

## **A WEB-SYSTEM TO EVALUATE THE USE OF BEST MANAGEMENT PRACTICES ON TILAPIA CULTURE IN BRAZIL**

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The strong interaction between aquaculture and both hydric resources and biodiversity turns it potentially exposed to negative impacts. On the other hand, according to the management practices adopted by producers, this activity can also cause negative impacts to the natural environment. Thus, the producer needs information on Best Management Practices (BMPs), which considers economic, social and ecological aspects, involved with aquacultural production systems.

Computer tools allow an easiest way to access information, and if they are applied for aquaculture they could make available alternatives to motivate the faster adoption of BMPs, as well as, to follow the alignment of activities conducted on a farm level. Brazilian fish culture has been raising about 30% per year, having as main factors its profitability, excellent climate, abundance of water resources and a higher demand for animal protein. Although, tilapia culture is present on large part of Brazilian territory, it is still necessary to increase the product quality and the adoption of sustainable practices. Embrapa Environment has identified some BMPs for tilapia, which can be immediately used by fish farmers resulting by their own observations on site.

This work aims to present Aquisys - a Web-System developed in PHP, HTML and MySQL computer languages using Apache server, in order to promote a dynamic access, via Web, to evaluate how the fish farmers are applying the BMPs on their properties. Aquisys enables the dynamic access of economic, production, pond management and water quality indicators. Aquisys provides a fast-checking diagnoses by use of visual observation, which demands information about vegetation, predominant soil color, main source of water supply, fish pond depth, dike slope, fate of wastes generated by activities around the fish pond, water color in the most pluvius months, transparency, aerator uses and chemical product uses and their storage in the property. Among the tools available by Aquisys physical and chemical parameters of water quality can also be assessed based on kits of color indicators and water quality probes. Biomonitoring of water quality could be done based by photographic identification of the presence or absence of benthic organisms allowing the estimation of community diversity indexes, such as, Biological Monitoring Working Party (BMWP) and Average Score Per Taxon (ASPT). In addition to all of these, Aquisys also provides: guidelines for fertilizer application, feed management based on growth rates and temperature, calculation of zootechnical indexes based on pond management, indications of diseases occurrences based on appearance and fish behavior, and information about guidelines of environmental and aquaculture licensing, allowances for use of hydric resources and sustainable aquaculture.



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**ABSTRACTS**



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