

Suthajaree Yenmak 2006: Effect of Completed Feed for Snakehead Fish (*Channa striata*) on Fish Pond Effluent and Wastewater Treatment System. Master of Science (Aquaculture),  
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Effect of completed feed for snakehead fish on fish pond effluent and wastewater treatment system was conducted in three parts. The first experiment was study on nutrient leaching from trash fish diet and completed feed. The result showed that nutrient leaching from feed increasing by the period of immersion ( $p \leq 0.05$ ). Percentage of dry matter, protein, lipid and phosphorus leaching in trash fish diet were higher than completed feed ( $p \leq 0.05$ ). Waste load in fish pond increased by the immersion period ( $p \leq 0.05$ ). Trash fish waste was higher than completed feed ( $p \leq 0.05$ ). For the second experiment, effect of trash fish diet and completed feed on snakehead fish growth performance and water quality were investigated. The results indicated that snakehead fish fed completed feed showed better growth performance and healthy than group of fish fed trash fish diet ( $p \leq 0.05$ ). Snakehead fish fed completed feed had ADG 0.29 g/fish/day and group of fish fed trash fish diet had ADG 0.11 g/fish/day. The concentration of TDS, Turbidity, TKN, TON, TN, Orthophosphate, Total phosphorus, BOD and COD in effluent from completed feed effluent were higher than trash fish diet pond ( $p \leq 0.05$ ). The third experiment was studied on efficiency of Nile tilapia and striped catfish for treated effluent from snakehead fish pond. Four biological wastewater treatment systems; oxidation pond, surface aeration pond, Nile tilapia culture (stocking density 800 kg./rai) and striped catfish culture (stocking density 1,200 kg./rai) were designed with HRT 2 days. The study showed that oxidation pond and surface aeration pond had efficiency to reduce TDS and also surface aeration pond had efficiency to reduce  $\text{NH}_3$  ( $p \leq 0.05$ ). Nile tilapia culture presented the high efficiency to reduce  $\text{NO}_3^{2-}$  ( $p \leq 0.05$ ). Stripped catfish culture demonstrated efficiency to eliminate TKN TON and TN ( $p \leq 0.05$ ). Oxidation pond presented the high efficiency to decrease total phosphorus ( $p \leq 0.05$ ). Effluent from snakehead fish pond fed with trash fish diet and completed feed had efficiency to increase weight gain of Nile tilapia better than effluent from group of completed feed ( $p \leq 0.05$ ).

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