



Practice Midterm Exam

***Raven, Berg, Hassenzahl: Environment, 7th Edition***  
***Chapter 23: Pest Management***

1. One benefit of using a machine like the "bug vac" to remove pests from crop plants is:
  - a) it targets specific pest species
  - b) one treatment per season is sufficient for pest control
  - c) it is safer for farm workers than pesticides
  - d) it is much cheaper to use than pesticides
  - e) all of these

Ans: c

Difficulty: Easy

**Response:**

Chapter Opener; 23.0

2. A narrow-spectrum pesticide would kill:
  - a) all insects in the vicinity
  - b) the organism for which it was intended
  - c) broad-leafed plants
  - d) grasses and their relatives
  - e) a variety of organisms

Ans: b

Difficulty: Easy

**Response:**

What is a Pesticide?; 23.1

3. A pesticide used to kill plants is called a/an:
  - a) fungicide
  - b) herbicide
  - c) insecticide
  - d) botanical
  - e) rodenticide

Ans: b

Difficulty: Easy

**Response:**

What is a Pesticide?; 23.1

4. Natural organic compounds produced by plants that are poisonous, particularly to insects, are known as:
  - a) narrow-spectrum pesticides
  - b) organophosphates
  - c) grass herbicides
  - d) botanicals
  - e) broad-spectrum herbicides

Ans: d

Difficulty: Easy

**Response:**

What is a Pesticide?; First-Generation and Second-Generation Pesticides; 23.1.1



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5. Botanicals:

- a) have no effect on aquatic organisms or habitats
- b) are toxic to most microorganisms
- c) would include nicotine, pyrethrin, and rotenone
- d) would include Aldicarb, Lindane, and Methoxychlor
- e) are all synthetic pesticides

Ans: c

Difficulty: Easy

**Response:**

What is a Pesticide?; First-Generation and Second-Generation Pesticides; 23.1.1

6. DDT is an example of a/an:

- a) organophosphate
- b) carbamate
- c) chlorinated hydrocarbon
- d) inorganic compound
- e) narrow-spectrum pesticide

Ans: c

Difficulty: Easy

**Response:**

What is a Pesticide?; The Major Groups of Insecticides; 23.1.2

7. Carbamates are:

- a) broad-spectrum insecticides
- b) derived from carbamic acid
- c) not as toxic to mammals as organophosphates
- d) insecticides that show broad, non-target toxicity
- e) all of these apply to carbamates

Ans: e

Difficulty: Easy

**Response:**

What is a Pesticide?; The Major Groups of Insecticides; 23.1.2

8. Pesticides are effective:

- a) at reducing crop productivity due to competition with weeds
- b) for controlling some organisms that cause diseases in humans
- c) at increasing the amount of crop damage due to insects
- d) at controlling insects and weeds, but ineffective against plant pathogens
- e) at increasing the farmer's cost for a particular crop

Ans: b

Difficulty: Easy

**Response:**

Benefits and Problems with Pesticides; Benefit: Disease Control; 23.2.1



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9. Any inherited characteristic that decreases the effect of a pesticide on a pest is known as:
- a) genetic resistance
  - b) biological amplification
  - c) resistance management
  - d) bioaccumulation
  - e) persistence

Ans: a

Difficulty: Easy

**Response:**

Benefits and Problems with Pesticides; Problem: Evolution of Genetic Resistance; 23.2.3

10. A predicament where the cost of applying pesticide increases while their effectiveness decreases is called:
- a) resistance management
  - b) persistence
  - c) biological magnification
  - d) the pesticide treadmill
  - e) chemical control

Ans: d

Difficulty: Easy

**Response:**

Benefits and Problems with Pesticides; Problem: Evolution of Genetic Resistance; 23.2.3

11. One problem associated with pesticides is that they:
- a) do not stay where they are applied
  - b) tend to move through water and soil
  - c) may move great distances from the point of application
  - d) can be transported through the atmosphere
  - e) all of these

Ans: e

Difficulty: Easy

**Response:**

Benefits and Problems with Pesticides; Problem: Mobility in the Environment; 23.2.6

12. In the United States, the individuals that are most likely to be poisoned by pesticides are:
- a) children
  - b) farm workers
  - c) women
  - d) factory workers
  - e) all of these

Ans: b

Difficulty: Easy

**Response:**

Risks of Pesticides to Human Health; Short-Term Effects of Pesticides; 23.3.1



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13. Which of the following pesticides is a known endocrine disrupter?

