

## Practical 4

# IDENTIFICATION OF MAJOR FLOWER CROPS OF OUR COUNTRY

### Introduction :

Different flowers and plants are identified based upon the knowledge of morphology and anatomy. For describing flower crops, every part of it is to be studied in detail and compared with similar structures of other plant. Every plant part has a name and its study is called as **Phytography**. It is a branch of taxonomy or plant systematic. It deals with the descriptions of plants and their organs (parts). The main plant parts used for description of flowering plants are given below:

- Roots (position and morphology)
- Stem (Branching pattern, texture, shape, bark-surface, form, modifications, etc.)
- Buds (position, protectiveness, time of sprouting, etc.)
- Foliage (Leaf-simple/ compound, insertion, arrangement, parts, stalk, base, apex, shape, serration/ margins, incision, venation, surface/ texture, sap, duration, etc.)
- Inflorescence (type, size and number of flowers, duration, etc.)
- Flowers (shape, symmetry, completeness, parts, arrangement, insertion, union of floral parts, calyx- sepals, corolla- petals/ tepals, colour, shape, size, androecium- stamens, anthers, gynoecium- stigma, style, ovary, fragrance, duration, etc.)
- Fruits (type, shape, size, colour, fragrance, duration, etc.)
- Ovule/ Seed (shape, size, colour, number, duration, etc.)

## EXERCISE 4.1: IDENTIFICATION OF MAJOR CUT FLOWER CROPS

### Objective :

- To identify various cut flower crops based on primary morphological characters.

**Delivery schedule :** 1 period

### Student's expectations/ Learning objectives:

- To get acquainted with different cut flower crops grown in India

**Pre-learning required :** Knowledge about various cut flowers.

**Handouts/material required/equipment's & tools:** Flower crops, hand lens and standard encyclopedia and books on Floriculture

### Introduction:

When flowers are harvested with long stem usually containing few or many leaves for various uses indoor and outdoor are called as cut flowers. The main cut flower crops grown in India are given below:

### Description of cut flower

#### *Alstroemeria pelegrina* (*Alstroemeria*)

Family: *Alstroemeriaceae*

It is a perennial, rhizomatous bulbous cut flower crop growing to over one meter. Shoots are leafy, light green and flowers borne in spike having 4 to 12 florets of various colours.

#### *Anthurium andreanum* (*Anthurium*)

Family: *Araceae*

Anthurium is a tropical cut flower, having dark green shining heart shaped foliage and brightly, heart shaped spathe of various colours.

### Photograph



### ***Cymbidium* spp. (Cymbidium)**

Family: *Orchidaceae*

Cymbidium is the most popular genus grown for cut flowers. Plants are evergreen with fleshy roots and short pseudo-bulbs enclosed with linear leaves. Inflorescence is erect or pendulous, bearing long lasting flowers of varied colours. Lip is 3-lobed. Column is boat shaped.



### ***Dendranthema grandiflora* (Chrysanthemum)**

Family: *Asteraceae*

Plants are semi-woody, perennial, leaves single, serrated, dark green and inflorescence capitulum having two types of florets (tubular and ray), varied flower form in different colours.



### ***Dendrobium* spp. (Dendrobium)**

Family: *Orchidaceae*

Dendrobium is the second largest genus, but very popular cut flower after Cymbidium. Stem is elongate or with pseudo-bulbs. Leaves are one to several. Inflorescence is terminal or lateral with one to many flowers of varied colours.



### ***Dianthus caryophyllus* (Carnation)**

Family: *Caryophyllaceae*

Plants are herbaceous, perennial, stem with swollen nodes, leaves thick, dark green grass like and flowers with smooth or fringed petals of various colours.



### ***Gerbera jamesonii* (Gerbera)**

Family: *Asteraceae*

Plants are almost without stem, tender perennial herb. Leaves radical, with petiole, deeply lobed and dark green. Flower heads solitary, many flowered, daisy like in almost every colour.



### ***Gladiolus x gandavensis* (Gladiolus)**

Family: *Iridaceae*

Gladiolus leaves resemble sword and 6-8 number. Flowers called as florets are borne in spike. Florets open acropetally and are of almost all colours. Under ground plant-part is called as corm, which distinct nodes and internodes and covered with thin papery covering.



### ***Heliconia angustifolia* (Heliconia)**

Family: *Musaceae*

Dwarf plantain like plants with colourful foliage. Boat shaped bracts look very ornamental and available in red, yellow and orange colours.



### ***Lilium* spp. (Asiatic Lilium)**

Family: *Liliaceae*

Leaves are mostly shining and upward growing. Flowers are mostly dark coloured and with no or slight fragrance. Flowering is for extended period. Bulbs are almost white and small size.



### ***Lilium* spp. (Oriental Lilium)**

Family: *Liliaceae*

Leaves are less or no shining, broad shaped and growing almost parallel to ground. Flowers are mostly white or pink coloured with high fragrance. Flowering occurs during late autumn. Bulbs are yellowish tinged and of large size.



### ***Narcissus pseudonarcissus* (Daffodil)**

Family: *Amaryllidaceae*

Plants perennial, leaves linear and dark green. Flowers are borne on long stalk. Narrow perianth tube with six segments mainly of creamish white colour and a cup shaped corona in the centre of yellow, orange colour.



