

Production Technology of Cauliflower

Kavita

Department of Genetics and Plant Breeding, CCS Haryana Agricultural University,
Hisar (Haryana), India

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Introduction

Cauliflower is the most important vegetable crop grown in India in an area 463 mha with a production 9038 mt during 2020-2021. The scientific name of cauliflower is *Brassica oleracea*. In India, cauliflower cultivation is done in almost all the states, but the main states are Bihar, U. P., Orissa, Assam, M.P., Gujarat, and Haryana. The edible part of cauliflower is curd formed by the shortened flower parts.



Fig 1 : Cauliflower Production System

Climatic Requirements



The cauliflower has a wide range in adaptation to diverse climatic conditions, prevailing in temperate, subtropics and tropical parts of India. Cauliflower is a cool-season vegetable, hence the best curds produces in the cool and slightly moist weather condition. The optimum monthly average temperature ranges from 15 to 20 °C. The tropical cultivars show growth even at 35° C. In temperate regions, the growth of young seedlings may be ceased, when temperatures are slightly about 0° C. The of the early varieties require higher temperatures and longer day lengths, hence in plains of north India and other tropical parts early varieties can grow even at 35° C.

Soil conditions

Cauliflower can be grown in all types of soil from clay to loamy, but mostly requirement is fairly deep loamy type of soil with good fertility and good regime. In light soil, the plants are most sensitive to drought and therefore, water stress adversely affects curd development. For late season/summer soils with high moisture-holding capacity are preferred. For early crops, the light soils are required, while, loamy and clay loam soils are more suitable for mid season and late maturing types. Cauliflower has high requirement of magnesium deficiency of magnesium may quickly seen by acid soils. High pH reduces the availability of boron and it is relatively more sensitive to deficiency of boron and molybdenum. Hence, It is sensitive to high acidity, therefore, the optimum soil pH for maximum production of cauliflower is 5.5-6.0.

Sowing Time

The optimum time of seed sowing in the nursery depending upon climate, varieties and their temperature requirement for curd formation. The cauliflower varieties are grouped under three categories:

1. Early-season varieties are sown from May to August and ready to harvest from September to December. Early season cauliflower varieties are Early kunwar, Early Synthetic, Pusa Katki, Pant Gobhi-2, Pant Gobhi-3, *etc.*
2. Main season varieties are sown from September to October. They are ready for harvest from December to January. Main season cauliflower varieties are Pusa Synthetic, Pant Shubhra, Punjab Giant-26, Punjab Giant-35 *etc.*

3. Late-season varieties are sown from October to December and harvested from mid-January to April end. Late season cauliflower varieties are Pusa Snowball-1, Pusa Snowball-2, Sonwball-16, Dania Kalimpong, *etc.*

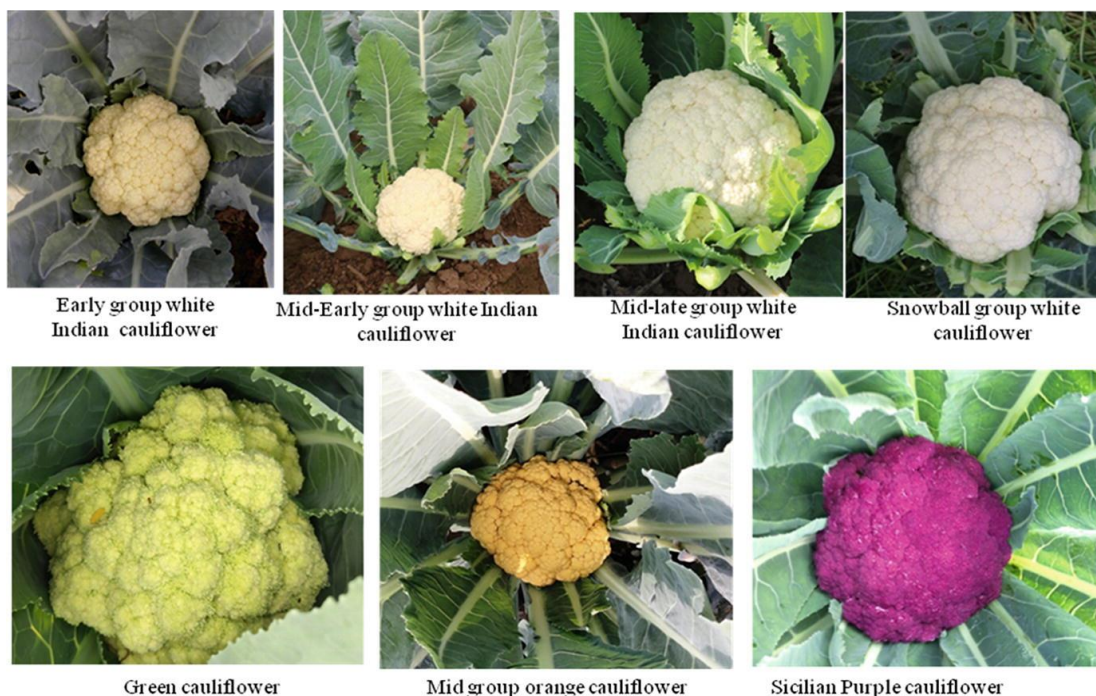


Fig 2 : Cauliflower Varieties

Seed Rate, Methods of Sowing and Transplanting

For cauliflower cultivation in an Early season: 600g-750 gm/ ha, Mid and late season: 400-500 gm/ha seed required. Make Nursery beds with one meter wide and fifteen cm in high and add well rotten farmyard manure or compost @ 10 kg/m². The soil of the beds is made friable by through digging / ploughing and harrowing and breaking the clods. After that drench fungicide like Captan or Thiram at the rate 2 g/l of water to prevent the incidence of fungal diseases. After drenching, the beds should be kept covered with polythene for a week and then beds are again dug and left open for 5-6 days. The seeds should be sown in lines at a spacing of 8-10 cm between rows and 1.5-2 cm between seeds at a depth of 1.5-2 cm. The seed should be covered with sand and FYM mixture. So that, there is no injurious effect of formalin to the seeds. During the monsoon, nurseries should be created under polyhouse or polytunnel. Weeding and intercultural operation should be time to time. Nursery beds should always be irrigated according to need. Generally, the cauliflower crop is required to give 200 kg of Nitrogen, 75 kg of phosphorus and 75 kg potassium per hectare for

optimum yield. Nitrogen 100 kg, 75 kg phosphorus and 75 kg potash should be applied at the time of transplanting. The remaining half of nitrogen should be given 30 and 45 days after transplanting. Generally, the seedlings are ready for transplanting in 3-6 weeks after seed sowing, depending upon variety, temperature and soil fertility. In case of early crop, 5-6 weeks old seedlings while, in mid-season and late varieties 3-4 weeks old seedlings may be transplanted. Generally for early season distance between plant to plant is 45 cm X 45 cm and for main season and late-season crop, 60 cm X 60 cm maintained. In the market generally there is high demand for small to medium size cauliflower curd; hence, by reducing planting distance, more Cauliflower curds can be obtained.

Yield of cauliflower

Cauliflower yield depends upon production season and breed varieties. For early varieties, approximately 6-10 t/ha is obtained while Midseason varieties, yield 12-20 t/ha and for late variety, types are 20-30 t/ha obtain

