Title Pre- and postharvest metabolism of crown leaves of pineapple fruit

Author E. Londers, J. Ceusters, C. Godts, M.P. De Proft and B. Van De Poel

Citation ISHS Acta Horticulturae 902:233-238.2011.

Keywords cell burst; crassulacean acid metabolism; gas exchange; long term storage; organic acid; transport conditions

Abstract

Crown burn on exported pineapple fruit causes serious economical losses. In this study, crown burn occurrence was hypothesized to be related to Crassulacean Acid Metabolism (CAM). However, the functioning of this metabolism in the crown leaves remained unexplored. Therefore, pre- and postharvest bio-activity of the crown leaves of pineapple fruit were studied. With the fruit still attached to the plant, CAM activity was detected in the crown leaves. While post-transport diurnal light cycle conditions seemed to reactivate CAM in the crown leaves, no CAM activation was registered during cold-storage transport (simulated) under dark conditions. The substantial organic acid increase in the crown leaves during transport is thought to originate from the pineapple fruit itself and seems to be the major cause of leaf browning.