM approach incorporates all available control methods into a pest management program.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

106. IPM methods include identification, inspection, \_\_\_\_\_, exclusion, and chemical strategies.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Sanitation
- D. Submitted for identification
- E. None of the Above or All of the Above

Collection Tip

107. One way to collect ants \_\_\_\_\_ is to place a dab of honey or sugar water in the center of an index card. Place the index card covered in ants into a plastic bag, then place the bag in the freezer. The cold temperatures will slow the ants down or kill them.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

108. When they are immobilized, the ants can be easily tapped into a vial of alcohol and \_\_\_\_\_.

- A. Killed by insecticide sprays
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

109. Various Ants and Ant Control Methods Section

The Acrobat Ant, *Crematogaster* sp., \_\_\_\_\_, in stumps, or dead wood, and occasionally invades the home.

- A. Nests under stones
- B. Destruction of the nest
- C. Control of ants
- D. Submitted for identification
- E. None of the Above or All of the Above

110. These ants have a \_\_\_\_\_ that is often held up over their bodies. They feed primarily on honeydew produced by aphids.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

111. Acrobat ants get their name from their unique habit of sometimes running while holding their abdomen above their thorax when disturbed. This gives them the \_\_\_\_\_ who walks on his or her hands.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

112. These ants do not build large, \_\_\_\_\_. Instead, they are more likely to be found nesting in dead tree limbs, hollow logs, fallen trees, old tree stumps, or even the hollow cavity of a tree.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above



113. Acrobat ant colonies can be found in any organic litter or mulch and beneath stacks of firewood, under stepping stones, landscape timbers, bird baths, etc. They are often found in shrubs or ornamentals, feeding on insects and the honeydew produced by aphids. All of these areas must be taken into consideration when eliminating \_\_\_\_\_.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

114. Worker ants enter a homes or other structure by crawling along electrical and phone lines. They also access homes from shrubs or trees that are too close to or touching the building or by simply crawling up the outside walls to enter around windows, doors, cracks, crevices, or through vents. It would be very difficult (if not impossible) to \_\_\_\_\_.

- A. Eliminate all access points
- B. Appearance of an acrobat
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

115. The \_\_\_\_\_, *Iridomyrmex humilus* (Mayr), workers are light to dark brown and generally nest outdoors. It is not common in areas infested by the red imported fire ant.

- A. Heart-shaped abdomen
- B. Argentine Ant
- C. Above ground mounds
- D. Acrobat ant infestations
- E. None of the Above or All of the Above

116. The Bigheaded Ant, *Pheidole megacephala* (Fabricius). Worker ants have relatively large heads compared to their bodies. They have a \_\_\_\_\_ and 3-segmented clubs. Their habits are similar to red imported fire ants, feeding on live and dead insects, seeds, and honeydew outdoors, and greasy food sources and sweets indoors.

- A. Heart-shaped abdomen
- B. Appearance of an acrobat
- C. Above ground mounds
- D. 12- segmented antenna
- E. None of the Above or All of the Above

117. Workers of the \_\_\_\_\_, *Paratrechina longicornis*, are fast-running, grayish black ants with long legs and antennae. They nest primarily outdoors, but they will forage in homes. Although they are omnivorous, they are difficult to attract to ant baits.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

118. The little \_\_\_\_\_, *Monomorium minimum*, is a slow-moving, small black ant that is generally not a pest indoors. Workers prey on insects and feed on honeydew produced by sucking-types of insects, such as aphids. The little black ant is versatile, nesting both indoors and outdoors.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

119. Outdoor colonies are found under stones/rocks, in rotting logs, in lawns, or in open areas. \_\_\_\_\_ can be located by the small craters of fine soil which are deposited at their entrances.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

120. Foraging and Feeding of the Black Ant

They feed on \_\_\_\_\_ as a source of honeydew, plant secretions and are predaceous on other insects. In the home the little black ant will feed on almost any food items it can find, such as grease, oil, meats, sweets, fruits and vegetable materials such as corn meal.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

121. The \_\_\_\_\_ is native to the United States and can be found throughout the country. They are most populous in the eastern half of the U.S., in southern California, and in the bay area of San Francisco.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

122. Workers of the \_\_\_\_\_, *Tetramorium caespitum* (Linnaeus), also resemble the fire ant, but on close examination, the head and thorax are roughened with parallel grooves, rather than being smooth.

