

## **ABSTRAK**

### **IDENTIFIKASI KUALITAS FISIK TELUR AYAM SELAMA PENYIMPANAN**

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Penelitian ini bertujuan untuk mengidentifikasi kualitas telur ayam berdasarkan bobot, berat jenis, warna, dimensi, dan ketebalan kerabang telur. Sampel yang digunakan adalah telur ayam ras segar yang diperoleh dari BK Farm Jati Agung, Kabupaten Lampung Selatan, Provinsi Lampung. Telur disimpan selama 32 hari pada suhu yang berbeda yaitu T1 = 8-10°C (suhu dingin), T2 = 28-30°C (suhu lingkungan) dan T3 = 35-37°C (suhu hangat).

Hasil penelitian menunjukkan bahwa bobot dan berat jenis telur mengalami penurunan sebagai fungsi suhu penyimpanan. Semakin tinggi suhu penyimpanan, semakin besar susut bobot dan penurunan berat jenis telur. Perubahan paling signifikan adalah pada perlakuan T3 (T = 35-37°C). Susut bobot telur yang disimpan pada T1 dari 62,04 gram menjadi 59,16 gram, T2 dari 61,95 gram menjadi 56,87 dan T3 dari 63,91 menjadi 53,38. Untuk susut berat jenis, sampel penyimpanan pada T1 semula 1,09 gram/cm<sup>3</sup> menjadi 1,04 gram/cm<sup>3</sup>, T2 dari 1,10 gram/cm<sup>3</sup> menjadi 1,01 gram/cm<sup>3</sup>, T3 dari 1,12 gram/cm<sup>3</sup> menjadi 0,9 gram/cm<sup>3</sup>

selama 32 hari penyimpanan. Untuk perlakuan T1 dan T2 yaitu penyimpanan suhu dingin dan suhu lingkungan perubahan bobot dan berat jenis relatif kecil. Dari sisi warna, pada hari ke- 0 perlakuan T1 berwarna Orange Brilliant Tangelo, T2 berwarna Orange Brilliant Vermilion dan T3 berwarna Orange Brilliant Vermilion. Hari ke- 32 perlakuan T1 berwarna Brilliant Orange, T2 berwarna Orange Moderete Tangelo dan T3 berwarna Strong Orange Moderete Tangelo. Tebal kerabang telur berkisar antara 0,40-0,43 mm yang masuk dalam mutu tebal. Diameter terpanjang telur ( $D_1$ ) rata-rata untuk T1 adalah 61,5 mm, T2 62 mm dan T3 64,7 mm. Sedangkan diameter terpendek telur ( $D_2$ ) rata-rata untuk T1 adalah 46,6 mm, T2 45,8 mm, dan T3 43,7 mm. Kualitas mutu telur berdasarkan kesegaran kuning telur setelah 32 hari penyimpanan diperoleh bahwa pada T1, kuning telur masih berbentuk bulat dan segar sedangkan putih telur kental. Pada T2, kuning telur telah sedikit hancur dan putih telur sedikit encer. Selanjutnya, pada T3, kuning telur hancur/tercampur dan putih telur hancur/tercampur.

Kata kunci : telur ayam, penyimpanan telur, kualitas telur, suhu penyimpanan, mutu

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### **IDENTIFICATION OF THE PHYSICAL QUALITY OF CHICKEN EGGS DURING STORAGE**

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This study aims to identify chicken egg quality based on weight, specific gravity, color, dimensions, and thickness of eggshell. The samples used were fresh race chicken eggs obtained from BK Farm Jati Agung, South Lampung Regency, Lampung Province. Eggs are stored during 32 days at different temperatures namely T1 = 8-10°C (cold temperature), T2 = 28-30°C (ambient temperature) and T3 = 35-37°C (warm temperature).

The results showed that egg weight and density decrease as a function of storage temperature. The higher the storage temperature, the greater the weight loss and the lower the egg density. The most significant changes in both parameters were in the T3 storage (T = 35-37°C). The weight loss of eggs stored at T1 is from 62.04 grams to 59.16 grams, while the weight loss are from 61.95 grams to 56.87 grams and from 63.91 grams to 53.38 grams at T2 and T3, respectively. Next, the density of egg decreases during storage. The density changes from 1.09 gram / cm<sup>3</sup> to 1.04 gram / cm<sup>3</sup> (T1), from 1.10 gram / cm<sup>3</sup> to 1.01 gram / cm<sup>3</sup> (T2), and

from 1.12 gram / cm<sup>3</sup> to 0.9 gram / cm<sup>3</sup> (T3). On T1 (cold temperatures) and T2 (ambient temperature) storage conditions, the weight and density of eggs are relatively stable. In terms of egg shell color, on day of 0 the average color for T1 is Tangelo's Orange Brilliant, a few different with the samples for T2 and T3 which is Orange Brilliant Vermilion. The color changes after 32 days storage. The end of storage, the egg shell changes to Brilliant Orange (T1), to Orange Moderete Tangelo (T2) and to Strong Orange Moderete Tangelo (T3). The research also showed that egg shell thickness ranges from 0.40 to 0.43 mm. It means, the egg samples were fulfilling the classification of good quality of egg. The average of egg longest diameter (D1) is 61.5 mm for T1, 62 mm for T2 and 64.7 mm for T3. Meanwhile, the average of egg shortest diameter (D2) is 46.6 mm for T1, 45.8 mm for T2, and 43.7 mm for T3. Based on visual inspection to yolk and albumen at the end of storage, it is found that on T1, the yolk is round and firm while the albumen is thick. On T2, the yolk is slightly crushed and the albumen is slightly runny. Next, on T3, the yolk is already broken and mixed with albumen.

Keywords : chicken eggs, egg storage, egg quality, storage temperature, quality