Broodstock condition and egg quality in tiger prawn, Penaeus monodon, resulting from feeding bioencapsulated live prey

ABSTRACT

This study was motivated by the need to find a solution to poor egg quality and the resulting mass mortality of hatchery-produced larvae of the tiger prawn, Penaeus monodon. The approach adopted sought to improve the broodstock condition and determine its effect on egg quality using rates of fertilization, hatching and metamorphosis. Broodstock specimens were given four separate dietary treatments (D1–D4), all of which comprised squid and trash fish plus supplements. D2, D3 and D4 were supplemented with bloodworm, bioencapsulated bloodworm and a commercial broodstock diet, respectively. Tricalcic phosphate (Ca3(PO4)2) was used to enrich the live bloodworm. The bioencapsulated ration performed better than regular bloodworm and other diets. This was evident from the bioencapsulation results which showed the highest rate of hatching, survival of nauplii and larvae metamorphosing into zoea stage.