

A Scientific Approach to Strawberry Cultivation under Lucknow Conditions

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INTRODUCTION

Strawberry is a very attractive, delicious and extremely delicate fruit among the fruits grown all over the world. In the world, this fruit is grown only in temperate climate. In India, its cultivation is gradually moving from the hilly regions towards the plains. It can be successfully cultivated in Awadh region especially in Lucknow conditions at an average of approx. Fresh fruits of strawberries are good sources of vitamins and minerals, including vitamins A and C and minerals such as calcium, potassium and phosphorus. Ripe fruits are beautiful red in color and attractive. Ripe fruit gives an attractive sweet aroma. Its fruits are used to make jelly, toffee and cosmetics.

Strawberry is a members of Rosaceae family belongs to genus *Fragaria*. Its botanical name is *Fragaria × Ananasa*. The basic chromosome number of strawberry is 7 and the total chromosome no. is $7 \times 8 = 56$.



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Climate and Soil conditions:-

Strawberries can be planted in a variety of conditions such as temperate and subtropical but temperate climate is suitable for commercial production. Strawberries can be grown in almost all types of soil, but friable sandy soils are considered excellent for commercial farming. The pH value of the soil is suitable for mild acidic 5.8 - 6.5. Proper drainage should be done in the field, otherwise plants start dying soon due to excess water.

Major varieties of strawberries:- Tioga, Torrey, Selva, Fern, Belrubi, Redcost, Pajaro, Chandler, Dilpasand, Pusa Early Dwarf,

Katrain Sweet etc. varieties that can be successfully grown in the subtropical climate of India.

Plant propagation:-

Strawberry is commercially propagated by runners. The ideal time for planting runners is September- October. Planting too early or too late both affecting the crops that result in sacrificed with yield and quality. Runners are uprooted from nursery made into bundles and planted into field. A spacing of 30×60 cm. is usually followed but it can be adjust with the variety and type of land.

Methods of Planting and Spacing:-

One-line method:- (Adopt in light soil.)

Row to row distance- 25-30 cm.

Distance from plant to plant- 15-20 cm.

Bed method:- (In this method, the field is divided into 3.5 to 4.0 m wide beds.)

Row to row distance- 30-40 cm.

Distance from plant to plant- 15-20 cm.

Mulching Practices:-

Mulching is an important practice in the successful production of strawberry crop. Due to this, the fruits get attractive aromatic and good red color. The work of mulching should be done by the first 15 days of December. Black polythene mulches are more suitable than white polythene.



Spraying of gibberellic acid (GA₃):-

In the plains, two sprays of 50-75 ppm can be done at the interval of 60 days. Spraying after the second fortnight of December is found beneficial by which better plant growth and yield can be achieved.

Irrigation and Nutritional Management:-

Light irrigation should be done immediately after planting the plant. In winter, irrigation should be done at an interval of 7-10 days. Irrigation should always be done after noon. Compost and water system- First 250-300 quintal of rotten cow dung manure per hectare should be added to the soil 15 days before planting before the final ploughing. For good yields 80-100 kg of nitrogen, 80-120 kg of phosphorus and 50-75 kg of potash should be given. Half the amount of nitrogen should be given in rows at the time of planting and half the quantity after one month of planting, after irrigation.

Necessary work and proper control:-

Field cleaning, arrangement of proper mulching, should be done. Do not give too much nitrogen, and do not irrigate too much. Spraying of Carbendazim (0.05%) during flowering is found beneficial for healthy crop.

Fruit plucking and yield:-

In the plain areas ripening of strawberry starts from the month of February and the entire crop

gives fruit by the month of April. The fruits should be broken only when the red color in the fruit is fully developed. The fruit is very fragile and should be harvested very carefully. The fruit should be broken with a light stalk. After breaking, the fruits should be kept alive. Generally, fruits up to 175-200 quintals per hectare are obtained.

Major pests and diseases and their control:-

White grubs and cut worms - This insect bites the roots and stems of young plants. Locally the insect is popular with the name of "Katua insect" due to their cutting habit. To control this deep ploughing and drenching the soil with chlorpyrifos @ 2ml/L water.

Botrytis or grey mould disease - This is the most dangerous disease of strawberry that is caused by fungi. In case of high humidity, the early ripening fruits have brown soft spots which grow slowly and covered with grey dusty spores as a result the entire fruit rot. To control this disease some cultural measures as like to prevent touching berries with soil and also go for the application of recommended fungicides.

Leaf spot - This disease is caused by fungi. To control this spray of carbendazim (0.5g/L) at 21 days intervals can check the disease.