

**EFFECT OF SOME NUTRIENTS, GROWTH REGULATORS,
ANTITRANSPIRANTS , AND SHADE ON FRUIT SET AND YIELD OF
LOCAL ORANGE TREES
(*Citrus sinensis* L.Osbeck)**

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Abstract

This study was conducted in unshaded mahaley orange orchard located in Diala Province during the years of 2003 and 2004 . Afoliar sprays at full bloom from Urea (2%), Iron (150 mg/L) , Copper (50 mg/L), GA₃ (30 mg/L), BA (20 mg/L) , (GA₃+BA) (30+20 mg/L), Vapor gard (0.1%), Wax-Oil (Liquid paraffin) (0.1%) wer used and shading .the objectives of this treatment was to determine the effect of there treatments on fruit set, yield and fruit quality , and leaves composition of (N- Fe- Cu) , leaf area and fruit growth in 2004 . Arandomized Complete Block Design (RCBD) was used with three replications , The results of this study can be summarized of follows :

Fe-EDDAH and GA₃ treatments increased fruit set in 2003, Urea and (BA+GA₃) treatments raised fruit set in 2004. Fe and GA₃ treatments decreased fruit drop after full bloom by 10 and 14 weeks .

Liquid paraffin , Fe and BA treatments increased the leaf area however shading treatments decreased the leaf area .Urea treatments elevated nitrogen level in leaves .All treatments(except Liquid paraffin) increased Fe content in leaves . CuSO₄ ,

(GA3+BA), BA , Vapor gard, and Liquid paraffin treatments significantly increased Cu level in leaves. Shading and Liquid paraffin treatments slowed fruit growth after full bloom by 100 day upto ripening . while treatments Vapor gard increased fruit growth after full bloom by 100 day upto ripening.

Urea, BA , GA3, and Liquid paraffin treatments increased fruit number and yield weight / tree for the two years of study during 2003, (GA3 + BA) treatments increased fruit number and weight, and in 2004 , Vapor gard treatments increased fruit number and weight.

BA, vapor grad, and (GA3 + BA) treatments decreased significantly Juice percentage during 2003, but BA and shading treatments decreased Juice percentage in 2004. paraffin treatments decreased length and the ratio of length/ diameter , Fe treatments decreased the ratio of length/ diameter during 2004.

Urea and (GA3 + BA) treatments increased total soluble solids (T.S.S) percentage for the two years of study . Fe , CuSO4 and GA3 treatments increased T.S.S during 2003 only .Urea, Paraffine, BA, and Vapor gard treatments increased Ascorbic acid (Vitamin C) in 2003. Urea and Fe treatments increased Vitamin C in 2004. Urea, Fe, paraffin , Vapor gard, and BA treatments increased total sugars in 2003 . Urea , Fe , GA3 , and (GA3 + BA) treatments increased non reducing sugar in 2003 .