Feeding milkfish in early morning and late afternoon is a waste, says researcher

"Milkfish can not ingest feeds before ten in the morning or beyond nine in the evening." This was the conclusion of a study Christian Luckstadt presented in a seminar held August 5 at SEAFDEC / AQD. Luckstadt is a doctoral student of Hohenheim University (Germany) who conducted part of his dissertation at AQD under the supervision of Dr. Relicardo Coloso, an AQD Scientist.

Luckstadt finished his BS in Freshwater Fishery and Ecology and MS in Ichthyology in Humboldt University in Berlin. He used to work at the Institute for Freshwater Ecology and Inland Fisheries in Berlin and the Netherlands Institute for Sea Research.

The seminar he presented was a partial result of his dissertation entitled *An estimation of the daily food intake of milkfish* (Chanos chanos *Forsskal*) in semi-intensive commercial brackishwater ponds in the *Philippines*. It is part of the collaborative project between the AQD and Hohenheim University.

Done during a week in October 1996 in a cooperator farm in Dumangas, Iloilo, the study aimed to explore semi-intensive pond techniques for the efficient production of milkfish. A pond monitoring was set up in a 1 ha pond of milkfish stocked at 4,000 per ha. Fish were fed commercial diet at 3.75% of the body weight (200 g) in three equal rations at 8 am, 12 nn and 4 pm. Gut content analysis was done after a week.

Results showed that the actual diet intake was only 0.82% of the body weight based on Maxim's data (a computer software program which quantifies food intake for a 24-hr period). Feed conversion ratio (FCR) was calculated at 1.45 for the commercial diet, meaning, 1.45 kilos of feed are needed to convert into 1 kilo of fish body weight. Analysis also showed that feed intake peaked between 11 am and 2:50

pm and additionally between 4:45-6:00 pm. No food intake was observed at the first feeding time and natural food (phytoplankton or *lablab* in the dialect) formed only a small part of the total diet intake. This result confirmed previous findings done in experimental pond showing only a part of supplemental feed was taken in directly by the fishes.

A milkfish pond in the Philippines

Based on these findings, Luckstadt recommends that farmers should optimize supplemental feeding to prevent waste of high quality feeds; apply manure regularly to the pond floor to maintain growth of natural food; and not to feed at times when dissolved oxygen levels are low because this prevents a normal feed uptake.

Luckstadt who is leaving for Germany this month says that a paper from this study will also be presented at the Asian Fisheries Forum in November in Thailand. More analyses will be done at Hohenheim University to complete the research he started at AQD.





Dr. Ishida

JICA expert visits AQD

Dr. Yusaburo Ishida, a professor of marine biotechnology and an expert on water chemistry and microbiology from Fukuyama University in Japan, visited AQD on July 17 to August 4, 1998 to assist AQD in designing its research program on environment and aquaculture.

AQD researchers are working on improving physico-chemical and biological conditions for aquaculture under the program Environment-Friendly Shrimp Culture.

Dr. Ishida also helped brainstorm the details of the (1) Workshop on Water Quality Management and (2) Practices for a Sustainable and Responsible Development of Aquaculture which AQD is organizing.