

GENETIC PARAMETERS FOR GROWTH PERFORMANCE IMPROVEMENT OF WHITE LEG SHRIMP (*PENAEUS - VANNAMEI*)

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Summary

Genetic improvement for better body weight and length of white leg shrimp have been carried out from 7 imported founder populations. The base population G_0 was generated to select G_1 generation. Next two selection generations for better growth performance were created including 132 families in G_2 and 170 families in G_3 . In each generation, fingerling in family were tagged and communal rearing in pond and tank. Results of data analysis showed that growth performance of shrimp in pond was significantly higher than that in tank ($P < 0.05$). Body weight of selected shrimp at harvest in G_2 and G_3 showed high coefficient of variation 36.15%. Estimated heritability for body length and body weight was 0.23 ± 0.03 and 0.34 ± 0.06 respectively. Genetic heritability for body weight was 0.61 ± 0.09 in pond and 0.13 ± 0.12 in tank. Heritability for body length was moderate and similar between pond and tank. Responses to selection for body weight of shrimp reared in pond were 9.1% and 9.6% in G_2 and G_3 generations respectively. The results of genetic-environment interaction observed low for growth traits in different environments meaning that environments may operate variaty expression of genes on growth traits particularly body weight and body length. Positive genetic correlation between body weigth and length representing that selection for better body weight will improve body length of white leg shrimp.

Key words: *White leg shrimp, genetic improvement, growth, genetic-environment interaction.*