

### Abstract

Development of Nieuhoffi's catfish (*Clarias nieuhofii*) for exporting as ornamental fish can be archived by development of hatchery breeding techniques and the development of feed formula to yield the quantity and high of quality fish as well. High growth performance and survival are necessary in development of hatchery breeding techniques; results from the studies showed that using of disinfectant substances *i.e.* potassium permanganate, hydrogenperoxide, formaldehyde, sodium chloride and povidiodine did not affect on the hatching rate of Nieuhoffi's catfish. However, tannin concentration resulted in reduction of survival and growth performance. The optimum water quality for hatching and cultivation of Nieuhoffi's catfish larvae were pH 5-7 with lower than 0.1 ppt of salinity, 20-50 ppm alkalinity and with lower than 0.1 ppm of ammonia, hatching of Nieuhoffi's catfish larvae should be held under natural intensity and natural photo period with the temperature of 25-27<sup>0</sup> C. Enhancing of body color, especially yellowish and reddish of fish body are necessary in the development of feed formula for Nieuhoffi's catfish. Results from the studies demonstrated that the supplementation of 100 ppm total carotenoids from Spirulina (10.75% Spirulina in diet) resulted in the enchancement of fish body color. Furthermore, substitution of dietary fish meal was obtained by soybean meal replacement at 45 % of total dietary protein. Supplementation of 50-300 ppm vitamin C resulted in normal growth performance, whereas, the catfish fed test diet without vitamin C supplementation showed lower growth performance and histological changes in respiratory epithelium.

### คำสำคัญ (Key words)

ปลาคูกลำพัน (*Clarias nieuhofii*) ปลาสวยงาม (Ornamental Fish) การเพาะขยายพันธุ์ (Fish propagation) คุณภาพน้ำ (Water quality) อาหารสัตว์น้ำ (Fish nutrition) โรคสัตว์น้ำ (Fish diseases)