

Title Kinetics of relative electrical conductivity and correlation with gas composition in modified atmosphere packaged bayberries (*Myrica rubra* Siebold and Zuccarini)

Author Guoping Feng, Hongshun Yang and Yunfei Li

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Abstract

Modified atmosphere package (MAP) was employed to store the perishable Chinese bayberry (*Myrica rubra*) at temperatures of 2°C, 8°C and 15°C. Electrolyte leakage from plasma could make the flesh collapse rapidly and appear to be unsavory, which may be evaluated in terms of relative electrical conductivity (REC). REC and gas composition in the headspace were measured during storage. The kinetic parameters of REC were determined, including reaction order, reaction rate constant and activation energy. An integrated model was developed to predict the REC, which reflects the cell membrane permeability, within the temperature range from 2°C to 15°C. It was found that the degree of maturity had no significant influence on gas composition in the headspace ($P \gg 0.05$) by one-factor ANOVA analysis using SAS personal computer software. Correlation between REC and gas composition was not significant ($P > 0.05$) by Pearson correlation analysis.