**APES- Chapter #12**

*Effects of Agriculture on the Environment*

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Objectives- Students will learn:**

* *How agriculture can lead to soil erosion, how severe the problem is, what methods are available to minimize erosion, and how these methods have reduced soil erosion in the United States*
* *How farming can deplete soil fertility and why agriculture in most cases requires the use of fertilizers*
* *Why some lands are best used for grazing and how overgrazing can damage land*
* *What causes deforestation*
* *How farming creates conditions that tend to promote pest species, the importance of controlling pests, and the problems associated with chemical pesticides*
* *How alternative agricultural methods- including integrated pest management, no-till agriculture, mixed cropping, and other methods of soil conservation- can provide major environmental benefits*
* *That genetic modification of crops could improve food production and benefit the environment but perhaps could create new environmental problems*

1: **Read “Clean-Water Farms”.** *What did Steve Burr do to his land that helped prevent erosion and the harmful effects of pesticides, fertilizers and livestock?*

2: **Define: Intensive Rotational Grazing:**

3: **List** the major environmental problems **associated with agriculture** below:

4: **Explain** how **plowing** can cause *soil erosion*:

5: **Explain** how **plowing** can cause a loss of *soil fertility:*

6: See diagrams of soil horizons on Pg. 220- ***Diagram and label the soil horizon below:***

7: **Explain** how ***sedimentation*** can affect a coral reef:

8: **Explain** how soil erosion and sedimentation can cause **eutrophication** in a watershed area.

9: How is **contour plowing** helpful in reducing soil erosion?

10: What is the purpose of **no-till agriculture**? *Explain.*

11: **Define Weed:**

*How many weed species are there?*

*How much does the US spend to control weeds each year?*

12: **List the 5 stages in development of pesticides and give examples for each stage and the pros/cons for each.**

Stage 1:

Stage 2:

Stage 3:

Stage 4:

Stage 5:

13: What are some concerns associated with **New Hybrids**?

14: **Explain** the concept of using a terminator gene for controlling crops and *why this is an economic and social concern.*

15: Read, “***Transfer of Genes from One Major Form of Life to Another”.*** **Summarize** what happened to the potato/corn crops and the concerns associated with the genetically modified crops.

16: How are **grazing animals** harmful to the environment? **Explain.**

17: Why are **feedlots** considered to negatively affect the environment locally?

18: **Introduction of domestic animals** into new habitats have many environmental effects. *Two important effects are:*

**1:**

**2:**

19: **Define carrying capacity** and explain how *overgrazing effects biodiversity.*

20: What causes **desertification?** *Explain and list the major symptoms*

21: *How many people worldwide* are affected by desertification?

22: How does farming change the ***Biosphere***? **Explain.**

*Summarize what you have learned about how agriculture affects the environment:*