Intisari

Penelitian ini bertujuan untuk mengetahui pengaruh substitusi tepung ikan dengan cacing tanah fermentasi dalam formulasi pakan pada efisiensi pakan dan pertumbuhan ikan lele (*Clarias* sp.). Penelitian ini menggunakan rancangan acak lengkap (RAL) dengan 5 perlakuan dan 3 ulangan. Perlakuan tersebut adalah P1-kontrol tanpa cacing tanah terfermentasi, P2-2,5%, P3-5%, P4-7,5% dan P5-10%. Lele dumbo (*Clarias* sp.) berukuran 8-10 cm dengan padat tebar 50 ekor/bak dipelihara selama 84 hari. Pakan diberikan 2 kali sehari dengan dosis 5% dari berat tubuh. Parameter yang diamati terdiri dari tingkat kelangsungan hidup (SR), laju pertumbuhan spesifik (SGR), rasio konversi pakan (FCR), efisiensi pakan (FE) dan rasio efisiensi protein (PER). Hasil penelitian mengungkapkan bahwa cacing tanah terfermentasi meningkatkan pertumbuhan tetapi tidak mempengaruhi tingkat kelangsungan hidup (SR). Cacing tanah terfermentasi meningkatkan pertumbuhan berat spesifik ($p < 0,05$), dengan tingkat pertumbuhan tertinggi pada tingkat substitusi 2,5% cacing tanah fermentasi. Walaupun FCR tidak berbeda nyata antar perlakuan, FCR terendah 1,066 ± 0,04 juga dicapai pada tingkat substitusi 2,5%. Tingkat substitusi juga meningkatkan secara signifikan efisiensi pakan ($p < 0,05$) dengan nilai tertinggi 93,97 ± 4,00%. Namun, tingkat substitusi hingga 10% tidak mempengaruhi rasio efisiensi protein (PER). Penambahan cacing tanah terfermentasi dalam pakan dapat mensubtitusi tepung ikan hingga 5%, dan 2,5% merupakan level substitusi terbaik untuk meningkatkan pertumbuhan.

Kata kunci: rasio efisiensi protein, pakan, cacing tanah fermentasi, ikan lele, rasio konversi pakan

Abstract

This study was aimed to evaluate the effects of the substitution of fish meal with fermented earth worms (FEW) on the feed effeciency and the growth of catfish (*Clarias* sp.) This study used a complete randomized design with five treatments in triplicate. The treatments were P1-control (without FEW), P2-2.5% of FEW, P3 5% of FEW, P4-7.5% of FEW and P5 10% of FEW. Walking catfish (*Clarias* SP) at the total length of 8-10 cm was reared at a stocking density of 50 fish/ tank for 84 days. The fish was fed twice daily at a feeding rate of 5% of total body weight. The parameters observed were the survival (SR), specific growth rate (SGR), feed conversion ratio (FCR), feed efficiency (FE) and protein efficiency ratio (PER). The results of the study revealed that FEW increased growth rates but did not affect the survival (SR). FEW increased specific weight growth ($P < 0.05$), with the highest growth rate at 2.5% substitution rate of FEW. Although FCR was not significantly different among treatments, the lowest FCR of 1,066 ± 0.04 was also achieved at the level of 2.5% of FEW. Such a substitution rate of fermented soil worms significantly increased feed efficiency (FE) ($p < 0.05$) with a highest FE of 93.97 ± 4.00% reached by substitution rate of 2.5% FEW. However, the substitution rate of up to 10% did not affect the protein efficiency ratio. The addition of protein in feed can substitute fish meal up to 5% and 2.5% were the effective substitution rate to increase growth.

Keywords: efficiency ratio protein, feed, fermented earthworm, catfish, feed conversion ratio.