

ABSTRAK

PERTUMBUHAN, EFISIENSI PAKAN, DAN PROFIL HISTOLOGI USUS SERTA HATI IKAN LELE (*Clarias gariepinus*) DENGAN PEMBERIAN DISTILLERS DRIED GRAIN WITH SOLUBLES (DDGS) DAN TAURIN DALAM PAKAN TANPA TEPUNG IKAN

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Distillers Dried Grains with Solubles (DDGS) merupakan limbah fermentasi jagung untuk produk bioetanol yang dapat digunakan sebagai bahan alternatif pakan ikan dengan kandungan protein 27,8% dan lemak 10% . Untuk melengkapi asam amino DDGS sebagai pakan ikan karnivora perlu ditambahkan taurin agar nutrisi dapat diserap secara optimal. Tujuan penelitian ini yaitu menganalisis performa pertumbuhan, histologi usus dan hati ikan lele setelah pemberian pakan DDGS dan taurin dalam pakan tanpa tepung ikan. Metode penelitian menggunakan rancangan acak lengkap (RAL) dengan 6 perlakuan (DDGS% : taurin%): P1: (0 : 0); P2: (5 : 0,5); P3: (5 : 0); P4: (10 : 0,5); P5: (15 : 1,0); P6: (20 : 1,5) dan 3 ulangan yang diberikan pada ikan lele dengan bobot 4,06 g dan panjang 9,20 cm selama 60 hari menggunakan metode pemberian pakan sekenyangnya. Hasil penelitian menunjukkan pengaruh perlakuan yang tidak berbeda nyata terhadap performa pertumbuhan bobot mutlak (16,8 - 20,7 g), pertumbuhan panjang mutlak (5,2 - 6,0 cm), tingkat kelangsungan hidup (72,7 - 93,0 %), laju pertumbuhan spesifik (2,69 - 3,12 %/hari), dan efisiensi pakan (50,4 - 61,5 %) ($P > 0,05$). Pada histologi usus, kerusakan yang terjadi meliputi nekrosis, hemoragi, edema, blunted vili, fusion vili, *mild immune cell infiltration in the villus*, *morphonuclear immune cells*, *severe immune cells infiltration*, *morphonuclear immune cells*, sedangkan kerusakan pada hati meliputi pyknosis, nekrosis, hemoragi, degenerasi hydropik, degenerasi lemak, infiltrasi leukosit, dan kongesti. Kesimpulan mengindikasikan penggunaan DDGS dan taurin tanpa tepung ikan tidak memberikan pengaruh berbeda nyata terhadap performa pertumbuhan, tingkat kelangsungan hidup, efisiensi pakan, namun menyebabkan kerusakan histologi pada usus dan hati ikan lele.

Kata kunci: DDGS, Taurin, Tepung ikan, Ikan lele, Pertumbuhan, Histologi

ABSTRACT

GROWTH, FEED EFFICIENCY, AND HISTOLOGICAL PROFILE OF THE INTESTINE AND LIVER OF AFRICAN CATFISH (*Clarias gariepinus*) FED DIETS CONTAINING DISTILLERS DRIED GRAINS WITH SOLUBLES (DDGS) AND TAURINE WITHOUT FISHMEAL

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Distillers Dried Grains with Solubles (DDGS) is a corn fermentation waste for bioethanol products that can be used as an alternative fish feed with a protein content of 27.8% and 10% fat. To complement the amino acids of DDGS as carnivorous fish feed, taurine needs to be added so that nutrients can be absorbed optimally. The purpose of this study was to analyze the growth performance, histology of the intestines and liver of catfish after feeding DDGS and taurine in feed without fishmeal. The research method used a completely randomized design (CRD) with 6 treatments (DDGS%: taurine%): P1: (0: 0); P2: (5: 0.5); P3: (5: 0); P4: (10: 0.5); P5: (15: 1.0); P6: (20: 1.5) and 3 replications given to catfish weighing 4.06 g and 9.20 cm long for 60 days using the method of feeding as much as possible. The results showed that there is no significant difference in the performance of absolute weight growth (16.8 - 20.7 g), absolute length growth (5.2 - 6.0 cm), survival rate (72.7 - 93.0 %), specific growth rate (2.69 - 3.12 % / day), and feed efficiency (50.4 - 61.5 %) ($P > 0.05$). In intestinal histology, the damage that occurred included necrosis, hemorrhage, edema, blunted villi, villi fusion, mild immune cell infiltration in the villus, morphonuclear immune cells, severe immune cells infiltration, morphonuclear immune cells, while liver damage included pyknosis, necrosis, hemorrhage, hydropic degeneration, fatty degeneration, leukocyte infiltration, and congestion. The conclusion indicated that the use of DDGS and taurine without fishmeal had no significant effect on growth performance, survival rate, or feed efficiency but caused histological damage to the intestine and liver.

Keywords: DDGS, Taurine, Fish Meal, Catfish, Growth, Histology