Plant Reproduction and Breeding

Topic 3

Humans and Plants

- Humans have interacted with plants and animals for many **thousands of years**
- Eventually h**umans began to choose specific plants** with certain **characteristics** to meet their needs
- This process is called **selective breeding**

- People **develop new breeds** of plants by choosing which plants **reproduce**
- We often choose plants that taste the best, **yield the most frui**t and are the most **resistant** to the weather in our area
- Every year, new varieties of **fruit are being produced**

New Genes

- **Canola** is a newly bred plant that was created by **selectively breeding** a similar plant that was found in the Prairies, making “**Canadian oil - Canola**”
- We continue to work on canola, making it more resistant to **disease and drought**
- Scientists are also able make changes to the **genes** of the plant, by examining and **modifying their cells**

Plant reproduction

- **Plants can reproduce** in two different ways - **sexual or asexual reproduction**
- **Sexual reproduction** occurs when there is a new plant produced from **two parent plants**
- **Asexual or vegetative reproduction** occurs when one **single plant is able to grow** a new plant from its roots, stem or leaves

Vegetative Reproduction

- When a plant **reproduces asexually,** the new plant is **identical** to its parent
- If farmers have a plant with **characteristics** they like, they can **reproduce** it knowing it will be the same as the original
- Farmers may take a **cutting** of the original to grow new plants

Seed Plant Reproduction

- Seed reproduction is used for plants that are sexually reproducing
- Cones are a type of scaly, woody seed that is often found on trees
- These cones contain ovules (eggs)
- If pollen falls on the ovules, the egg becomes fertilized and the seed begins to grow

Flowers

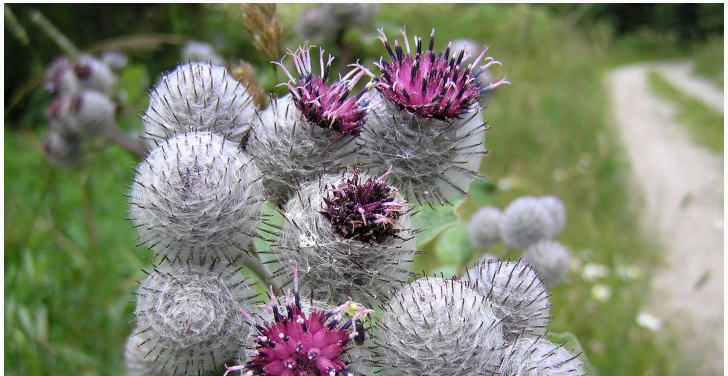
- Flowers contain pollen that will fertilize other plants
- Large flowers with bright colours attract pollinators, such as insects and birds
- Some flowers depend on the wind to carry their pollen

Fruit

- Fruits grow around the seeds, as **protection and food** for the seeds
- Fruits sometimes **tries to attract animals**, so that the animals can eat and transport the seeds

Seed dispersal

- Many seeds rely on animals to move them through ecosystems
- Velcro was invented by a Canadian after he noticed burrs (seeds) stuck to his clothes while hunting
- Some seeds can use the wind, such as dandelion seeds



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