EVALUASI KUALITAS FISIK DAN KIMIA TELUR SELAMA PENYIMPANAN PADA SUHU BEKU

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INTISARI

Penelitian ini bertujuan untuk mengetahui kualitas fisik dan kimia telur utuh, albumen, dan yolk, pada penyimpanan suhu beku selama 8 minggu. sebanyak 270 butir telur ayam ras umur 1 hari dengan berat 55 sampai 65 g dibagi menjadi 3 perlakuan, telur utuh (putih dan kuning), *albumen*, dan *yolk*. Setiap sampel menggunakan lima butir telur yang dikemas dengan plastik kemudian dimasukkan dalam *freezer* dengan suhu -25^{o}C. Pengamatan dilakukan setiap satu minggu sekali dan pengamatan pendahuluan pada sampel kontrol (telur segar). Data yang diperoleh dianalisis menggunakan *Split Plot design*, apabila terdapat perbedaan dilanjjutkan dengan *Duncan's Multiple Range Test* (DMRT). Hasil penelitian menunjukkan bahwa lama penyimpanan yang berbeda berpengaruh (P<0,05) pada nilai pH, daya buih, kadar air, dan kadar protein, tetapi tidak berpengaruh terhadap kadar abu. Lama penyimpanan dan perlakuan telur utuh, *albumen* dan *yolk* saling berpengaruh (P<0,05) terhadap nilai pH, daya buih, dan kadar protein, tetapi tidak saling berpengaruh terhadap kadar air dan kadar abu. Berdasarkan hasil penelitian ini dapat diambil kesimpulan bahwa penyimpanan telur pada suhu beku dapat menghambat penurunan kualitas fisik dan kimia telur. Peningkatan nilai pH masih dalam kisaran normal. Nilai daya buih telur utuh mengalami penurunan dari 300% (minggu ke-0) menjadi 155% (minggu ke-8), sedangkan *albumen* dan *yolk* mengalami peningkatan dari minggu ke-0 sampai minggu ke-5 masing-masing adalah 432% dan 47% menjadi 517% dan 76%, dan mengalami penurunan kembali menjadi 430% dan 69% (minggu ke-8). Kadar air mengalami peningkatan yang masih dalam kisaran normal. Kadar protein mengalami penurunan yang tidak besar. Berdasarkan kualitas fisik dan kimia telur beku dapat dimanfaatkan sebagai bahan pembuataan roti sampai penyimpanan suhu beku pada minggu ke-5.

Kata kunci : Telur ayam ras, Penyimpanan beku, Kualitas fisik dan kimia telur.

EVALUATION OF PHYSICAL AND CHEMICAL QUALITY OF EGGS DURING STORAGE IN FROZEN TEMPERATURE

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ABSTRACT

This study was aimed to determine the physical and chemical quality of the whole egg, albumen and yolk in the frozen temperature for 8 weeks. A total of 270 one day old eggs with weight 55 to 65 g divided into 3 treatment, whole egg (white and yellow), albumen, and yolk. Each sample used five eggs packed in plastic and then inserted into a freezer with a temperature of -25^{o}C. Data observed were pH, foaming ability, water content, ash content, and protein content. Observations made every single week and preliminary observations on the control samples (fresh eggs). The data obtained were analyzed using Split Plot design, if there were a difference it continued with Duncan's Multiple Range Test (DMRT). The results showed that the effect of different storage time ($P < 0.05$) on the pH value, the foaming ability, water content, and protein content, but did not affected on ash content. Storage time and whole egg treatment, albumen and yolk mutually had significant effect on the pH value, foaming ability, and protein content ($P<0.05$), but not mutually affected the water content and ash content. Based on the results of this study it could be concluded that storage of eggs at frozen temperatures could inhibit the degradation of eggs physical and chemical quality. The increasing of pH value was still within the normal range. Value of whole egg foam ability decreased from 300% (week 0) to 155% (week 8), while the albumen and yolk increased from week 0 to week 5 each is 432% and 47 % to 517% and 76%, and it decreased again to 430% and 69% (week 8). Water levels have increased which is still within the normal range while the storage treatment did not decrease too much on protein content. Based on the physical and chemical quality, the frozen eggs could be used as an ingredient to made a bread until frozen storage temperature in week 5.

Key words : Eggs, Frozen Storage, Physcal and chemical quality of eggs.