

NOTICE OF PUBLICATION



RESEARCH REPORTS

TITLE XII POND DYNAMICS/AQUACULTURE COLLABORATIVE RESEARCH SUPPORT PROGRAM

Title: Seepage reduction in tropical fish ponds using chicken litter

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Date: 1 December 1994

Publication Number: CRSP Research Report 94-78

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

Abstract: The effect on seepage of adding chicken litter at the rate of 125, 250, 500 and 1000 kg ha⁻¹ wk⁻¹ total solids (TS) for 5 months to earthen fish ponds in Panama was measured. Each treatment was replicated 3 times. Application of litter at all rates reduced seepage. Before litter application, mean seepage for all ponds ranged from 27 to 37 mm day⁻¹; after application, mean seepage ranged from 8 to 17 mm day⁻¹. This represented a seepage reduction of 54-76%. Linear regression of mean seepage reduction on rate of chicken litter was significantly positive ($P < 0.01$). Reduction of seepage was most rapid for ponds receiving the highest rate of chicken litter. Near maximum reduction occurred during the first month within the three highest application rates. The lowest rate resulted in a linear reduction of seepage with time. A limit was reached at all application rates where additional litter application did not result in greater seepage reduction. Litter applications of at least 250 kg ha⁻¹ wk⁻¹ TS for a month are recommended for rapid seepage reduction in ponds. Draining and drying the ponds following 5 months of litter application did not appreciably increase seepage.

This abstract was excerpted from the original paper, which was published in *Aquacultural Engineering* 8:147-154, 1989.

CRSP RESEARCH REPORTS are published as occasional papers by the Program Management Office, Pond Dynamics/Aquaculture Collaborative Research Support Program, Office of International Research and Development, Oregon State University, Snell Hall 400, Corvallis, Oregon 97331-1641 USA. The Pond Dynamics/Aquaculture CRSP is supported by the U.S. Agency for International Development under CRSP Grant No.: DAN-4023-G-00-0031-00.