NOTICE OF PUBLICATION

RESEARCH REPORTS
TITLE XII POND DYNAMICS/AQUACULTURE COLLABORATIVE RESEARCH SUPPORT PROGRAM

Title: Integrated lake farming for fish and environmental management in large shallow Chinese lakes: a review

Author(s): W.Y.B. Chang, Center for Great Lakes and Aquatic Sciences, University of Michigan, Ann Arbor, Michigan 48109, USA

Date: 18 January 1990 **Publication Number:** CRSP Research Reports 90-22

Price: The CRSP will not be distributing this publication. Copies may be obtained by writing to the authors.

Abstract: Large shallow lakes in the Pacific Drainage Basin of China are unique aquatic natural resources intensively exploited in recent years for integrated lake farming. This paper presents a general description and major components of this culture method and discusses potential concerns and effects of increased fishery production on aquatic environments.

This paper has been accepted for publication in *Aquaculture and Fisheries Management 1989, 20, 441-452.*

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RESEARCH REPORTS
TITLE XII POND DYNAMICS/AQUACULTURE COLLABORATIVE RESEARCH SUPPORT PROGRAM

Title: A Multivariate Model of Tilapia Growth, Applied to Seawater Tilapia Culture in Kuwait

Author(s): K.D. Hopkins and M.L. Hopkins, College of Agriculture, University of Hawaii at Hilo, Hilo, Hawaii, 96720, USA

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Date: 30 January 1990 **Publication Number:** CRSP Research Reports 90-23

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Abstract: Traditional analyses of aquaculture growth experiments usually consider only the yield at the end of the experiments and ignore the growth data collected during intermediate samplings. A multivariate model based on an expansion of the "Gulland and Holt Plot" used in fisheries biology provides a methodology to extract growth information from the data from intermediate samplings. This model is applied to data from three tilapia yield experiments conducted in seawater in Kuwait. The effects of temperature, sex ratio and fish length on growth rate are quantified.

This paper was published in R.S.W. Pullin, T. Bhukaswan, K. Tonguthai and J.L. Maclean (eds.) The Second International Symposium on Tilapia in Aquaculture. ICLARM Conference Proceedings 15, 623 p. Department of Fisheries, Bangkok, Thailand, and International Center for Living Aquatic Resources Management, Manila, Philippines.

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NOTICE OF PUBLICATION

RESEARCH REPORTS
TITLE XII POND DYNAMICS/AQUACULTURE COLLABORATIVE RESEARCH SUPPORT PROGRAM

Title: Reporting Fishpond Yields to Farmers

Author(s): Kevin D. Hopkins, College of Agriculture, University of Hawaii at Hilo, Hilo, Hawaii 96720, USA

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Abstract: (Excerpt from article)

The frustrations encountered when trying to compare technical reports in which fishpond yield figures are reported in a variety of units (e.g., kg/ha, kg/pond, lb/acre, etc.) are familiar to most aquaculturists. These frustrations become worse when, after digging through a desk drawer for a calculator to convert the yields to a standard unit of measure, the calculator's batteries are invariably dead. Because of this, strong efforts have been made to encourage researchers to use only kg/ha when reporting results. I agree with this standardization if other researchers are the audience. However, severe problems may develop when trying to communicate research results to other audiences if data are transformed to a hectare basis.

Through the marvelous power of hindsight, I will describe a lost opportunity for making a significant impact on the adoption rate of integrated aquaculture-agriculture farming technology. In the late 1970s and early 1980s, the ICLARM/Central Luzon State University Integrated Animal-Fish Farming Project at Munoz, Neuva Ecija, Phillipines, quantified several relationships between manure input and fish yields (Hopkins et al., 1981 and Hopkins and Cruz, 1982). We reported the yields using kg/ha and manure input using tonnes/ha. We also conducted a preliminary economic analysis which indicated that under conditions of limited supplies of manure as normally encountered on small farms, 67 pigs/ha would maximize profit for ponds with a pumped water system while 53 pigs/ha would maximize profit for ponds with gravity-fed water systems.

This paper has been accepted for publication in *Aquabyte*.

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