

Chatchai Thaitoungchin 2009: Role of Vitamin C and E on Reproduction of Nile Tilapia (*Oreochromis niloticus* Linnaeus). Master of Science (Aquaculture), Major Field: Aquaculture, Department of Aquaculture. Thesis Advisor: Associate Professor Nontawith Areechon, Ph.D. 133 pages.

Broodstock nutrition is an exciting field that should have been investigated more extensively for the production of good quality fish and shrimp larva for the current expanding aquaculture business. Many dietary supplements have been introduced in the finfish broodstock feed to improve their reproductive performances. These included lipid, fatty acid, carotenoids and antioxidant vitamins. This research reported the study on role of vitamin C and E on reproduction of Nile Tilapia (*Oreochromis niloticus* Linnaeus). Vitamin C (Sodium, calcium ascorbyl-2-phosphate) and vitamin E (*dl- α* -tocopheryl acetate) were added in the tilapia diet as follows: control, vitamin C (458.21 mg/kg feed), vitamin E (630.64 mg/kg) and vitamin C and E (423.95+634.54 mg/kg respectively). Male and female tilapia were raised separately in the cages for two months with their experimental diets before pairing. Eggs were collected at every 5 days to compare the reproductive performances for 45 days. Supplement of vitamin E in tilapia diet improved some reproductive performances including number of spawners, number of eggs, hatching rate and survival of fry; however these differences were not significant when compared with the control ($P > 0.05$). Deposition of vitamins was clearly detected in liver and gonads especially in the ovary throughout the experimental period. Result from this study indicated the benefit of vitamin C and E on tilapia broodstock. However, further study is needed to demonstrate at what circumstances that vitamin C and E can be applied to improve the reproductive performances.

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Thesis Advisor's signature

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