

Effect of pH on The Growth and Survival of Sandfish Sea Cucumber (*Holothuria scabra*) Larvae in The Hatchery Phase

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ABSTRACT

The US Affiliated Pacific Islands of the Federated States of Micronesia and the Republic of Palau have several commercially important species of sea cucumbers in their waters, including the Sandfish Sea cucumber, *Holothuria scabra*, which have been widely exploited and are in danger of extinction. The College of Micronesia Land Grant Program has undertaken the development of hatchery-based Sandfish Sea Cucumber farming technology for local community-based economic development, future commercialization, and aiming at restocking the depleted stocks in the wild. The hatchery production of juveniles is challenging and mutable at times. Risks of global warming and sea water condition acidification are real threats to consistent hatchery production of juveniles. In this regard, an experiment was conducted to find out the effect of different pH on the growth and survival of Sandfish Sea cucumber larvae in the hatchery. The larvae were stocked in 5-gallon buckets in duplicates and exposed to pH treatments of 6, 7, 8 and 9. These were compared with controls of regular seawater pH. Each treatment bucket was individually drained out every other day, stage of larvae noted (growth), and total numbers recorded (survival). After 15 days, we have found which pH treatments are best for Sandfish Sea cucumber survival and growth. This research will improve the development of hatchery-based Sandfish Sea Cucumber farming technology for streamlining, commercialization, and the drained reserves in the wild.

KEY WORDS: *Holothuria scabra*, water pH, sandfish sea cucumber larvae, hatchery, growth, survival

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