Short Paper

A New Device for Recording the Feeding Activity of Milkfish^{*1}

Knowledge on the feeding activity is basic and very important for rearing fish. The information on the feeding activity rhythm of the animal suggests the proper time to feed it. Many devices have been designed to record the feeding activities of aquatic animals¹⁻⁴. Some are mechanical devices which are difficult to maintain in good condition for a long time. None of the present devices can be applied to milkfish because of its characteristic manner of taking food. In this paper, a new electrical device for recording the feeding activity of milkfish is reported.

Strain gauges (SHINKOH SR-4, Type B-FAE-1S-12-T11) were used as sensor. Two of these, fixed on the prop of a feeding plate, detected the strain on the prop caused by the animal's feeding actions. The electrical changes from the sensor were transmitted through a bridge head and a strain amplifier (YOKOGAWA, 3126) to a pen recorder (TOA, EPR-1FA) (Fig. 1). The sensitivity of this device was varied by the gains of the amplifier and recorder.

The experiment using this electrical device was conducted in March-May, 1980, with the use of three young milkfish (locally called *SABALITO*, about 2-3kg in body weight) kept in an outdoor canvas tank in the Aquaculture Department of the Southeast Asia Fisheries Development Center (SEAFDEC) in Iloilo, Philippines. The animals were given artificial feed on a feeding plate. They learned to take food from the plate within a week. When they consumed the given food (100-300 g), more food was added such that they could feed anytime.

Fig. 1. Block diagram showing the method for recording feeding activity. BH, bridge head; FP, feeding plate; R, recorder; SA, strain amplifier; SG, strain gauge.

Fig. 2. Example of the record.

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Fig. 3. Feeding activity of young milkfish.

An example of the recording of the feeding response was shown in Fig. 2. The frequency of responses every 30 min was counted; selected frequency distribution for 24 h periods are shown in Fig. 3. Sometimes, the strain caused by the strong tail beat of the animals was recorded together with the feeding responses. But from the recording as well as estimates of the food given and taken, it was clarified that the young milkfish used here took food day and night and that more active feeding took place in daytime.

This experiment is still being continued in the Department. Further analysis of the feeding rhythm of milkfish will be reported elsewhere.

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