

NOTICE OF PUBLICATION



Title: Effect of fertilization frequency on the production of Nile tilapia (*Oreochromis niloticus*)

Author(s): Christopher F. Knud-Hansen
Department of Fisheries and Wildlife
Michigan State University
East Lansing, Michigan 48824, USA

and Asian Institute of Technology
Agricultural and Food Engineering Program
G.P.O. Box 2754
Bangkok 10501, Thailand

Ted R. Batterson
Department of Fisheries and Wildlife
Michigan State University
East Lansing, Michigan 48824, USA

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Abstract: An experiment was conducted to determine the most efficient frequency of urea and triple superphosphate (TSP) fertilization of earthen ponds stocked with Nile tilapia (*Oreochromis niloticus*). There were five treatments consisting of the following fertilization frequencies: daily, twice per week, weekly, twice every 3 weeks, or once every 2 weeks. All ponds received the same total fertilization inputs for the entire growout period. Net fish yield (NFY) was not correlated to fertilization frequency, but strongly linearly related to net primary productivity (NP) ($r^2=0.90$, $P<0.001$). NP was related to low inorganic carbon availability and/or inversely related to light availability. The latter was reduced by inorganic suspended solids. Urea and TSP input rates resulted in soluble nitrogen (N) and phosphorus (P) accumulation in all ponds, with greater accumulations in more turbid ponds. As NP was not limited by either N or P, varying the frequency of urea or TSP inputs had no effect on either NP or NFY. The frequency of urea and TSP fertilization may become a management concern only when the availability of either N or P limits phytoplankton productivity.

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