

PENGARUH PENAMBAHAN TEPUNG ALFALFA TROPIK (Kacang Ratu BW) DALAM RANSUM AYAM PETELUR TERHADAP KUALITAS FISIK TELUR

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INTISARI

Penelitian ini bertujuan untuk mengetahui pengaruh penambahan tepung alfalfa tropik (*Medicago sativa* L.) atau kacang ratu BW dalam ransum ayam petelur terhadap kualitas fisik telur. Sebanyak 108 ayam petelur (umur 26 minggu) strain Hy-line dibagi menjadi 3 kelompok perlakuan dengan 6 ulangan, setiap ulangan terdiri atas 6 ekor ayam dan ditempatkan secara acak. Penelitian ini dilaksanakan 3 periode (P1, P2, dan P3) di mana tiap periodenya berlangsung selama 28 hari. Perlakuan yang diberikan berupa : pakan basal (A0), pakan basal + 1% alfalfa (A1), dan pakan basal + 3% alfalfa (A3). Pemberian pakan dan minum dilakukan secara *ad libitum*, yang diberikan 3 kali sehari pada pagi hari pukul 08.00 WIB, siang hari pukul 12.00 WIB, dan sore hari pukul 16.00 WIB. Data yang diperoleh dianalisis statistik menggunakan Analisis Variansi Rancangan Acak lengkap Pola Faktorial (*Completely Randomized Design*) antara perlakuan penambahan Alfalfa dengan periode pemeliharaan. Apabila berbeda nyata, dilanjutkan dengan *Duncan Multiple Range Test* (DMRT) dengan bantuan program *Statistical Package for Social Science* (SPSS) versi 25.0. Apabila terdapat interaksi yang signifikan antara perlakuan penambahan Alfalfa dengan periode pemeliharaan akan diuji lanjut menggunakan Rancangan Acak Lengkap Pola Searah (ANOVA). Variabel yang diamati adalah kualitas fisik telur : Ketebalan kerabang, Kekuatan kerabang, Indeks telur, Indeks *albumen*, Indeks *yolk*, Warna *yolk*, dan Nilai *haugh unit*). Hasil penelitian menunjukkan penambahan alfalfa pada level 3% berpengaruh nyata terhadap kenaikan indeks *yolk* dan warna *yolk*, tetapi menurunkan ketebalan kerabang. Penambahan alfalfa pada level 3% tidak berpengaruh nyata ($P>0,05$) terhadap kekuatan kerabang, indeks telur, indeks *albumen*, dan nilai *haugh unit*. Periode pemeliharaan yang dilakukan berpengaruh nyata terhadap kenaikan ketebalan kerabang, indeks telur, indeks *yolk*, warna *yolk*, dan nilai *haugh unit* ($P<0,05$), sedangkan pada kekuatan kerabang dan indeks *albumen* tidak berpengaruh nyata ($P>0,05$). Interaksi antara penambahan alfalfa dengan periode berpengaruh nyata ($P>0,05$) terhadap indeks *yolk*.

Kata Kunci : Alfalfa, Ayam petelur, Kualitas fisik telur

EFFECTS OF DIETARY ALFALFA TROPIK POWDER (Kacang Ratu BW) SUPPLEMENTATION IN LAYING HENS ON PHYSICAL EGG QUALITY

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ABSTRACT

This study was designed to determine the effects of tropical alfalfa powder (*Medicago sativa* L.) or atau kacang ratu BW supplementation diet in laying hens on the physical egg quality. A total of 108 laying hens (aged 26 weeks) of *Hy-line* strain were randomly assigned into 3 dietary treatments groups with six replications, each replication consisted of six chickens. This research was carried out of 3 periods (P1, P2, and P3) of 28 days each. Treatments were : basal diet only (A0, control), basal diet + 1% alfalfa (A1), and basal diet + 3% alfalfa (A3). Feeding and drinking are done ad libitum, which was given 3 times a day in the morning at 08.00 a.m, in the afternoon at 12.00 a.m, and in the afternoon at 16.00 p.m. The data obtained statistically analyzed using Completely Randomized Factorial Designs between treatment with the addition of Alfalfa with the maintenance period. If they were significantly different, it was continued with the Duncan Multiple Range Test (DMRT) with the help of the Statistical Package for Social Sciences (SPSS) version 25.0 program. When interaction between the addition of alfalfa with periods were significantly different, it was continued with the Complete Random One Way Design (ANOVA). The variables observed were the physical egg quality : shell thickness, shell strength, egg index, albumen index, yolk index, yolk color, and haugh unit value. The results showed that the addition 3% of alfalfa tropic had significant effect to increased on *yolk* index, and *yolk* color, but lower on shell thickness. The addition 3% had no significant effect ($P>0.05$) on shell strength, egg index, *albumen* index, and *Haugh unit* values. Maintenance periods had a significant effect to increased on shell thickness, egg index, *yolk* index, *yolk* color, and *haugh unit* value ($P<0.05$), while shell strength and *albumen* index had no significant effect ($P>0.05$). Interaction between the addition of alfalfa with periods had a significant effect ($P>0.05$) on *yolk* index.

Keywords: Alfalfa, Laying hens, Physical egg quality.