



Research Paper

Article history :

Received : 06.03.2012

Revised : 22.08.2012

Accepted : 23.09.2012

Interactive effect of various mulch materials and spacing in strawberry (*Fragaria x ananassa* Duch.) under Lucknow conditions

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ABSTRACT : The present piece of work was carried out at the Horticultural Research Farm of Babasaheb Bhimrao Ambedkar University, Lucknow, during the year 2008-2009. The experiment was performed to find out the most suitable mulching material and an ideal spacing for strawberry for cultivation under Lucknow conditions. The experiment was laid out in a Factorial Randomized Block Design with three replications. The treatments comprised of six mulching materials (paddy straw, grass, leaves, red polyethylene, green polyethylene and transparent polyethylene) with two spacings (30 x 15 cm and 30 x 30 cm). On the basis of the statistical data, it is concluded that spacing of 30 x 30 cm with green polyethylene mulch was found to be the best in terms of plant growth *viz.*, plant height, spread of plants, number of leaves and leaf area. Similarly, spacing of 30 x 15 cm with green polyethylene mulch significantly influenced number of flowering, fruit length, fruit width, yield and quality. However, there was slight difference in quality parameters among different treatments.

KEY WORDS : Strawberry, Mulch materials, Spacing, Growth, Fruit quality

HOW TO CITE THIS ARTICLE : Sonkar, Priyamvada, Ram, R.B. and Meena, M.L. (2012). Interactive effect of various mulch materials and spacing in strawberry (*Fragaria x ananassa*) under Lucknow conditions, *Asian J. Hort.*, 7(2) : 287-290.

Strawberry (*Fragaria x ananassa* Duch.) is one of the most important temperate fruit in India belongs to the family Rosaceae. It is a fascinating fruit of the world being rich source of vitamins, minerals and tantalizing flavour and aroma. Being herbaceous perennial crop requiring different culture practices. The yield and quality attributes of strawberry can be improved by various agro techniques like mulching and spacing. Recently, strawberry has become the favourite fruit crop among the growers, especially near towns and cities, because of its remunerative prices the area under this crop is increasing rapidly (Singh and Asrey, 2005). It is amongst the ten fruit crops, which give quicker and very high returns per unit area on the capital interests, as a crop ready for harvesting within six months of planting (Sharma and Sharma, 2004). However, presently farmers grow strawberry without maintaining proper planting space. Consequent upon this, high percentage of under sized, unmarketable fruit and incidence of pest and diseases were noticed which is a

bottleneck for obtaining good returns. Higher plant population per unit area has generally tended to increase the fruit yield upto 27 per cent in strawberry. There are meagre attempts on morphological, phenological and yield attributing under different spacings. Further, strawberry is one of the crop among the other crops that response drastically to the increase of soil temperature/ light reflectance produced with the use of mulches. Guatal *et al.* (1992), observed that the use of plastic mulches in agriculture helped to increase the production per unit area for all types of crops as polyethylened polyethylene mulch films increase soil temperature 5-7 °C facilitating faster germination and better root proliferation, in addition to checking weed growth, preserving the soil structure, retaining soil moisture and increasing CO₂ contents around the plants. Considering these facts, the systematic studies were conducted to standardized the appropriate mulch material and spacing for quality and higher yield of strawberry fruits under Lucknow conditions.