



## **Investigating of different diet combination on the sexual process of Western White Shrimp Female broodstocks**

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### **Abstract**

Restrictions on access to wild shrimp larvae of penaeidae family, and the urgent larva need for shrimp farm stocking planning, is one of the reasons for the increasing in reproduction of this family in farming conditions in the world. In order to determine and compare the effect of fresh diets on sexual maturity of cultured female shrimp broodstocks (*Litopenaeus vannamei*), different percentages of fresh food consisting of Panshell (*Pinna carnea*), squid, artemia (biomass) and polychaete were examined in 3 treatments with three replicate for one month. Feeding was based on 30% of the shrimp's body weight. At the end of this study by keeping the other factors without changing, sexual maturity of female broodstocks were compared to the treatments after eyestalk ablation in 3 times ( day2 – day 4 – day 7 ) due to their maturation (stage IV). For day 7 results didn't show any significant difference between 3 treatments in stage I and stage II of sexual maturity of shrimps ( $P < 0.05$ ). But T2 had significant difference with T1 and T3 in stage III and stage IV ( $P < 0.05$ ). There were no significant difference between T1 and T3 in these 2 stages ( $P < 0.05$ ). It is recommended that feed component of T2 would be an optimal diet in time of reproduction of *Litopenaeus vannamei* due to its better operation on maturation compared with other components.

**Keywords:** Sexual process, Western White Shrimp, Female, broodstocks