

## **SUBSTITUSI JAGUNG DENGAN BUNGKIL INTI SAWIT (PALM KERNEL MEAL) DITAMBAH ENZIM DAN ASAM AMINO DALAM PAKAN TERHADAP PRODUKTIVITAS AYAM BROILER**

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### **INTISARI**

Jagung merupakan salah satu bahan pakan yang penting dalam pakan unggas, namun ketersediaannya sangat kompetitif dengan kebutuhan manusia, sehingga perlu dicari alternatif substitusi jagung. Penelitian ini bertujuan untuk mengetahui pengaruh substitusi jagung dengan bungkil inti sawit (*palm kernel meal*) dengan perlakuan penambahan enzim untuk memecah serat kasar dan penambahan asam amino sebagai pelengkap dalam pakan terhadap produktivitas ayam broiler. Penelitian menggunakan 540 ekor ayam broiler jantan strain *Indian River* yang dipelihara di kandang penelitian *Closed House* Fakultas Peternakan UGM. Ayam dikandangkan pada kandang baterai dan dikelompokkan secara acak dengan tiga perlakuan, setiap perlakuan terdapat enam replikasi yang terdiri dari masing-masing tiga puluh ekor ayam. Adapun perlakuan yang digunakan dalam penelitian ini adalah P0 : pakan basal, P1 : pakan basal dengan *palm kernel meal* 10% dari bahan pakan + koreksi asam amino + koreksi enzim *NSPase* 200 g/ton, *mannanase* 182 g/ton, *protease* 130 g/ton, P2 : pakan basal dengan *palm kernel meal* 20% dari bahan pakan + koreksi asam amino + koreksi enzim *NSPase* 200 g/ton, *mannanase* 182 g/ton, *protease* 130 g/ton. Pemeliharaan dilakukan selama 28 hari. Pakan dan minum diberikan secara *ad libitum*. Data yang diperoleh meliputi konsumsi pakan (g/ekor), bobot badan (g/ekor), pertambahan bobot badan (g/ekor), rasio konversi pakan (FCR), dan *indeks performance* serta dilakukan analisis *Income Over Feed Cost* (IOFC) pada akhir pemeliharaan. Data dianalisis menggunakan ANOVA (analisis variansi) berdasarkan Rancangan Acak Lengkap Pola Searah (*Completely Randomized Design*) dan apabila terdapat perbedaan dilanjutkan dengan uji *Duncan's Multiple Range Test* (DMRT). Hasil penelitian menunjukkan bahwa substitusi jagung dengan bungkil inti sawit 10% dan 20% ditambah enzim dan asam amino dalam pakan dapat meningkatkan ( $P < 0,05$ ) bobot badan, pertambahan bobot badan, konversi pakan, dan *indeks performance* sedangkan tidak signifikan terhadap konsumsi pakan. Kadar bungkil inti sawit 10% dengan 20% ditambah enzim dan asam amino terdapat perbedaan yang jauh dimana produktivitas maksimal ada pada kadar bungkil inti sawit 10% dibanding 20%. Nilai IOFC paling menguntungkan terdapat pada perlakuan P1 (bungkil inti sawit 10% dalam pakan perlakuan) dengan nilai IOFC sebesar Rp. 6.765.

Kata kunci : Asam amino, Broiler, Enzim, Palm kernel meal, Produktivitas

## **SUBSTITUTION OF CORN WITH PALM KERNEL MEAL PLUS ENZYMES AND AMINO ACIDS IN FEED ON BROILER CHICKEN PRODUCTIVITY**

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### **ABSTRACT**

One of the key elements in chicken feed is maize, but since human requirements compete with grain availability, it is crucial to discover a different corn substitute. The goal of this study is to ascertain the productivity effects of replacing maize with palm kernel cake, adding enzymes to break down the crude fiber, and supplementing the diet with amino acids. 540 male Indian River strain broiler chickens maintained in the Closed House research cage at the Faculty of Animal Science, UGM, were used in the study. Three treatments were applied to the battery caged hens at random; there were six applications, each with 30 chickens. P0: a basal diet; P1: a basal diet with 10% palm kernel meal in the feed; and P2: a basal diet with 20% palm kernel meal in the treatment diet were the treatments employed in this study. Feed is made up of the addition of supplemental amino acids and enzyme correction. Maintenance is done for 28 days with NSPase 200 g/ton, mannanase 182 g/ton, and protease 130 g/ton. Water and food are available at all times. Feed intake (g/head), body weight (g/head), body weight gain (g/head), feed conversion ratio (FCR), performance index, and income over feed cost (IOFC) analysis on end of maintenance were all included in the data that was acquired. ANOVA (analysis of variance) was used to analyze the data based on a Completely Randomized Design of Unidirectional Pattern (Completely Randomized Design), and Duncan's Multiple Range Test was performed to determine differences (DMRT). The findings indicated that replacing corn with palm kernel cake 10% and 20% of additional enzymes and amino acids in the feed were able to raise body weight, body weight gain, feed conversion, and performance index ( $P < 0.05$ ), but feed consumption was not significantly affected. There is a significant difference in palm kernel cake content of 10% and 20% plus enzymes and amino acids, with 10% having the highest productivity. The treatment P1 (10% palm kernel meal in feed) had the best IOFC value, with an IOFC value of Rp. 6,765.

**Keywords:** Amino acid, Broiler, Enzym, *Palm kernel meal*, Productivity