ABSTRACT

Chemical Interference with Molt Inhibiting Hormone to the Y-organs: Design, Synthesis and Validation of a Novel Growth Enhancer

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Several conventional methods have been used for many years to accelerate the growth in decapod crustaceans but they are suitable for aquaculture practices due to their harmful effects on the animals. The concern over water quality, environmental hazard, human health and food safety has led us to a search for alternative targets to design growth enhancers which can significantly improve the growth of crustaceans without harmful effects. The first of its kind growth enhancer was designed using the data obtained from structural and mutation analysis. Assessment of contemporary methods with compared to the designed growth enhancer clearly indicated that there was a significant reduction in the intermolt period and a higher weight gain. Histological and biochemical analysis of various organs were performed which does not showed any significant difference between treated and control groups. Interestingly, the growth enhancer was much more potent than the conventional methods such as bilateral eyestalk ablation used in aquaculture. The CGE-1 therefore can be regarded as growth enhancer in crustacean fishery in addition to various other benefits.