Abstract:

Based on the colour development of tomatoes (theoretical) and apples (measured) as an example the approach to biological variance from a new perspective is made more clear and more explicit. The origin of biological variance is traced back to the stage of maturity at the moment of harvest. By modelling the colour development of individual units in a batch in a generic fashion, and using this model in a non-linear regression analysis on all data from different stages of maturity at harvest, orchards and storage temperatures combined, the effects of biological variance present and its changes in time can be described and predicted. From the analysis it is clear that the most important variable to explain and described variance in colour is the difference between the actual colour and the minimally possible colour for that cultivar. The explained part obtained (well over 95%) is a major indication of the usefulness and applicability of this approach