

- 田中 克 (1975) I 稚魚の消化系。1. 消化器官。稚魚の攝餌と發育。水産學シリーズ。8: 7-23。恒星社厚生閣。
- 安永義暢 (1975) I 稚魚の消化系。「付議」: 仔稚期の消化器官研究の意義。稚魚の攝餌と發育。水産學シリーズ。8: 24-29。恒星社厚生閣。

## RELATIONSHIP BETWEEN LARVAL FOOD CONSUMPTIONS AND RECRUITMENTS IN FISH POPULATION

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### ABSTRACT

Assumed that the instantaneous mortality rate is dependent on biomass and be given as:  $-\frac{1}{N} \frac{dN}{dt} = a + b \cdot B$ , and the individual growth be described as:  $\frac{1}{W} \frac{dW}{dt} = g - f \cdot B$ , here  $a, b, f$  and  $g$  are parameters, then the growth of biomass can be described by the equation:  $\frac{1}{B} \frac{dB}{dt} = \alpha - \gamma \cdot B$ , with  $\alpha = g - a$ ,  $\gamma = b + f$ . On the basis of the above assumptions and that when food consumption was limited, the relationship between recruitment and initial number was discussed. As a numerical example, putting the intrinsic growth rate 2, and the total food consumption 10 units, then the maximum recruitment 18.975 units would be expected if the parameter  $\beta$  maintained at 0.5878 during the priorstage. The relationships among total food consumption, the parameter  $\beta$  and the intrinsic growth rate was diagramed. Theoretically, the maximum recruitment can be obtained by maintaining the larval density at such level that the limited food would be consumed effectively.

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