

重回帰モデルによるアサリ活力に与える 冬季の高水温化の影響解析

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Abstract

We investigated a relationship of condition factor Japanese littleneck clams (*Ruditapes philippinarum*) with water temperature and feeding environment for the clam, as evaluated by the abundance of chlorophyll a and pheo pigment, in eastern Ise Bay. The survey for those parameters was conducted from October to March for four years (1999-2002). Multiple regression analysis for the condition factor (X) of the clam in a given month with that in the previous month (c), water temperature (a) and the feeding environment (b) revealed that the condition factor can be described by an equation as: $X = -0.462 a \times 0.052 b \times 0.861 c \times 8.169$. The condition factor of the clam estimated from the equation fitted well to measured values. The analysis also indicates that water temperature has the biggest impact on the condition factor during winter; the higher water temperature is, the lower the condition factor is. This is attributed to the effect of temperature on metabolism such as respiration.