

5th International Conference on

OCEANOGRAPHY AND MARINE BIOLOGY

October 18-20, 2017 Seoul, South Korea

Fish acclimatization through chemical approach at industrial scale

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Fish mortality at destination is one of the most prominent problems faced by fish importers. The most updated acclimatization method used is drip-line. However, the method is harmful for dying fishes. This research introduces a new acclimatization method, using low pH and carbonate hardness regulation, allowing an immediate and safe fish transfer from polluted water to fresh and clean water. The objective of this research was to increase the fish survival rate through low pH acclimatization and carbonate hardness regulation at industrial scale. This research was conducted with a factorial design. The low pH method was conducted by preparing new and clean water with low pH, combined with two level of carbonate hardness. Six species representing marine ornamental fish types were tested. There was not any significant difference ($p>0.05$) on the survival rate among the species. The difference was rather correlated to the acclimatization method and the carbonate hardness degree. The highest survival rate held by the low pH method (almost 100%) and significantly higher ($p=0.000$) than drip-line method (78.91%) and conventional method (44.07%). In terms of carbonate hardness, high carbonate hardness gave significantly ($p=0.000$) higher survival rate than the normal carbonate hardness.

Biography

Rory Anthony Hutagalung has his expertise in fisheries and marine science. He has graduated from the Faculty of Fisheries and Marine Science, Bogor Agricultural University. He has obtained Master's degree in Aquatic Science from Université Paul Sabatier and a Doctoral degree from ENSA Toulouse, France. He is currently a Lecturer at the Faculty of Biotechnology, Atma Jaya Catholic University of Indonesia. He is an active Researcher who has published many works in fisheries and marine science.

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