

Chapter 12 Food, Soil, and Pest Management Review Questions

1. Define organic agriculture and compare its main components with those of conventional industrialized agriculture.
2. Define food security and food insecurity. What is the root cause of food insecurity?
3. Distinguish between chronic undernutrition (hunger) and chronic malnutrition and describe their harmful effects.
4. What is a famine? Describe the effects of diet deficiencies in vitamin A, iron, and iodine.
5. What is overnutrition, and what are its harmful effects?
6. What three systems supply most of the world's food?
7. Define irrigation.
8. Distinguish among industrialized agriculture (high-input agriculture), plantation agriculture, hydroponics, traditional subsistence agriculture, traditional intensive agriculture, polyculture, and slash- and- burn agriculture.
9. What are the major advantages and disadvantages of raising food hydroponically in greenhouses?
10. Define soil and describe its formation and the major layers in mature soils.
11. What is a green revolution?
12. Describe industrialized food production in the United States.
13. Distinguish between crossbreeding through artificial selection and genetic engineering.
14. Describe the second gene revolution based on genetic engineering.
15. Describe the growth of industrialized meat production.
16. What is a fishery?
17. What is aquaculture? Summarize the use of energy in industrialized food production.
18. Why does it result in an energy loss?
19. What are two major advantages of high-yield modern agriculture?
20. What are the major harmful environmental impacts of agriculture?
21. What is soil erosion and what are its two major harmful environmental effects?
22. What is desertification and what are its harmful environmental effects?
23. Distinguish between salinization and waterlogging of soil and describe their harmful environmental effects.
24. What is the biggest problem resulting from excessive use of water for irrigation in agriculture?
25. How do industrialized food production systems reduce biodiversity in areas where crops are growing?
26. Describe the advantages and disadvantages of using genetic engineering in food production.
27. What factors can limit green revolutions?
28. Compare the advantages and disadvantages of industrialized meat production.
29. What is the connection between feeding livestock and the formation of ocean dead zones?
30. Describe the use of energy in industrialized agriculture.
31. What is a pest?

32. Define and give two examples of a pesticide.
33. Describe Rachel Carson's contribution to environmental science. Describe the advantages and disadvantages of modern pesticides.
34. List seven alternatives to conventional pesticides.
35. Define integrated pest management (IPM) and discuss its advantages and disadvantages.
36. What are the two main approaches used by governments to influence food production?
37. How have governments used subsidies to influence food production and what have been some of their effects?
38. What is soil conservation?
39. Describe six ways to reduce soil erosion.
40. Distinguish among the uses of organic fertilizer, manufactured inorganic fertilizer, animal manure, green manure, and compost as ways to help restore topsoil fertility.
41. Describe ways to prevent and clean up soil salinization.
42. How can we reduce desertification?
43. How can we make aquaculture more sustainable?
44. Describe ways to produce meat more efficiently and sustainably.