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STOCKING RATES OF *TILAPIA* FINGERLINGS IN SOME INLAND RESERVOIRS OF SRI LANKA

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A Morphoedaphic Index (MEI) has recently been used to estimate the potential productivity of existing water bodies or new reservoirs and also to estimate the stocking rates necessary for maintenance of fish populations (Ryder 1965, Henderson and Welcomme 1974). Such indices for several Sri Lankan inland water bodies were calculated using conductivity and depth data. The relationship between the morphoedaphic index and the annual catch was then calculated and was found to be

$$\text{Catch (C)} = 23.4959\ \text{MEI}^{0.6934}$$

The stocking density of *Tilapia* fingerlings needed to obtain such catches was estimated by the formula of Welcomme (1976).

$$S = \left(\frac{qp}{\bar{W}}\right) e^{-z(t_c - t_o)}$$

It was observed that there is a very good correlation between the catch and the morphoedaphic index (the correlation coefficient = 0.94). Deeper reservoirs, such as Senanayake Samudra, have low morphoedaphic indices while shallower inland water bodies such as Colombo (Beira) lake have higher morphoedaphic indices. The higher the MEI value, higher is the potential yield and the stocking density necessary to maintain the fish population.

Although this approach will not give highly precise results, this method will be helpful to get some idea about the potential yields and the corresponding stocking rates for our inland water bodies.

References :

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