- a) Atrazine
- b) 2, 4 - D
- c) Butylate
- d) Malathion
- e) Aldicarb

Ans: a

Difficulty: Easy

**Response:**

Risks of Pesticides to Human Health; Pesticides as Endocrine Disrupters; 23.3.3

14. An important technique in integrated pest management is:

- a) calendar spraying
- b) monoculture
- c) only using second-generation pesticides
- d) crop rotation
- e) bioaccumulation

Ans: d

Difficulty: Easy

**Response:**

Benefits and Problems with Pesticides; Problem: Imbalances in the Ecosystem; 23.2.4

15. Using a combination of biological, chemical and cultural methods to control pests is referred to as:

- a) biological control
- b) integrated pest management (IPM)
- c) scout-and-spray
- d) biological magnification
- e) resistance management

Ans: b

Difficulty: Easy

**Response:**

Alternatives to Pesticides; 23.4

16. Which of the following correctly identifies a cultivation method that has been used to control pest organisms?

- a) interplanting two or more crops
- b) monoculture
- c) strip cutting
- d) irradiation
- e) both interplanting two or more crops and strip cutting

Ans: e

Difficulty: Easy

**Response:**

Using Cultivation Methods to Control Pests; 23.4.1



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17. The techniques of using naturally occurring disease organisms, parasites, or predators to control pests is called:
- a) biological control
  - b) biological magnification
  - c) biological amplification
  - d) bioaccumulation
  - e) genetic control

Ans: a

Difficulty: Easy

**Response:**

Alternatives to Pesticides; Biological Controls; 23.4.2

18. Pheromones are:
- a) produced by bacteria
  - b) toxins
  - c) sexual attractants
  - d) involved in metamorphosis
  - e) pesticides

Ans: c

Difficulty: Easy

**Response:**

Alternatives to Pesticides; Pheromones and Hormones; 23.4.2

19. Natural chemicals produced by insects to regulate their own growth and metamorphosis are:
- a) pheromones
  - b) hormones
  - c) biological controls
  - d) organophosphates
  - e) endocrine disrupters

Ans: b

Difficulty: Easy

**Response:**

Alternatives to Pesticides; Pheromones and Hormones; 23.4.3

20. Bt:
- a) is a potent fungicide
  - b) is classified as a botanical
  - c) is a broad-spectrum insecticide
  - d) is a narrow-spectrum herbicide
  - e) none of these

Ans: e

Difficulty: Easy

**Response:**

Alternatives to Pesticides; Case in Point: BT, Its Potential and Problems; 23.4.6



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21. Genetically modified, pest-resistant crops:

- a) may contain the toxin gene from Bt
- b) have been shown to be completely safe for non-pest insect species, such as the monarch butterfly.
- c) have not yet been developed
- d) may become invasive pests or persist in the environment longer than unmodified crops
- e) require more frequent applications of pesticide, although in lower doses, than unmodified crops

Ans: a

Difficulty: Easy

**Response:**

Alternatives to Pesticides; Genetic Controls; 23.4.5

22. Quarantine:

- a) may require the destruction of an entire crop or field to prevent further spread or infestation
- b) is a foolproof method of preventing the importation of foreign pests
- c) occurs at the entry points to the United States and has little impact on local farmers
- d) only applies to pest organisms and does not affect the import of the potential host organisms or products
- e) none of these

Ans: a

Difficulty: Easy

**Response:**

Alternatives to Pesticides; Quarantine; 23.4.7

23. The Stockholm Convention on Persistent Organic Pollutants requires that countries develop plans to eliminate production and use of Persistent Organic Pollutants (POP's). Countries have been granted an exception to this requirement for DDT because:

- a) it is found naturally in several plant species
- b) it is an inexpensive method to control mosquitoes in countries where no affordable alternatives exist
- c) it is the only method to effectively control the mosquitoes that carry malaria
- d) many countries have stockpiled large amounts of DDT, and it would be difficult and costly to eliminate all of it
- e) none of these

Ans: b

Difficulty: Easy

**Response:**

The Global Ban of Persistent Organic Pollutants; 23.6.2



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24. According to recent studies, global climate change is likely to have all of the following effects except:
- a) an increase in the use of DDT worldwide
  - b) positive feedback as more fossil fuels are used to fuel increased manufacture of certain chemicals
  - c) a decrease in the spread of Dengue Fever
  - d) an increase in the spread of malaria
  - e) all of these are likely effects of global climate change

