NOTICE OF PUBLICATION

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

Title: Texture and chemical composition of soils from shrimp ponds near Choluteca, Honduras

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Date: 25 November 1996 **Publication Number:** CRSP Research Report 96-98

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

Abstract: Analyses of bottom soils from three recently-established (newer) and three older ponds on each of two, semi-intensive shrimp farms near Choluteca, Honduras, revealed that the 0 to 2.5 cm layer had greater concentrations of most variables than deeper layers. Concentrations of total carbon, nitrogen, sulphur, phosphorus, calcium, iron, manganese, and zinc were greater in older than in newer ponds on one or the other of the farms. After 8-11 y of continuous production, total carbon concentrations varied over pond bottoms, and concentrations usually were greater (1.5-2.5%) in inlet sections. Nitrogen concentrations were about 20% those of carbon, and changes in nitrogen concentration closely followed those of carbon. Precipitation of iron pyrite (FeS_2) in anaerobic soil layers was the apparent cause of sulphur accumulation in older ponds. Phosphorus accumulated in older ponds on the farm where heavy doses of fertilizer were applied. Soils of both older and newer ponds on both farms had large accumulations of major cations, a large portion of which were water-soluble salts. There was no evidence of development of adverse soil quality in older ponds.

This abstract was excerpted from the original paper, which was published in Aquaculture International, 4(1996):157-168.

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.: LAG-4023-G-00-6015-00.