

Title Preliminary report on a catalyst derived from induced cells of *Rhodococcus rhodochrous* strain DAP 96253 that delays the ripening of selected climacteric fruit: bananas, avocados, and peaches

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Abstract

Despite the use of refrigeration, improved packaging, adsorbents, and ethylene receptor blockers, on average, nearly 40% of all fruits and vegetables harvested in the US are not consumed. Many plant products, especially fruit, continue to ripen after harvesting, and as they do so, become increasingly susceptible to mechanical injury, resulting in increased rot. Other plant products during transportation and storage are susceptible to chill injury (CI). There is a real need for products that can delay ripening or mitigate the effects of CI, yet still permit full ripeness and quality to be achieved. Preliminary results are discussed where catalyst derived from cells of *Rhodococcus rhodochrous* DAP 96253, grown under conditions that induced high levels of nitrile hydratase, were able to extend the ripening and thus the shelf-life of selected climacteric fruits (banana, avocado, and peach). A catalyst, when placed in proximity to, but not touching, the test fruit delayed the ripening but did not alter the final ripeness of the fruit tested. Organo-leptic evaluations conducted with control peaches and with peaches exposed to, but not in contact with, the catalyst showed that the catalyst-treated peaches achieved full, natural levels of ripeness with respect to aroma, flavor, sweetness, and juice content. Furthermore, the results of delayed ripening were achieved at ambient temperatures (without the need for refrigeration).

<http://www.springerlink.com/content/2j6t508041n6h206/fulltext.pdf>