

Chonlathee Thongprayoon 2007: Effect of Dietary Phytase on Feed Utilization of Sex-reversed Tilapia. Master of Science (Aquaculture), Major Field: Aquaculture, Department of Aquaculture. Thesis Advisor: Associate Professor Nontawith Areechon, Ph.D. 62 pages.

The effects of dietary phytase on feed utilization of high soybean meal diets were studied in sex-reversed tilapia. Three formulated feeds were given to the fish which supplemented with phytase at 0, 750 and 1,000 units/kg diet. A total of 360 sex-reversed tilapia with initial average body weight 96.7 grams were stocked into 12 cages holding representing four replicates per treatment. All cages were placed in 800 m<sup>2</sup> pond. Blood composition including hemoglobin and hematocrit was examined. Mineral utilization including phosphorus, calcium, iron and zinc in serum was also determined in a 60 days growth trial. A second trial was conducted to evaluate the effect of dietary phytase on discharged phosphorus in the water. A total of 120 sex-reversed tilapia with initial average body weight 29.92 grams were stocked into 12 glass tanks. Water quality was examined in a 30 day growth trial. The data shown that phytase supplemented at 750 units/kg diet in 96.7 grams sex-reversed tilapia was sufficient for feed utilization and growth performance and phytase supplemented at 1,000 units/kg diet significantly increased ( $p < 0.05$ ) the average weight gain of 29.92 grams sex-reversed tilapia. There was not significantly different in hemoglobin and hematocrit during experimental period. The increase of mineral in blood serum of sex-reversed tilapia that given three formulated feeds was not significantly different. However, there was significantly increase in iron in blood serum of sex-reversed tilapia which supplemented with phytase at 1,000 units/kg diet for 30 days. The BOD could be reduced 0.64 mg/l by phytase supplemented at 1,000 units/kg diet for four weeks.

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