

Quantitative and Qualitative Characteristics of Washington Navel Orange of Two Orchards with Different Soil Properties in Darab, Fars Province

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Different soil properties may affect the soil mineral nutrients availability, nutrients uptake by plant, plant growth and fruit quality. This study was carried out to investigate the nutrients status of soils and leaves of Washington Navel orange trees and their relationships with fruit quality of two orchards with similar nutrition management and different soil properties. Soils, leaves, and fruits of two orchards with similar management were collected and physical and chemical soil properties, soil nutrients availability, leaves nutrient contents and fruit quality were determined. Results indicated that the availability of all mineral nutrients was sufficient and P, Zn and Cu availability in orchard 1 was significantly higher than those of orchard 2; while this result was inverse for K. Orchard 1 had more K and Mn and less Fe. Fruits in orchard 1 had less peel thickness, more flesh ratio, more TSS, less total acidity and more TSS/TA. Positive and significant relationship was obtained between leaves K and P contents and fruit weight, peel thickness, TSS, TA, and TSS/TA.

Keywords: Nutrient availability, Potassium, Total soluble solids (TSS), Soil texture.

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