**An optimization of pineapple cryopreservation process using predictive electrolyte technique**

A. Villalobos-Olivera, J. García-Brizuela, S. Olaru, P. Rodriguez-Ayerbe, M. Martinez-Montero

The paper focuses on the evaluation of the viability of the pineapple apex as a result of the cryopreservation process. Instead of a regeneration measure of the viability, we advocate here the use of electrolyte leakage measurements by conductivity and provide a control engineering perspective on this methodology. Conductivity measurement considerably reduce the time to evaluate the viability (to the order of days). Is shown how this technique can be fine-tuned within a model-based approach and bring the viability evaluation to order of hours. Based on the collected data, we construct linear dynamical models for particular survival rates. These models will be subsequently used for the evaluation of cell viability. A particular technical aspect is related to the uncertainty description and the use of the dynamical evolution in the regression analysis of the viability.