Ans: c

Difficulty: Medium

**Response:**

Energy and Climate Change: DDT

25. Which of the following does not apply to organophosphates?
- a) they are toxic to animals other than insects
  - b) they are toxic to humans
  - c) they are organic compounds that contain phosphorus
  - d) they persist in the environment as long as chlorinated hydrocarbons
  - e) they were an outgrowth of German World War II nerve gas research

Ans: d

Difficulty: Medium

**Response:**

The Major Groups of Insecticides; 23.1.2

26. Which of the following terms is not correctly paired with its description?
- a) grass herbicides – safe for most plants
  - b) broad-leaf herbicides – do not kill grasses
  - c) selective herbicides – kill all vegetation
  - d) nonselective herbicides – kill all vegetation
  - e) none of these

Ans: c

Difficulty: Medium

**Response:**

The Major Kinds of Herbicides; 23.2.2

27. Monocultures \_\_\_\_\_ the number of agricultural pests found in any one area due to the \_\_\_\_\_ of the habitat.
- a) increase / uniformity
  - b) decrease / uniformity
  - c) decrease / complexity
  - d) increase / complexity
  - e) have no effect / Difficultiness

Ans: a

Difficulty: Medium

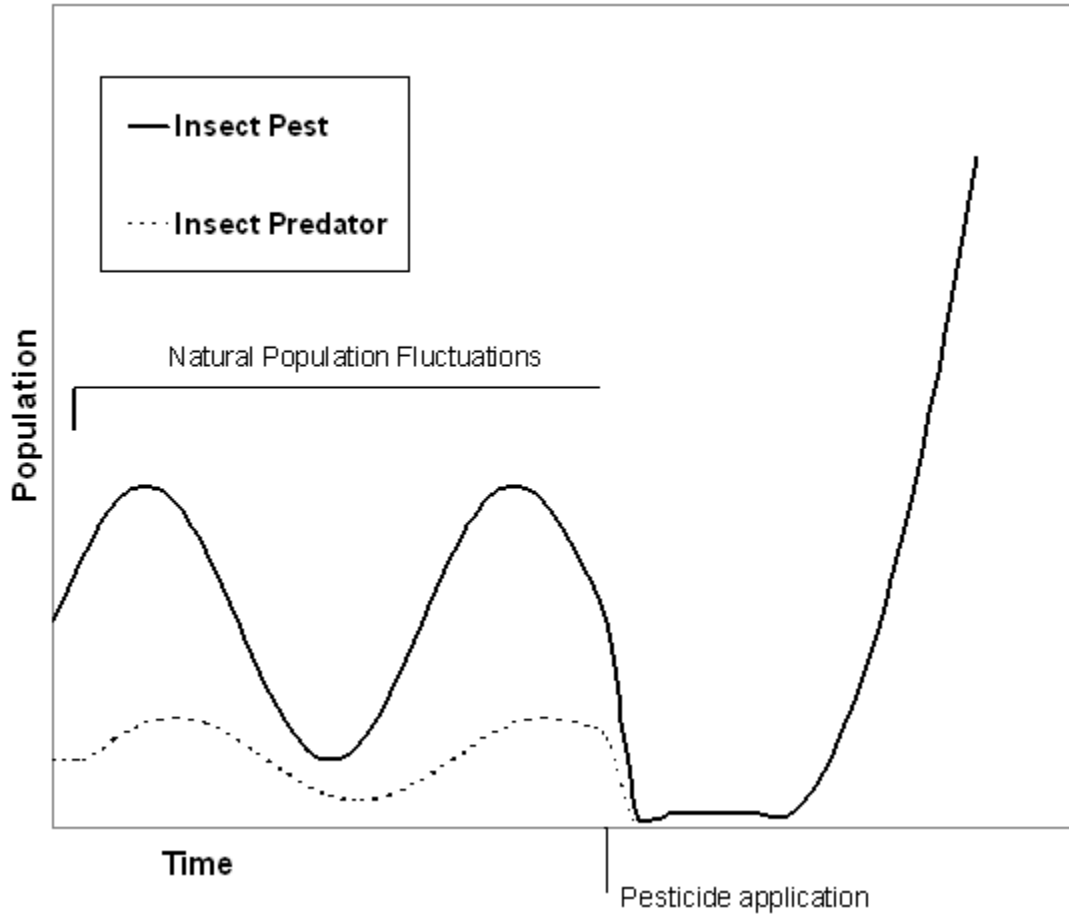
**Response:**

Benefit: Crop Protection; 23.2.2



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28. Using the associated figure, which answer correctly describes what happened to the pest and/or predator populations(s) following the pesticide application?



