Curative activity of possible biocontrol agents in the postharvest of yellow pitahaya and organic banana

Rosa Vilaplana, Cristina Cifuentes, Luís Vaca, Juan Manuel Cevallos-Cevallos and Silvia Valencia-Chamorro

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Abstract

Biological control is one of the best strategies to reduce the use of chemical products during the postharvest period. The isolation and identification of potential biocontrol agents from fruit surfaces is the first step in obtaining an effective biological product against pathogens. In this study several yeast strains were isolated from Ecuadorian fruit and were identified. The curative activity of two selected yeasts, *Candida inconspicua* (CPN3) and *Pichia kluyveri* (B1), was analyzed to establish their antagonism against *Alternaria alternata* on yellow pitahaya and against *Colletotrichum musae* on organic banana. CPN3 yeast showed better effectiveness ($p < 0.01$) than B1 in controlling black rot on yellow pitahaya; whereas on organic banana B1 demonstrated better efficacy ($p < 0.05$) in reducing anthracnose than CPN3. This fact was related to the population dynamics of both yeasts during cold storage of yellow pitahaya and organic banana. No negative effects were observed on physicochemical quality of fruit treated with the potential biocontrol agents. Although curative activity was observed when using CPN3 and B1, studies about their preventive action are needed to establish the antagonistic potential of both yeasts.