Tropentag, September 17-19, 2018, Ghent

"Global food security and food safety:
The role of universities"

Effect of Planting Date on Yield and Yield Components in Soilless Culture of Three Strawberry (Fragaria x Ananassa Duch) Cultivars

Fatemeh Shadmehri, Vida Chalavi, Hossin Sadeghi

Sari Agricultural Sciences and Natural Resources University, Horticulture, Iran

Abstract

Planting date affects yield and yield components of strawberry. The aim of present study was the determination of optimum planting date for soilless culture of three strawberry commercial cultivars for Sari climate in northern Iran. A factorial pot experiment based on completely randomised design was conducted with four planting dates at one month intervals from October 1st to December 30th for three strawberry cultivars, Gaviota, Queen Elisa and Camarosa with 3 replications and 5 plants in each replication. The results showed that the highest yield (403.25 g per plant) and the highest fruit set (80.72 %) were obtained for Camarosa cultivar at November 1st planting date. The lowest unmarketable fruits (1.54 %) belonged to Camarosa at November 30th planting date. At November 1st planting date, the highest mean number of fruits (23.8) and fruit weight (16.61 g) were produced in Camarosa cultivar. The highest amount of vitamin C (40.17 mg /100 ml) belonged to Camarosa cultivar and December 1st planting date. Other qualitative characteristics such as soluble solids, titratable acidity were not statistically significant, and antioxidant capacity and anthocyanin were statistically significant only for cultivars. The highest amount of antioxidant capacity were in Queen Elisa (95.60 %), and Gaviota (95.30 %) which were in one grope and the highest amount of anthocyanin (20.18 mg/l) observed in Gaviota. The crown number, inflorescence, flowers, leaves, fruit, mean fruit weight, beginning of flowering and flowering period had positive correlation with yield and the number of runners and mean period of runner production showed negative correlation with yield. Therefore, October 1st and November 1st planting dates increased yield component and December 1st and 30th planting dates increased the number of runners and mean period of runner production. Camarosa, Queen Elisa cultivars in November 1st and Gaviota cultivar in October 1st planting dates had highest yield. Therefore, Camarosa and Gaviota had higher yield in Sari climate and optimum planting date for Gaviota, Queen Elisa cultivars was October 1st and for Camarosa cultivar was November 1st.

Keywords: Camarosa, Gaviota, Planting dates, Queen Elisa, stawberry, Yield

Contact Address: Vida Chalavi, Sari Agricultural Sciences and Natural Resources University, Horticulture, Khazar Abad Road Km. 9 PO Box 578, Sari, Iran, e-mail: v.chalavi@sanru.ac.ir