

Title The shelf life of wheat bran-based formulations of *Rhodotorula mucilaginosa*, *Candida membranifaciens*, *Pichia guilliermondii* yeast isolates that control postharvest decay of apple fruit

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Abstract

The yeasts *Rhodotorula mucilaginosa*, *Candida membranifaciens*, *Pichia guilliermondii* is reported as a novel antagonistic micro-organism against the pathogen *Penicillium expansum* on the apple fruit. In this study we compared shelf life of the postharvest biological control yeasts, *R. mucilaginosa*, *C. membranifaciens*, *P. guilliermondii* to determine which have a longer storage life in wheat bran-based formulation. Wheat bran-based formulation, contained wheat bran and sodium alginate and glycerol. Viability of yeast cells in the formulation stored at 4 and 24 ± 1 °C was determined over a 6 month of storage period. In the both temperature yeast isolate *P. guilliermondii* had a significantly higher viable yeast cells content over 6 month storage period. The survival of *P. guilliermondii* yeast isolate at formulation that stored at 4 ± 1 °C was longer than those stored at 24 ± 1 °C. The results obtained in this study are an approach for further up scaling of *P. guilliermondii* production.