- a) The pest population crashed and did not recover.
- b) The pest population crashed and then increased dramatically.
- c) The predator population crashed and then increased dramatically.
- d) The pest population was unaffected by the pesticide application.
- e) The predator population was unaffected by the pesticide application.

Ans: b

Difficulty: Medium

**Response:**

Problem: Evolution of Genetic Resistance; 23.2.3





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29. Which of the following statements is not correct?

- a) It is now known that pesticides can move great distances through the atmosphere from the point of origin.
- b) Exposure to pesticides can be a risk to human health, both short-term exposure to high levels of pesticide and long-term exposure to low levels of pesticide.
- c) Recent research has shown that persistent toxins in the environment are disrupting human hormone systems.
- d) Lymphoma occurrence has been linked to short-term exposure to certain pesticides.
- e) Children may be more sensitive to pesticides because their bodies are still developing.

Ans: d

Difficulty: Medium

**Response:**

Short-Term Effects of Pesticides; 23.3.1

30. Which of the following is not an integrated pest management technique?

- a) quarantine
- b) biological controls
- c) irradiation
- d) crop rotation
- e) calendar spraying

Ans: e

Difficulty: Medium

**Response:**

Alternatives to Pesticides; Entire Section; 23.4

31. Which of the following is not an alternative to pesticides?

- a) pheromones
- b) quarantine
- c) biological controls
- d) organophosphates
- e) vacuuming pests

Ans: d

Difficulty: Medium

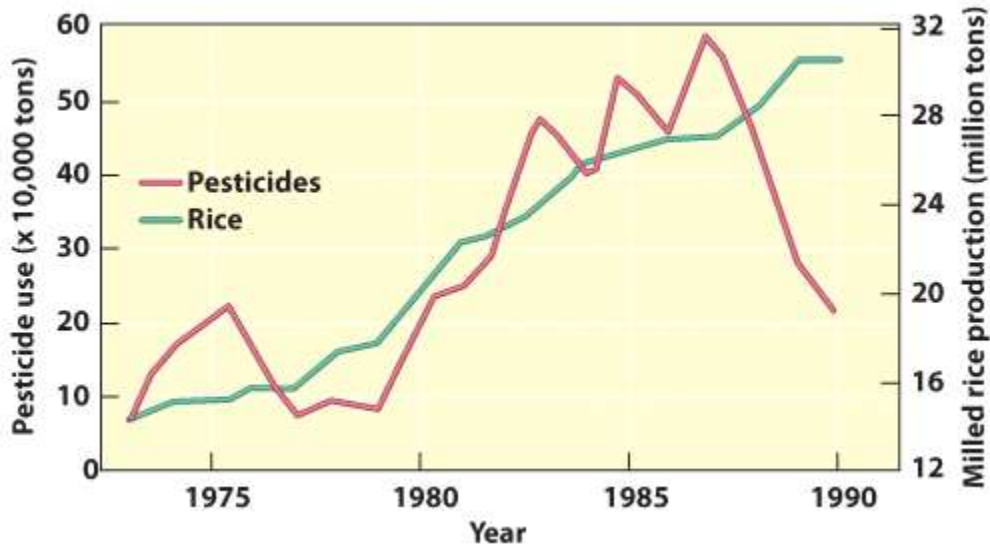
**Response:**

Alternatives to Pesticides; Entire Section; 23.4



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32. Using the associated figure, what was the effect of reduced pesticide use on the productivity of rice paddies?



- a) Rice production fluctuated but with no real change.
- b) Rice production increased.
- c) Rice production increased and then declined dramatically.
- d) Rice production decreased.
- e) Rice production decreased and then increased dramatically.

