Abstract:

Although modelling product quality is of special importance in the horticultural production and supply chain, including product quality in crop modelling is still in its infancy. In this paper several examples of modelling product quality are presented and discussed. More often than not models on postharvest behaviour of products are not explicitly linked to pre-harvest conditions, although these conditions are known to be of great importance. Besides the average value for a quality attribute, the distribution in a batch (biological variation) of that quality attribute contains important information. Recently an approach has been developed to model this information and hence make it useful. In ornamental horticulture, one of the dominant quality attributes is plant shape. Architectural modelling exists already for many years (e.g. L-systems) and is especially applied for trees. Recently, GREENLAB has been developed, an architectural model structure focusing on organogenesis and biomass production and partitioning of resources to the different plant parts. Until now, growth conditions like e.g. climate conditions and crop management are not included in these architectural models. It is a great challenge to link architectural models to physiological models. Integration of both modelling approaches will provide a very powerful tool and will bring modelling of ornamental quality a major step forward.