Energy Metabolism of the Amazon Shrimp (Macrobrachium amazonicum) for Farming Using a Commercial Diet Rich in Protein

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The Amazon Shrimp, Macrobrachium amazonicum has great potential for aquaculture and has a wide distribution in eastern South America. Its farming involves the use of commercial feeds which are unbalanced because its quality is not directly associated with the amount of protein, but the amount of each amino acids that compose them. Thus studies on understanding this shrimp energy metabolism are important to reformulation of diets that optimize the metabolic gain energy and reduce its losses. In the present study were made four tanks handling, evaluating two parameters, population density and the addition of diet rich in protein, used for penaeid. Treatments were: population density of 10 individuals per square meter, without the addition of feed (D10SR); population density of 20 individuals per m2, without feed (D20SR); population density of 10 individuals per m2, with feed (D10CR); population density of 20 individuals per m2, with feed (D20SR). At least six individuals per treatments ware selected for biochemical determination of carbohydrates, cholesterol, triglycerides and albumin. The results from these determination showed that glucose, triglycerides and protein serum concentration were different between treatments supplemented to non supplemented with ration. However the population density did not affect by ration supplementation. This demonstrates that the addition of feed on treatments promoted a metabolic gain of glucose, protein and triglycerides, even with an unbalanced commercial feed for the cultivation. There was also a gain regardless of population density, which could argue that an density increment would not affect the survival of the population. This demonstrates that analysis of energy metabolism in shrimp aquaculture can be a great contribution to optimize production.

Word Keys: Amazon Shrimp, Energy Metabolism, Proteins, Lipids, Carbohydrates

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