Ans: b

Difficulty: Medium

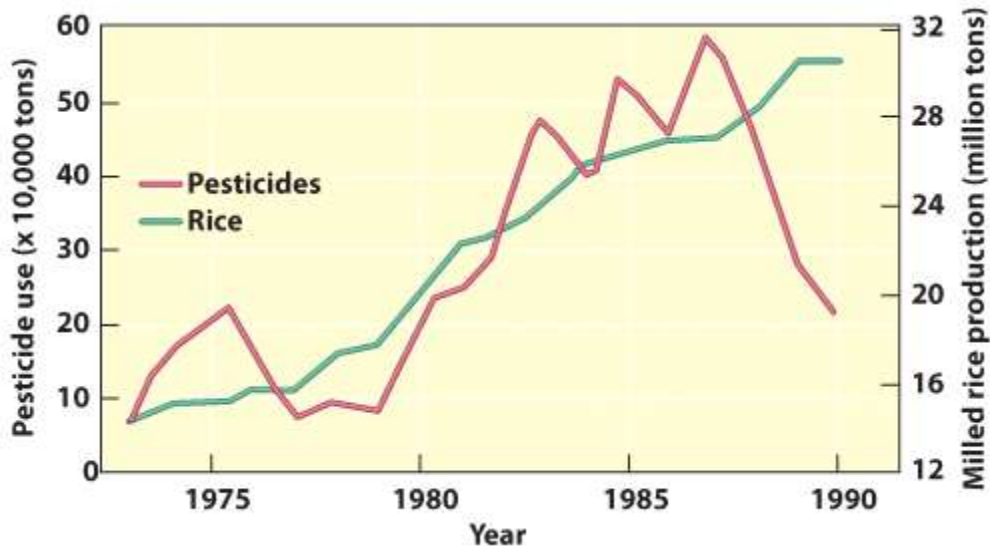
**Response:**

Problem: Imbalances in the Ecosystem; 23.2.4



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33. Based on the accompanying figure, decreasing the use of pesticides in rice paddies:



- a) is detrimental to the environment
- b) is detrimental to the farmer
- c) has no discernible effect
- d) is beneficial to the environment, but not to the farmer
- e) is beneficial to both the environment and the farmer

Ans: e

Difficulty: Medium

**Response:**

Problem: Imbalances in the Ecosystem; 23.2.4

34. One of the fundamental premises associated with IPM is:

- a) perfect produce is best
- b) the eradication of pest organisms
- c) education in agricultural strategies
- d) economic gain is foremost
- e) knowledge of the dates on which pesticide spraying should occur

Ans: c

Difficulty: Medium

**Response:**

The Systems Approach: Integrated Pest Management; 23.4.8

35. Which of the following does not apply to irradiating foods?

- a) eating irradiated food has been shown to cause cancer in humans
- b) irradiation lessens the need for pesticides and food additives
- c) irradiated food does not become radioactive in the process
- d) ionized radiation kills many microorganisms, like Salmonella, that cause food poisoning
- e) none of these, all apply to irradiating foods

Ans: a

Difficulty: Medium

**Response:**

Irradiating Foods; 23.4.9



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36. One inconsistency in the Delaney Clause is that it did not cover:
- a) the link between animal testing and the potential for causing cancer in humans
  - b) pesticides on raw foods, such as fresh fruits and vegetables, milk, and meats
  - c) the presence of pesticides in processed foods
  - d) first-generation pesticides
  - e) disclosure of inert ingredients in pesticides that might also be toxic or otherwise harmful

Ans: b

Difficulty: Medium

**Response:**

Food, Drug and Cosmetics Act; 23.5.1

37. Which of the following does not apply to the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)?
- a) it originally was passed to regulate the effectiveness of pesticides
  - b) it requires registration of older pesticides
  - c) it regulates pesticides that did not meet tolerance standards set by the Food, Drug, and Cosmetic Act
  - d) it was updated and amended in 1988
  - e) all of these apply to FIFRA

Ans: e

Difficulty: Medium

**Response:**

Federal Insecticide, Fungicide, and Rodenticide Act; 23.5.2

38. Bioaccumulation is the buildup of a persistent pesticide in \_\_\_\_\_.  
Biomagnification is the buildup of a persistent pesticide in \_\_\_\_\_.
- a) an individual organism's body; organisms at the top of the food chain
  - b) oceans and seas; lakes and ponds
  - c) an individual's blood stream; an individual's fatty tissues
  - d) plants; animals
  - e) living tissue; air, water and soil.

Ans: a

Difficulty: Medium

**Response:**

Problems: Persistence, Bioaccumulation, and Biological Magnification; 23.2.5



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39. Correctly match the U.S. Law with its regulation:

- a) Food, Drug, and Cosmetics Act (FDCA): Regulated acceptable level of pesticides in produce, antibiotics, and perfume.
- b) Delaney Clause of FDCA: Allowed no substance capable of causing cancer in test animals or humans into processed food.
- c) Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA): Established acceptable and unacceptable levels of pesticides in the environment.
- d) Food Quality Protection Act: Regulated the effectiveness of pesticides.
- e) Pesticide Chemicals Amendment (Miller Amendment): Required testing and registration of the active ingredients of pesticides.

