Composición bioquímica de la ostra perla del Atlántico Pinctada imbricata (Bivalvia: Pteriidae) en cultivo en suspensión: Influencia de factores ambientales [

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text (article)

Analítica

Abstract Atlantic pearl oyster Pinctada imbricata is a bivalve with high potential for cultivation in tropical and subtropical environments. In this study, P. imbricata energetic metabolism was analyzed throughout a culture cycle at Gulf of Cariaco, Venezuela. Juvenile individuals (shell length 27.40 " 2.70 mm) were cultured in a long line at 3 m depth between May-2012 and January-2013. Monthly data of biometric measurements, Fulton index (K) and protein, carbohydrate, and lipid content of the adductor muscle, digestive gland, and mantle were estimated, and were related with environmental variables: temperature, chlorophyll a (Ch a), total particulate matter (TPM), particulate inorganic matter (PIM), particulate organic matter (POM) and upwelling index (UI). Shell length increased steadily reaching 46.23 " 3.79 mm on the 8th month of culture, while average soft tissue weight increased associated to food availability. Biometric data and biochemical substrates from the muscle, digestive gland and mantle presented significant differences among months. Principal Component Analysis (PCA) showed positive relationships between carbohydrate content and temperature; mantle and digestive gland protein content with TPM, PIM, POM, UI; lipid and protein in muscle with K. Energy allocation was associated with environmental factors, mainly through high food availability given the seasonal upwelling pulses in the area
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