

STAY TIME OF ISOLATED PINEAPPLE YEAST ON SUBSTANCES GRAS

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ABSTRACT

Recent research has demonstrated the effectiveness of the biological control, through the action of *Bacillus subtilis* and yeasts in controlling fungal disease in post-harvest. However, biocontrol agents can not provide by themselves the consistency and the broad spectrum of action when compared to synthetic fungicides. One of the main approaches to improve the biocontrol of postharvest diseases would be the integration with other methods biological, chemical or physical. This study aimed to test the growing strength of 3 pineapples and yeasts isolated from a strain of *Saccharomyces cerevisiae* 905 in different GRAS substances for future use in biological control protocols pineapple. The yeasts were incubated for 30 days in 100 ml of GY broth supplemented with 1%, 3% and 5% sodium bicarbonate, sodium carbonate and calcium chloride, as positive control yeasts were only incubated in GY broth. The one every 72 hours 1 ml aliquot was removed from each sample for determination of CFU/ μ l. The isolated pineapple 191 associated with sodium bicarbonate, remained viable for 30 days in GY broth supplemented with 1%, a concentration of 250 CFU/ μ l, showing no growth in the treatments with this other GRAS substance. Already GY broth supplemented with calcium chloride, this secluded grew in all concentrations of this GRAS substance, and its growth equal to 169 CFU/ μ l, 193 CFU/ μ l, and 290 CFU/ μ l at 1%, 3% and 5% respectively. No growth was observed in any treatment using calcium carbonate. In GY broth supplemented with sodium bicarbonate, isolated pineapple 256 grew only in the concentration of 1% and 265 CFU/ μ l. Already in GY broth supplemented with calcium chloride, this isolate grew at all concentrations of this GRAS substance, their growth being equal to 252 CFU/ μ l, 249 CFU/ μ l and 210 CFU/ μ l of 1%, 3% and 5% respectively. No growth was observed in any treatment using calcium carbonate. The isolated pineapple 257 grew only in GY broth supplemented with calcium chloride. As growth equal to 200 CFU/ μ l, 180 CFU/ μ l and 287 CFU/ μ l of 1%, 3% and 5% respectively. *Saccharomyces cerevisiae* 905 grew only in GY broth supplemented with calcium chloride. As growth equal to 216 CFU/ μ l, 246 CFU/ μ l and 217 CFU/ μ l of 1%, 3% and 5% respectively. The four tested showed good results yeast growth associated with calcium chloride and two showed a good correlation with sodium bicarbonate and can thus be used in biological control protocols.

Key words: sodium bicarbonate, calcium chloride, biological control.