

Pakawadee Iamkampang 2010: Effect of Salt and Sucrose on Fermentation and Acceptability of *Kung-Som* Produced from Pacific White Shrimp (*Litopenaeus vannamei*). Master of Science (Home Economics), Majou Field: Home Economics, Department of Home Economics. Thesis Advisor: Miss Siriporn Riebroy, Ph.D. 71 pages.

Fermentation and acceptance of *Kung-Som* produced from Pacific white shrimp as affected by different salt levels were studied. *Kung-som* was produced by addition of salt at 5% (KS-50), 7.5% (KS-75), and 10% (KS-100). During fermentation, the increase in lactic acid bacteria (LAB) and total acidity with the concomitant decrease in pH were observed in all samples. Additionally, KS-50 sample exhibited the faster decrease in pH compared with other samples ($p < 0.05$). The results suggested that lower concentration of salt in *Kung-Som* production decreased in fermentation time. Generally, KS-75 showed a greater acceptability than KS-50 and KS-100. Effect of different concentrations of bleached and unbleached sucrose on *Kung-Som* fermentation was also investigated. The concentrations of sucrose were 15%, 30%, and 45%. As the fermentation proceeded, LAB and total acidity increased, whereas pH decreased in all samples. The increase in total acidity and decreased in pH was more pronounce in *Kung-Som* added with 30% and 45% sucrose compared those added with 15% sucrose ($p < 0.05$). From the results, higher sugar concentration stimulated the rapid growth of LAB, resulting in a rapid decline in pH and consequently increases in total acidity. However, *Kung-Som* added with 30% bleached sucrose had more likeness in all attributes than other samples ($p < 0.05$). Chemical composition, energy value and pathogens of fermented *Kung-Som* added with 7.5% salt and 30% bleached sucrose was carried out. Fermented *Kung-Som* contained 13.04% protein, 0.28% lipid, 68.42% moisture, 5.08% ash, 3.87% salt and 105.94 kcal/100g. Additionally, no pathogens were found. Thus, fermented *Kung-Som* could be safety for consumption with high nutritional value. Changes in microbiological, chemical and acceptability of fermented *Kung-Som* during 15 days of room (RT) and refrigerated (RF) temperature storages were investigated. With increasing storage time, the number of LAB and total acidity increase and the rate of increase was more pronounce in *Kung-Som* stored at RT. The results revealed that refrigeration storage could be a means to extend the shelf-life of *Kung-Som*.

Student's signature

Thesis Advisor's signature

____/____/____