

ABSTRACT

THE USE OF DISTILLERS DRIED GRAINS WITH SOLUBLES (DDGS) AS A SUBSTITUTE FOR SOYBEAN MEAL IN TILAPIA FEEDS *Oreochromis niloticus* (Linnaeus, 1758)

By

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The utilization of vegetable protein in fish feed often derived from imported soybean flour, has posed challenges in terms of escalating feed costs. In response to this concern, urge to finding alternative sources of vegetable protein from waste materials. The objective of this investigation was to explore the effects of substituting soybean flour with DDGS in artificial tilapia (*Oreochromis niloticus*) feed on their growth rate. The research was conducted at the Fisheries Cultivation Laboratory, Faculty of Agriculture, University of Lampung, in July-August 2023. A completely randomized design (CRD) was employed in the study, with four treatments: Treatment A (30% soybean flour, 0% DDGS), Treatment B (20% soybean flour, 10% DDGS), Treatment C (10% soybean flour, 20% DDGS), and Treatment D (0% soybean flour, 30% DDGS). The treatments were replicated three times, resulting in 12 experimental units. Data were analysed using variance analysis ($P>0.05$) following statistical analysis and were subsequently evaluated using the Duncan Multiple's Range Test (DMRT). The results of the treatment indicate that feed B was the most effective option, with absolute weight growth of 80 ± 4.77 g, a specific growth rate of $1.41\pm 0.37\%$, a feed utilization efficiency of $53.24 \pm 3.02\%$, a protein retention of 68.22%, and a survival rate of $100\pm 0.00\%$. It can be concluded that the use of DDGS up to 30% in feed did not have a significantly different effect on tilapia growth.

Keywords : Tilapia, protein source, DDGS, growth

ABSTRAK

PENGGUNAAN *DISTILLERS DRIED GRAINS WITH SOLUBLES* (DDGS) SEBAGAI SUBSTITUSI BUNGKIL KEDELAI PADA PAKAN IKAN NILA *Oreochromis niloticus* (Linnaeus, 1758)

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Protein nabati pada pakan ikan masih berasal dari tepung kedelai yang diimpor sehingga harga pakan menjadi mahal. Oleh sebab itu, diperlukan bahan baku yang bersumber dari limbah untuk dijadikan sumber protein nabati alternatif agar harga pakan dapat bersaing. Tujuan penelitian ini adalah untuk mempelajari penggunaan DDGS sebagai sumber protein dalam pakan buatan terhadap laju pertumbuhan ikan nila (*Oreochromis niloticus*). Penelitian dilakukan pada bulan Juli-Agustus 2023 bertempat di Laboratorium Budidaya Perikanan, Fakultas Pertanian, Universitas Lampung. Penelitian ini dilakukan menggunakan rancangan acak lengkap (RAL), terdiri atas empat perlakuan yaitu perlakuan A (Tepung kedelai 30%, DDGS 0%), B (Tepung kedelai 20%, DDGS 10%), C (Tepung kedelai 10%, DDGS 20%) dan D (Tepung kedelai 0%, DDGS 30%) dan diulang sebanyak tiga kali, sehingga didapatkan 12 unit percobaan. Data dianalisis menggunakan sidik ragam ($P > 0,05$) dan dilanjutkan uji Duncan *multiple's range test* (DMRT). Hasil yang terbaik dari pakan perlakuan adalah pakan B dengan pertumbuhan bobot mutlak $80 \pm 4,77$ g, laju pertumbuhan spesifik $1,41 \pm 0,37$ %, efisiensi pakan $53,81 \pm 3,02$ %, retensi protein 68,22% dan tingkat kelangsungan hidup $100 \pm 0,00$ %. Dapat disimpulkan bahwa penggunaan DDGS hingga 30% dalam pakan tidak memberikan pengaruh yang berbeda nyata terhadap pertumbuhan ikan nila.

Kata Kunci : Ikan nila, sumber protein, DDGS, pertumbuhan