

**Title** Biocontrol of postharvest blue mold (*Penicillium italicum* Wehmer) on Mexican lime by marine and citrus *Debaryomyces hansenii* isolates

**Author** Luis Guillermo Hernández-Montiel José Luis Ochoa, Enrique Troyo-Diéguez and Claudia Patricia Larralde-Corona

**Citation** Postharvest Biology and Technology, Volume 56, Issue 2, May 2010, Pages 181-187

**Keywords** *Debaryomyces hansenii*; *Penicillium italicum*; Blue mold; *Citrus aurantifolia*; Mexican lime

#### **Abstract**

Mexican lime produced on the Pacific coast of Mexico is frequently spoiled by blue mold during postharvest handling. Methods to control it include chemical fungicide applications and cold storage. Nevertheless, the increasing incidence of this disease necessitates the search for industrially compatible alternatives, such as the use of yeasts as biocontrol agents that are convenient for their easy handling and high osmotolerance, and suitable for the stressful conditions found at the surface of citrus fruits. In this work we tested the performance of twelve native isolates of *Debaryomyces hansenii* obtained from the marine environment and the pericarp of Mexican lime (*Citrus aurantifolia* Christm. Swingle). Native pericarp isolates were more effective both *in vitro* and in simulated industrial packinghouse conditions for the postharvest control of blue mold on Mexican lime. The performance of the yeast was partially linked to a rapid consumption of available sugars in the medium, and *D. hansenii* isolates DhhBCS06, LL1 and LL2 were able to reduce incidence of the disease by up to 80% after two weeks of storage.