Wassana Prisingkorn 2011: Effects of Minerals Supplementation to Feeds on Survival and Growth of Pacific White Shrimp (*Litopenaeus vannamei*). Master of Science (Fisheries Science), Major Field: Fisheries Science, Department of Fishery Biology. Thesis Advisor: Associate Professor Chalor Limsuwan, Ph.D. 67 pages.

The effects of minerals supplementation to feeds on survival and growth of Pacific white shrimp (*Litopenaeus vannamei*) were studied. This study was divided into three experiments. The first experiment was consisted of five groups, (1) control group, (2) Mg : Ca ratio 1200 : 400 ppm, (3) Mg : Ca ratio 3600 : 1200 ppm, (4) Mg : Ca ratio 7200 : 2400 ppm and (5) sea salt 50 g/1 kg of feed. Shrimp weight 3-4 g were stocked into 500-L fiberglass tanks at the density of 35 shrimps per tank (63 shrimps/m^2) and salinity was 25 ppt. After 60 days shrimp were harvested. The average weight, yield and average daily weight gain(ADG) from group 5 were significantly higher ($P<0.05$) than the control and other groups. While survival rate from all groups were not significantly different ($P>0.05$).

According to the first experiment, sea salt 50 g/1 kg feed gave the best result. In the second experiment, sea salt at two different concentrations were used and compared with the control group, (1) control group, (2) sea salt 25 g/1 kg of feed and (3) sea salt 50 g/1 kg of feed. The rearing procedure was similar to the first experiment except the stocking rate was 45 shrimps per tank (81 shrimps/m^2) This experiment were cultured same the first experiment but shrimp were stocked at the density of 45 shrimps per tank (81 shrimps/m^2). After 60-day of rearing period, sea salt 50 g/ 1 kg feed showed the highest yield than other groups. However, there were no significant differences of yield and ADG across the groups. While survival rate from control group was significantly lower ($P<0.05$) than group 2 and 3. In the third experiment, sea salt at two different concentrations were used and compared with the control group, (1) control group, (2) sea salt 25 g/1 kg of feed and (3) sea salt 50 g/1 kg of feed. PL_8 of *L. vannamei* weight 0.004 g were stocked into 500-L fiberglass tanks at the density of 50 shrimps per tank (90 shrimps/m^2) and salinity was 1 ppt. After 60 days shrimp were harvested. The average weight, survival, yield and ADG from all groups were significantly different ($P<0.05$). While survival rate from all groups were not significantly different ($P>0.05$). In group (3) sea salt 50 g/ 1 kg feed showed the highest survival and yield than other groups. The results of the present study conclude that in order to achieve good survival and growth of *L. vannamei* cultured in normal salinity water and low salinity water, sea salt at the ratio of 50 g/ 1 kg feed should be added to the feed.

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