**Environmental Science in the Agriculture Industry Quiz**

Use your knowledge of environmental sustainability, follow all directions and correctly answer each question.

1. What are the three major components of the environmental industry’s growth in history?

Chemical Agriculture, The Green Revolution, Biotechnology

1. Which of the following prompted awareness of chemical agriculture
   1. Rachel Carson’s Book Silent Spring
   2. The Santa Barbara oil spill
   3. The Cuyahoga River of Cleveland, Ohio catching fire
   4. All of the above
2. Why is DDT so harmful to the environment?

Persistent and Insoluble

1. Who initiated the Green Revolution?

Norman Borlaug

1. What did he create and what did it do?

Developed semi-dwarf, high-yield, disease-resistant wheat varieties that spread modern technology to non-industrialized nations and increased global food security, but decreased biodiversity.

1. True or False. Human insulin, a cheese enzyme, and some plants are all examples of biotechnology use.
2. What will happen as population continues to grow at a geometrical rate and food supply grows at an arithmetic rate?

The gap between population and feed needs will continue to grow and the food supply will not be able to keep up with the population with current agricultural practices.

1. List three agriculture production methods.

Conventional, GMO, Organic, Local and Natural, Sustainable

1. What does GMO stand for?

Genetically Modified Organism

1. How many farms are currently in the U.S.?
2. 5 million
3. 2.2 million
4. 3.6 million
5. 1.2 million
6. True or False. Soybeans, Cotton, Corn, and tomatoes are biotech crops that the U.S. began in 2000.
7. True of False. Less than 1% of cropland is certified organic.
8. List two requirements in order to be certified organic.

Safe soil, no modifications – no GMO’s, separate from conventional, no synthetic pesticides, no petroleum based fertilizers.

1. The 2008 Farm Act identified local or regionally produced as a total of \_\_400\_\_\_\_\_\_ mile transportation distance or within the same state.
2. Which of the following are components of sustainable agriculture?
3. Resource-conserving
4. Socially supporting
5. Commercially competitive
6. Environmentally sound
7. All of the above
8. List 2 positive aspects of agriculture technology (biotechnology).

Microbes: Improved enzymes, improved bacteria; Plants: disease and pest resistance, removal of allergens and fats, reduces chemical need, increase yield with existing resources; Animals: disease resistance, health benefits; Humans: determine genetic factors contributing to wellness or disease

1. List 2 negative aspects or concerns of agriculture technology.

Ecological concerns: decline in soil productivity due to erosion, compaction, salinization; groundwater pollution due to pesticides, fertilizers; scarcity due to irrigation/runoff; insect and pathogen resistance; threat to natural species, genetic diversity; climate change. Economic and Social Concerns: increasing federal expenditure, government involvement in planting and investment decisions; widening disparity among farmer incomes; concentration of agribusiness to few industry giants; large scale farm loss. Impacts on Human Health: pesticide and nitrate contamination of water and food, farm worker health.