- A. Crazy Ant
- B. Black Ant
- C. Pavement Ant
- D. Aphids
- E. None of the Above or All of the Above

Control

123. To avoid further infestations indoors, all \_\_\_\_\_ in exterior walls should be sealed.

- A. Cracks and gaps
- B. Interior walls
- C. Sweet baits
- D. Areas under stones
- E. None of the Above or All of the Above

124. Infested \_\_\_\_\_ and voids in the outside ground-floor walls may be treated by aerosol injection of a suitable insecticide (CB-80, CB-Invader, CB-Strikeforce) or by an application of a dust formulation (Delta Dust). Baiting, however, may also be necessary.

- A. Cracks and gaps
- B. Interior walls
- C. Sweet baits
- D. Areas under stones
- E. None of the Above or All of the Above

125. Baits should be positioned where ant trails have been established. \_\_\_\_\_ are generally the most effective; however, if acceptance is low, a protein-based bait may be considered.

- A. Cracks and gaps
- B. Interior walls
- C. Sweet baits
- D. Areas under stones
- E. None of the Above or All of the Above

126. Carpenter ants tunnel into wood to form nest galleries. If they go unnoticed for several years, they may cause structural damage. Outdoors, the ants use dead trees or tree limbs, stumps, logs or \_\_\_\_\_ as nesting sites.

- A. Cracks and gaps
- B. Areas under stones
- C. Sweet baits
- D. Interior walls
- E. None of the Above or All of the Above

127. Once the carpenter ant nest has been located, control is relatively easy. Treatment options include use of a \_\_\_\_\_ or residual contact insecticide applied as a dust or spray to the nest.

- A. Bait
- B. Areas under stones
- C. Sweet baits
- D. Interior walls
- E. None of the Above or All of the Above

128. Read and follow the product label for best results. It may be necessary to drill small holes in the wall voids, \_\_\_\_\_, and window and doorsills to reach the nest or major part of the colony. Nests can also be removed and infested wood replaced, if feasible.

- A. Cracks and gaps
- B. Areas under stones
- C. Baseboards
- D. Interior walls
- E. None of the Above or All of the Above

129. Carpenter ants are most active in the evening hours, \_\_\_\_\_, both inside the house and outside. By following the ants, you may be able to tell where the nest is.

- A. Foraging for all kinds of food
- B. Push the sawdust
- C. Insecticide dust
- D. Trim all trees
- E. None of the Above or All of the Above

130. Because carpenter ants keep the tunneled galleries very clean and \_\_\_\_\_ and dead insect parts out small holes in the wood, a small, fresh pile of sawdust under the nest timber is the usual sign of an active carpenter ant nest.

- A. Foraging for all kinds of food
- B. Push the sawdust
- C. Insecticide dust
- D. Trim all trees
- E. None of the Above or All of the Above

131. Once a nest is found, treatment is usually easy with either an \_\_\_\_\_ or spray. Injection of insecticide into wall voids or the nest itself may be necessary to insure complete control.

- A. Foraging for all kinds of food
- B. Push the sawdust
- C. Insecticide dust
- D. Trim all trees
- E. None of the Above or All of the Above

132. To prevent further carpenter ant infestations, \_\_\_\_\_ and bushes so branches do not touch the house and correct moisture problems such as leaky roofs and plumbing.

- A. Foraging for all kinds of food
- B. Push the sawdust
- C. Insecticide dust
- D. Trim all trees
- E. None of the Above or All of the Above

133. \_\_\_\_\_ exposed wood construction before it becomes wet. Replace previously ant-infested wood, rotted or water-damaged wooden parts of the structure and eliminate wood/soil contacts. Remove dead stumps on the property and store firewood off the ground and away from the structure.

