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RESEARCH REPORTS

SUSTAINABLE AQUACULTURE FOR A SECURE FUTURE

Title: Efecto del recambio de agua en la producción semi-intensiva de *Penaeus vannamei* (Effect of water exchange on semi-intensive production of *Penaeus vannamei*)

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Abstract: Daily water exchange at 10% of pond volume is common practice in semi-intensive shrimp culture in Central America. Rationales for water exchange are to improve dissolved oxygen concentrations in the pond and to remove nutrients before they reach toxic levels. However, the benefit of water exchange in semi-intensive shrimp culture has been poorly demonstrated. Two experiments were conducted on a commercial shrimp farm in Honduras to determine the effects of daily water exchange and emergency water exchange on shrimp production. Ten 0.93-ha ponds stocked with hatchery-spawned post-larval (PL) *Penaeus vannamei* at 150,000 PL ha⁻¹ were used for this completely randomized design study to test two water exchange regimes: daily water exchange at 10% pond volume, six days per week; and water exchanged at up to 25% pond volume when early morning dissolved oxygen concentrations were ≤ 2.0 mg l⁻¹. The above experiments were conducted in both the rainy and dry seasons. Gross shrimp yields, shrimp survival, and individual growth and weight showed no difference between water exchange regimes for both seasons considered.

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