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RESEARCH REPORTS

Sustainable Aquaculture for a Secure future

Title: Comparison of two sampler designs for use with automated data acquisition systems in whole-pond community metabolism studies

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Abstract: Automated data-logging equipment permits frequent in-situ measurements of water quality variables in aquaculture ponds. A simple system to sample 4 contiguous 0.1 ha earthen ponds is described, and consists of an automated data-logger and memory storage module, a polarographic dissolved oxygen meter, a pH meter, temperature sensors, a quantum solar sensor, an anemometer, DC-voltage relays, 12 V-DC pumps, and a power source. Two sampling devices were designed for obtaining water samples for analysis. The first design allows samples to be collected at discrete depths throughout the water column. A composite water column sample is obtained using the second design. Both samplers are easily constructed from readily available stocks of iron accessories or PVC fittings. Diurnal dissolved oxygen (DO), pH and temperature data collected using each type of sampler were compared. Mean DO, pH and temperature, as determined by averaging data from 3 different depths in the water column, was not significantly different from means as determined by the composite water column sampler.

This abstract is excerpted from the original paper, which was in Green, B.W. and D.R. Teichert-Coddington, 1990. Proceedings of FAO-EIFAC Symposium on Production Enhancement in Still-Water Pond Culture at Prague: Research Institute of Fish Culture and Hydrobiology, Vodnany, Czechoslovakia.

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