- A.. Paint and/or seal
- B. Push the sawdust
- C. Insecticide dust
- D. Trim all trees
- E. None of the Above or All of the Above

134. Unlike other home-inhabiting ants, carpenter ants cause structural damage to wood by \_\_\_\_\_ inside wood structures. However, they rarely nest in sound wood, but consistently invade wood that has become wet and started to decay.

- A. Foraging for all kinds of food
- B. Push the sawdust
- C. Insecticide dust
- D. Tunneling and nesting
- E. None of the Above or All of the Above

135. The best way to control carpenter ants that inhabit a dwelling is to find the nest and \_\_\_\_\_.

- A. Destroy it
- B. Continue to produce
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

136. Insecticide sprays inside the home will kill some of the worker ants, but unless the entire nest is treated, the queen will \_\_\_\_\_ additional members of the colony.

- A. Destroy it
- B. Continue to produce
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

137. Locating a nest can be difficult because nests may be in locations \_\_\_\_\_ or roof rafters. At this point, some homeowners may prefer to work with a professional pest control company.

- A. Destroy it
- B. Continue to produce
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

138. The most likely places to find carpenter ant nests are where wood has been wet and weathered, such as rotting timbers about the foundation, window sills, porches, \_\_\_\_\_, and in rafters under a leaky roof.

- A. Around leaky plumbing
- B. Continue to produce
- C. Within the walls
- D. Perimeter of a home
- E. None of the Above or All of the Above

#### Perimeter Insecticide Treatments

139. The most commonly used method for controlling carpenter ants is treating the \_\_\_\_\_ with a dust or spray. There are several products available for this type of application, but Suspend SC, Talstar Concentrate and Cynoff WP are the best. When used in accordance with their labels they work well.

- A. Destroy it
- B. Perimeter of a home
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

140. These treatments do not keep ants from entering a home from overhead trees and power lines. Also, as a stand alone treatment, they rarely eliminate ants \_\_\_\_\_.

- A. Inside voids and walls
- B. Continue to produce
- C. Within the walls
- D. Around leaky plumbing
- E. None of the Above or All of the Above

#### Pharaoh Ant *Monomorium pharaonis*

141. Pharaoh workers are very small (about 1/16-inch long), light yellow to reddish brown in color, with the abdomen (hind portion of body) somewhat darker. \_\_\_\_\_.

- A. There is no stinger
- B. Pseudomonas
- C. Sugar ant
- D. Worker ants
- E. None of the Above or All of the Above

#### Pest Status

142. Very common throughout the U.S. and the most commonly occurring indoor ant; in hospitals, it can be a carrier of more than a dozen pathogenic bacteria, including Staphylococcus, Salmonella, \_\_\_\_\_, and Clostridium; these ants do not sting and usually do not bite.

- A. There is no stinger
- B. Pseudomonas
- C. Sugar ant
- D. Worker ants
- E. None of the Above or All of the Above

143. Life Cycle and Habits

Description: Also called the \_\_\_\_\_, odorous or piss ant, these are some of the smallest ants, the workers are about 1/12-16 inch long, with a light tan to reddish body. Over 200 species of ants are known to exist in the U.S. A number of other ant species are occasionally encountered in and around the home.

- A. There is no stinger
- B. Pseudomonas
- C. Sugar ant
- D. Worker ants
- E. None of the Above or All of the Above

Life Cycle

144. Development of \_\_\_\_\_ progresses from eggs (5-6 days), to several larval stages (22-24 days), pre-pupal stage (2 to 3 days), a pupae (9-12 days), and adult ants, thus taking from 38 to 45 days from egg to adult (4 days longer for sexual forms).

- A. Worker ants
- B. Pseudomonas
- C. Sugar ant
- D. Queen ants
- E. None of the Above or All of the Above

145. Colonies consist of one to several hundred \_\_\_\_\_, sterile female worker ants, periodically produced winged male and female reproductive ants (sexuals), and brood (developmental stages).

