

Title Effect of pectin-based edible emulsion coating on changes in quality of avocado exposed to *Lasiodiplodia theobromae* infection

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Citation Carbohydrate Polymers, Volume 68, Issue 2, 21 March 2007, Pages 341-349

Keywords Avocado; Storage; Edible film; Pectin; Coating; *Lasiodiplodia theobromae*; Texture; Color; Respiration rate

Abstract

This study was carried out to evaluate the effect of pectin-based edible emulsion coating on activity and disease severity of *Lasiodiplodia theobromae* in avocados, and their subsequent influence on the fruit quality. In order to assess the influence of coating and disease, avocados were sorted and divided into four equal lots and all were incubated at 20 °C for up to 4 days. The first and second lots constituted samples which were stored as coated and uncoated, respectively, without fungal inoculation. The third and fourth lots were coated and un-coated fruits inoculated with the fungal disease. For coating, a previously standardized pectin-based emulsion was used. The incubated fruits were examined for the spread of disease, respiration rate and quality parameters, color and texture. As the incubation time increased, the volume of disease (VDS) increased, which in turn influenced the respiration rate (RR) in both coated and uncoated fruits. However, the coated fruits sustained a significantly slower rate of disease spread and RR. Similarly, the associated quality changes (texture and color) were much lower in coated fruits as compared with the control. Thus, the pectin based coating was effective in controlling the spread and severity of stem end rot in avocados. Changes in physical and physiological parameters of coated and uncoated fruits were well described by some form of semi-logarithmic models and were related to the VDS as well as case dependent incubation time.