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Title: Water budgets for fish ponds in the dry tropics

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Abstract: Water budgets were calculated for embankment fish ponds located in the dry tropics. Two 5-month studies were conducted at Comayagua, Honduras. Daily pond evaporation averaged 0.55 ± 0.22 and 0.64 ± 0.17 cm during studies 1 and 2, respectively. Pond evaporation was 14.5% greater during study 2. Significantly greater pond evaporation was measured during the 3 driest months compared to the 3 rainiest months. Mean daily seepage ranged from 0.11 to 0.43 cm and from 0.06 to 0.60 cm during studies 1 and 2, respectively. Total rainfall during study 1 exceeded that during study 2 by 43%. Regulated inflow water was required every month to replace water losses to pond evaporation and seepage. Pond evaporation accounted for 70% of total water loss during both studies, while seepage accounted for the remaining water loss. Rain accounted for 45.5 and 21.8% of gains during studies 1 and 2, respectively. Regulated inflow water accounted for 52.8 and 77.9% of the respective gains.

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