Abstract

In recent years much progress has been made in modelling quality changes of perishable products as a function of the environmental conditions to which they are exposed. Key determinants of quality such as firmness or colour, or overall keeping quality, have proved amenable to description by relatively simple unstructured equations. This work has parallels in food processing where predictive modelling of the growth of food pathogens is now widely used in food safety and shelf life assessments. Drawing on recent research of tomato quality, this paper examines how approaches employed in predictive microbiology could assist in the development of integrated quality models for fresh produce quality. Two models for lag could equally well describe delayed colour change following treatment of mature green tomatoes with 1-MCP, whilst a modified square root model appeared more appropriate than Arrhenius or hyperbolic equations to describe temperature dependence of tomato colour change for both high and low temperature storage.