

PENGARUH SUPLEMENTASI MINYAK BLACK SOLDIER FLY LARVAE (*Hermetia illucens* L.) TERSAPONIFIKASI KALSIUM TERHADAP KUALITAS FISIK DAN KIMIA TELUR BURUNG PUYUH

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INTISARI

Minyak sebagai sumber energi dalam pakan berperan penting dalam proses pembentukan telur dan menentukan kualitas telur yang dihasilkan. Penelitian ini bertujuan untuk menentukan efek penambahan minyak *black soldier fly larvae* tersaponifikasi kalsium (BSFL-SCa) ke dalam pakan burung puyuh terhadap kualitas fisik dan kimia telur. Sebanyak 120 burung puyuh betina (*Coturnix coturnix japonica*) berumur 24 minggu dibagi menjadi 3 perlakuan, masing-masing dengan 8 ulangan, dan setiap ulangan terdiri dari 5 ekor burung puyuh. Perlakuan yang diberikan adalah penambahan pakan basal sebagai kontrol (P0) dan pakan basal yang ditambahkan dengan 1% BSFL-SCa (P1) dan 2% BSFL-SCa (P2). Analisis data dilakukan menggunakan metode analisis varian satu arah (ANOVA), diikuti dengan uji duncan multiple range test, perbedaan antara perlakuan ditunjukkan oleh nilai $P < 0,05$. Hasil penelitian menunjukkan bahwa suplementasi 2% minyak BSFL-SCa meningkatkan ($P < 0,05$) berat telur, indeks bentuk telur, dan menurunkan *haugh unit*, meskipun tidak berpengaruh ($P > 0,05$) terhadap parameter fisik telur lainnya. Protein yolk meningkat pada penambahan 2% minyak BSFL-SCa ($P = 0,002$), sedangkan kolesterol menurun ($P = 0,002$). Penambahan 2% minyak BSFL-SCa meningkatkan protein yolk ($P < 0,001$) dan menurunkan kadar abu albumen ($P = 0,017$). Berdasarkan hasil penelitian menunjukkan bahwa penambahan 2% minyak BSFL-SCa meningkatkan kualitas telur burung puyuh.

Kata kunci: Puyuh, *Black Soldier Fly Larvae*, Sabun Kalsium, Kualitas Telur

EFFECT OF CALCIUM-SAPONIFIED BLACK SOLDIER FLY LARVAE OIL (*Hermetia illucens* L.) SUPPLEMENTATION ON THE PHYSICAL AND CHEMICAL QUALITY OF QUAIL EGGS

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ABSTRACT

Oil as an energy source in poultry feed plays a crucial role in the egg formation process and determines the quality of the produced eggs. This study aims to determine the effects of adding calcium-saponified black soldier fly larvae oil (BSFL-SCa) to quail feed on the physical and chemical quality of eggs. A total of 120 female quails (*Coturnix coturnix japonica*), 24 weeks old, were divided into 3 treatments, each with 8 replications, and each replication consisting of 5 quails. The treatments provided were basal feed as a control (P0) and basal feed supplemented with 1% BSFL-SCa (P1) and 2% BSFL-SCa (P2). Data analysis was performed using the one-way analysis of variance (ANOVA), followed by Duncan's multiple range test, with differences between treatments indicated by $P < 0.05$. The results showed that supplementation with 2% BSFL-SCa oil increased ($P < 0.05$) egg weight and egg shape index and decreased *haugh units*, although it did not affect ($P > 0.05$) other physical egg parameters. Yolk protein increased with the addition of 2% BSFL-SCa oil ($P = 0.002$), while cholesterol decreased ($P = 0.002$). The addition of 2% BSFL-SCa oil increased yolk protein ($P < 0.001$) and decreased albumen ash content ($P = 0.017$). Based on the study results, the addition of 2% BSFL-SCa oil improves the quality of quail eggs.

Keywords: Quail, *Black Soldier Fly Larvae*, Calcium Soap, Egg Quality