Dechanarth Thongphitak 2007: Improving Quality of Pacific White Shrimp (*Litopenaeus vannamei*) for Export. Master of Science (Fisheries Science), Major Field: Fisheries Science, Department of Fishery Biology. Thesis Advisor: Assistant Professor Niti Chuchird, Ph.D. 94 pages.

The effects of water temperature and soaking time on color of cooked Pacific white shrimp raised under low and normal salinity water were studied. It was found that shrimp raised in both low and normal salinities soaked at 20 °C for 15 minutes had the lowest lightness (L*) which was significantly different ($P \leq 0.05$) from control group (without soaking). However, redness (a*) and yellowness (b*) were not significantly different. Apparently, shrimp soaked at 20 °C for 45 minutes had the highest a*, while those soaked at 10 °C for 45 minutes had the highest b* and shear force (N). The sensory evaluation scores on color intensity of the shell, color, transparency and firmness of the meat determined by eight trained panelists were not significantly different ($P > 0.05$), but photographically, the difference in overall color intensity of control and shrimp soaked at 20 °C for 45 minutes could be detected.

The effect of starvations periods on breakage of hepatopancreas was studied. It was found that percentage of breakage was reduced at all starvation periods, especially at 12 and 18 hour of starvation, percentage of breakage was significantly lower than the control. The weight of shrimp slightly decreased but not significantly different. From both studies, it could be concluded that soaking at 20 °C for 45 minutes resulted in the highest color intensity and starvation for 12 hour could reduce problem of hepatopancreas breakage.

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