- A. Worker ants
- B. Pseudomonas
- C. Sugar ant
- D. Queen ants
- E. None of the Above or All of the Above

Female Pharaoh

146. A Female Pharaoh ant can lay \_\_\_\_\_ in her lifetime.

- A. 400 or more eggs
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above

147. Most lay \_\_\_\_\_ per batch in the early days of egg production and only 4 to 7 eggs per batch later.

- A. 400 or more eggs
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above

148. At 80°F and 80 percent relative humidity, eggs hatch in \_\_\_\_\_. The larval period is 18 to 19 days, prepupal period three days and pupal period nine days.

- A. 400 or more eggs
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above

149. About four more days are required to produce sexual female and male forms. The entire life cycle takes about \_\_\_\_\_ depending on temperature and relative humidity. Unlike most ants, they breed continuously throughout the year in heated buildings and mating occurs in the nest.

- A. 38 to 45 days
- B. 10 to 12 eggs
- C. 5 to 7 days
- D. 38 to 45 days
- E. None of the Above or All of the Above

150. Periodically a queen, together with a few workers carrying \_\_\_\_\_(eggs, larvae, and pupae), leaves the nest and sets up a new colony elsewhere, quickly spreading an infestation.

- A. Immatures
- B. Fractionating
- C. Thimble
- D. Overcrowding
- E. None of the Above or All of the Above

151. This behavior pattern is known as "satelliting," " \_\_\_\_\_" or "budding" where part of the colony migrates to a new location rather than by single females dispersing after a reproductive swarm.

- A. Immatures
- B. Fractionating
- C. Thimble
- D. Overcrowding
- E. None of the Above or All of the Above

152. Budding may occur due to \_\_\_\_\_, seasonal changes in the building's central heating and cooling system, or application of a repellent pesticide.

- A. Immatures
- B. Thimble
- C. Fractionating
- D. Overcrowding
- E. None of the Above or All of the Above

153. Nests are often so small they can be contained in a \_\_\_\_\_, located between sheets of paper, in clothing or laundry, furniture, foods, etc.

- A. Immatures
- B. Fractionating
- C. Thimble
- D. Overcrowding
- E. None of the Above or All of the Above

154. They prefer dark, warm areas near hot water pipes and \_\_\_\_\_, in bathrooms, kitchens, intensive care units, operating rooms, etc.

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

155. They are "trail-making" ants and often are found foraging in drains, toilets, \_\_\_\_\_, bedpans, and other unsanitary sites, as well as in sealed packs of sterile dressing, intravenous drip systems, on surgical wounds, food, and medical equipment.

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

Habitat, Food Source(s), Damage

156. Mouthparts are for chewing. Pharaoh ants are \_\_\_\_\_, feeding on sweets (jelly, particularly mint apple jelly, sugar, honey, etc.), cakes and breads, and greasy or fatty foods (pies, butter, liver, and bacon).

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

157. Nests can be found outdoors and almost anywhere indoors (light sockets, potted plants, wall voids, attics, in any cracks and \_\_\_\_\_) particularly close to sources of warmth and water.

- A. Heating tapes
- B. Washbasins
- C. Omnivorous
- D. Crevices
- E. None of the Above or All of the Above

Pharaoh Ant Control Measures

158. Pharaoh ants are usually much harder to control than other ants because of their \_\_\_\_\_.

- A. Ability to disperse
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

159. There may be dozens or \_\_\_\_\_ in a single building and when a few colonies are missed during control, populations will quickly rebound. About 90 percent of the colony remains hidden in the nest, so even if 10 percent of the colony is killed by a residual pesticide, the remaining reservoir of ants is enormous.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

160. Conventional contact pesticide applications, especially repellent products such as pyrethrins, may spread infestations to new areas with \_\_\_\_\_ blossoming within the structure.

