**Chapter 11, *Feeding the World***

**Part 2: Conventional vs. Sustainable Agriculture (pp. 292-300)**

1. Complete the following table to describe the costs and benefits associated with the various types of pest management:

|  |  |  |
| --- | --- | --- |
| **Type of Pesticide** | **Benefits**  (environmental, economic, medical) | **Costs**  (environmental, economic, medical) |
| Broad-Spectrum pesticide |  |  |
| Selective pesticide |  |  |
| Organic pesticide |  |  |
| Inorganic pesticide |  |  |
| Integrated Pest Management (IPM) |  |  |
| Genetially Modified Organisms (GMO) |  |  |

1. Draw a diagram to illustrate the *pesticide treadmill*. Do not copy the diagram in your text book.
2. How is modern genetic engineering of foods different from the artificial selection humans have been performing on crops and animals for thousands of years?
3. Complete the following chart with information about benefits and drawbacks of GMO foods:

|  |  |
| --- | --- |
| **Benefits of Genetically Modified foods** | **Drawbacks/risks of Genetically Modified foods** |
| 1. | 1. |
| 2. | 2. |
| 3. | 3. |
| 4. | 4. |

1. Why is small-scale farming still common in many developing countries, despite the advantages the Green Revolution brought to large-scale farms?
2. Where is shifting agriculture most likely to be practiced, and what techniques characterize it?
3. What happens during **desertification**, what causes it and where is it most likely to occur?
4. What are the goals of sustainable agriculture?
5. Complete the following chart with information about common sustainable agricultural practices:

|  |  |  |
| --- | --- | --- |
|  | **What is it? Define/Explain** | **How can it be used to improve sustainability? What problems does it attempt to solve?** |
| **Intercropping** |  |  |
| **Crop Rotation** |  |  |
| **Agroforestry** |  |  |
| **Countour Plowing** |  |  |
| **No-Till Ariculture** |  |  |
| **Integrated Pest Mgmt** |  |  |
| **Organic Agriculture** |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **TERM** | **DESCRIPTION** | **EXAMPLE** | **ILLUSTRATION** |
| Synthetic fertilizer |  |  |  |
| Monocropping |  |  |  |
| Pesticide persistence |  |  |  |
| Bioaccumulation |  |  |  |
| Pesticide treadmill |  |  |  |
| Conventional agriculture |  |  |  |
| Slash-and-burn agriculture |  |  |  |
| Desertification |  |  |  |
| Sustainable agriculture |  |  |  |
| Intercropping |  |  |  |
| Crop rotation |  |  |  |
| Agroforestry |  |  |  |
| Contour plowing |  |  |  |
| No-till agriculture |  |  |  |
| Integrated Pest management |  |  |  |
| Organic agriculture |  |  |  |