

Title Biochemical processes involved in physiological disorders and disease in apple and pear: The determining role of hydrogen peroxide

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Abstract

Physiological disorders and decay in fruits are the result of the action of several factors that generally act synergistically. In this presentation, these different factors are presented and incorporated into a synthetic scheme that shows their respective relationships. We start by describing the exogenous factors involved in the incidence of disorders and especially their role on fruit physiology. Endogenous factors, such as ripening behaviour and the specific potential of acclimation to stress, are described later. Finally, we complete the model by describing the final metabolic response and its relationship with disorders and the incidence of decay. In the second phase, emphasis was placed on the intermediates involved in signalling and especially on the role that hydrogen peroxide (H₂O₂) may play in stress physiology. This section describes basic knowledge concerning this role and also our own experience. It presents laboratory results relating to several physiological disorders and decay in apple and pear fruit.