

Title Fruits and vegetables passive refrigerated transport: modelling the respiratory process
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Abstract

To study the respiration rate of fresh produces as a function of O₂ and CO₂ concentration, a general model, applicable in a large variety of packaging configurations, food products and environmental conditions was employed. In this process the respiration rate of grape and tomato has been modelled by a Michaelis-Menten-type equation at a constant temperature, while its dependence on temperature has been defined using an Arrhenius-type equation. To validate the model, the respiration rates of tomato and grape were measured during a simulated transport in a cold room for a week. The results indicated that the model was able to represent the respiration process, since the values predicted by using this model agreed well with the experimental data.