

PERFORMANCE OF STRAWBERRY VARIETIES IN WAYANAD DISTRICT OF KERALA

Strawberry (*Fragaria ananassa* Duch.) is a crop cherished by the growers of subtropical and temperate regions of the world due to its low cost of growing and high returns per unit area. Its refreshing and cool nature and its suitability for diverse agro-processed products make it a preferred crop. Badiyala and Bhutani (1990) reported the potentiality of growing strawberry in the irrigated sub-montane regions of North India and they also reported the high yield realizations when planting was carried out during the last week of September in those tracts. Several genotypes are available in strawberry but the photo/thermo sensitive nature of this crop warrants the testing of these genotypes for its adaptability in new areas before recommending for commercial cultivation. In this background, a study was conducted at the Regional Agricultural Research Station, Ambalavayal, Wayanad District situated in the sub-montane tract of Western Ghats of Kerala, to evaluate the performance of three varieties of strawberry viz., Sujatha (UAS, Bangalore), Chandler (UHF, Solon) and Labella (UAS, Bangalore), after the preliminary evaluation and selection involving five varieties.

The experiment was laid out in randomized block design with three varieties and five replications during the period 1999-2000 and 2000-01. The soil of the experimental plot was deep forest loam and the station enjoys a mild subtropical weather with minimum temperature of 15.6°C during December (second fortnight) and maximum temperature of 32°C during March (second fortnight). Plantings were carried out during the last week of September in both the years, using runners of individual varieties in plots of 2 x 2 m size and the spacing given was 40 x 30 cm. A basal dose of urea : mussooriphos : muriate of potash @ 65:100:65 g per bed (162.5 ; 250 : 162.5 kg/ha) along with 4 kg/bed (10 t/ha) of FYM was applied. The same dose of chemical fertilizers was applied again 45 days after planting as topdressing. Mulching of the beds with paddy straw was done at the time of planting. Ten plants were selected at random in each bed to record observations on days to maturity, fruit number, yield/plant and fruit weight. The mean data over two years were statistically analyzed following the method suggested by Panse and Sukhatme (1984).

The genotypes exhibited significant difference with respect to all characters studied. The genotype x year interaction was found to be significant for yield per plant, fruit weight and yield per plot. There was heavy rainfall during October first fortnight (15.6 mm) and second fortnight (10.7 mm) during first crop season and the rainfall was minimum during the corresponding period (6 mm and 2.7 mm) in the second crop season. Though there was not much difference in the minimum and maximum temperature during two years of planting the difference in the rainfall during flowering phase of the crop (October) might have contributed to the significant interaction between genotype and year. The pooled analysis of variance revealed that the cultivar Chandler is the best among the three varieties evaluated. The performance of different cultivars over two years is presented in Table 1.

The cultivar Sujatha took 96.9 days to mature and this may be due to the excessive vegetative growth, which warranted periodic thinning and pruning of runners. Another important feature exhibited by this variety was the formation of malformed fruits with abnormal color development ultimately resulting in lowest fruit yield per plant (16.4 g), and individual fruit weight (3.030 g). The fruit number per plant (4.8) and yield/plot (0.483 kg) were lowest for Sujatha.

Labella produced fruits early (88.4 days). Number of fruits per plant (8.3), fruit yield per plant (32.1 g) and yield per plot (0.979 kg) were almost double that of cultivar Sujatha. The fruits were of desirable shape and color but the mean weight of fruit was only 3.76 g, limiting its use for table purpose and in the agro-processing units, as the latter prefer larger fruits to reduce the labour cost for cleaning up operations.

The Californian cultivar Chandler produced very high yields in Italy (Mitra, 1991). In the present investigation also the cultivar Chandler proved to be the best among the three cultivars. It put forth fruits 67.1 days after planting and the number of fruits per plant was 17.9. The fruit yield per plant (79.3 g) was more than double when compared with Labella and it was about five times of the yield of Sujatha. The fruit

Table 1. Mean performance of strawberry genotypes over two years (pooled)

Varieties	Days to maturity	Number of fruits per plant	Fruit yield per plant (g)	Fruit weight (g)	Yield per plot (kg)
Chandler	67.1	17.9	79.3	6.53	2.208
Labella	88.4	8.3	32.1	3.76	0.979
Sujatha	96.9	4.8	16.4	3.03	0.483
CD (0.01)	0.475	0.338	25.995	3.369	0.219
SEm	0.08	0.058	4.47	0.58	0.0375
CV	4.50	2.80	11.10	18.50	5.30

weight (6.53 g) and yield per plot (2.208 kg) was also significantly higher than the other two varieties. The present investigation reveals the potential of Chandler for growing in the

Wayanad District of Kerala and further studies are required to standardize its crop management aspects.

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