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USING FLUORESCEIN STAIN IN EARLY DETECTION ON SUCCESSFULLY MICRO GRAFTED EXPLANTS OF MORKIT(*CITRUS RETICULATE*) AND OLEND (*CITRUS SINENSIS*) X SOUR ORANGE (*CITRUS AURANTIUM*)

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ABSTRACT

This study carried out through 2013-2016 years, and aim to detail the micro grafting successful processing effect of some creative methods of citrus micro grafting, on some important criteria of micro grafted plantlets. Seeds of sour orange and stem node of Morket tangerine and Olenda orange sterilized by commercial bleach (5.25% NaOCl) at 10,20,30,40 and 50%for 20 minutes .Six methods of micro grafting used; wire tie, metal needle, wax, aluminum foil support, paper fastener and plate of aluminium. Data recorded as morphological criteria and chemicals evaluation (pigment, phenols, oxidized enzymes, carotenoids, growth regulators and protein. The best results were 20% commercial bleach (5.25% NaOCl) treat for giving the lowest contamination (13.33%, 6.66 %and 13.33%for Olenda, Morket and Sour orange, respectively),lowest browning (6.66%of Olenda and 20%of Morket)and highest survival (80% of Olenda and 73.33% of Morket).the best success% of micro grafting were by micro grafting method of metal needle (93.33% of Olenda/Sour orange and 83.67% of Morket /Sour orange) .

Also, metal needle method gave the best results of morphological criteria (3 and 2.66 shoot/explants, 9.33 and 7.66 leaves/shoot, 10.17 and 7.33 cm of grafted plant length, and 4.96 and 3.83 mm of scion area thickness for Olenda and Morket ,respectively). The leave area was 4.5 cm² of Olenda by metal needle and 3.7 cm² of Morket by aluminum foil methods.

In general, Morket cultivar has lower contents of growth regulators than Olenda, and the reverse trends were noticed for the pigments and phenols.

Key words: Citrus, Fluorescein , Micro grafting, Morket , Olenda , POD, PPO.