**APES Chapter 12: Food Productions & The Environment**

**Note Taking Focus Questions**

**Directions:** Use the Cornell Method of note taking as you answer the questions below. Your notes must be **hand written** to receive credit for them. Within your notes, use the title for each subsection of notes which is *in italics and underlined.*

**Section 12-1**

*Food Security*

1. Define what food security is and what food insecurity is.

2. What are 5 obstacles to food security?

*Human Nutritional Requirements*

1. Discuss the macronutrients and micronutrients necessary for a balanced diet.

2. What is chronic undernutrition? How is it different in LDCs and MDCs?

3. What is chronic malnutrition? What impacts does it have on the people who suffer from it?

4. Define the term famine. List some things that cause famine.

**Section 12-2**

*Food Production*

1. List the three systems that use 40% of the world’s land to supply our food. For each system, list what percent of the food supply it accounts for and what percent of the land area it occupies.

2. How many species supply 90% of the world’s food calories? Is that a good or a bad thing? Discuss why.

3. What has happened to significantly increase the amount of food since the 1960s?

*Industrialized Agriculture*

1. What is industrialized agriculture? How much of the world’s cropland is it practiced on? What percent of the world’s food does it produce?

2. Jump ahead to the section titled “Industrialized Food Production Requires Huge Inputs of Energy” on p. 287. List some of the things that require the use of oil and natural gas. Return to p. 281.

3. Discuss plantation agriculture. Where is it practiced? What do they grow?

4. Explain how greenhouses are used, and discuss their advantages.

*Traditional Agriculture*

1. Describe the difference between traditional subsistence and traditional intensive agriculture.

2. What is polyculture, and why can it be better than monoculture?

3. Describe what is done in slash-and-burn agriculture, and identify what type of agriculture it is.

*Organic Agriculture*

1. What is organic agriculture?

2. What are the advantages and drawbacks to organic agriculture?

*Green Revolution*

1. List and describe the 3 steps involved in the green revolution.

2. Describe when and what happened during each of the two green revolutions.

3. What is meant by a genetically modified organism (GMO)? What sort of traits have been added to species?

*Meat Production & Feedlots*

1. What has happened to meat consumption in the last 60 years?

2. What problems are associated with animal feedlots?

*Fisheries and Aquaculture*

1. What is the difference between a fishery and aquaculture?

2. What is the status of harvesting in ocean fisheries?

**Section 12-3**

*Environmental Problems from Industrialized Food Production*

1. Use Figure 12-13 on p. 288 to describe the natural capital degradation caused by food production.

2. Define what is meant by the following terms: salinization, waterlogging, desertification.

Read over p. 288 – 292 which describe the natural capital degradation listed in figure 12-13.

*Controversy Over Genetically Engineered Foods*

1. List four disadvantages of GMO. (In the reading and in figure 12-19 on p. 293.

*Limitations to the Expansion of the Green Revolutions*

1. Describe the factors that will limit the expansion of the green revolutions.

*Harmful Impacts of Aquaculture*

1. Describe 4 or 5 harmful impacts of aquaculture.

**Section 12-4**

*Protecting Crops from Pests More Sustainably*

1. Define “pests”, and describe how they would be controlled in natural ecosystems.

2. Define the word *pesticide*.

3. Discuss what the difference is between a broad-spectrum and a selective (narrow) spectrum pesisticide.

4. What is meant by a persistent pesticide?

5. List the *Benefits of synthetic pesticides*.

6. List the *Drawbacks of synthetic pesticides*.

*Laws to Protect Us from Impacts of Pesticides*

1. Describe the two laws mentioned in this section – when were they passed, who enforces them, what does the law say.

2. What is meant by “circle of poison”?

*Alternatives to Synthetic Pesticides*

1. Describe the alternatives to synthetic pesticides.

*Integrated Pest Management*

1. What techniques are used in IPM, and what is the goal of IPM?
2. Describe the advantages and disadvantages of IPM.

**Section 12-6**

*Producing Food More Sustainably*

1. Describe the various methods that can be used to reduce soil erosion.

2. How can soil fertility be restored?

3. How can salinization and desertification be reduced?

4. What can be done to make aquaculture more sustainable?

5. How could meat and dairy products be produced more efficiently?

6. Use figure 12-34 on p. 309 to describe the advantages of organic farming.