



## The sub lethal concentration (LC<sub>50</sub>) of *Aeromonas hydrophila* for hybrid lemon fin barb postlarvae

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### Abstract

Hybrid lemon fin barb (HLFB) is a new potential aquaculture species introduced into the Malaysia aquaculture industry. The hybrid was developed by crossing silver barb (*Barbonymus gonionotus*) ♀ and lemon fin barb (*Hypsibarbus wetmorei*) ♂. As a relatively new “species”, information of its disease resistance and immune development is very limited. *Aeromonas hydrophila* is a common bacterium in freshwater aquaculture habitats that causes mortality and lowers fish growth. In freshwater aquaculture, disease outbreaks and lowered growth due to the weak immune system of fish are common. In a weak immune system, parasites, viruses or pathogenic bacteria like *Aeromonas spp.*, *Vibrio spp.*, and *Edwardsiella spp.* can attack easily a fish. Presently, disease challenge tests using *Aeromonas sp.* are commonly used to examine optimum supplement levels of micronutrients and other immunomodulatory additives. The lethal concentration of *A. hydrophila* for 50% mortality of HLFB (LC<sub>50</sub>) was examined for 14 days. A total of 375 HLFB 24 days after hatching postlarvae with an average weight of 1.8±0.24 mg were stocked in fifteen 2L tanks. HLFB postlarvae were exposed to varying concentrations of *A. hydrophila* i.e. 2.5x10<sup>5</sup>, 2.5x10<sup>6</sup>, 2.5x10<sup>7</sup>, 2.5 x10<sup>8</sup> and 1x10<sup>9</sup> CFUml<sup>-1</sup>. Each bacterial concentration was randomly assigned to triplicate groups. During the trial period, postlarvae were fed with a postlarval diet containing 54% crude protein and 13.5 % lipid. Feeding was done 3 times per day at a daily feeding rate of 25% body mass. The mortality of each tank was recorded daily for 14 days. The study revealed that the LC<sub>50</sub> value of *A. hydrophila* for hybrid lemon fin barb by the immersed method was 6.06 x 10<sup>8</sup> CFUml<sup>-1</sup>.

**Keywords:** *Aeromonas hydrophila*, hybrid lemon fin barb, LC<sub>50</sub>, postlarvae