

Abstract

Viability of the postharvest biocontrol agent *Candida sake* CPA-1 stored as liquid formulation was evaluated by studying the effect of growth, preservation medium, and temperature. *C. sake* was grown in molasses medium with unmodified water activity (aw) and in the same with aw modified to 0.98 with the addition of several solutes. Cells were preserved with isotonic solutions of different substances. Efficacy of liquid formulations stored for different periods was tested against infection by *Penicillium expansum* on apples. The best growth media were the unmodified one and those modified to 0.98 aw with the addition of glycerol or sorbitol. For all growth media, the best preservation medium was the isotonic solution prepared with trehalose. When the effect of trehalose concentration in the preservation medium was studied, generally, at trehalose concentrations below the isotonic one, *C. sake* viabilities increased with increased trehalose. However, the best results were obtained when cells were preserved with the trehalose solution which was isotonic with cells. After 7 months of storage at 4°C, cells that were grown in the sorbitol-modified medium and preserved with the isotonic solution of trehalose (0.96 M) maintained their viability and efficacy against *P. expansum* infection of apples.