OBSERVATIONS ON DAILY FEEDING RHYTHM OF JUVENILE MILKFISH *Chanos chanos* IN BRACKISHWATER PONDS

Christian Lückstädt[1*], Andreas Groth, Ulfert Focken

University of Hohenheim
Institute for Animal Production in the Tropics and Subtropics
Aquaculture Systems and Animal Nutrition
Fruwirthstr. 12
70599 Stuttgart, Germany
inst480@uni-hohenheim.de

Milkfish (*Chanos chanos*) production is widely spread in the Asian-Pacific region. The importance of milkfish to the livelihood and nutrition of the Asia-Pacific population is evidenced by the enormous amounts of land, water and human resources involved in milkfish culture. In the Philippines, milkfish is the most important cultured finfish species in terms of quantity. In 2001 more than 225,000 t were produced here, over 93% of this in brackishwater ponds. Milkfish is often described as daytime feeder, and feeding schemes are often based on this assumption. Previous studies however showed doubts about that. The present study was conducted to determine the voluntary feeding rhythm of commercially cultured milkfish in brackishwater ponds.

Eight ponds (area between 1 and 9 ha, depth between 0.2 and 0.4 m) of two commercial milkfish farms on Panay Island, Philippines were monitored between March and August 1998. Water parameters like temperature and dissolved oxygen (DO) were regularly monitored. Samples of up to 3 fishes were caught with a cast net every even hour on the first day and every odd hour on the second day of sampling, so that every hour of the day was covered after 48 hours. This sampling regime minimized the disturbance to the fish in the pond. In total, 267 fishes, ranging from 54 g to 173 g mean body weight, were sampled. After collection, fish were measured and weighed. The stomach was removed, preserved in 70% ethanol, and the content analysed microscopically (qualitative) and gravimetrically (quantitative). Start and duration of the feeding period was calculated for each pond by considering changes of stomach contents.

Results are shown in Table 1. During the monitored period, milkfish started feeding as early as midnight or shortly after, and feeding period on natural food alone was extended up to 21 hours if dissolved oxygen levels in the water were above 1.5 mg l^{-1}.

TABLE 1: Feeding parameters of juvenile milkfish from two commercial milkfish farms between March and August 1998

Date	31.03.	04.06.	07.06.	30.07.
Min. DO in mg l^{-1} during night	3.0	0.1	2.1	0.4
Number of fish [n]	71	53	72	71
Mean weight [g]	92.1	173.0	54.4	156.5
Feed begin [time]	03:00	08:00	00:00	05:00
Feeding period [h]	21	14	21	14

It can be concluded, that milkfish is not a strict daytime feeder, but feeds during the whole day, if water parameters (e. g. dissolved oxygen level) are suitable.