

### Abstract:

A feasibility study has been carried out to evaluate the potential of a commercial multi-parameter electrode system for rapid determination of quality related parameters in fruit juice. The electrode system used was an ISFET based electrode for measurements of pH, temperature, conductivity, salinity, total dissolved solids, redox potential and relative potential. The electrode readings were used as inputs to multivariate regression modelling for prediction of reference quality related parameters determined with conventional methods. Highest correlation was obtained for titratable acidity ( $r = 0.89$ ), and the ratios soluble solids/titratable acidity ( $r = 0.81$ ) and total sugars/titratable acidity ( $r = 0.78$ ) with prediction error from 9 to 14%. This suggests that multi-parameter electrodes based on ISFET technology may be applied to perform simple and rapid, indirect determination of fruit properties related to quality.