

Title A model to predict shelf-life in air and darkness of cut, ready-to-use, fresh carrots under both isothermal and non-isothermal conditions

Author B. Zanoni, V. Lavelli, R. Ambrosoli, L. Garavaglia, J. Minati and E. Pagliarini

Citation Journal of Food Engineering, Volume 79, Issue 2 , March 2007, Pages 586-591

Keywords Carrots; Shelf-life; Modelling; Total bacterial growth kinetics; Total coliform growth kinetics; Whiteness index increase kinetics

Abstract

Shelf-life of ready-to-use carrots is critically dependent upon storage temperature. A kinetic study was carried out on total mesophilic aerobic bacterial growth, total coliform growth and “whiteness index” (WI) increase of packed Julienne-type carrot sticks at different times and temperatures of storage in air and darkness. Kinetic equations were used to set up mathematical models to predict shelf-life of ready-to-use carrots under both isothermal and non-isothermal conditions. Experiments were carried out to validate the above kinetics during storage under non-isothermal conditions.