

ROLE OF ORGANIC MULCHES ON GROWTH, YIELD, FRUIT QUALITY OF STRAWBERRY CULTIVARS

(*Fragaria X ananassa* DUCH.)

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INTRODUCTION

Strawberry is a short day, monoecious, low perennial herb, and short duration crop. It is a rich source of vitamins and minerals. It consists of 60mg ascorbic acid per 100g pulp, 5% total sugars, 0.9-0.8% acidity in terms of malic and citric acid, protein 0.7g, carbohydrates 8.4g, iron 1g, calcium 21mg, phosphorous 2mg, and potassium 16mg per 100g of fruit. We used three different cultivars of strawberry and five different mulches. The Camarosa variety is one of the most promising varieties of strawberry which was introduced from California that have the best quality of firm flesh and even provide opportunities for distant marketing. The variety Chandler is planted in most of the countries as it is phenotypically stable, has a long harvest period, cold tolerant, early maturing, good flavor, brilliant red color, and high yielding variety. The third variety selected for the experiment was 'Winter Dawn' which is a day-neutral variety that produces fruits from November up to February when planted in the last week of September or the first week of October. The selection for new varieties with good properties can result in higher yield and

Quality, production. Mulching is considered as one of the most common cultural practices to keep the fruit clean (Kumar and Dey, 2010) as we had used four different types of mulches Rice Straw, Wheat Straw, Saw Dust, Dry Grass, and Control. The study was carried out at Machher Farm Eternal University, Baru Sahib, Sirmour H.P. during the year 2020.

ADVANTAGES OF MULCHING

1. It protects the fruit from its contact with the soil to avoid fruit rot.
2. It also plays an essential role in soil moisture conservation and weed control.
3. Mulching enhances the fruit yield and improves the quality as it has a strong influence on the duration of harvesting is due to improved nutrient availability
4. It controls weed growth, protect from frost injury, and reduces the incidence of diseased,
5. Improves soil and moisture conservation.

RESULTS OF ORGANIC MULCHES ON GROWTH, YIELD, FRUIT QUALITY OF STRAWBERRY CULTIVARS (*Fragaria X ananassa* Duch.)

1. Interaction of organic mulch with cultivar had a significant effect on leaf area. Combination of both mulches and varieties have resulted in variations in leaf area. The combination Rice Straw with Chandler recorded maximum value of leaf area which was significantly superior among all other treatment combinations the treatment combination of (Control with Winter Dawn) recorded least value of leaf area



Rice Straw with Chandler Control with Winter Dawn

Performance of Strawberry (*Fragaria x ananassa* Duch.) cultivars on leaf area under different organic mulches.

- The combination of varieties and organic mulches was also non significant. The maximum fruit length was observed in treatment combination Chandler with Rice Straw as treatment whereas the minimum value for fruit length was recorded for treatment combination Winter Dawn with Control. The other quantitative attributes were significant for the given treatment combination.



**Rice Straw
Chandler**



**Control Winter
Dawn**

- Different qualitative attributes like titrable acidity, TSS, total sugars, reducing sugars, and ascorbic acid were also recorded from Chandler with Rice Straw.

Conclusion

From the findings, we can conclude that the treatment combination Chandler with Rice Straw recorded the best vegetative, qualitative, and quantitative attributes. So it could be recommended to the farmers as it is going to produce the best quality fruits along with enhanced production and productivity.