

STRAWBERRY

(*Fragaria X ananassa* Duch.)

Strawberry is one of the most popular soft fruit. Among the fruits, strawberry gives the quickest returns in the shortest possible time. It is rich in vitamins, proteins, and minerals like P, K, Ca and Fe and best natural sources of antioxidant.

Cultivars

Suitable varieties for the region are Festival, Ofra, Camarosa and Sweet Charlie.



Soil and Climate

It prefers soil reasonably rich in humus, because 70-90 % of its roots are found in the top 15 cm soil. Strawberry should not be grown in the soil previously devoted to potato, tomato, brinjal and pepper. Strawberry grows well under subtropical to temperate climate.

Propagation

Strawberry is propagated through runners. Although runner produces true to type plant, but viral diseases are quite often transmitted through runners only. Thus, for runner production, a separate bed should be used. The site and soil where the strawberry had not been grown for at least 3-4 years should be selected. The planting should be done at 1.2 x 1.2 m distance. Rate of runner production can be enhanced by GA3 (40mg/L of water) spraying at the end of the fruiting. The runners are lifted during September-October for greater survival in the field.

Land preparation and planting

FYM or other bulky manures should not be ploughed too deep. Soil fumigation with Methyl bromide (67%) or Chloropicrin (33%) prior to planting can check the nematodes, *verticillium* wilt and even some weeds.

The outer leaves should be striped and soils of the roots of the runner should be washed. Set the plant at the correct depth and pack the soil firmly around the roots.

Planting in October- November is best time. Runners are set 20-25 cm apart in twin rows, 30-35 cm apart and distance of 90-120 cm is kept between twin rows.

Irrigation

Frequent irrigation rather than a few heavy ones favors the crop. Avoid excess irrigation, to minimize the amount of water required and to get quality fruits trickle/drip irrigation system is best.

Manure and Fertilizer

For annual cropping 70-80 t/ha FYM may fulfill the nutritional requirement. 100:60:140kNPK/ha in three split dose is recommended. In addition, foliar application of Urea (2%), Zinc sulphate (0.5%), Calcium sulphate (0.5%) and Boric acid (0.2%) is beneficial for higher and better yields.

Mulching

The commonly used mulch materials include paddy straw and black polythene gives good weed control, advances early cropping, increases total yield and save the fruit from rotting.

Insect/Pests

White grubs and cut worms: Cut the root and stem of young plants. Deep ploughing and drench the soil with Chlorpyrifos@ 2ml/L water.

Hairy caterpillar: Defoliate leaves during June-July. Spraying of Endosulfan 0.05% or Malathion 0.05 % controls the pest. Fruits should be harvested at 7-10 days after spray.

Root weevil: Feed on the rootlets, make deep tunnels in the crown base and finally the plants collapse. Application of Carbofuran (6-10 kg/ha) and Parathion (0.017 %) around the plants reduces the infestation.

Diseases

Verticillium wilt: The older leaves turn brown and shrivelled and finally plants may die. The proper crop rotation should follow besides soil fumigation with Formalin (5000 L/ha) or Chloropicrin (210 L/ha).

Red stele: The fungus enters the central parts of the root and plant shows dull, bluish green colour, which soon wilt and may die in few days. Improved drainage, ridge planting, crop rotation and use of resistant varieties are important cultural techniques to reduce the incidence. Soil drenching with Ridomil and treatment of planting materials before planting with Bordeaux mixture (1 %) or Copper oxychloride (0.1 %) for 15-20 minutes is very essential.

Leaf spot complex: Spot of different shapes and sizes appears on the leaves during rainy season, which results in drying and defoliation. Give 2-3 sprays of Hexaconazole (100 ml/100L water) or 5 sprays of Carbendazim (100g/200L water) at 21 days intervals.

Viral diseases: Stunting of plants and marginal yellowing and upwards curling of young leaves. Use of virus free runners, isolation of infected plants and control of aphid vectors with systematic insecticides and use of virus vector tolerant cultivars.

Harvesting

Fruits for local market should be picked at the pink or three-fourths colored stage. The fruit after picking should be directly kept into the crates in which it is to be marketed. Pick berries with the caps (or calyx) or pick special stem grade fruit by picking the stem one to two inches from the calyx.

Packaging

The strawberries are packed in plastic punnets and are placed in the corrugated fiber trays or ventilated cardboard boxes. The punnets filled trays should be kept in shade or shelter to reduce the water loss. Strawberry should be stored at SOC or below; if fruit is supposed to keep for more than one day, it should be stored at OOC.