Name: _____ Chapter 12 Take-home Quiz
Due: Beginning of class Wednesday Apr 18, 2007 Worth 20 points

1) Why was golden rice created?
A) To produce rice more cheaply
B) To create a visually attractive alternative to white rice
C) To make rice more resistance to insect pests
D) To promotes the use of monocultures
E) To make rice more nutritious

2) Which of the following best describes a "Pharm Aminal"?
A) Transgenic animals that have economic value
B) Transgenic animals used to create cheaper agricultural products
C) Transgenic animals that escape into natural ecosystems
D) Trangenic animals that grow faster than non-trangenic animals
E) Transgenic animals used to produce pharmaceutical products

3) Which of the following explain why American farmers grow so much BT corn?
A) BT corn grows faster than traditional corn
B) In addition for food, BT corn can be used to produce pharmaceutical products
C) BT corn taste better than traditional corn
D) Cows fed on BT corn grow faster than cows fed traditional corn.
E) Less pesticide needs to be sprayed on BT corn.

4) Which of the following is not considered to be a significant risk of BT corn?
A) It is killing Monarch Butterflies
B) Some people may be allergic to it
C) The cry1a gene may spread to other species
D) It promotes the use of monocultures
E) None of these are significant risk

5) Which of the following explains why golden rice is being introduced to developing nations.
A) It is resistant to rice fungus which destroys rice crops in tropical regions.
B) It will generate a rice product that can be exported and provide a cash crop for farmers.
C) It provides a source of vitamin A to the diet in developing countries
D) It is resistant to insects, so farmers in developing nations do not need to use pesticides
E) It can be cultivated with other crops, providing farmers with more food per acre.

6) Which of the following results from inserting foreign DNA into an organism to alter the traits of that organism?
A) transgenic organism
B) regulatory genes
C) mutations
D) translation
E) gene cloning

7) Small accessory chromosomes found in bacteria and useful in recombinant DNA procedures are called
A) plasmids.
B) palindromes.
C) centrioles.
D) bacteriophage.
E) viruses.

8) Recombinant DNA technology
A) will never be of economic importance.
B) only concerns changing genes in large animals.
C) is concerned with randomly creating new genes from nucleotides.
D) is dangerous and will lead to monstrosities.
E) involves combining existing genes from different organisms in new ways.

9) The polymerase chain reaction (PCR) is useful in
A) analyzing a person's fingerprints.
B) cutting DNA into many small pieces.
C) allowing restriction enzymes to cut DNA at palindromes.
D) creating recombinant plasmids.
E) making many copies of a small amount of DNA.

10) Which of the following is currently used to produce genetic "fingerprints" of people?
A) the number of introns in a chromosome
B) the genes responsible for producing the unique fingerprints on a person's fingers
C) differences in the lengths of DNA fragments cut by restriction enzymes
D) single tandem repeats (STRs)
E) plasmids

11) If the DNA fingerprint of a suspect does not match a blood sample from a crime scene, what can you conclude?
A) The suspect was never at the crime scene.
B) The suspect may have been at the crime scene, because DNA fingerprinting has a large error rate.
C) The blood sample had to come from another person, but the suspect may still have been there.
D) The blood sample was probably degraded over time.
E) You cannot get a DNA fingerprint from a blood sample.

12) Which of the following is NOT a goal of biotechnology?
A) to understand more about the process of inheritance and gene expression
B) to provide better understanding and treatment of

various human diseases
C) to generate improved agricultural plants and domestic animals
D) to prevent the inheritance of human genes judged to be undesirable
E) All the above choices are valid goals of biotechnology.

13) Researchers inserted a bacterial gene for pest resistance into corn plants. Why have these transgenic plants never been approved for human consumption?
A) The public was misinformed by food-safety advocates, and refused to buy products made from the modified corn.
B) The modified corn could not grow with the foreign gene present.
C) Some people were allergic to the protein product of the bacterial gene.
D) Regulatory hurdles made the modified corn too expensive to market profitably.
E) The protein product of the corn was indigestible to most people.

14) What is a threat to the environment of transgenic crops?
A) Pollen from transgenic crops could carry the recombinant genes to wild relatives, with unpredictable consequences.
B) Wild animals might eat the transgenic crop and become genetically mutated "monsters."
C) Genes introduced into the plants could move to the organisms that each the plants.
D) The products of the modified genes these crops carry are usually toxic and would be released to the environment if the plants die.
E) None of the above are threats.

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15. Give three reasons that most European countries have rejected the use of transgenic crops.

16. Explain how the enviropigs are better for the environment than regular pigs?

17. What qualities of short tandem repeats make them excellent loci for finding genetic differences between individuals.

18. Therapeutic proteins can be expressed both in bacteria and pharm animals. However production in pharm animals is much more expensive. Why would a company produce a therapeutic protein in a pharm animal?