

Effect of Soilless Substrates on Fruit Quality of Four Greenhouse Tomato Cultivars

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The most important determinants of tomato fruits quality are color, size and firmness of visual quality and acidity, soluble solids, vitamin C and antioxidant capacity biochemical. In order to evaluate the effect of substrates on quality of four greenhouse tomato cultivars a factorial experiment in a randomized complete block design with three replications was carried out. The treatments included four soilless substrates (rotten bagasse, rotten bagasse + perlite (1: 1 V), cocopeat, cocopeat + perlite (1: 1 V)) and four greenhouse tomato cultivars ('Shaghayegh', 'Pardis', 'Valuro', and 'Izmir'). The results showed a significant effect of substrate on lycopene, carotenoids fruit and the lighting color of the fruit (L *). Cultivar had a significant effect on the size, weight and surface color fruit. The interaction of cultivar and substrates was significant at 1% on length, firmness, titratable acidity, soluble solids, vitamin C, antioxidant capacity and total phenol of tomato fruit. The highest firmness of fruits was observed in cultivar Pardis in the Cocopeat + perlite (12.18 N). In general, Shaghayegh cultivar and Bagasse + perlite substrate was recommended for successful greenhouse tomato fruit production.

Key Word: Antioxidant capacity, Bagasse, Cocopeat, Lycopene, Perlite.

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