

# SEASONAL FLOWERS



*Dr. R.K. Pandey*  
*Dr. Nomita Laishram*  
*Dr. Arvinder Singh*  
*Dr.R.K.Samnotra*  
*Dr. Sheetal Dogra*

**Funded by: NABARD**

*Division of Vegetable Sciences and Floriculture*  
**SHER-E-KASHMIR UNIVERSITY OF AGRICULTURAL  
SCIENCES AND TECHNOLOGY, CHATHA, JAMMU-180 009**

Seasonal or annual flowers are a group of those plants which grow from seeds, produce flowers, set seeds and die down within one season or one year. They provide beautiful display of colour in the garden, whether it is a small home garden or a big public garden.

**Winter season:** Nursery sown in the month of September-October and transplanted in the field in November-December. e.g. Antirrhinum, Calendula, Candytuff, Corn Flower, Clarkia, Annual Chrysanthemum, California Poppy, Pansy, Dianthus, Dimorphotheca, Gazania Godetia, Hollyhock, Helichrysum, Larkspur, Lupin, Mesembryanthemum, Nasturtium, Nemesia, Daisy, Poppy, Phlox, Schizanthus, Stock, Sweet Alyssum, Sweet Sultan, Sweet Pea, Verbena.

**Summer season:** Nursery sown in the month of February and transplanted in the field during late March. e.g. Zinnia, Cosmos, Gaillardia, Kochia, Portulaca, Tithonia, Gomphrena etc.

**Rainy season annuals:** Nursery sown in the month of May and transplanted in the field in June. e.g. Gaillardia, Aster, Balsam, Cosmos, Portulaca, Kochia, Sunflower, Morning glory, Gomphrena, Celosia etc.

**Nursery management:** Prepare raised nursery beds/plots of 1 sq m, add well rotten farmyard manure to it and mix. Soil should be made to a fine tilth and be drenched with Bavistin 0.1% (i.e. 1 g of Bavistin in 1 litre of water) 2-3 days before seed sowing. Make 1-2 cm deep furrows about 6 cm apart, sow the seed thinly in furrows. If the seed is very fine, mix it with equal quantities of sand before sowing. Cover the furrows with well sieved FYM and sand mixture. Finally the beds may be covered with dry grass as mulch and irrigate it with a fine rose. The cover may be removed as soon as seeds start germinating.

**Transplanting:** Healthy seedlings should be transplanted to well prepared beds in evening hours during summer while preferably in morning during winter season. Irrigate the crop immediately after planting. The seedlings are transplanted in beds after 25 days of sowing when they attain four-leaf stage.

**Spacing:** 40-40 cm spacing for tall annuals, 30x 30 cm for medium and 20x 20 cm spacing for dwarf types, respectively.

**Irrigation:** During winter irrigation should be given at an interval of 15 days while in summer at an interval of seven days is recommended.

### **Inter culture operations:**

**Weeding:** Weeds compete with annuals for nutrients and water, thereby resulting weak growth of the plants. To ensure proper vegetative growth of the annuals, it is necessary to remove weeds from the beds/borders as well from the pots regularly.

**Gap filling:** Seedlings planted in the beds and borders die either in the early or later stage due to one or the other reason. In that case, immediate replacement of seedling should be done.

**Pinching and disbudding:** Many seasonal such as Carnation, Marigold, and Dianthus need pinching when they are 15-20 cm tall. Aster, Cosmos and Zinnia develop flower buds as early as when these are only 5-10 cm height and they should be pinched off. In case if large flower is needed for exhibition, then axillary buds should be removed when they are at pea size stage

**Staking:** Some annuals like Sweet pea, Carnation and Nasturtium need support/staking for which split bamboo sticks may be used.

### **Plant protection:**

#### **(A) Pests:**

(i) **Aphids:** Small sucking insects, green to bluish grey or black in colour. Spraying of insecticides like Monocrotophos/Rogor @ 1-2 ml/liter of water is effective in controlling aphids.

(ii) **Caterpillars:** Caterpillars cause damage to Carnation, China aster, Antirrhinum, Celosia, Hollyhock etc. Spraying with 0.2% Endosulfan is quite effective

**(B) Diseases:**

**(i) Damping off:** Common fungal disease caused by *Pythium spp.* and *Phytophthora spp.* Young seedlings as well as grown up plants are attacked at the ground level. As a result, affected seedlings collapse quickly. Soil sterilization with formalin (2%) and application of fungicides like Bavistin/Blitox @ 2g/litre of water are effective in controlling the disease.

**(ii) Downy mildew:** The disease is manifested by the production of yellow or light brown blotches on the upper surface of leaves and mouldy growth on the lower surface. Spraying of fungicides viz. Dithane M-45/Bavistin @ 0.2% can control the disease.

**(iii) Leaf spot and blight:** Necrotic spots and burning of leaves are the common symptoms of this disease. Spraying of fungicides like Bavistin, Dithane M-45 is effective to control the disease.