

2.3 Commercial Uses of Plants

What you need to know...

By the end of this section you should be able to

- Explain what plants are used for?
- Identify if commercially produced plants fall into the following groups;
 - Plants as Raw Materials
 - Plants as Food
 - Plants as Medicines
- Explain the methods used to produce plants commercially
- Explain what is meant by pharming

What are plants used for?

- Many people grow plants because they enjoy gardening or because they think that plants make their garden or home look nice.
- Other people grow plants to make money.

- Commercial uses of plants are when plants are grown in order to make money for the grower or for someone who uses the plants to make a product which they can sell for a profit.
- Plants are grown commercially for sale as foods, sources of medicine and as raw materials.

Task (sorting task)

- Try and put the examples in the folder into these groups;
 - **Plants as Raw Materials**
 - **Plants as Food**
 - **Plants as Medicines**
- Note your answers in your jotter

Plants as Raw Materials

A raw material is something that is used in making a product. Many plants are used to make other products.

- Cotton plants are used to produce cotton for use in the clothing industry.
- Barley and Hops are used to make beer in the brewing industry.
- Trees such as Scots Pine and Oak are used to make timber for the production of wooden furniture and flooring.

Plants as Food

- Potatoes and carrots are grown because their underground food stores can be used as sources of food for humans.
- Fruits from plants such as apple trees, orange trees and tomato plants provide humans with vitamins we need to stay healthy.
- Wheat plants are used in the production of flour for making bread and pasta.

Plants as Medicines

- The foxglove plant is a source of a medicine called digoxin, which is used to treat heart problems.
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Many other plants may contain medicines that we have not yet discovered.

Growing Plants Commercially

- People who grow plants commercially will try to get their plants to grow as quickly as possible and produce lots of crops.
- Farmers will add fertilisers to soil to because these will help plants to grow.
- Growers will grow plants in greenhouses which have automatic heating systems.

- The warmer temperatures protect plants from frost damage and help them to grow faster.
- They can also use artificial light and add extra carbon dioxide to the air so that plants carry out photosynthesis more quickly.
- If plants carry out photosynthesis faster, they will be able to grow more quickly and produce more fruits.

Pharming

- Pharming is the term used to describe how modified plants and animals are grown to provide higher yields of foods or fuels and to make them produce different medicines.
- Genes from different organisms are introduced to the plants or animals to make them produce a substance they would not normally make.

- The production of genetically modified food crops would be an example of pharming.
- Some plants and animals have been modified to make them produce medicinal drugs and vaccines.
- Plants used so far in trials include corn and soy.

- Fruits such as bananas and tomatoes have also been used in this way.
- Pharming is a very controversial area of biology.
- Some people think this is a good idea because it might help people while other people think that this might prove to be harmful in the long term.

Questions

1. Explain what plants are used for?
2. Give three examples of methods used to improve the yield of plants produced commercially?
3. Explain what is meant by pharming?