

Title Possible interferences of pre-harvest factors with the storage behaviour and quality of fruit
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Abstract

After the eminent discovery of cool and CA storage for maintaining good quality of stored fruit, the finding of ethylene as the ripening hormone in climacteric fruit was certainly the second most important achievement in this area. The ease of its quantitative measurement and its current manipulations seems to have detracted researchers from looking for other hormones involved in fruit ripening and quality, at least for climacteric fruit, but even here there is no doubt that more hormones than just ethylene are involved. The well known ripening inhibition effect of leaves, as long as the fruit are attached to the plant, is just one more unexplored effect which may deserve investigation. However, a much more promising field to investigate where factors may affect ripening and fruit quality must be a more detailed investigation into the very early stages of fruit development. In fact the effects may already start with the morphogenetic event of flower induction. These early stages of fruit development respond to many exogenous and endogenous changes in plant hormone concentrations and applications respectively. This review will preferably concentrate on the still often hypothetical involvement of endogenous hormones on early fruit development and their manipulation by exogenous treatments. These possibilities are able to change important quality attributes such as: mineral concentrations; cell number and size; intercellular volume; fruit size and shape; time of fruit maturity and storability. With the methods presently available for the rapid and precise determination of plant hormones it will be much easier to follow hormonal changes that result from exogenous treatments and environmental changes and to manipulate them accordingly. This will certainly re-stimulate further investigations which may yield new insights into a definitely difficult but hopefully rewarding field.