Advanced Agricultural Science

Agriculture · Answer Key · 18 Questions

1. Which soil horizon, primarily consisting of partially weathered parent material, is located directly above the unweathered bedrock?

A) O Horizon
B) A Horizon
C) B Horizon
D) C Horizon

2. What is the primary function of leguminous plants in a crop rotation system regarding soil health?

A) Nitrogen fixation
B) Increased soil salinity
C) Prevention of photosynthesis
D) Acidification of the soil

3. In the context of the Australian livestock industry, what does the term 'drenching' refer to?

A) Applying fertilizer to crops
B) Treating animals for internal parasites
C) Irrigating pasture during drought
D) Washing wool before processing

4. Which form of nitrogen is most readily absorbed by the root systems of agricultural crops?

A) Nitrogen gas
B) Ammonium or Nitrate
C) Urea crystals
D) Amino acid chains

5. What is the primary purpose of 'vernalization' in the life cycle of some cereal crops like winter wheat?

A) Exposure to prolonged cold to trigger flowering
B) Maximizing water retention in seeds
C) Reducing the risk of fungal infections
D) Increasing the sugar content of the grain

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6. Which irrigation method is most effective at minimizing water loss through evaporation in arid agricultural regions?

A) Flood irrigation
B) Furrow irrigation
C) Drip irrigation
D) Sprinkler irrigation

7. What is the defining characteristic of a 'monoculture' farming system?

A) The cultivation of multiple crops in one field
B) The breeding of genetically identical livestock
C) The cultivation of a single crop species in a large area
D) The reliance on organic fertilizers only

8. Which essential macronutrient is primarily responsible for vigorous leaf and stem growth in plants?

A) Potassium
B) Phosphorus
C) Nitrogen
D) Calcium

9. What is the scientific term for the process by which excess nutrients, such as nitrogen, enter waterways and cause algal blooms?

A) Eutrophication
B) Salinization
C) Erosion
D) Desertification

10. In plant breeding, what is 'heterosis' commonly known as?

A) Genetic mutation
B) Hybrid vigour
C) Self-pollination
D) Tissue culture

11. Which agricultural pest is responsible for the widespread destruction of cereal crops via 'rust' infections?

A) Fungi
B) Nematodes
C) Aphids
D) Locusts

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12. What is the primary objective of 'contour ploughing' on hilly agricultural land?

A) To increase sunlight exposure
B) To reduce soil erosion
C) To maximize the use of machinery
D) To prevent weed germination

13. Which class of pesticides is specifically designed to kill weeds?

A) Insecticides
B) Fungicides
C) Herbicides
D) Rodenticides

14. What is the main role of the 'stomata' in agricultural crops?

A) Nutrient uptake from the soil
B) Gas exchange and transpiration
C) Storage of starch
D) Protection against pathogens

15. What defines 'dryland farming' in an agricultural context?

A) Farming without the use of irrigation
B) Farming in desert environments only
C) The exclusive use of drought-resistant seeds
D) Farming crops that do not require sunlight

16. Which of the following is a byproduct of the anaerobic decomposition of organic matter in manure lagoons?

A) Oxygen
B) Methane
C) Nitrogen gas
D) Water vapour

17. What is the significance of the 'cation exchange capacity' (CEC) of soil?

A) Its ability to hold and exchange positively charged nutrients
B) Its ability to reflect solar radiation
C) Its resistance to wind erosion
D) The speed at which water drains through the profile

18. Which botanical part of the cotton plant is harvested for textile production?

A) The seed
B) The stem fiber
C) The lint surrounding the seed
D) The flower petals

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