Title	Managing biological variance
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Abstract

Data generated in postharvest research is characterised by its large sources of biological variance. This variance generally obscures the behaviour of interest, complicating both the statistical and conceptual interpretation of the data. To be able to manage the postharvest chain, clear inside is required in the propagation of biological variance during postharvest. Recently, biological variance has gained interest within the postharvest community. To analyse experimental data taking into account biological variance several (statistical) modelling techniques have been applied by different authors. These vary from models that can be solved analytically to analyse the effect of experimental design parameters (e.g., mixed effects models), via hybrid techniques which combine analytical and numerical techniques, to pure numerical models for dynamic simulations based on differential equations (like the variance propagation algorithm). Each of these techniques has its own possibilities and limitations in terms of the type of variance that can be accounted for, their technical complexity, and their applicability to practical situations. The different techniques are suitable to different degrees to answer specific questions in specific settings. Using tomato colour as an example, the different techniques are applied and compared to highlight their strong and weak points in interpreting biological variance in the postharvest chain.