- A. Multiple colonies
- B. Hundreds of colonies
- C. Ability to disperse
- D. Long term
- E. None of the Above or All of the Above



161. These ants will avoid certain pesticides. Control is difficult and often \_\_\_\_\_ (months to years), depending on the building size, wall voids, etc., especially in hospitals and food plants. Complete cooperation from the property manager and residents is essential for a successful control program.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

#### Inspection

162. Carefully examine the building inside and outside from the roof to the basement, finding the ant distribution, population size, and food sources. Locate ant trails, following them to \_\_\_\_\_.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

163. A single stream of ants moving in one direction may indicate \_\_\_\_\_, not foraging. Mark the established feeding trail with a sticker and date. Trails with many ants coming and going indicate a large colony.

- A. Ability to disperse.
- B. Hundreds of colonies
- C. Multiple colonies
- D. Colony movement
- E. None of the Above or All of the Above

164. \_\_\_\_\_ (dilute honey or peanut butter on three-by-five cards) helps to identify "hot spots," but with experience, one will already know where such places are located.

- A. Ability to disperse
- B. Pre-baiting
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

165. In the winter, these ants tend to concentrate near and \_\_\_\_\_, whereas in the spring and summer, they move to the outside walls and distribute themselves throughout the building. Carefully check areas with moisture, such as pipes, faucets, air conditioners, refrigerators, drains, leaking roofs, etc.

- A. Ability to disperse
- B. Pre-baiting
- C. Multiple colonies
- D. Around heat
- E. None of the Above or All of the Above

#### Prevention

166. When insecticides are prohibited around high-tech equipment and in health areas, use sticky tapes, double-faced adhesive tapes, and \_\_\_\_\_ (glue side out) wrapped around objects as barriers.

- A. Masking tape
- B. Hundreds of colonies
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

167. Use a ring \_\_\_\_\_, non-hardening glues, sticky dust mats, or glue boards under equipment legs.

- A. Masking tape.
- B. Petroleum jelly
- C. Multiple colonies
- D. Long term
- E. None of the Above or All of the Above

168. Seal cracks and voids with \_\_\_\_\_ after applying low residual repellent insecticides such as chlorpyrifos (Dursban) or Diazinon.

- A. Masking tape.
- B. Petroleum jelly
- C. Caulking compound
- D. Long term
- E. None of the Above or All of the Above

#### Insecticides

169. In areas of active colonies, treat walls and ceiling voids through cracks and crevices with \_\_\_\_\_ and make bait placements.

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

170. Keep the ants in the area long enough to get the \_\_\_\_\_ to the main colony where the workers, larvae and queens are poisoned. (A delayed-action stomach poison is recommended.)

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

171. Repellent insecticides, such as \_\_\_\_\_, will move the colonies, spreading them further throughout the building.

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

172. Research has shown that it is best to use bait placement only where \_\_\_\_\_ are found. This ensures feeding, since some ants have not been able to find the bait even when only one inch away from the bait stations.

- A. Active ant trails
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Non-repellent boric acid dust
- E. None of the Above or All of the Above

173. Intersect the ant trail with bait on a cotton swab taken from the station to ensure instant feeding. \_\_\_\_\_ may change during the season due to changing needs of the developing colonies.

- A. Non-repellent boric acid dust
- B. Slow-acting toxicants
- C. Pyrethrins
- D. Active ant trails
- E. None of the Above or All of the Above

#### Methoprene

174. A commercial bait called \_\_\_\_\_ (Pharoid) is marketed for use by pest control operators in a bait that consists of liver, honey, and sponge cake. It is often difficult to use the bait ants prefer; as ants feed on one compound, another compound placed less than 1/4-inch away will be ignored until the ants spill over into the second bait.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

#### Boric Acid

175. Boric acid and methoprene baits work slowly, sometimes taking 15 to 40 weeks or more before ant eradication. A bait containing \_\_\_\_\_ (same as in Maxforce roach bait stations) gives quicker results, 2 to 35 days, according to certain pest control operators.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

176. There may be increased or new ant feeding activity during the early part of the \_\_\_\_\_. No other pesticides, heavy-duty cleaners, or paints should be used during the baiting periods to discourage ant feeding.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

#### Bendiocarb

177. Applications of \_\_\_\_\_ (Ficam), which is odorless, can give fast eradication of Pharaoh ants if treatments are thorough. Ficam 76 percent WP and 91 percent dust are labeled for licensed commercial and pest control operators.

