



Evaluation of cherry tomato (*Solanum lycopersicum* var. *Cerasiforme*) genotypes for growth, yield and quality traits

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ABSTRACT

Six genotypes (Tomy Toe, Stupice Harry, Red Pear, Podland Pink, Broad Ripper and EC-1) of cherry tomato were evaluated for growth, yield and quality attributes. The growth habits of the plants showed extremely semi-determinate to indeterminate. The per cent fruit set was maximum in EC-1 followed by Stupice Harry. The maximum fruit weight was recorded in Podland Pink. The highest mean for yield per plant was recorded in Podland Pink. The highest fruit yield per hectare was registered in Podland Pink followed by Tomy Toe. The highest titrable acidity of the fruit was recorded in genotype Podland Pink. TSS of fruit varied between 4.06 °B (Podland Pink) to 8.10 °B (EC-1). The ascorbic acid content of the fruit varied between 21.22 (EC-1) to 27.48 (Podland Pink). The highest lycopene content was found in EC-1 and lowest in Broad Ripper. The highest fruit firmness was recorded in Tomy Toe. Wide variation was observed for the shelf life of fruit among the genotypes which varied between 5.33 (EC-1) and 14.67 (Tomy toe) days.

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Key words : Cherry tomato, Lycopene, Ascorbic acid, Evaluation

A cherry tomato is a smaller garden variety of tomato. Cherry tomatoes range in size from a thumbtip up to the size of a golf ball, and can range from being spherical to slightly oblong in shape. The more oblong ones often share characteristics with plum tomatoes, and are known as 'grape tomatoes'. The cherry tomato is regarded as a botanical variety of the cultivated tomato, *Solanum lycopersicum* var. *cerasiforme*. It has become more popular all over the world because of its favourable characteristics such as good source of vitamin A and C, sugars, taste and low calories and fruit set even at high temperature. Cherry tomatoes are source of germplasm for providing disease resistance and adaptability to cool and hot seasons. In general with ever increasing demand it has become imperative to develop high yielding varieties with resistance to biotic and abiotic stresses and suitable to fresh market and processing. Therefore, potential value of cherry tomatoes has to be improved by evaluating the cultivated species for its desirable characters under various agro climatic regions.

MATERIALS AND METHODS

In this experiment, six genotypes were used for the study. Out of six genotypes, five genotypes (Tomy Toe,

Stupice Harry, Red Pear, Podland Pink and Broad Ripper) were collected from Asian Vegetable Research and Development centre (AVRDC), Taiwan and one genotype (EC-1) from University of Agricultural Sciences (UAS), Bangalore. The experiment was laid out in a completely randomized block design (RCBD) with four replications in the year 2009-10 at the vegetable research block of the Department of Horticulture, UAS, GKVK, Bangalore.

The growth parameters like, plant height at 60 and 90 DAT (cm), no. of branches/plant at 60 and 90 DAT, days to first flowering, days to 50 % flowering, no. of fruiting clusters/ plant at 60 and 90 DAT, no. of flowers per cluster, no. of fruits /cluster, fruit set (%), fruit weight (g), fruit length (cm), fruit width (cm), fruit yield per plant (kg), fruit yield per hectare (ton). Whereas, qualitative characters like, TSS of fruit (° B), ascorbic acid (mg/100g), acidity of fruit (%), fruit firmness (kg/cm²), lycopene content (mg/100g), pericarp thickness (cm) and shelf life of fruit (days) were recorded.

RESULTS AND DISCUSSION

The mean performance of tested genotypes for different horticultural traits (Table 1 and 2) revealed that the genotype Red Pear (146.80 cm) recorded maximum