TWO TECHNICALS AERATION ON
INTENSIVE *Penaeus monodon* Fabricius CULTURE

Chairat Phumchuai¹, Supot Chungyampin¹, Ravat Yutsurank² and Utai Rattanaubol¹

¹Pak Panang Basin Royal Fisheries Development Center
34/4 M. 5, Hulong, Pakpanang, Nakhon Si Thammarat, Thailand. 80140

²Samutsongkram Provincial Fisheries Office
Ekkachai Road, Maung District, Samutsongkram, Thailand. 75000

ABSTRACT

Study on *Penaeus monodon* Fabricius culture without antibiotic and non chemical by used re-suspension of sediment from preparing, during culturing and after harvest to reduce environment impact. The culture water were recycled from culture pond (1,000 m²) to the biological treatment pond (860 m²). These studies compared the methods of aeration between paddle wheels and air blower at the bottom. Stocking density of PL was 50 individuals/m². During the culturing period for 4 month. The study showed that salinity, temperature, pH, alkalinity, total phosphorus and BOD were within the standard range of quality for aquaculture. Total ammonia, nitrite and nitrate in air blower pond were higher than standard range after 90-100 days, 100-120 days and 90-120 days respectively. Dissolve oxygen in both methods were lower than standard range on 90-100 days but air blower pond take a longer time than paddle wheels 5-7 days. The soil quality were not over than standard range. However on 84-120 days nitrate in air blower pond was higher and nitrate was higher on 84, 98 and 112 days. In another way total ammonia in paddle wheels pond was higher after 90 day. Growth rate of paddle wheels and air blower was 0.10 and 0.11 g/day, survival rate was 55.61 and 38.40 %, the production was 620.6 and 450.0 kg/rai, FCR was 1.81 and 1.72 and production costs was 142.02 and 178.84 baht/kg, respectively. After harvest found that a little sediment and organic wastes on the pond bottom of both method and all of them not black and odorless.

Key words: Black Tiger Shrimp, Water Quality, Soil Quality, Biological