

**Title** Effect of alternative coatings and waxes on postharvest quality and shelf life of pineapples (*Ananas comosus* 'md-2') grown in Costa Rica for export

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### **Abstract**

Antitranspirants or coatings are commercially used for export pineapples as this treatment can potentially extend the visual quality appearance. However, few options are available that allow treatment for both conventional and organic pineapple fruits. In this work we evaluated the effect of Natralife<sup>®</sup>, an olive oil/honeybee based coating-OMRI certified, Stafresh<sup>®</sup>, a broadly used conventional wax and two antitranspirants based on natural ingredients produced in Costa Rica (Ecofrut<sup>®</sup> and Biogreen<sup>®</sup>) that can potentially be considered organic. Antitranspirant treatments of pineapples were applied with and without fungicide (Bayleton<sup>®</sup>). Treatments consisted of 24 pineapples per evaluation time. Evaluations were conducted after fruit were cold stored (7-9°C) for 14, 21 and 23 days, including 1-3 days exposure at room temperature. In general, on the first evaluation fruit showed similar quality characteristics. Other results showed that pineapples treated with Natralife<sup>®</sup>, with or without fungicide, had the lowest weight loss. On the second evaluation while Natralife<sup>®</sup> treated-fruit had 3.18% of weight loss, Stafresh<sup>®</sup>-treated fruits (with fungicide) had 3.72% weight loss. In external color, Natralife<sup>®</sup> (second evaluation) and Natralife<sup>®</sup> with fungicide (second and third evaluation) showed the highest values. The translucence (development of internal color) of Natralife<sup>®</sup>-treated fruits was lower than that of most treatments in the second evaluation, while Biogreen<sup>®</sup>, Stafresh<sup>®</sup> and the untreated control showed the highest values. Both Stafresh<sup>®</sup> and Natralife<sup>®</sup> with fungicide showed lower values of mold development on the stem base, indicating a significant effect of the fungicide on this parameter. Overall, in all evaluations Natralife<sup>®</sup> treatments significantly reduced the incidence and severity of fruit pitting, subsequently showing higher overall visual appearance.