



Plant Breeding



Learning Objectives

The learner will be able to

- ❖ Appreciate the relationship between humans and plants.
- ❖ Recognise the origin of agriculture.
- ❖ Perceive the importance of organic agriculture.
- ❖ Understand the different conventional methods of plant breeding.
- ❖ Realize the importance of seed protection and seed storage.
- ❖ Compare the traditional methods of seed storage with modern methods.



Chapter outline

- 9.1 Relationship between human and plants
- 9.2 Domestication of plants
- 9.3 Origin of agriculture
- 9.4 Organic agriculture
- 9.5 Plant breeding
- 9.6 Conventional plant breeding methods
- 9.7 Modern plant breeding Techniques
- 9.8 Seed protection
- 9.9 Seed storage



Economic botany is the study of the relationship between people and economically important plants. It explores the ways by which humans use plants for food, medicines and other uses. Economic botany intersects many fields including established disciplines such as agronomy, anthropology, archaeology, chemistry, trade and commerce.

9.1 Relationship between humans and plants

From the very early times, human beings have co-existed with plants which played a vital role in their survival. Through a long process of trial and error, our ancestors have selected hundreds of wild plants from the various parts of the world for their specific use. The knowledge of the plants and its applications have led to the development of the humans and their civilization in many ways.

9.2 Domestication of plants

Domestication is the process of bringing a plant species under the control of humans and gradually changing it through careful selection, genetic alteration and handling so that it is more useful to people. The domesticated species are renewable sources that have provided food and other benefits to human.

The possible changes in the plant species due to domestication are listed below;

- Adaptation to a greater diversity of environments and a wider geographical range.
- Simultaneous /uniform flowering and fruiting.
- Lack of shattering or scattering of seeds.
- Increased size of fruits and seeds.
- Change from a perennial to annual habit.