## Current status and trends of the Brazilian shrimp farming sector

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Brazilian shrimp farming began in the 1980s, based on production models imported from Ecuador and Panamá that were adapted so as to enable the development of an operating system with appropriate technology for sustainable shrimp production in areas adjacent to estuaries without affecting mangrove ecosystems. Studies conducted by LABOMAR-UFCE found that mangrove areas in the states of Piauí, Ceará, Rio G. do Norte, Paraíba and Pernambuco, the main shrimp producers in Brazil, increased 35% between 1978 and 2004. In this context, with appropriate technologies in place and favorable areas for the activity throughout the country, it was possible to implement a production system that was labor intensive and production semi-intensive. Shrimp farming became the most important segment of Brazilian aquaculture and provided an economically viable alternative for the creation of micro. small and medium enterprises. using areas that were previously considered as unproductive. From the rural socioeconomic perspective, this sector has stood out both in income generation and job creation, especially for local fishermen and rural workers with low professional qualifications (88%). The sector has also stood out for the generation of wealth in the municipalities where it is present and of foreign exchange for the country, placing 2nd in total primary sector exports of the Northeast region and placing 1st in total exports of the Brazilian fisheries sector in 2003. From an environmental perspective, this activity has developed in perfect harmony with maintaining the physical-chemical and biological quality of surrounding waters. Studies conducted by various authors concerning emissions of heavy metals, carbon, nitrogen, phosphorus and coliforms to the estuarine environments confirm that anthropogenic emissions (sewage, garbage, pesticides, industrial wastes, etc.) carried without any treatment into the rivers which flow into coastal bays and estuaries are the true causes of the deterioration of the water quality in these ecosystems. Shrimp farming in Brazil is an activity that is truly committed to social inclusion, to product safety, to job creation and income generation and to the environmental quality of the explored ecosystems. The heavy floods that hit the main production areas in 2004, 2008 and 2009 caused considerable economic losses to the sector, especially by favoring the incidence and dissemination of IMNV (infectious mynecrosis virus) in all producing areas. However, thanks to the adoption of appropriate management techniques involving Best Farming Practices, and especially the use of probiotics in the hatchery, nursery ponds and growout ponds phases, the sector has recovered and shows signs that in 2011 it will once again grow at levels present prior to 2004. The current challenge is to normalize the Environmental Licensing and for investment and production financing to once again be available. Although Brazilian farmed shrimp has always occupied a prominent place in the international market, suffice it to say that in 2003 it was responsible for 25% of small and medium sized shrimp imported by the United States, and that in 2004 it occupied 1st place in tropical shrimp imports by Europe. However, with the dumping action imposed by the United States and the high appreciation of the Brazilian currency, the Real, without any financial compensation, Brazilian shrimp lost competitiveness to continue to export so that exports decreased from 58,455 t in 2003 to 1.601 t in 2010. The alternative found by the sector, which was indeed a pleasant surprise, was the internal market which in 2010 absorbed 98% of production and which is now in 2011 absorbing 100% of farmed shrimp production. Total production of 75.000 tons in 2010 puts Brazil on the same level as 2004.