

Abstract:

A considerable proportion of the fresh produce (fruit, vegetables, flowers etc) sold around the world is exported. While most of the export is successful, a disturbingly high proportion of shipments encounter quality problems on arrival at destination. New technologies have been developed for monitoring refrigerated shipping containers (KlaxonIQA 2002), that makes it possible for actual storage conditions during transport to be monitored in real time. This enables speedy rectification of any problems and alerting to any quality problems on arrival. Besides the considerable benefits that this technology achieves for all involved in the shipping and fresh produce industry, it is possible to interface storage prediction software and real time monitoring of storage conditions to provide a premium service to the industry that can fine tune the quality delivered to market requirements. Advantages of such a model are that decisions can be made before shipment as to potential storage life remaining for a particular crop (e.g., apples stored in CA prior to export). Then, if there is a problem for a particular voyage length, the shipment can be cancelled or storage conditions adjusted to assure a longer storage life. The development of a fully robust model to cover a wide range of products, a wide range of pre-shipment conditions and a range of problems during shipping will obviously take some time but the benefits will be considerable. Fitting a wide range of models to data for over 30 crops suggests that the best choices are the exponential and a modified quadratic model.