- A. Methoprene
- B. Hydramethylon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

178. The bait products most recommended for Pharaoh ant control include: (boric acid plus mint apple jelly (Drax), hydramethylnon (Maxforce), methoprene (Pharoid), bendiocarb (Ficam), propoxur (Baygon) and \_\_\_\_\_(Pro-Control)).

- A. Methoprene
- B. Hydramethylnon
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

179. After bait stations are placed, one will see ants trailing to and from these bait stations. Do not spray or disturb the ants or \_\_\_\_\_. Ants must be allowed to carry the bait back into their nest where the active ingredient in the bait will eliminate the colony.

- A. Methoprene
- B. Bait stations
- C. Bendiocarb
- D. Sulfluramid
- E. None of the Above or All of the Above

180. Usually, Pharaoh ant control is best achieved by a licensed pest control operator or applicator who is trained, experienced, and has the proper equipment--an Applicator like yourself. Before using an \_\_\_\_\_, always read the label, follow directions and safety precautions.

- A. Methoprene
- B. Bait stations
- C. Bendiocarb
- D. Insecticide
- E. None of the Above or All of the Above

Red Imported Fire Ants RIFA *Solenopsis invicta*

181. Red imported fire ants (RIFA) are medium sized ants that build mounds of soft soil rarely larger than \_\_\_\_\_.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

182. Some confusion comes from the fact that red imported fire ants come in a variety of sizes (\_\_\_\_\_) with the largest workers 2 or 3 times larger than the smallest.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

Queens

183. Single queen (monogyne form): only one queen per colony or mound; slightly larger workers; members of colonies are territorial; mound densities usually \_\_\_\_\_; fewer ants per acre.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

184. Multiple queen (polygyne form): dozens of queens per colony; smaller average worker ants; colonies are interconnected; mound densities 100 to \_\_\_\_\_; more ants per acre.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

Difference between Fire Ants and Termites

185. Although most ants are recognizable, some forms of winged ants are often confused with termites, especially during the termite swarming season. The front pair of wings on ants is \_\_\_\_\_, while the four wings of termites are approximately the same size.

- A. 18" in diameter
- B. 1/16 to almost 1/4 inch long
- C. 1,000+ per acre
- D. 2080 mounds per acre
- E. None of the Above or All of the Above

186. Ants have "elbowed" antennae and a " \_\_\_\_\_," being narrow between the thorax and hind abdominal segments.

- A. Thin waist
- B. 1/16 to almost 1/4 inch long
- C. Hair-like
- D. Abdomen
- E. None of the Above or All of the Above

History

187. Fire ants are from South America. They entered the U.S. through \_\_\_\_\_, probably in soil used for ships' ballast. They were accidentally introduced around the 1930s and have been spreading ever since.

- A. Texas
- B. Mobile, Alabama
- C. 1,000+ per acre
- D. Pacific Coast
- E. None of the Above or All of the Above

188. Red imported fire ants are very aggressive, efficient competitors. Since the 1950s, the ant has been spreading northward, westward, and southward from \_\_\_\_\_. Their northward spread depends on temperature.

- A. Texas
- B. Mobile, Alabama
- C. 1,000+ per acre
- D. Pacific Coast
- E. None of the Above or All of the Above

189. Cold winters tend to push them back. Western spread is largely dependent on \_\_\_\_\_. They will mostly be found in urban areas, creek bottoms, irrigated land, etc. The entire Pacific Coast is fertile ground for infestation.

- A. Texas
- B. Water
- C. Temperature
- D. Pacific Coast
- E. None of the Above or All of the Above

Medical Importance

190. Fire ants are sensitive to \_\_\_\_\_ or movement and tend to sting when the object they are on moves.

- A. Texas
- B. Water
- C. Temperature
- D. Vibration
- E. None of the Above or All of the Above

Is Their Sting Lethal?

191. Only to a very small portion of the population who experience severe allergic reactions. Fire ants inflict a fiery sting, which causes a \_\_\_\_\_ or pustule to form at the site of each sting after several hours. The blisters become itchy while healing and are prone to infection if broken.

