

Effect of different substrates on quantitative and qualitative traits of three pepper cultivars in soilless culture

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Abstract

In order to determine the effect of different substrates on the yield and quality of three pepper cultivars in a pot and tube culture, an investigation was conducted in a greenhouse in Sarkhoon, Bandar-Abbas in 2010. Different substrates including palm waste (100%), peat (100%), palm waste + peat (50:50 V/V), palm waste + peat (25:75 V/V) and waste palm + peat (75:25 V/V) and three cultivars of Rapido (yellow), Roxcy (red) and California wonder (green) were used in a completely randomized experimental design as a factorial experiment with three replications. The results showed that the highest fruit weight, length, diameter and volume, fruit dry matter, total acidity, carotenoids, soluble solids and pH was achieved from Roxcy cultivar, while the highest plant height was related to the Rapido cultivar. None of the traits, except plant height, leaf and root dry matter and total phenol content, were influenced by the substrates. According to the obtained results, palm waste is recommended as a complete or partial substitution for peat substrate in soilless culture.

Keywords: Palm waste, Peat, Perlite, Phenol, Antioxidant.

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