

APES Soil Test

Multiple Choice

Identify the choice that best completes the statement or answers the question.

1. Which of the following is the root cause of food insecurity?
 - a. insufficient food resources being produced globally
 - b. rapid climate change
 - c. poverty
 - d. political disputes over natural resources
 - e. poor organization of government agencies
2. The term *malnutrition* refers to people who
 - a. eat less than the basic minimum number of daily calories
 - b. eat balanced meals
 - c. eat too much
 - d. suffer from lack of protein and other key nutrients
 - e. eat too much protein
3. Which of the following types of agriculture is most characteristic of developing countries?
 - a. plantation agriculture
 - b. traditional agriculture
 - c. industrialized agriculture
 - d. minimum-tillage agriculture
 - e. high-input agriculture
4. The majority of soil organic matter is concentrated in the
 - a. O horizon of leaf litter
 - b. A horizon of topsoil
 - c. O and A horizons
 - d. C horizon
 - e. B horizon
5. Which of the following would not be used to describe polyculture?
 - a. Plants mature at various times.
 - b. The plot of land is left unmanaged for long periods of time.
 - c. Fertilizer use and water use are reduced.
 - d. Pesticides are rarely needed.
 - e. It produces higher yields than high-input monocultures.
6. Because root systems at different depths in a given area of soil capture nutrients and soil efficiently we can say that
 - a. polyculture lessens the need for fertilizer
 - b. polyculture lessens the need for fertilizer and water
 - c. polyculture increases the need for fertilizer but not water
 - d. polyculture increases the need for water but not fertilizer
 - e. polyculture lessens the need for pollinators
7. Most soil erosion is caused by
 - a. wind and moving water
 - b. photosynthesis
 - c. earthquakes
 - d. volcanoes
 - e. excess heat
8. Salt buildup may
 - a. increase crop growth
 - b. increase yields
 - c. eventually kill weeds
 - d. eventually make the land unproductive
 - e. initially decrease yield, but later increase yield
9. Which of the following can lead to desertification?
 - a. conservation tillage
 - b. severe and prolonged drought
 - c. crop rotation
 - d. polyculture farming
 - e. terraced crop arrangements
10. Which of the following best describes how the process of irrigation can lead to salinization of soils?
 - a. Water associated with irrigation flows from uphill. The salts that were in the soil uphill end up being brought to the lower elevations.
 - b. Water associated with irrigation contains small amounts of dissolved salts. Evaporation leaves behind increasing concentrations of these salts.
 - c. Irrigation water contains salts. Evaporation allows the salts to be lifted away, reducing the levels of salts in the soil.
 - d. Irrigation water is treated with dissolved salts to promote plant growth. Over time the plants become saturated with salts and do not need this macronutrient.
 - e. Irrigation is primarily accomplished through the use of abundant sea water, which contains high concentrations of salts.
11. Killing wild predators is an example of a(n) _____ problem caused by industrialized food production.
 - a. biodiversity loss
 - b. soil
 - c. human health
 - d. air pollution
 - e. water
12. The amount of irrigated land used to produce food crops has increased since 1950. It can also be said that:
 - a. The amount of irrigated land per person has increased since 1950.
 - b. The amount of irrigated land per person has decreased since 1950.
 - c. The amount of irrigated land per person has stayed the same since 1950.
 - d. The amount of irrigated land per person for this time period is not known.
 - e. The amount of irrigated land per person has increased in some areas and decreased in others.
13. Strains of genetically modified food crops can hybridize with wild crop varieties when
 - a. The process is carefully controlled in an agricultural lab.
 - b. Pollen blows from the genetically modified crop and spreads among wild varieties.
 - c. Pollen is transferred by the farmer from one crop to the other.
 - d. It is not possible for a genetically modified plant to hybridize with a wild species.
 - e. More than one of these answers is correct
14. Biological control of pests
 - a. costs more money than pesticides to use
 - b. is toxic to use
 - c. is fast-acting
 - d. is not toxic to use
 - e. has never been very effective
15. All of the following are true about subsidies for food production *except*
 - a. Subsidies in developed countries average \$571,000 per minute.
 - b. Milk production quadrupled in New Zealand after farm subsidies were ended.
 - c. Food prices in developed countries are kept artificially low.
 - d. Developing countries also receive large amounts of subsidies for growing food.
 - e. Some analysts recommend replacing traditional subsidies with subsidies that promote sustainable agricultural practices.
16. Government subsidies to fishing fleets
 - a. promote overfishing
 - b. promote the reduction of aquatic biodiversity
 - c. promote overfishing and reduction of aquatic biodiversity
 - d. reduce the use of bottom-trawling harvests
 - e. are currently less than \$100,000 per year
17. Topsoil in the United States is eroding about _____ times faster than it can form.
 - a. 2
 - b. 4
 - c. 8
 - d. 17
 - e. 22
18. Which of the following is central to most of the efforts to conserve topsoil?
 - a. an emphasis on agricultural practices that enhance monocultures
 - b. annual crop rotations
 - c. keeping the soil covered by vegetation
 - d. preventing insect pests from destroying valuable crops
 - e. conversion of croplands into pasturelands or feedlots
19. Conservation tillage
 - a. increases labor costs
 - b. increases erosion
 - c. increases energy consumption
 - d. accelerates water loss from the soil
 - e. decreases erosion
20. In alley cropping:
 - a. Crops are planted between hedgerows of trees or shrubs that are used for fruits or fuelwood.
 - b. Terraces are built to prevent swift water runoff.
 - c. Plowing runs across slopes.
 - d. Special tillers are used so the topsoil is not disturbed.
 - e. A row of crops alternates in strips with another row of crops.
21. The process *least* likely to conserve soil nutrients is
 - a. crop rotation
 - b. fertilizing with compost
 - c. fertilizing with green manure
 - d. fertilizing with animal manure
 - e. irrigation
22. Aquaculture would be more sustainable if
 - a. consumers chose to eat fish species that are primary consumers instead of secondary consumers
 - b. consumers chose to eat top predators
 - c. fish farms were located near mangrove forests
 - d. fish farms were located near estuaries
 - e. chemical pesticides were used to control common fish diseases