

**IMPROVEMENT OF BALADY MANDARIN (*Citrus reticulata* Blanco)
THROUGH SELECTION, EVALUATION AND TISSUE CULTURE
TECHNIQUE**

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ABSTRACT

This work was undertaken during the years 2003, 2004, 2005, 2006 and 2007 for improving the productivity of Balady mandarin (*Citrus reticulata* Blanco). Firstly, selection and evaluation of some mandarin seedlings trees were conducted based on yield (fruit quantity and fruit quality); such trees would be considered as mother trees. Secondly, after selection and evaluation, mass production of the selected superior genetic materials (individual trees) was propagated by means of tissue culture technique as it is rapid clonal propagation method to rescue the lose of such limited :selected source. The results could be summarized as follows

I- Selection and evaluation of some superior variants of mandarin included; number of fruits/tree, yield/tree (kg), fruit weight(g), fruit volume (cc), peel thickness (cm), number of seeds/fruit, T.S.S.%, acidity % and vit. C (mg/100ml. juice) content. The results showed that some promising mandarin trees with high yield and good fruit quality which could help in improving mandarin productivity in Fayoum Governorate, .Egypt, were detected

II- Mass production using shoot tip technique. MS basal medium 1962 at full strength supplemented by 1.5 mg/L BA was sufficient for the best shooting proliferation of mandarin. MS basal medium plus 1.5 mg/L NAA significant increased the rooting percentage, number of roots and root length of citrus species

III- Anatomical studies show that MS (Murashige Skoog Basal Medium) supplemented with 1.5 mg/L NAA enhanced adventitious roots formed from callus and cambium (i.e. high rooting percentage), in comparison to the low concentration 0.5 – 1.0 mg/L which adventitious roots were formed only from cambial zone (low .(rooting percentage

.Key words: Selection, evaluation of Balady mandarin, In vitro, micro propagation