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RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

Title: **Why Tilapia is Becoming the Most Important Food Fish on the Planet**

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Date: **May 1, 2012** Publication Number: CRSP Research Report **11-283**

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Abstract: Tilapia has become the shining star of aquaculture with farms starting and expanding across the globe while consumption races ahead of even the most ambitious farm building plans. 2010 saw farmed tilapia exceed 3.2 million metric tons per annum, surging further ahead of the salmon and catfish industries. We are also seeing an explosion of product forms in the grocery stores that is only matched by the variety of preparations we see in the restaurant trade. The global adoption of tilapia as a substitute for all kinds of wild-caught fish has driven demand higher every year, even through the global recession of recent years. The description of tilapia as an "aquatic chicken" becomes more accurate every day. It's wide acceptance across all cultural, religious, and economic groups is similar to chicken. A variety of breeds and strains have been developed and by most measures, tilapia is now the most highly domesticated of farmed fishes. Unique amongst the major farmed fishes, tilapia maintains a key role in rural aquaculture improving the welfare of the poorest farmers while at the same time, it is reared in the most high tech production systems and is sold into international markets for up-scale markets. Tilapia is still the darling of the environmental community and the industry continues to polish its "green" credentials.

Three or four closely related species of tilapias readily hybridize in captivity and produce fecund F1 progeny. This has provided a huge genetic base for the geneticists to perform basic selective breeding. The domestication of tilapias has been a great driver of productivity during the 1990's and 2000's. There is also a concerted effort to describe the tilapia genome. When these genetic maps are distributed we can expect a second wave of genetic research that should further improve productivity. All of this will have been accomplished without the need of transgenics or genetically modified organisms. The basic biology of the fish along

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with the skill of traditional breeders has provided all of the progress to this point and much more in the near future.

Tilapia continues its march towards eventually overtaking carp as the most important farmed fish crop. With a much wider distribution of production and consumption and a huge base of value added product forms, it is almost certain that tilapia production will someday eclipse that of carp. As tilapia production and consumption grows globally, it is likely to become the foundation product for all farmed fishes, just as chicken is the base for the poultry industry. So someday soon instead of referring to tilapia as the aquatic chicken we may be referring to chicken as the "terrestrial tilapia".

This abstract was excerpted from the original paper, which was published in Better Science, Better Fish, Better Life: Proceedings of the Ninth International Symposium on Tilapia in Aquaculture (2011) [Edited By: Liu Liping and Kevin Fitzsimmons] pg: 8-17

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