Impacts of Different Feeds on the Commercial Viability of Propagated Bubble Tip Anemone (*Entacmaea quadricolor)* for the Marine Export Industry

H.M. Ediri Arachchige[1]*, S. Goonewardena[2]
[1]*Department of Aquaculture and Seafood Technology, Faculty of Fisheries and Ocean Science, Ocean University of Sri Lanka, Sri Lanka.*
[2]*Golden Scalare Business Enterprise, Dehiwala, Sri Lanka.*
*hansikaediriarachchige@gmail.com

The present study aimed to evaluate the effect of different feed types on the commercial viability of propagated Bubble Tip Anemones (*Entacmaea quadricolo*r) under controlled aquarium conditions for the marine ornamental export industry. The experiment was conducted for thirty days with three feeding treatments: reef roids, shrimp flesh, and fish flesh, each in triplicate. The parameters assessed included survival and mortality, growth performance (wet weight gain, circular mouth diameter, and tentacle length), propagation potential (time to first-generation fragmentation and success of asexual propagation), feed conversion efficiency, economic metrics, and water quality. Results indicated that all treatments maintained stable water parameters within optimal ranges (temperature 26 °C, salinity 35 ppt, pH 8.1-8.4, dKH 8-12). The highest growth performance was observed in anemones fed shrimp flesh, with a significant increase in circular mouth diameter (1.417 ± 0.75 to 2.360 ± 0.856 mm) and wet weight (1.97 ± 0.626 to 2.92 ± 0.296 g). Shrimp-fed anemones also showed superior tentacle elongation (1.033 ± 0.61 to 1.460 ± 0.66mm) compared to fish flesh and reef roid treatments. Economic evaluation suggested shrimp feed offered the best balance between cost and growth yield, achieving marketable size (1-inch diameter) within 3 weeks. The study concludes that shrimp flesh demonstrated the highest potential for commercial propagation of Bubble Tip Anemone, supporting sustainable production for the ornamental marine export sector.

Keywords: *Bubble Tip Anemone, Feed efficiency, Growth performance, Propagation, Survival, Commercial viability*