

Provide the BEST answer for each multiple-choice question. Each question is worth 4 points.

1. What is your name? \_\_\_\_\_
2. Summer annual weeds germinate in the
  - a. spring
  - b. summer
  - c. fall
  - d. winter
3. r-selected plants
  - a. have high allocation to reproduction
  - b. are adapted to stable environments
  - c. have fixed population sizes
  - d. have long generation times
4. The ability of a plant to alter its growth in response to the environment is due to
  - a. developmental plasticity
  - b. genetic diversity
  - c. transposable elements
  - d. phyto-rehabilitation
5. Mowing as a weed control strategy would be most effective on
  - a. summer annuals
  - b. biennials during the first year of growth
  - c. simple perennials
  - d. creeping perennials
6. A hemiparasite
  - a. lacks chlorophyll
  - b. has a broad host range
  - c. has a narrow host range
  - d. produces photosynthate, but requires a host for water and nutrients
7. Although it is able to produce seeds in southern states, in northern states, reproduction of this weed occurs only vegetatively.
  - a. johnsongrass
  - b. Canada thistle
  - c. wild garlic
  - d. quackgrass
8. In terms of the history of weed science, what is currently the most significant event?
  - a. reduced reliance on chemical weed control
  - b. introduction of biological control strategies
  - c. evolution of glyphosate-resistant weeds
  - d. evolution of triazine-resistant weeds

9. A plant that flowers in the fall is likely to be a
  - a. short-day plant
  - b. long-day plant
  - c. day-neutral plant
  - d. facultative plant
  
10. That different accessions of common cocklebur exhibit different levels of competition with soybean is an example of
  - a. developmental plasticity
  - b. somatic polymorphism
  - c. polyploidy
  - d. genetic diversity
  
11. According to your textbook, the estimated annual economic impact of weeds to the U.S. economy is
  - a. \$2 million
  - b. \$20 million
  - c. \$200 million
  - d. \$20 billion
  
12. Witchweed is
  - a. a stem parasite of alfalfa
  - b. a stem parasite of trees
  - c. a root parasite of vegetable crops
  - d. a root parasite of grass crops
  
13. A plant that uses resources inefficiently
  - a. is not competitive
  - b. will compete well under competitive conditions
  - c. is unlikely to be a weed
  - d. will create a competitive environment
  
14. A species that is dioecious
  - a. self pollinates
  - b. has low genetic diversity within populations
  - c. has perfect flowers
  - d. has separate male and female plants
  
15. A seed that does not germinate because it is in dry conditions is said to have
  - a. primary dormancy
  - b. secondary dormancy
  - c. enforced dormancy
  
16. The niche theory of plant ecology suggests plants
  - a. are specialized for specific habitats
  - b. contain high intra-species genetic diversity
  - c. are adapted to unstable environments
  - d. all of the above

17. An allelochemical
- is a compound produced by a plant that is phytotoxic
  - is a product of primary metabolism
  - is a biocontrol agent formulated to be applied as a herbicide
  - is used by parasitic weeds to extract nutrients from its host
18. Barnyardgrass that evolved to avoid hand weeding in rice paddies is an example of
- developmental plasticity
  - an agroecotype
  - somatic polymorphism
  - a genetic bottleneck
19. According to the C, S, and R theory, S plants are adapted to environments of
- high stress and low disturbance
  - high stress and high disturbance
  - low stress and low disturbance
  - low stress and high disturbance
20. According to the article, "Some thoughts about weeds", the weediest of all species is
- Xanthium strumarium*
  - Abutilon theophrasti*
  - Homo sapiens*
  - Tyrannosaurus rex*
21. Spines on the fruit of cocklebur make it adapted to dispersal by
- wind
  - water
  - biotic intervention
  - forceful dehiscence
22. According to Dr. Tranel, the single most important weediness trait is
- genetic diversity
  - seed dormancy
  - developmental plasticity
  - rapid growth rate
23. Abscisic acid
- is a plant hormone that promotes dormancy
  - is a plant hormone that promotes germination
  - is a plant pigment that promotes dormancy
  - is a plant pigment that promotes plasticity
24. "Weeds are plants adapted to unstable environments" defines weeds from which perspective?
- anthropocentric
  - biological
  - ecological

25. Allelopathy
- can be demonstrated by growing two plants together and determining if the growth of one is inhibited
  - has been reported for numerous species, but is difficult to document under field conditions
  - is more important than competition in terms of yield loss in agronomic crops
  - has been disproved for most weed species
26. Which of the following weeds will most likely germinate first in the spring?
- jimsonweed
  - tall morningglory
  - yellow foxtail
  - kochia
27. Which of the following strategies would be LEAST effective in reducing the size of the soil seed bank?
- preventing weeds from going to seed
  - deep tillage
  - shallow tillage
28. In regards to economic treatment thresholds for weed management, which of the following statements is true?
- Weed densities rarely exceed economic treatment thresholds.
  - Herbicide labels typically restrict the use of the particular herbicide if the weed density does not exceed the economic treatment threshold.
  - The aesthetics associated with a clean field reduce the use of economic treatment thresholds for weed management.
  - All of the above.
29. Winter annual weeds typically require this to flower
- short days
  - hormesis
  - stratification
  - vernalization
30. Two genetically distinct individuals of ragweed that have different requirements for germination could be considered to be
- genotypes
  - biotypes
  - ecotypes
  - all of the above
31. A self-pollinated species
- has no genetic diversity
  - vegetatively reproduces to obtain genetic variability
  - has high variability among and within populations
  - has low variability within populations and high variability among populations

32. Which of the following is an example of a weed species shift?
- An increase in grass weeds following widespread use of 2,4-D
  - An increase in perennial weeds following a shift to no-till
  - A decrease in large-seeded annual weeds following a shift to no-till
  - All of the above.
33. Considering weeds as ruderals, a primary factor contributing to their competitiveness with crops is
- their stable population sizes
  - their high reproductive outputs
  - their ability to tolerate stress
  - their long life cycles
34. This invasive weed, described in the article, Alien Invasion, is problematic in wetlands, particularly in the Great Lakes region.
- purple loosestrife
  - leafy spurge
  - spotted knapweed
  - kudzu
35. This herbicide, discovered in the 1940s, is credited with ushering in the modern age of herbicides
- glyphosate
  - 2,4-D
  - atrazine
  - glufosinate
36. Plant interference refers to
- plant competition
  - allelopathy
  - parasitism
  - all of the above
37. In a replacement series experiment
- the overall density of plants is constant, but the ratio of species varies among treatments
  - the number of species is different for each treatment
  - the species that are present vary among all treatments
  - the density of one species is constant, but the density of another varies among treatments
38. In a seed on the soil surface but under a crop canopy, the ratio of  $P_{fr}$  to  $P_r$  will be
- high
  - low
  - the same as if the seed was in direct sunlight
  - the same as if the seed was deeply buried in the soil