

Statistical interpretation of shelf-life indicators of tomato (*Lycopersicon esculentum*) in correlation to storage packaging materials and temperature

Hany S. EL-Mesery, Frederick Sarpong and Amal S. H. Atress

Journal of Food Measurement and Characterization. 16: 366–376. (2022)

Abstract

Increasing demand for fresh tomato across the globe has necessitated imperative mechanism such as packaging materials for storage to extend shelf-life. In this study, shelf-life extension of tomato was studied using three packaging materials under two temperatures. The results with much emphasis on statistical interpretation revealed that the non-perforated high-density polyethylene (N-PHD) was effective in reducing deterioration of physicochemical, phytochemical and Colour composition of tomato. The second polynomial model predicted accurately the decomposition of weight loss, moisture content and firmness of tomato using statistical parameters. Colour was credited to variations in b^* and a^* parameters as an outcome of antioxidants, phenolics and total soluble solid disintegrations resulting from enzymatic activities. The results revealed that N-PHD packaging material combined with lower temperature could be a promising mechanism of storing tomato.