

## **Identification of Physiochemical Properties of Nas Naaran (*Citrus madurensis*) in Different Maturity Stages**

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Nas Naaran (*Citrus madurensis*) is a tropical tree which belongs to the family of *Rutaceae*. The tree contains fruits rich in vitamin C, phenolic compounds and other nutrients yet there is no scientific research on the physiochemical properties of the fruit. In this study the physiochemical properties of the Nas Naaran fruit in four different maturity stages (MS) were evaluated. MS one is considered as the immature fruit with green color skin and the MS four was considered as fruits with yellow color skin and fully matured. Ten fruits from each MS were used for the study. The size of the fruit, pH value, total soluble solids (TSS), vitamin C content, fructose content, and total phenolic content were evaluated. The length and the diameter of ten fruits from each MS were measured. The pH value was measured using a pH meter, TSS value was measured using a digital refractometer, Vitamin C content was measured by a Spectrophotometric method, Total phenolic content and fructose content were measured according to standard procedures. The diameter of the fruit was increased when the fruit matured. The highest pH was observed as 5.34 in MS one. The pH value was decreased as the fruit matured. TSS value was increased when the fruit matured. The highest TSS value was observed in MS four as 7.1. The fructose content was increased with MS. The highest fructose content was observed as 229.52 ppm in stage four. The vitamin C content was decreased as the fruit matured. MS three contained the highest vitamin C content of 25.10 ppm. The total polyphenol content was decreased as the fruit matured. The highest total polyphenol content was observed in the second MS as 31.31 mg ml<sup>-1</sup>. The physiochemical properties of Nas Naaran varies significantly ( $p < 0.05$ ) within maturity stages.

*Keywords:* Nas Naaran, Maturity stages, Physiochemical properties