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AQUACULTURE COLLABORATIVE RESEARCH SUPPORT PROGRAM

## RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

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**Title:** Experimental Design and Analysis in Aquaculture

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**Abstract:** Although aquaculture as a farming practice dates back thousands of years, during the last three decades several simultaneous occurrences have stimulated scientific research of shellfish and finfish cultivation. First, per capita consumption of fish, long appreciated as an excellent source of dietary protein, is increasing across the globe. Second, in countries with rapidly expanding human populations, natural waters no longer meet the growing demand for fish due to overfishing and water quality degradation from poor watershed and waste disposal management (Edwards, 1991). And systems, and pelleted feeds, have moved the production of commercial species (e.g., the tiger prawn and channel catfish) into large-scale operations.

As aquaculture research rapidly expands in all directions, new species are constantly being considered for grow-out and market potential. Egg production and fry rearing strategies are improving with experimentation. Investigations into semi-intensive and integrated farming management often relate inputs (e.g., manures, cassava leaves, and urea) to water quality, primary production, and fish yield. Identification of nutritional requirements has helped develop more efficient formulated feeds for intensive fish culture systems. Progress has been made. But as the irony of science would have it, from each question answered springs forth more questions posed.

This abstract is excerpted from the book chapter, which was published in H.S. Egna and C.E. Boyd (Editors), Dynamics of Pond Aquaculture. CRC Press, Boca Raton, FL, pp. 325-375

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