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1993

Farming tilapia in the Philippines

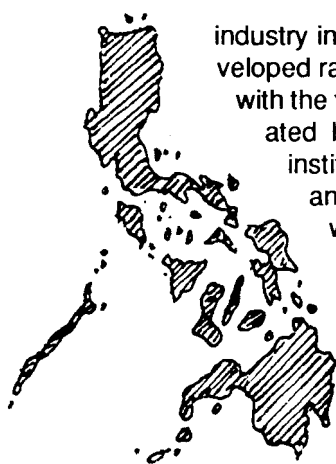
Aquaculture Department, Southeast Asian Fisheries Development Center

Southeast Asian Fisheries Development Center, Aquaculture Department (1993). Farming tilapia in the Philippines. Aqua Farm News, 11(3), 4.

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Farming tilapia in the Philippines



The tilapia farming industry in the Philippines developed rapidly in the eighties with the technologies generated by national R & D institutions for breeding and grow-out in freshwater ponds and cages. In 1990, the country produced 76 142 metric tons of farmed tilapia and became the world's largest grower of the fish.

Tilapias contributed 22% of the country's aquaculture production that year.

The Nile tilapia is grown in about 14 500 ha of freshwater ponds and 500 ha of cages in lakes and reservoirs. The Mozambique tilapia is cultured in over 200 000 ha of brackishwater ponds along with milkfish and shrimps.

Nile tilapia fingerlings are commercially produced in earthen ponds, or in concrete tanks and *hapas* (net enclosures). There are over a thousand small-scale hatchery operators in the country with hatchery areas ranging from 500 to 20 000 m². The annual production of fingerlings is estimated to be 500 million.

The sex reversal technique, which produces 95-100% all-male populations, is applied at the fry stage. Artificial sex reversal is achieved by feeding sexually undifferentiated fry (about ten days old) with a synthetic male hormone (methyltestosterone) for three weeks. Genetically female fish are converted to functional males in the process. The technique is used in hatcheries in the Philippines, Thailand, Malaysia, Israel, and Taiwan. Use of sex-reversed fingerlings for grow-out in freshwater ponds and cages increases production by more than 50% compared to mixed-sex populations.

For grow-out culture, fingerlings are stocked between 50 000 and 100 000/ha in ponds of 0.2-0.5 ha and water depth of 1-1.5 m. Or, fingerlings are stocked in cages (each 20 x 10 x 5 m) at 3 000/cage or 15/m² and given commercial or home-made feeds at 3-5% of

biomass per day in 2-4 feedings. The yields of tilapia (150-200 g each) are as high as 600 kg/cage-crop and 8 tons/ha-crop after 100-120 days. Feed conversion is usually 1.7 - 2 (dry weight feeds/wet weight fish), and survival, 80-90%.

Tilapia can also be farmed in brackish and marine waters. Mozambique tilapia has long been produced as a secondary crop to milkfish, but poor management and genetic deterioration have resulted in low yields.

Trials conducted at the University of the Philippines-Visayas showed the feasibility of growing sex-reversed tilapia in ponds with salinity up to 40 ppt. The hybrid tilapia (female Nile tilapia x male Mozambique tilapia) is more salt tolerant than the pure-bred Nile tilapia and grows faster than the male parent.

Mariculture of Mozambique and hybrid tilapias in ponds and cages is now being pilot-tested in several coastal areas of the country. Net cages (3 x 3 x 1.5m) suspended from bamboo rafts are stocked with fingerlings at 100-200/m² and fed with commercial or home-made pellets at 3-5% of biomass per day in 2-4 feedings. Fish are harvested after 3-5 months of culture when fish are 100-200 g.

The success of tilapia farming in the country may be attributed to the suitability of the fish to Philippine conditions, the locally developed technologies for production, and the presence of a vibrant market. The demand for tilapia in major markets of Metro Manila and other population centers of the country is increasing. Freshwater production of Nile tilapia in ponds and cages will further expand. Culture of salt-tolerant tilapias in brackishwater ponds and sea cages will spread.

Interest in farming tilapia is growing worldwide. Culture of the red tilapia in the United States, for instance, has become an attractive investment. In Japan, the trade of live fish used for *sashimi* includes tilapia. The potential of processing tilapia into fillets and other convenience food items has been demonstrated in Israel. This perhaps is the future for the tilapia harvest in the Philippines.

Source: RD Guerrero III. *Farming tilapia in the Philippines*. INFOFISH International 6/91.