

Markets for Honduran tilapia

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The first reports of tilapia in Honduras date from the mid-1930s when broodstock of Java tilapia (*Oreochromis mossambicus*) was introduced to Honduras from El Salvador. In 1955, the Honduran government, through the Secretariat of Natural Resources, created the Jesus de Otoro Aquaculture Station for the culture of freshwater shrimp (*Macrobrachium rosenbergii*). In 1958, because of various problems, this activity was discontinued. In 1968, the station resumed activities, this time oriented to the culture of tilapia. Two additional aquaculture stations were created by the government during the 1960s and 70s. The El Carao National Fish Culture Research Station was constructed in 1979. That station was utilized to initiate a national program of fish culture through extension programs and distribution of tilapia fingerlings to local farmers. The program focused on promoting subsistence-level fish culture throughout the country. Target groups included rural farmers and community organizations.

During the 1980s and 90s, the diffusion of innovation in aquaculture was characterized by large investments at the El Carao National Fish Culture Research Station as well as support for research activities and training of Honduran technicians. Since 1983, funding for aquaculture research in Honduras has been primarily from US Agency for International Development through the Pond Dynamics/Aquaculture Collaborative Research Support Program (PD/A CRSP). That research program was directed by staff from the International Center for Aquaculture and Aquatic Environments of Auburn University, Alabama, USA in collaboration with the Secretariat for Agriculture and Animal Science of the Honduran government until 1999. Since then the Escuela Agrícola Panamericana (Zamorano University) has been the host institution coordinating all the PD/A CRSP efforts in Central America. About 3,000 participants in training events and the production of training materials as well as the launch of a website (www.acuacultura.org) to transfer information are some of the results of these efforts. It is important to mention that students from 13 Latin American countries that attend that university, received aquaculture training as part of their curriculum, promoting in this way aquaculture in Latin America.

The predominant species cultured in Honduras are Nile tilapia (*O. niloticus*) and red tilapia (*O. sp.*). Both are cultured in freshwater ponds, raceways, and in cages placed in reservoirs and natural lakes. The fish are cultured in a variety of systems from the very rudimentary subsistence level to high-tech intensive production for export. The markets for Honduran tilapia include export to the United States of America,



Red tilapia harvest.



Red tilapia on hand net.

the domestic market, and the less important but growing markets in the neighboring Central American countries.

Export Markets

The export of fresh fillets to North America became important beginning around 1996 when a large commercial farm began operations in northern Honduras. Several years later a second farm came on line. In 2007, Honduran exports of fresh fillets surpassed 7,900 t with an estimated value of US\$51.4 million and an average price of US\$6.51/Kg FOB.

In 2007, after Ecuador, Honduras was the second country in importance supplying fresh fillets to North America. By value, tilapia is the sixth most important export product from Honduras, after coffee, bananas, shrimp, gold and



Tilapia marketing.



Tilapia marketing.



Tilapia marketing rural eatery.

zinc. According to the Honduran Central Bank, the exports of tilapia grew on 30 percent from 2006 to 2007.

In general, the market for fresh tilapia filets is strong in the US. However, during the last three years, frozen fillets from China have appeared in supermarkets throughout the US. These fillets are sometimes thawed and presented as fresh product at a price considerably lower than the price for fresh fillets from Honduras. Because of the short flying time to Miami, Florida (two hours), Honduras has a comparative advantage to other major tilapia producers, such as China and Taiwan, being able to transport daily by air fresh fillets to the US.

Domestic and Regional Markets

The export of fillets has provoked an important change in the perception of tilapia among Hondurans and Central Americans, in general. Traditionally tilapia has been perceived as a fish used primarily to assist rural families suffering from extreme poverty and poor nutrition. Since the development of exports, the fish is now very much appreciated and appears in almost every fish display case in public markets and supermarkets across the country. It is also very prominent on restaurant menus. The Honduran markets present trends similar to those in the US. This has resulted in an expansion in the number of fish farms operating in-country and an increase in the retail prices for tilapia in several forms.

Generally, fish farmers are unable to satisfy the local demand for fish. Tilapia is typically processed in the round (gutted and scaled) or sold as live fish. Tilapia fillets from the commercial farms and from one local processor are also sold in supermarkets and distributed to some restaurants in Honduras.

Over the past 10 years, there has been a proliferation of restaurants offering tilapia in Honduras. These range from white tablecloth restaurants, locally operated US fast-food franchises and simple roadside eateries. Some of the roadside eateries maintain live fish in tanks to assure a fresh product for their clientele. Prices for live fish range between US\$1.73 to 2.30/Kg, for clean fish (in the round) from US\$2.30 to 2.90/Kg and for fresh or frozen fillets US\$7.00 to 9.00/kg. Prepared tilapia in restaurants are sold in Honduras at prices ranging up to US\$12.00 per plate. That value usually surpasses the price for the finest marine finfish fillets on the same menu.

Local demand for tilapia has stimulated greater production among small and medium-scale fish farmers in Honduras. The increased local demand has resulted from the publicity given to the export of fillets from Honduras and the availability of the product in the local markets and supermarkets. Several Honduran fish farmers are exporting their fish, fingerlings for stocking ponds and processed fish for consumption to neighboring countries in Central America. El Salvador and Guatemala are two growing markets for tilapia where prices are superior of those in Honduran markets. Mexico is a new market for fresh fillets from Honduran producers.

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POLYTHENE-LINED PONDS

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The total culture duration in polythene-lined farm ponds is of around 7-8 months. After that period rohu attain an average weight of around 1.0 kg while catla achieve an average weight of some 1.25-1.50 kg. Fish farming trials in horticulture-based polythene-lined farm ponds shows good possibilities for the enhancement of fish production by upgrading the technology of fish culture.

Using this integrated approach, the water fertilized by fish waste and residual feed in the farm ponds can be better utilized for growing horticulture produce, such as grapes, pomegranates, oranges and papaya. The water utilized for irrigation purposes is replaced from a nearby water source using pumps.

Conclusion

In addition to horticulture produce, one can achieve higher fish production of around 2.0 tons from a limited area of 0.2 ha in a short time span of 7-8 months using the system described in this article. Some pilot trials in the state of Maharashtra have achieved 4.54 t of fish production from 0.2 ha area, or 22 tons/ha, within seven months

of culture. This shows enormous potential for fish production from such ponds. Therefore, farm practices to raise stunted fingerlings to table size fishes in such polythene-lined farm ponds within a short period of time needs to be disseminated to rural fisher-folks.

Notes

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Potential and Future

The production of tilapia has great potential in Honduras because of environmental conditions, available land and water and good markets but also faces threats such as feed availability and its rising costs. These are threats not only for Honduras and for aquaculture, in general, but for food production around the world.

Notes

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