Ans: b

Difficulty: Medium

**Response:**

Laws Controlling Pesticide Use, Entire Section; 23.5

40. Critics of irradiation of food products are mainly concerned with:

- 1) irradiation producing blemishes on fruits and vegetables
  - 2) a fear that irradiated food is radioactive
  - 3) irradiation forming free radicals in food, some of which are carcinogenic in lab animals
  - 4) a fear that irradiated foods cause sterility in humans
- a) 1
  - b) 2
  - c) 3
  - d) 4
  - e) Both 2 and 3

Ans: c

Difficulty: Medium

**Response:**

Irradiating Foods; 23.4.9

41. Which of the following would eliminate mold, mildew or mushrooms in a given area?

- a) rodenticide
- b) insecticide
- c) herbicide
- d) fungicide
- e) abioticide

Ans: d

Difficulty: Medium

**Response:**

What is a Pesticide; 23.1



Practice Midterm Exam

42. Which of the following is not a long-term effect of pesticides?

- a) lymphoma
- b) sterility
- c) leukemia
- d) breast cancer
- e) damage to nervous system

Ans: e

Difficulty: Easy

**Response:**

Long-Term Effects of Pesticides; 23.3.2

43. Which of the following is not a short-term effect of pesticides?

- a) nausea
- b) vomiting
- c) death
- d) damage to nervous system
- e) none of these, all are short-term effects

Ans: e

Difficulty: Easy

**Response:**

Short-Term Effects of Pesticides; 23.3.1

44. Which of the following is a strategy to reduce pesticide use?

- a) removing subsidies that encourage pesticide use
- b) applying pesticide only when needed
- c) adopting IPM practices
- d) using improved pesticide application equipment
- e) all of these

Ans: e

Difficulty: Easy

**Response:**

The Systems Approach: Integrated Pest Management; 23.4.8

45. Which type of insecticide is the most poisonous and is highly toxic to birds, bees, and aquatic organisms?

- a) carbamates
- b) organophosphates
- c) DDT
- d) selective herbicides
- e) chlorinated hydrocarbons

Ans: b

Difficulty: Easy

**Response:**

The Major Groups of Insecticides; 23.1.2



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46. First-generation pesticides are \_\_\_\_\_ and second-generation pesticides are \_\_\_\_\_.
- a) organic compounds containing chlorine – synthetic poisons
  - b) botanicals – organic compounds that contain phosphorous
  - c) both inorganic compounds and botanicals – only inorganic compounds
  - d) both inorganic compounds and botanicals – synthetic poisons
  - e) none of these

Ans: d

Difficulty: Medium

**Response:**

First-Generation and Second-Generation Pesticides; 23.1.1

47. Which of the following is not a highlighted concern of biological control?
- a) the agent might attack unintended hosts and become a pest itself
  - b) once the control is introduced, it can't be recalled
  - c) some bacteria may produce a natural pesticide toxic to some insects
  - d) Bt toxin is ingested by insects and poisons the rest of the food chain
  - e) all of these are concerns

Ans: d

Difficulty: Medium

**Response:**

Case in Point: BT, Its Potential and Problems; 23.4.6

48. What is used to lure insects, such as Japanese beetles, into traps?
- a) pheromones
  - b) hormones
  - c) DDT
  - d) insecticides
  - e) herbicides

Ans: a

Difficulty: Easy

**Response:**

Pheromones and Hormones; 23.4.3

49. What method is used to prevent the spread of foreign pests by restricting any plant or animal which might harbor pests?
- a) integrated pest management
  - b) insecticide
  - c) quarantine
  - d) sterile male technique
  - e) pheromones

Ans: c

Difficulty: Easy

**Response:**

Quarantine; 23.4.7



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50. Scout and spray technique consists of...

- a) sterilizing male pests in laboratories
- b) focusing on destroying only one plant population
- c) applying pesticides only when pests become a problem
- d) continuous application of pesticides to prevent any infestation
- e) none of these

Ans: c

Difficulty: Easy

**Response:**

Problem: Evolution of Genetic Resistance; 23.2.3

51. Which of the following is not a U.S. law that regulates pesticides?

- a) The Food, Drug, and Cosmetics Act
- b) The Federal Insecticide, Fungicide, and Rodenticide Act
- c) The Clean Consumerism Act
- d) The Food Quality Protection Act
- e) none of these

Ans: c

Difficulty: Easy

**Response:**

Laws Controlling Pesticide Use; Entire Section; 23.5