

**P001** Identification of key genes involved in cassava post-harvest physiological deterioration

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The rapid post-harvest physiological deterioration (PPD) of the starchy storage roots of cassava (*Manihot esculenta* Crantz) is a serious constraint to the development of this major crop. PPD is an active response involving changes in gene expression and the synthesis of novel proteins. Reactive oxygen species (ROS) and the enzymes and compounds that modulate them play central roles in PPD, being involved in signalling, peroxidation of membrane lipids, oxidising phenolic compounds to give the visible symptoms of the response, and in the insolubilisation and synthesis of components of the cell wall.

Microarrays of ~ 11,000 cDNA clones to mRNA isolated from cassava roots over a deterioration time course were hybridised with cDNA populations in order to identify genes whose expression patterns were significantly altered during PPD. Analysis of these data has led to the identification and characterisation of key genes involved in a range of relevant functions, including: ROS modulation, programmed cell death, control of gene expression and signal transduction.