

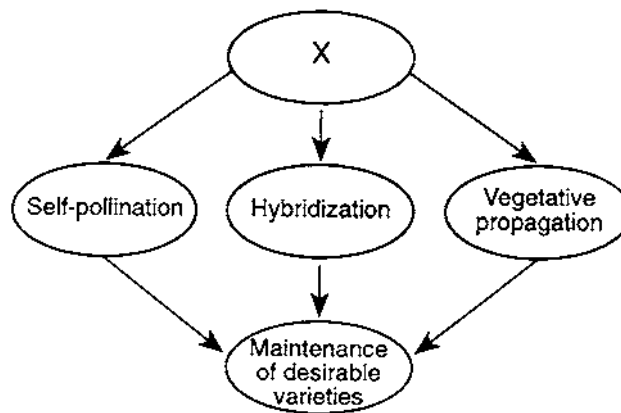
1. Man has increased the rate of evolution by

- (1) establishing game laws
- (2) preventing polyploidy
- (3) **utilizing selective breeding**
- (4) protecting certain species from extinction

2. Santa Gertrudis cattle were developed from crosses of American cattle with cattle from India. Which method did the breeder most likely use to develop the Santa Gertrudis cattle?

- (1) exposure to mutagenic agents
- (2) **animal hybridization**
- (3) genetic engineering
- (4) vegetative propagation

3. The diagram below represents some methods used by plant growers to produce and maintain desirable varieties of plants.



Which term belongs in area X?

- (1) use end disuse
- (2) **artificial selection**
- (3) synapsis
- (4) gradualism

4. Breeders have developed corn with 15-foot stalks and pumpkins weighing 300 pounds. Which method did these breeders most likely use to develop these new varieties?

- (1) regeneration
- (2) natural selection
- (3) **artificial selection**
- (4) grafting

5. A common practice used by breeders to maintain a desired trait in dogs is

- (1) **artificial selection**
- (2) regeneration
- (3) vegetative propagation
- (4) sporulation

6. Breeders have developed a variety of chicken that has no feathers. Which methods were most likely used to produce this variety?

- (1) **artificial selection and inbreeding**
- (2) grafting and hybridization
- (3) regeneration and incubation
- (4) vegetative propagation and binary fission

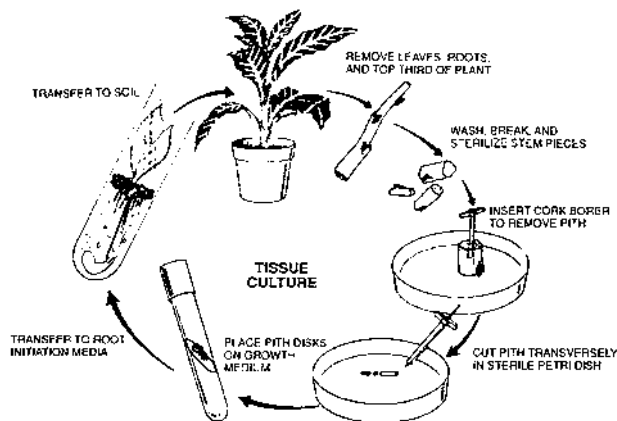
7. Artificial selection is illustrated by

- (1) random mating taking place in a population
- (2) the appearance of a new species on an isolated island
- (3) **a gardener producing a new hybrid by cross-pollinating plants**
- (4) wind assisting the pollination of grass in a field

8. The cloning of cells involves the process of

- (1) meiotic cell division
- (2) fusion of gametes
- (3) **mitotic cell division**
- (4) formation of spores

9. A cattle breeder wished to develop a strain of cattle that would produce large quantities of meat per animal. He chose a bull and a cow that most nearly met his goals for breed size. From their calves, he again chose the male and female offspring that most nearly met his goals. After several generations of this style of breeding, the breeder developed a herd of high-yield cattle. In order to maintain this herd of high-yield cattle, which technique should the cattle breeder use?
- (1) vegetative propagation (3) genetic recombination
(2) hybridization (4) **inbreeding**
10. White short-horned cattle and Black Angus cattle have been crossed to produce offspring with superior beef and rapid growth qualities. This process of choosing organisms with the most desirable traits for mating is known as
- (1) cloning (2) biodiversity (3) **selective breeding** (4) genetic engineering
11. When humans first domesticated dogs, there was relatively little diversity in the species. Today, there are many variations such as the German shepherd and the dalmation. This increase in diversity is most closely associated with
- (1) cloning of selected body cells (3) mitotic cell division
(2) **selective breeding** (4) environmental influences on inherited traits
12. Which process is a common practice that has been used by farmers for hundreds of years to develop new plant and animal varieties?
- (1) cloning (3) cutting DNA and removing segments
(2) genetic engineering (4) **selective breeding for desirable traits**
13. By which process can a group of genetically identical plants be rapidly produced from the cells of a single plant?
- (1) screening (3) genetic engineering
(2) chromosomal karyotyping (4) **cloning**
14. The diagram below shows some steps involved in preparing tissue cultures of a plant.



Which technique is represented in the diagram?

- (1) hybridization (2) amniocentesis (3) **cloning** (4) karyotyping

15. Which process can produce a large group of organisms with identical genotypes?
- (1) **cloning** (2) sexual reproduction (3) meiosis (4) external fertilization