### ***Polianthes tuberosa* (Tuberose)**

Family: *Agavaceae*

Plants are leafy with long narrow, linear, grass like and mostly prickly. Flowering stalk called spike has single, semi-double and double flowers, creamy-white, tubular and highly fragrant.



### ***Ranunculus asiaticus* (Ranunculus)**

Family: *Ranunculaceae*

Plants are dwarf with finely cut dark green foliage. Flowers are turban shaped double in almost red, yellow, orange, white and scarlet colours. Tubers have claw shaped 3-5 flangs in dusty brown colour.



### ***Rosa hybrida* (Rose)**

Family: *Rosaceae*

Plants are erect to climbing, stem prickly, leaves oddly pinnate and prickly. Flowers in cut flower varieties are many and almost all colours.



### ***Strelitzia reginae* (Bird of Paradise)**

Family: *Strelitziaceae*

Plants are perennial, herbaceous, thick stalked dark green foliage and long contractile roots. Flowers are yellow-orange with violet-blue centre and with flying bird shaped.



## ***Tulipa* spp. (Tulip)**

Family: *Liliaceae*

Plants have 3-4 strapped shape to lanceolate green leaves. Flowers are solitary having six to many tepals borne on a scape in almost every colour.



**Exercise:** Visit the commercial Floriculture farms/ nurseries/ Florist shops and identify different cut flowers being grown or sold based upon their distinguishable morphological characters.

## **EXERCISE 4.2: IDENTIFICATION OF MAJOR LOOSE FLOWER CROPS**

### **Objective :**

- To identify various loose flower crops based on primary morphological characters.

**Delivery schedule :** 1 period

**Student's expectations/ Learning objectives:**

- To get acquainted with different loose flower crops grown in India

**Pre-learning required :** Knowledge about various loose flowers.

**Handouts/material required/equipment's & tools:** Flower crops, hand lens and standard encyclopedia and books on Floriculture

### **Introduction:**

When flowers are harvested without stem usually with small or no petiole for various religious and social functions are called as loose flowers. The loose flowers are used to offer in temples, mosques, churches, gurudwaras, making garlands, veni, gajra, corsage, etc. The main loose flower crops grown in India are given below:

## Loose flower crop

### *Callistephus chinensis* (China aster)

Family: *Asteraceae*

Plants are herbaceous, annual. Leaves are simple, serrated and light green. Flowers are single to double and in pink, purple, red, yellow and white colours

### *Chrysanthemum* spp. (Annual chrysanthemum)

Family: *Asteraceae*

Plants are herbaceous with semi-woody base, annual, leaves simple, serrated/ lobed and flowers mainly in white and yellow tinge.

### *Crossandra undulaefolia* (Crossandra)

Family: *Acanthaceae*

Dwarf evergreen shrub growing to two feet. Flowers are yellow to orange borne in dense bracted spikes.

### *Dendranthema grandiflora* (Chrysanthemum)

Family: *Asteraceae*

Plants are semi-woody, perennial, leaves single, serrated, dark green and inflorescence capitulum having two types of florets (tubular and ray), globular to decorative flower form and mainly in white and yellow colours.

### *Jasminum sambac* (Arabian Jasmine)

Family: *Oleaceae*

Plants are bushy to climbing. Leaves are sessile, opposite and light green. Flowers are single to double form, white and borne in clusters of 3-12 per cluster.

## Photograph



### ***Nelumbo nucifera* (Lotus)**

Family: *Nymphaeaceae*

Plants are growing in ponds. Leaves are overtopping. Flowers are pink to red about 20-30 cm across growing above water.



### ***Nerium indicum* (Red kaner)**

Family: *Oleaceae*

Plants are tall, multi-branched, erect growing. Leaves are simple, thick, dark green and shining. Flowers are single to double borne in corymbs in pink, white and red colours



### ***Polianthes tuberosa* (Tuberose)**

Family: *Agavaceae*

Plants are leafy with long narrow, linear, grass like and mostly prickly. Flowering stalk called spike has single, semi-double and double flowers, creamy-white, tubular and highly fragrant.



### ***Rosa hybrida* (Rose)**

Family: *Rosaceae*

Plants are erect to climbing; stem prickly, leaves oddly pinnate and prickly. Flowers in loose flower varieties are many, borne in clusters and mostly in red, pink and white colours.



### ***Tagetes erecta* (African marigold)**

Family: *Asteraceae*

Plants are tall, stem green, foliage oddly pinnate, light green and flowers large, yellow to orange tinged.



## *Tagetes patula* (French marigold)

### Family: Asteraceae

Plant is dwarf, stem bronze, foliage oddly pinnate, dark green and flowers small, mainly red tinged.



**Exercise:** Visit the commercial Floriculture farms/ nurseries/ Florist shops and identify different loose flowers being grown or sold based upon their distinguishable morphological characters.

### Observations:

S.No.	Name of the flower	Cut flower or loose flower or both	Plant characteristics	Flowers and inflorescence	Remarks
1					
2					
3					

### Precautions:

- Do not damage the flower crops during identification.
- Carefully note the most distinguishable characters of flower crops identified.