SNC1D Biology Chapter 4: Ecosystems by Design

Date:

4.1 Engineered Ecosystems and Modern Agriculture:

**A. General Observations:**

1.

2.

3.

Table 1 Example of changes:

|  |  |  |
| --- | --- | --- |
| Golf course (photo 1a, p 119) | Open -pit mine (photo1b, p119) | Neighborhood (photo 1c, p119) |
| 1. Abiotic factors 2. Biotic factors | 1. Abiotic factors 2. Biotic factors | 1. Abiotic factors 2. Biotic factors |

**B. Modern Agriculture:**

Write 3 main ideas from the introduction p 120

1.

2.

3.

B1. Canadian Agriculture:

1.

2.

3.

|  |  |  |
| --- | --- | --- |
|  | Non-Native Species | Native Species |
| Plant crops |  |  |
| Livestock species |  |  |

Table 2: Selected Non-native and Native Crop and Livestock Species Grown and Raised in Canada

B2. Agroecosystems / Natural Ecosystems

|  |  |
| --- | --- |
| Agroecosystems | Natural Ecosystems |
|  |  |

Table 3

**To Do** :Add the following terms with their definition in the terminology chart: agroecosystem, monoculture, pest.

Questions: p 122, # 3, 4, 6, 9, 11

4.2 Managing the Soil/ Controlling the Flow of Nutrients and Water:

**A. General Introduction**

Main Ideas:

1.

2.

3.

**B. Managing Soil**

Main ideas:

1.

2.

3.

B1. Natural Fertilisers/ Synthetic Fertilizers

|  |  |
| --- | --- |
| Natural Fertilisers | Synthetic Fertilizers |
|  |  |

Table 4:

B2. Environmental Impacts of Fertilizers

Write s many facts you find:

1.

2.

3.

|  |  |  |
| --- | --- | --- |
|  | Synthetic Fertilizers | Natural Fertilisers |
| Examples |  |  |
| Advantages |  |  |
| Disadvantages |  |  |

Table 5:

**C. Controlling the Flow of Water in Soil**

Main Ideas:

1.

2.

3.

**D. Alternative Farming Practices:**

1.

2.

3.

**To Do**: Add the following terms with their definition in the terminology chart: natural fertilizer, synthetic fertilizer, leaching,

P 128, Q # 1, 4, 7, 8

4.4 Pests and Poisons

1.

2.

3.

|  |  |  |
| --- | --- | --- |
|  | Natural Grassland | Potato Field |
| producers |  |  |
| herbivores |  |  |
| carnivores |  |  |
| Food web |  |  |

Table 6: Comparison of Food Web in a Natural Grassland and Potato Field

1. **Pests**

1.

2.

3.

1. **Pesticides**

1.

2.

3.

4.

|  |  |
| --- | --- |
| **Characteristics** | **How do they work** |
|  |  |

Table 7: General Characteristics

|  |  |  |  |
| --- | --- | --- | --- |
| Pesticides | Origin/ source | Use | Important characteristics |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Table 8: Characteristics of some pesticides

**To Do**: Add the following terms with their definition in the terminology chart: pesticide, broad-spectrum pesticide, narrow-spectrum pesticide.

P 134 Q# 1, 2, 5, 6, 8