

Title Study of factors involved in the differential generation of physiological disorders during postharvest of 'Hass' avocados (*Persea Americana* Mill.): first approaches

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Abstract

Chile is one of the most important exporters worldwide of 'Hass' avocados (*Persea americana* Mill.). In order to reach the final markets, a long-term cold storage during transit (20 to 45 days) is a key issue to guarantee good quality and reducing fruit deterioration. However, the development of physiological disorders induced by low temperatures can strongly affect fruit quality. In this work we show that 'Hass' avocados harvested in September-October (spring time in Chile) and stored for 30 days at 5°C show less incidence of physiological disorders than fruits harvested in November-January (early summer). As a first approach to understand the biochemical processes or mechanisms affected by both harvest time and low temperature storage, a forward suppression subtractive hybridization (SSH) cDNA library was constructed. In this work we identified and characterized genes that codify for key enzymes involved in sugar and lipid metabolisms. RACE-PCRs were conducted to obtain full length cDNAs and real-time PCR to characterize the gene expression profiles. The significance of the changes measured from 'Hass' avocados of two harvest stages is discussed (Fondecyt 11080236).