

AN OVERVIEW OF TILAPIA AQUACULTURE IN BRAZIL

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Abstract

Nile tilapia was introduced in Brazil in 1971. However, significant commercial production has emerged only in the 1990s, as producers have assimilated sex reversal and other modern production technologies. Farm raised tilapia production in Brazil has experienced a significant growth, from 17,000 MT in 1997 to about 57,000 MT/yr in 2002. Presently, the estimated production is around 70,000 MT/yr. The state of Paraná (Southern Brazil) pioneered and still leads the tilapia industry in the country with about 13,000 MT/yr, followed by the states of São Paulo (9,300 MT/yr) and Santa Catarina (6,800 MT/yr). These three states are located in the Southern part of Brazil where sub-tropical climate is dominant and tilapia growth is held back in the winter months.

Since 2000 there has been a trend to expand the production toward the tropical Northeastern states, mainly Bahia and Ceará. Farmed tilapia production in Bahia was almost non-existent up to 1998. Currently, Bahia raises 12,000 MT of tilapia/yr and its production will continue to increase rapidly through cage culture in the reservoirs of the São Francisco River. Ceará, which has a well-established local market for tilapia, has just intensified tilapia production in the last four years, and it is now culturing 6,000 MT of tilapia/yr. With 618,000 hectares of reservoirs suitable for cage culture and the proximity to international markets, the state of Ceará is one of the most promising tilapia producers in Brazil.

Other Northeastern states are good candidates to host tilapia industries. Alagoas and Sergipe, at the lower São Francisco River basin have about 64,000 hectares of flat land suitable for pond aquaculture and tilapia is one of the most promising aquaculture species in the region. Efforts to use 10% of this land for tilapia ponds may yield more than 60,000 MT of tilapia/yr. The Northeastern states also host a well-established marine shrimp industry that can use part of its area to produce tilapia in brackish or salt water to minimize risks and diversify products and markets.

Up to 2004, fee fishing facilities have been the major market for tilapia produced in Paraná and São Paulo. In these states, live haulers pay US\$ 0.73 to 1.07/kg for tilapia at farm gate and charge the fee fishing owners in the metropolitan areas of São Paulo with US\$ 1.17 to 1.50/kg. The fee fishing demand has stabilized in the past few years. Producers are now struggling to produce fillets and other value added products at competitive prices to establish new markets for tilapia in Brazil, as well as to explore positive export markets.

Tilapia fillets are regularly sold in Brazilian grocery stores at a retail price of US\$ 4.30 to 6.00/kg. Cheaper tilapia fillets (US\$ 3.00/kg) are also available and come from semi-intensive tilapia production in fertilized ponds. Processing plants are selling fillets from US\$ 2.30 to 5.00/kg FOB and US\$ 3.00 to 5.60/kg CIF. In the Northeastern states whole tilapia predominates in the market and is sold at retail prices of US\$ 1.17 to 1.67/kg. At current conditions, tilapia production cost range from US\$ 0.53 to 0.63/kg in ponds and US\$ 0.70 to 0.87/kg in cages.

At the current production costs, exchange rate (US\$ 1.00 = BRL\$ 3.00) and sales prices, domestic and international markets have shown similar return rates to investments. However, domestic markets are presently a more sound market for Brazilian farmed tilapia. Brazil is well known as one of the largest fish markets in the world and is capable of absorbing most of its domestic tilapia production for the next few years. Brazilian tilapia will also increasingly compete in international markets with continuing increases in the industry's production scale, and constant improvement in product quality. Tilapia production in Brazil is expected to grow even faster in the short term as the government has established policies to promote cage aquaculture in large reservoirs. Brazil features approximately 5 million hectares of reservoirs. A sustainable cage culture in these reservoirs may yield an annual fish production near 700,000 MT/yr. Most of it certainly will be tilapia. Additionally, Brazil has large areas and good water supplies for pond aquaculture in many states where tilapia culture is permitted. This will allow the consolidation of a price competitive tilapia industry based on semi-intensive production in ponds using fertilizers and low-cost supplemental feed. Agriculture in Brazil has attained record crops of soybean, corn and other plants and will continue to support the animal feed industry, particularly the aquafeed industry, which is well equipped and established in many Brazilian states.