Miller: Chapter 16 –Food Resources

Read the chapter and answer the following questions ….

1. What three systems supply most of our food?
   1. What three crops provide most of the world’s food?
2. Name the ecological and economic services provided by croplands.
3. What is a green revolution?
   1. What three steps does it involve?
   2. Distinguish between the first and second green revolutions.
4. Distinguish among interplanting, polyvarietal cultivation, intercropping, agroforestry, and polyculture.
   1. List six advantages of low-input polyculture.
5. List and describe key points of the major harmful environmental effects of producing food.
6. Identify the advantages and disadvantages of genetically modified crops and food.
7. Distinguish between rangeland and pasture.
   1. Explain how rangeland grass can be a renewable resource for livestock and wild herbivores.
8. How is meat produced?
   1. List four problems with using the industrialized approach to increase meat productivity.
9. What are fisheries?
   1. What is aquaculture?
   2. What percentage of the global food supply comes from fish and shellfish?
   3. What percentage of the world’s fish and shellfish comes from the ocean and what percentage comes from aquaculture?
10. Distinguish among trawling, purse-seine, longlining, and drift-net methods for harvesting fish.
11. List ways to manage global fisheries more sustainably and protect marine biodiversity by:
    1. Fishery regulations
    2. Economic approaches
    3. Reducing bycatch
    4. Establishing protected areas
    5. Consumer education
    6. Increased use of aquaculture
12. List three policy types that governments use to affect food production or prices.
    1. List the advantages and disadvantages of each approach listed above.
13. What is a pest and what are typical biological characteristic of pest species?
    1. How are species we consider pests controlled in nature?
    2. What happens to this natural pest control service when we simplify ecosystems?
14. What is a pesticide?
15. Distinguish among:
    1. Insecticides
    2. Herbicides
    3. Fungicides
    4. Nematocides
    5. Rodenticides
16. Distinguish between first generation and second generation chemical pesticides and give an example of each.
17. Distinguish between broad-spectrum and narrow-spectrum pesticides.
18. Who was Rachel Carson?
    1. Describe her efforts to warn the public of possible dangers from overuse of synthetic chemical pesticides.
19. List six cultivation practices that can be used to help control pests.
20. List the advantages and disadvantages of using the following pest control methods:
    1. Genetic engineering to speed up the development of pest- and disease-resistant crop strains.
    2. Biological control
    3. Insect birth control through sterilization
    4. Insect sex attractants
    5. Insect hormones (pheromones)
    6. Food irradiation
    7. Integrated pest management (IPM)
       1. List five ways to increase the use of IPM