

## Impact of mulching on growth, fruit yield and quality of strawberry (*Fragaria x Ananassa Duch.*)

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### ABSTRACT

Studies were carried out to evaluate the effect of different mulching treatments on growth, yield and quality of strawberry (*Fragaria x ananassa Duch.*) cv. CHANDLER. The six mulching treatments employed were black polythene, transparent polythene, paddy straw, saw dust, dry grasses and unmulched control. The maximum number of leaves, flowers, fruits and fruit yield were observed with black polythene followed by transparent polythene and paddy straw. Highest TSS, sugar percentage and ascorbic acid percentage were also observed with black polythene but the effect was non-significant.

**Key words :** Mulching, Strawberry, Vegetative growth and fruit yield

Strawberry is of the most important temperate fruit but it can also be grown in tropical and sub tropical climate with some efforts. During the recent years it has gained popularity due to its pleasant taste and refreshing nature but the main problem in strawberry is its fruit yield and quality. Among the various methods to enhance the yield and quality of strawberry mulching is one of the most important aspects. Mulching is not only beneficial in minimizing the winter freezing injury but also has some other advantages of smothering the weeds, reducing berry disease, keeping the berries clean and conserving soil moisture and temperature. Keeping in view the importance of mulching, an experiment was conducted on experimental farm of SKUAST-Jammu to investigate the effect of mulching on growth and yield of strawberry.

### MATERIALS AND METHODS

The experiment was conducted on experimental farm of SKUAST- Jammu in the year 2007-2008 to investigate the effect of mulching on growth and yield of strawberry. The experiment was laid out in a randomized block design with four replications with six mulching treatments including an unmulched control. Twenty pots were taken for each treatment and each pot was filled with 10 kg homogenized fertile soil. The basal dose of NPK fertilizers were given in each pot. Strawberry cv. Chandler plantlets were planted in second week of November and different mulching treatments were applied. Black and transparent polythene of 200 gauges were used for covering the soil around the plant basin, while paddy straw, saw dust, dry grasses were spread in pots which were 5 cms in thickness. In control, the pots were kept unmulched.

Observations from first picking to last picking were pooled for total yield per plant. The data were statistically analyzed as proposed by Panse and Sukhatme (1967).

### RESULTS AND DISCUSSION

The data given in Table 1 revealed that all the treatments had a significant influence on vegetative growth, the number of flowers per plant and fruit yield as compared to control.

The maximum plant height (18.64) and number of leaves per plant (30.15), number of flowers per plant (21.14), were recorded with black polythene followed by transparent polythene and paddy straw mulch. The positive response of mulching treatment was due to increase availability of moisture and nutrients, favorable soil temperature and lower weed population. Similar results were obtained by Renquest *et al.* (1982). The results (Table 1) revealed that number of fruits per plant (12.70) and fruit yield per plant (126.10g) were maximum with black polythene mulch while they were minimum (10.40, 100.80g) in control. The increased number of fruits per plant and fruit yield per plant is attributed to vigorous plant growth and more number of flowers per plant as presented in Table 1. The mulching treatment provided favorable conditions for growth and development of plants by conservation of moisture, optimum temperature and least weed growth. The results are in conformity with those of Gupta and Acharya (1993).

The mulching treatments had a beneficial effect on fruit weight and fruit size as presented in Table 2. The fruit weight (12.94g), fruit length (32.80mm) and fruit breadth (28.12mm) were maximum with black polythene