

Title Picking winners  
Author N. Banks  
Citation ISHS Acta Horticulturae 712: 113-120. 2006  
Keywords confidence limit; disorders; fruit; harvest; harvest window; maturity; physiological age

### **Abstract**

Maturity indices, used to characterise maturity of batches of crops, potentially comprise a powerful technology for supporting delivery of high quality crops to market and an indicator of inherent crop worth. Average values of a maturity variable can inform about shifts in the overall maturity status of a fruit population but they do not capture information about the most immature or overmature fruit that often have greatest risk of disorders and inferior quality. In this paper, recent theoretical advances in understanding on the origins of biological variance are considered in the context of fruit maturation and coupled with a simple, hypothetical description of the probability of fruit developing disorders. The resulting model is used to demonstrate the substantial potential for variance in physiological age to constrain the ability of supply chains to deliver disorder-free fruit to market. It is concluded that populations containing at-risk fruit are more likely to be identified using variability-based indices of maturity than simple averages. Armed with such indices, industries focused on strategic improvement of delivered fruit quality will be better equipped to pick winners.