Journal

J. Biol. Chem. Environ. Sci., 2017 , Vol. 12(2): 85-100 www.acepsag.org

RESPONSE OF WASHINGTON NAVEL ORANGE TREES TO EXOGENOUS APPLICATION OF UREA, PUTRESCINE AND GA_3 UNDER NEWLY RECLAIMED AREA CONDITIONS II: FRUIT QUALITY AND PHYSICAL - CHEMICAL CHARACTERS

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ABSTRACT

This study was carried out during two successive seasons 2010-2011 and 2011 – 2012 on 20 years old of Washington Navel orange cultivar budded on Sour orange (*Citrus aurantium*, L.Osbeck) rootstocks grown in sandy soil under drip irrigation system planted at 5x5m as a part in a private orchard located at El-Shrouk district (74 km of Cairo-Alex. desert road), El-Giza Governorate, Egypt. The main objective of this study was to investigate the possibility of pre-bloom foliar application of urea and Putrescine and full-bloom exogenous application of GA_3 for improve on fruit physical properties of Washington naval orange.

Results showed an improvement in the fruit quality and physical parameters include; Ascorbic acid, Total acidity percentage, Total soluble solids (T.S.S. %)Ascorbic acid, Total soluble solids/ acidity ratio, Fruit weight, Fruit size, Fruit length and diameter, fruit shape index with all foliar application treatments. Overall foliar application with urea and Putrescine on the first week of February and Gibberellic acid (GA_3) on the fourth week of May improving growth characters, fruit quality and physical parameters of Washington Navel orange.

Key words: Gibberellic acid (GA_3), fruit quality, full- bloom foliar application, physical characters, Pre-bloom foliar application, Putrescine, Urea.,Washington naval orange, yield**.**