

**Title** Effect of storage at 10°C on aroma of tomato (*Lycopersicon esculentum*) Saladet grown in Mexico

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### Abstract

Tomato is a popular crop all over the world because of its nutritional value, attractive color and pleasant flavor. Although over 400 volatiles have been reported as components of the natural aroma of tomato, only 16 of them are considered to be impact aroma compounds. Odoriferous volatiles interacting with sugars and organic acids provide the typical flavor of tomato. There are reports indicating that in many fruits the first quality attribute that is lost in cold storage is flavor. Thus, consumer complaints about lack of tomato flavor are frequent. The present work evaluated the effect of 10°C, the commercial cold storage temperature recommended for tomatoes, on the chemical aroma profile of a tomato hybrid grown in the state of Morelos, Mexico that has shown good flavor characteristics. The objective of the work was to evaluate by GC the refrigeration effect on the concentrations of eleven impact aroma compounds originating from different metabolic pathways. Volatiles showing the greatest changes in tomatoes stored at 10°C in comparison with those kept at room temperature (20°C) were linalool, guaiacol, geranylacetone, 2-isobuthylthiazole, *trans*-2-hexenal, and 3-methylbutanol. This research was partially supported by UAM, CONACyT No. SEP-2003-CO2-45162 and PROMEP RED UAM-I-CA-(UAM-I, UNACH and UC DAVIS). We also thank CONACYT for their financial support (No.193037) to Fernando Diaz de Leon-Sanchez during his Ph.D. studies.