- A. Small blister
- B. Swelling and pain
- C. Temperature
- D. Pacific Coast
- E. None of the Above or All of the Above

If You are Stung by a Fire Ant:

192. Apply a cold compress to relieve the \_\_\_\_\_. Gently wash the affected area with soap and water and leave the blister intact. People who are allergic to insect stings should seek medical attention immediately. On rare occasions, fire ant stings can cause severe acute allergic reaction (anaphylaxis).

- A. Small blister
- B. Thickening of the tongue
- C. Temperature
- D. Swelling and pain
- E. None of the Above or All of the Above

What Should I do if I Get Stung?

193. There really isn't much you can do, except watch the area for excessive swelling, itching, or redness, or other symptoms like shortness of breath, \_\_\_\_\_, sweating, etc., that could indicate a systemic allergic reaction. Treat stings as you would stings of other insects, and keep them clean and intact to avoid getting secondary infections.

- A. Texas
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

Are They as Lethal as Killer Bees?

194. They both attack en masse and both can cause fatal allergic reactions, but that's where similarities end. \_\_\_\_\_ can overwhelm and kill even healthy, non-allergic people, but encounters are rather rare.

- A. Africanized bees
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

195. \_\_\_\_\_ can't overwhelm a healthy, mobile person and even hundreds of stings are rarely fatal. However, fire ant mounds are extremely common. So the chance of being killed by bees is higher if you come across them, but the chance of being killed by fire ants is higher only if you are highly allergic or cannot quickly get away from them. The chances of either are very small.

- A. Africanized bees
- B. Water
- C. Fire ants
- D. Thickening of the tongue
- E. None of the Above or All of the Above

#### Impact of Red Imported Fire Ants

196. There are things being done, but it's not an easy problem to solve. First, imported fire ant control using today's methods provides only \_\_\_\_\_ and costs money on a per- area basis.

- A. Temporary suppression
- B. Water
- C. Temperature
- D. Thickening of the tongue
- E. None of the Above or All of the Above

197. Research is being supported to document the impact of the imported fire ant on wildlife and evaluate ant management approaches. While some wildlife species are undoubtedly declining due to fire ants, they are also declining due to land use practices and weather extremes, for instance. There is great hope that the \_\_\_\_\_ agents currently under investigation will spread into wildlife areas and permanently reduce imported fire ant populations there.

- A. Periodic treatments
- B. Water
- C. Temperature
- D. Biological control
- E. None of the Above or All of the Above

#### Are the Ants Killing my Trees?

198. The ants are mainly using the trees as a nesting place. Ants in mounds occurring at the base of the trunk are probably not causing any damage to well-established trees and may actually be helpful by preying on other insects that are feeding on parts of the tree and \_\_\_\_\_ by tunneling in the soil.

- A. Periodic treatments
- B. Water
- C. Reducing compaction
- D. Thickening of the tongue
- E. None of the Above or All of the Above

#### Why Do Fire Ants Get into Laundry?

199. This is a convenient place that resembles lots of tunnels for the ants. Often reports of ants in laundry occur following a flood or severe drought and are observed in utility rooms, bathrooms, or near the water heater where ants have access to the area from outside. When it floods they move in into any good dark place but in \_\_\_\_\_, they tend to move to moist areas.

- A. Reducing compaction
- B. Water
- C. Periodic treatments
- D. Drought conditions
- E. None of the Above or All of the Above

Fire Ant Management Approaches

200. Can Fire Ants be Eradicated Completely?

Red imported fire ants cannot be eradicated completely with methods available today. They can be eliminated temporarily from small areas, with proper\_\_\_\_\_. Their biology and spread make it economically, technically, and ecologically impossible to eradicate them from larger areas.

- A. Reducing compaction
- B. Water
- C. Periodic treatments
- D. Control methods
- E. None of the Above or All of the Above

**You are finished with your examination, please fax or e-mail your answer key and registration page to TLC. Always call us to ensure we've received the work.**