**The Importance of Crop Rotations**

1. **Read the definitions of crop rotation and monoculture below.**
2. **Are there any words you do not understand? List them on the last page.**
3. **Use the words from the box to fill in the missing words.**

What is a crop rotation?

A crop rotation is a series of different \_\_\_\_\_\_\_\_\_ planted in the same \_\_\_\_\_\_\_\_\_\_in a defined \_\_\_\_\_\_\_\_\_\_ (i.e., maize-cotton-sunflowers or maize-soybeans).

Monoculture is the \_\_\_\_\_\_\_\_ planting of the same crop in the same field \_\_\_\_\_ after \_\_\_\_\_.

repeated – field – year – crops – order – year

1. **What are the correct words in the text “What problems occur with monocultures”?**
2. **Are there any words you do not understand? List them on the last page.**
3. **Choose the correct options in the following text.**

What problems occur with monocultures?

In monocultures, increases in crop-specific pests and diseases/deformations are observed over time. Continuously growing the same crop will tend to exploit/nourish the same soil root zone, which can lead to a decrease in available soil organisms/nutrients for plant growth and to a decrease in root/insect development.

1. **Watch the video: “Why Do Farmers Rotate Crops? - Farm Basics” (**[**https://www.youtube.com/watch?v=3QLYFg4NIN8**](https://www.youtube.com/watch?v=3QLYFg4NIN8) **)**
2. **List the words you do not understand on the last page.**
3. **Watch the video again and note down the benefits of crop rotations. Discuss your key terms together.**

Benefits of crop rotations:

* 1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
1. **In addition to the video, what are some other benefits of crop rotations you know about?**
2. **What diseases and pests do you know which can be avoided by crop rotations? (If necessary, watch the video again.)**
3. **Take a book about crop production (i.e., “Pflanzenbau 1 – Grundlagen”) or do research on the internet to find out the recommended cultivation breaks of the following crops. What could be possible reasons for the break?**

|  |  |  |
| --- | --- | --- |
| Crop | Years of Break | Possible Reason(s) |
| Wheat, Barley |  |  |
| Potato |  |  |
| Soybeans |  |  |
| Sugarbeet |  |  |
| Sunflowers |  |  |
| Rapeseed  |  |  |

1. **Rules for planning your crop rotations.**
2. **Read the rules for crop rotations.**
3. **Are there any words you do not understand? List them on the last page.**
4. **Groupwork: Build a group of four, mark the most important keywords and compare your results.**
* Do not plant the same family of plants in the same spot 2 years in a row (because insects, nematodes, and pathogens are all attracted to specific kinds of plants so by mixing up the plant families you plant in a spot it helps prevent infection from pests).
* Do not grow the same kind of plant in the same spot 2 years in a row.
* Follow deep-rooted plants with shallow rooted plants and vice versa.
* When growing high yielding plants alternate them with low yielding plants that are very resistant to diseases.
* Alternate high effort plants with low effort plants.
* Preferably, have a 4-year cycle because many soil borne diseases stay in the soil for 3 years. Even if the plants are not affected, you can avoid the infection.
* It is good to have cover crops as part of your crop rotation as many of them build up the soil and some of them deter pests.
* The more crop rotation crops you cultivate, the better. (As illustrated in the image below.)
1. **Plan two crop rotations with four parts. Present the result of your groupwork in front of your classmates. Explain the reasons of your selections.**

|  |
| --- |
| **Your Own Crop Rotation:** |
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**Vocabulary:**

|  |  |
| --- | --- |
| Word | Description |
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**List of references:**

<https://alaskamastergardener.community.uaf.edu/2019/12/06/crop-rotation/>

<https://boku.ac.at/fileadmin/data/H03000/H73000/H73300/PJ/Mozambique/CIMMYT_ExtBulletins02.pdf>

<https://www.youtube.com/watch?v=3QLYFg4NIN8>

Pflanzenbau 1 – Grundlagen, Leopold Stocker Verlag, 2022