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RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

Title: The Value of Pig Manure as a Source of Nutrients for Semi-Intensive Culture of Nile Tilapia in Ponds (A Review)

Author(s): Christopher L. Brown¹, Tingbao Yang², Kevin Fitzsimmons³, and Remedios B. Bolivar⁴

1National Oceanic and Atmospheric Administration, Aquaculture and Enhancement Division, The Milford Laboratory, Milford, USA

2. State Key Laboratory of Biocontrol and Center for Parasitic Organisms, School of Life Sciences, Sun Yat-sen University, Guangzhou, China

3. Department of Soil, Water and Environmental Science, University of Arizona, Tucson, USA

4. College of Fisheries, Central Luzon State University, Science City of Muñoz, Nueva Ecija, Philippines

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Growing global needs for food call for substantial increases in protein production in coming years, and for diligent conservation efforts. Manures from farm animals have been viewed both as a resource and as a waste product, but they are critically important sources of nutrients for organic and integrated farming and for traditional Asian aquaculture. Given constraints on livestock production and capture fisheries, careful development of the aquaculture industry is a necessity. The production volume and market share of tilapia are advancing extremely rapidly, and so too is the proliferation of misinformation and controversy. Culture and feeding practices differ widely, but feeding is usually recognized as the single largest cost to producers. Traditional Asian integrated farming practices involve the use of manures and other farm wastes to promote algae and zooplankton production, serving as a sole or supplemental nutrient source to the food chain that supports tilapia growout. Tilapia also ingest manures. The efficient use of nutrients from manures can have multiple benefits to integrated terrestrial agriculture and aquaculture, as long as product

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safety and quality are not compromised. With efficient use, handling of manures is simplified, fish production costs are reduced, fish nutrition can be improved, and potentially polluting materials are cycled constructively on integrated farms. Consumer and press reactions to the use of farm manures in food production can be highly polarized. Published responses cover a range of extremes, from enthusiastic endorsement to volatile reactions and outright rejection; in some areas this practice is considered to be more of a “PR (Public Relations) problem” than a health hazard. The perception in online public media that tilapia coming from ponds fertilized with manure are heavily contaminated with pathogens has not been supported by evidence. The perspectives of farmers in two major tilapia production areas (China and the Philippines) are included.

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