



Improvement of tomato local varieties by grafting in organic farming

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Grafting is the union of two or more pieces of living plant tissue that grow as a single plant. The early use of grafted vegetables was associated with protected cultivation which involves successive cropping (Lee et al., 2010). For this reason, in the past, grafting was used with vegetable crops to limit the effects of soil-borne diseases. However, the reasons for grafting as well as the kinds of vegetable grafted have increased considerably over the years. In tomato (*Solanum lycopersicum* L.), one of the most important horticultural crops in the world, the effect of grafting has also been widely studied. These effects on commercial tomato varieties can be summarized in increasing plant vigor and crop yield or inducing tolerance to abiotic stresses, although the effects on tomato fruit quality or on the sensory properties are not so patent (David et al., 2008). However, a few studies about the effect of grafting on local tomato varieties, which are especially recommended for organic production in spite of their lower yields in many cases, have been developed.

In this work we evaluated the effect of grafting on tomato local varieties under organic management using vigorous commercial rootstocks, and aspects related to vigor, yield and tomato fruit composition were analyzed. In general terms, grafting increased the plant vigor, the crop yield and the fruit antioxidant content, although no modification of morphological fruit attributes was observed.

Keywords: grafting, *Solanum lycopersicum* L., local varieties, organic farming.

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