A STUDY ON THE GROWTH AND SURVIVAL OF RED TILAPIA BRI (*Oreochromis* s/p.) FED WITH PELLETED BOILED AND RAW CHICKEN VISCERA IN TANKS

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ABSTRACT

A attempt was done in order to effects of different form of diet including commercial pellet (D1), pelleted boiled chicken viscera (D2) and pelleted raw chicken viscera (D3) on the growth rate of Red tilapia fry (2.4 cm size) as the experimental species. The study was conducted for 60 days and the fish growth rate was measured to determine any significant difference. Proximate analysis (protein, lipid, ash and moisture) of the diet and *Tilapia* body composition was applied through the experiment. Important water quality and survival rate (%) were measured during culture period. The overall economic analysis and cost recovery of *Tilapia* production (1 kg) was estimated.

The obtained results on weight and length increment showed the significant difference ($P<0.05$) of both parameters on day 60. Diet 1 was significantly difference with Diet 3 while no significant difference ($P>0.05$) was found between Diet 1 and Diet 2. Specific growth rate (SGR) showed a significant difference between Diet 1 or Diet 2 with Diet 3. Diet 1 and Diet 2 didn't present any significant difference on estimated SGR. The daily growth rate in all treatments ranged from 1.79% -2.05% for Diet 1, 1.25% -1.60% for Diet 2 and 0.5% -1.11% for Diet 3.

The best feed convertion ratio (FCR) was recorded in treatment fed with Diet 1 followed by Diet 2 and Diet 3. The FCR for Diet 3 was above 2.00. The highest protein composition was found in Diet 1 (30.56%) followed by Diet 2 (19.6%) and 17.13% in Diet 3. Protein composition in fish body fed by Diet 1, Diet 2 and Diet 3

were 29%, 15.62% and 15.72% respectively. Survival rate (%) didn't show any significant difference between the three diet through the study. Water quality parameter ranged from 27.1 -27.4 ºC for temperature, 4.87 -5.68 DO (mg/L), 7.3 -7.9 pH and 0.02 -0.08 ammonia concentration (mg/L). The estimated cost to produce 1kg Red Tilapia was RM2.26 for Diet 1, RM0.39 for Diet 2 and RM0.54 for Diet 3. The economic study clearly present the effectiveness of Diet 2 and Diet 3 (pelleted boiled chicken viscera and pelleted raw chicken viscera) in reducing cost of *Tilapia* production especially in intensive culture system.

ABSTRAK

Kajian ini dijalankan untuk melihat kesan makanan keatas tumbesaran fri ikan *Tilapia* menggunakan diet berbeza iaitu; pelet komersial (D1), pelet perut ayam dimasak (D2) dan pelet perut ayam tidak dimasak. Fri ikan *Tilapia* bersaiz julat 2.4 cm merupakan spesies kajian. Kajian dijalankan selama 60 hari dan tumbesaran ikan diukur bagi melihat sebarang perbezaan bererti yang wujud. Selain itu analisa proksimat (Protein, lipid, abu dan lembapan) kandungan makanan dan badan ikan dilakukan. Kualiti air dan kadar hidup juga diambil sepanjang pengkulturan. Kos menghasilkan 1kg *Tilapia* ditentukan.

Keputusan tumbesaran dari segi pertambahan berat badan dan panjang menunjukkan terdapat perbezaan bererti ($P<0.05$) pada hari ke 60. Diet 1 menunjukkan perbezaan bererti dengan Diet 3 manakala tiada perbezaan bererti ($P>0..05$) antara Diet 1 dan Diet 2. Purata tumbesaran spesifik (SGR) juga menunjukkan perbezaan bereti ($P<0.05$) di antara Diet 1 atau Diet 2 dengan Diet 3. Didapati peratus tumbesaran sehari adalah antara julat 1.79% -2.05%, bagi Diet 1, 1.25% -1.60% bagi Diet 2 dan 0.5% -1.11% bagi Diet 3.

Kadar pertukaran makanan (FCR) terbaik pada Diet 1 diikuti Diet 2 dan Diet 3. Diet 3 menunjukkan bacaan FCR melebihi 2.00. Kandungan protein tertinggi adalah pada Diet 1 iaitu 30.56% diikuti 19.6% Diet 2 dan 17.13% Diet 3. Kandungan protein badan ikan diberi Diet 1 Diet 2 dan Diet 3 adalah 1.29%, 15.62% dan 15.72% masing-masing. Kadar hidup menunjukkan tiada perbezaan bererti ($P>0.05$) antara

ketiga-tiga rawatan. Parameter kualiti air pula berada pada julat 27.1°C -27.4°C untuk suhu, 4.87 -5.68 DO (mg/L), 7.3 -7.9 pH dan 0.02 -0.08 ammonia (mg/L). Kos untuk menghasilkan 1kg Tilapia merah adalah RM2.26 untuk Diet 1, RM0.39 untuk Diet 2 dan RM0.54 untuk Diet 3. Analisa ekonomi ini jelas menunjukkan keberkesanan Diet 2 dan Diet 3 (pelet perut ayam dimasak dan pelet perut ayam tidak dimasak) dalam mengurangkan kos pengeluaran *Tilapia* terutama dalam sistem pengkulturan intensif.