

**IMPACT OF SOME SOIL MULCH TREATMENTS ON
TREE GROWTH, YIELD, FRUIT QUALITY AND
STORABILITY OF VALENCIA ORANGE
UNDER TOSHA CONDITIONS**

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ABSTRACT: The present investigation has been done in two consecutive seasons (2005/2006 and 2006/2007) and divided into two parts: 1- Preharvest treatments; at Toshka research station, South Egypt to evaluate the effect of four treatments; i.e., soil mulch with Egyptian clover (*Trifolium alexandrinum* L.) (T1), soil mulch with fenugreek (*Trigonella foenum*) (T2), soil mulch with weed residues (T3) and without mulch as control (T4) on 7-year-old Valencia orange trees (*Citrus sinensis*) to explore their effects on tree growth and yield. 2- Postharvest responses to evaluate the effect of the same treatments on the fruit quality and storability. The results indicated that in the first part, T1 gave the best vegetative growth, meanwhile T3 gave the best initial fruit quality, while in the second part there was no significant difference among treatments for all the studied parameters (juice volume, TSS/acid ratio and vitamin C). Moreover, T1 gave the least chilling injury compared with T2 and T3 after six weeks of cold storage at $5^{\circ}\text{C} \pm 2$. To detect fruit color homogeneity, using Minolta colorimeter CR-400, both of *L*, *a*, and *b* values were measured and it showed that Toshka climate conditions is much better for fruit color. On the other hand, no mould was observed at the end of storage period. In general, all mulch treatments gave good impact on orange fruit yield and quality characteristics.

Key words: Valencia orange, soil mulch, storability, Toshka, yield, fruit quality, intercrop.