

Thitimaporn Nooniam 2010: Effect of Glucono- $\delta$ -lactone on Fermentation and Acceptability of Som-fug. Master of Science (Home Economics), Major Field: Home Economics, Department of Home Economics. Thesis Advisor: Ms. Siriporn Riebroy, Ph.D. 96 pages.

Fermentation and acceptability of Som-fug produced from spotted featherback (*Chitala ornata*) as affected by different levels of GDL addition were investigated. Based on the final pH desired ( $\text{pH} \leq 4.6$ ), the fermentation time for Som-fug added with GDL at 1% and 2% were faster than those added with GDL at 0% (control), 0.25%, and 0.5% ( $p < 0.05$ ). However, Som-fug added with 0.25% GDL had a greater acceptability than other samples ( $p < 0.05$ ). From the results, Som-fug added with and without 0.25% GDL was used for study in properties changes during fermentation and storage. During fermentation ( $30^\circ\text{C}$ ), the increase in lactic acid bacteria (LAB) count and total acidity with the concomitant decrease in pH were observed in both samples. Som-fug added with GDL exhibited higher in LAB count and total acidity than the control ( $p < 0.05$ ). No differences in weight loss and released water between samples ( $p > 0.05$ ). As the fermentation proceeded, acid produced resulted in the changes in textural properties and color. Hardness, cohesiveness, and springiness of both samples increased, and  $L^*$  and  $a^*$  values also increased throughout the fermentation ( $p < 0.05$ ). Changes in properties and acceptability of Som-fug added with and without GDL were stored 3-days at room temperature and stored 15-days at refrigerated temperature also monitored. With increasing storage time (room temperature), LAB count and total acidity increased and the rate of increase was more pronounced in Som-fug added with GDL. During refrigerated storage, Som-fug added with GDL showed lower total volatile base nitrogen (TVB-N) content than the control ( $p < 0.05$ ). Lower acceptance in all attributes were observed in the control than Som-fug added with GDL, particularly when storage time increased ( $p < 0.05$ ). However, Som-fug added with GDL showed slightly changes in acceptability within 15 days.

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Thesis Advisor's signature