



STRAWBERRY

Packages of practices for cultivation in Meghalaya

Strawberry (*Fragaria* × *ananassa* Duch.) is one of the most popular soft fruit. Among the fruits strawberry gives the quickest returns in the shortest possible time. Rich in vitamins, proteins, minerals like P, K, Ca and Fe and best natural sources of antioxidant. Recently, this crop is gaining the popularity among the farmers of north eastern states viz. Meghalaya, Sikkim, Mizoram etc.

Varieties

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



Soil

It prefers soil reasonably rich in humus because of 70-90 % of its roots were found in the top 15 cm soil. Strawberry should not be grown on the soil previously devoted to potato, tomato, brinjal and pepper.

Climate

The strawberry plants are strongly affected by the environmental parameters like temperature, photoperiod and light intensity. It requires optimum day temperature of 22⁰C to 25⁰C and night temperature 7⁰C to 13⁰C. In cold climate, frost as well as winter injury seriously reduce yield of strawberry.

Propagation

Strawberry is propagated through runners. Although runner produces true to type plant, but viral diseases are quit 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 to 4 years should be selected. The planting should be done at 1.2 x 1.2 m or 1.8 x 1.8 m row to row and plant to plant distance. Rate of runner production can be enhanced by GA3 (40mg/Lwater) spraying in last week of May. For greater survival, the runners should be lifted in September and planted in small polybags (1 Soil:1 Sand:2 FYM) for one month.

Land preparation and Planting

FYM or other bulky manures should not be ploughed too deep. Soil fumigation with Methyl bromide (67%) or Cloropicrin (33%) or soil solarisation 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 and treated with Carbendazim (2g/L water).

Planting in October and 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 favours the crop, avoid excess irrigation. Trickle/drip irrigation is the best method to irrigate strawberry for best produce and minimizing the amount of water required.

Nutrient management

100:60:140kg NPK/ha in three split dose is recommended. 20:40:40 kg NPK /ha along with 20 tones FYM should be given as a basal dose and rest in two equal splits. Manures and fertilizers should not be mixed too deep since roots of strawberry go hardly 20-30 cm deep. In addition, foliar application of Urea (2%), ZnSO₄ (0.5%), CaSO₄ (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.

Harvesting

Fruits for local market should be picked at the pink or three-fourths coloured stage. The fruit is picked directly in to 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 fibre 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 5⁰ C or bellow; if fruit is supposed to keep for more than one days, it should be stored at 0⁰ C.

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.

Root weevil: Feed on the rootlets, make deep tunnels in the crown base and finally the plants collapse.

The application of Carbofuran (6-10 kg/ha) and Parathion (0.017 %) around the plants can effectively control the insect.

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).

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/200 L water) or 5 sprays of Carbendazim (100g/200 L water) at 21 days intervals.



Cultivation of Strawberry under polythene mulch

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 reduces the problem.

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