

INFLUENCE OF ADJUVANTS ON SHELF LIFE OF *Pichia guilliermondii* IN POWDER CARRIERS AND THEIR EFFICACY CONTROL BLUE MOLD OF APPLE *

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Abstract

In this study the efficacy of sucrose, sodium alginate and Gum arabic as adjuvants on yeast cells (*Pichia guilliermondii*) viability in powder formulations was determined. Yeasts, grown on a sugarcane molasses-based medium, were combined with talc, kaolin, wheat bran or rice bran carriers and three adjuvants (sucrose, sodium alginate, Gum arabic) and the viability of yeast in 16 formulations was determined over a six month periods. Formulation no. 11, containing wheat bran with sucrose, and formulation no. 15, containing wheat bran with sucrose had significantly higher viable yeast cells content over a six months storage period in 4. Formulation no. 2, containing kaolin had a significantly lowest viable yeast cell. In 24°C, formulation no. 15 had significantly highest viable yeast cells and formulation no. 2 had significantly lowest viable yeast cells content over a six months storage period. These formulations were tested against *Penicillium expansum* apple, the blue mold pathogen and all formulations effectively controlled the disease. Formulation no. 15, containing wheat bran and sucrose were the best formulation in controlling blue mold of apple.

Keywords: Formulation, *Penicillium expansum*, Carriers, Biological control.

See Persian text for figures and tables (Pages ۴۳۵-۴۴۶).

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