

## CHAPTER 8



## OBJECTIVES

At the end of this chapter, students should be able to:

- â—† explain the meaning of ornamental plants.
- â—† identify local ornamental plants.
- â—† discuss the importance of ornamental plants.
- â—† mention ornamental plants used for different purposes.
- â—† identify ornamental plants belonging to each category.
- â—† identify locations or settings requiring ornamental plants.
- â—† state common names and botanical names of ornamental plants.
- â—† mention methods of propagating ornamental plants.
- â—† discuss the importance of each method.
- â—† give examples of ornamental plants propagated through each method.
- â—† list maintenance operation of each ornamental plant.
- â—† discuss reasons for carrying out each operation.
- â—† carry out operations in any established site.

### 8.1 Introduction

Ornamental plants have fascinating qualities that are appealing to human beings. They are characteristically beautiful either because of the colour of the leaves, flowers or stem, or because of the attractive scent that oozes out regularly. Ornamental plants have also been used as assessor in spiritual worship due to their general appeal. Growing ornamentals has become a flourishing hobby as well as a rich source of income.

### 8.2 Meaning of Ornamental Plants

Ornamental plants may be trees, shrubs or herbs which are used for different purposes by man.

Some of these purposes are listed below:

- â Landscaping, for example, Bahama grass, *Axonopus compressus*.
- â Decoration, for example, Rose flower

*Hibiscus rosa-sinensis*; Queen of the night (*Cestrum nocturnum*); Royal palm (*Roystonea* sp.).



FIGURE 8.1 Different shades of coloured flowers

- â Food for humans, for example, Almond tree (*Terminalia catappa*); *Celosia argentea* as vegetable.
- â Medicinal, for example, Lemon grass (*Cymbopogon* sp.) for fever and *Hibiscus sabdariffa*.
- â Spiritual worship, for example, Sunflower, Queen of the night, *Ixora cocaria*.

### 8.3 Local Ornamental Plants

The following are common ornamental plants found in Nigeria.

Common Name	Scientific Name
<b>Herbaceous</b>	
• Bahama grass	• <i>Cynodon dactylon</i>
• Carpet grass	• <i>Axonopus compressus</i>
• Rose periwinkle	• <i>Vinca rosea</i>
• Lemon grass	• <i>Cymbopogon citratus</i>
<b>Shrubs</b>	
• Pride of Barbados	• <i>Caesalpinia</i> sp.
• Milk bush	• <i>Thevetia peruviana</i>
• Rose flower	• <i>Hibiscus rosa-sinensis</i>
• Queen of the night	• <i>Cestrum nocturnum</i>
<b>Trees</b>	
• Flame of the forest	• <i>Delonix regia</i>
• Frangipani	• <i>Plumeria</i> sp.
• Whistling pine	• <i>Casuarina equisetifolia</i>
• Masquerade	• <i>Polyalthia</i> sp.
• Royal palm	• <i>Roxbolea</i> sp.

Ornamental plants are useful in the following ways.

- â **Decoration:** Ornamental plants are used for interior and exterior decorations.
- â **External architectural beautification:** Plants are planted to compliment clear straight lines in building.
- â **Landscaping:** Ornamental plants are used in landscaping. It can be in form of writings and design to make those areas look attractive.
- â **Welcoming guest:** Flowers are prepared and presented to important dignitaries.
- â **Natural perfumes in the environment:** Some plants produce attractive scents when planted in courtyard and around dwelling; example: the Queen of the night.
- â **Ceremonial use:** Beautiful flowers are used for wedding and making wreath for burial.
- â **Provision of shade:** Some ornamental plants are planted to provide shades in parks, roads and gardens.
- â **Sources of revenue:** Ornamental plants are sold to make money.
- â **Employment opportunities:** It is a source of employment to those who establish it and those that trade it.
- â **Provision of foreign exchange:** Some ornamental plants are exported to other countries.
- â **Purification and cooling of our environment:** Ornamental plants help to purify atmospheric air as well as providing a cooling effect by removing carbon (IV) oxide and releasing oxygen.
- â **As symbol of love:** People often give beautiful flowers to their loved ones to show affection.
- â **Scientific research:** Flowering plants are used for research purposes by scientists.
- â **Medicinal purposes:** Some ornamental plants are used medicinally; examples: lemon grass and *Aloe vera*.
- â **Delineate and screening:** Ornamental plants are used to delineate and delimitate buildings and edges.

### 8.5 Ornamental Plants, Uses and Location/Where Required

Ornamental Plants (Examples)	Uses	Location/Setting/Where Required
1. Flamboyant ( <i>Delonix regia</i> ) Almond ( <i>Terminalia catappa</i> ) Banyan tree ( <i>Ficus sp.</i> )	Shade trees	Frontage of houses, parks and gardens, banks, schools, hospitals, motor parks, stadia.
2. • Ixora ( <i>Ixora coccinea</i> ) • Tecoma stans • Pride of Barbados ( <i>Caesalpinia sp.</i> ) • Acalypha sp (Red and white acalypha) • Croton sp.	Landscaping	Houses, schools, hospitals, banks, parks and gardens stadia
3. • Queen of the night ( <i>Cestrum nocturnum</i> )	Natural perfume	Houses, hospitals, parks and gardens

Ornamental Plants (Examples)	Uses	Location/Setting/Where Required
4. • Rose flower ( <i>Hibiscus rosa-sinensis</i> ) • Hibiscus flower ( <i>Hibiscus esculentus</i> ) • Ixora ( <i>Ixora coccinea</i> )	Ceremonials	Houses, weddings, churches, launchings
5. • Aloes ( <i>Aloe vera</i> ) • Lemon grass ( <i>Cymbopogon sp.</i> )	Medicinal	Houses, homestead gardens, parks and garden
6. • Carpet grass ( <i>Axonopus compressus</i> ) • Bahama grass ( <i>Cynodon dactylon</i> )	Lawn decoration	<ul style="list-style-type: none"> <li>• Football fields</li> <li>• Volleyball fields</li> <li>• Lawns in hotels, houses</li> <li>• Sit out</li> </ul>
7. • Rose flower ( <i>Hibiscus rosa-sinensis</i> ) • Hibiscus ( <i>Hibiscus esculentus</i> )	Object of affection	<ul style="list-style-type: none"> <li>• Houses and dwellings.</li> <li>• Valentiric celebration</li> </ul>

## 8.6 Methods of Propagating Ornamental Plants

Ornamental plants are propagated in different ways by sexual reproduction (seeding) and asexual reproduction (vegetative propagation).

### 8.6.1 Sexual reproduction (seeding)

This is the act of using seeds to produce plants which look exactly like their parents. Examples of ornamental plants propagated by seeds are

â Whistling pine: *Casuarina equisetifolia*

â Flame of the forest: *Delonix regia*

â Sunflower: *Helianthus annuus*

â Royal palm: *Roystonea sp.*

#### 8.6.1.1 Advantages

â Seeds are usually small and very convenient to handle and transport.

â Seeds can last for a long time when properly stored.

â Seeds make establishment of large population of plants comparatively easy.

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### 8.6.1.2 Disadvantages

â Plants raised from seeds may not grow and mature uniformly.

â Seeds may fail to germinate due to dormancy.

## 8.6.2 Asexual reproduction (vegetative propagation)

This is the act of production of new plants from the vegetative parts of existing plants. This is achieved using different methods as follows:

**(a) Cutting/offset** This involves the use of stem cuttings or root cuttings. Examples *Ixora*, *Hibiscus*, Frangipani, *Acalypha* and Queen of the night.

**(b) Rhizomes** These are modified stems which grow horizontally below the soil surface. An example of plants propagated this way is Canna Lily.

### 8.6.2.1 Advantages

â Produce plants that are similar to their parents in all their characters.

â New plants are produced without alteration of the genetic constitution of the plant.

### 8.6.2.2 Disadvantages

â No variation from plant types; so there is no improvement over the parent plant. For example, no pest and disease resistance above the resistance level in the parent plant.

â Diseases are easily passed from parent to the new plant.

## 8.7 Maintenance Operation of Ornamental Plants

**Watering:** Water deeply enough to moisten all the roots. Deep watering promotes deep growing roots because roots seek moisture.

**Mulching:** Mulch is a layer of organic substance on the soil surface to preserve soil moisture. It acts as an insulating blanket to protect the soil from the drying action of sun and wind.

**Fertilizer and nutrients:** Plants require adequate nutrients and so fertilizers are applied.

**Weeding:** Plant surrounding should be weeded to reduce the incidence of diseases and pests as well as to avoid competition.

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**Staking:** The purpose of staking is to keep plants erect and prevent tall, bloomy plants from falling over.

**Provision of shade:** Ornamental plants should be provided with shades to protect the seedlings from excessive heat and rainfall.

**Pruning:** As some ornamental plants become springy, floppy, top heavy or leggy, there is a need to prune to make them look attractive and beautiful.

## Activity

Group students into three groups and allow:

a. The first group to plant some annual flower in the school compound.

b. The second group to landscape the school compound.

- c. The third group to establish and plant up a volleyball court pitch.

## SUMMARY

â—† Ornamental plants are useful in the following ways: for decoration, landscaping, welcoming guest, preparing natural perfume, ceremonial uses, medicinal and scientific research.

â—† They are also located in areas like schools, hospitals, parks and roads.

â—† Ornamental plants are propagated by sexual and asexual methods.

â—† They are maintained by watering the plants, mulching, application of fertilizer, weeding and pruning.

## REVISION QUESTIONS

### Essay Questions

1. (a) State four ways in which ornamental plants are important

(b) Give two examples each of

(i) Ornamental trees

(ii) Ornamental shrubs

(iii) Ornamental herbs

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2. (a) Explain the term ornamental plants.

(b) List five ornamental plants and their uses.

3. (a) Discuss three methods of propagating ornamental plants.

(b) Explain four maintenance practices one should carry out in horticultural garden.

4. List six locations or settings requiring ornamental plants.

### Objective Questions

1. Ornamental plant commonly used for football is

(a) *Ixora*.

(b) carpet grass.

(c) wire grass.

(d) rose flowers.

2. Which of these is not an essential arm of flower cultivation?

(a) To manufacture dyes

(b) To beautify the environment

(c) To produce room for snakes and pest

(d) To enlighten the public

3. Which of these is not an ornamental plant?

(a) *Hibiscus*

(b) Queen of the night

(c) Cassia

(d) Lady of the forest

4. The following are methods of maintaining ornamental plants except

(a) watering.

(b) pruning.

(c) burning.

(d) fertilizer application.

5. Ornamental plants are used for the following purposes except

- (a) landscaping.
- (b) ceremonies.
- (c) showing affection.
- (d) making drum.

### **Answers**

1. b 2. c 3. d 4. c 5. d