بسم الله الرحمن الرحيم

شبكة المعلومـــــات الجامعية

التوثيق الالكتروني والميكروفيلم

شبكة المعلومات الجامعية

جامعة عين شمس

التوثيق الالكتروني والميكروفيلم

﴿ قـــسـم ﴾

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأفلام قد اعدت دون آية تغيرات

يجب أن

تحفظ هذه الأفلام بعيداً عن الغبار

في درجة حرارة من 15 – 20 مئوية ورطوبة نسبية من 20-40 %

To be kept away from dust in dry cool place of
15 – 25c and relative humidity 20-40 %

بعض الوثائق الأصلية تالفة

بالرسالة صفحات

لم ترد بالأصـــل

PHYSIOLOGICAL AND BIOCHEMICAL STUDIES ON THE SKELETAL MUSCLES OF JAPANESE QUAIL

BY

ISHRAK ABD EL-RAOUF EL-SAYED SHATA
B.Sc. Agric., (Poultry Production) Ain Shams Univ., 1987
M.Sc. Agric., (Poultry Physiology) Ain Shams Univ., 1993

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APPROVAL SHEET

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ABSTRACT

Ishrak Abd El-Raouf El-Sayed Shata, Physiological and Biochemical Studies on the Skeletal Muscles of Japanese Quail, Unpublished Doctor of Philosophy Dissertation, Dept. of Poultry Production, Faculty of Agric., Ain Shams Univ., (2001).

Japanese quail was selected for high (H) and low (L) live body weight at 4-wk of age through three generations (G_0, G_1, and G_2). Live body measurements: body depth (BD), body width (BWI), keel length (KL), shank length (SL), body circumference (BC), leg circumference (LC) and shank circumference (SC) were determined. At 6-wk of age, body weight (BW), slaughter traits and carcass composition were estimated. Weight and dimensions of breast muscles *(pectoralis)* and drumstick muscle *(peroneus longus)* were estimated. The correlation coefficients between live body weight at 4 and 6-wk of age and all variables by generation, line and sex were determined. Examination of histological sections of *m. pectoralis* and *m. peroneus longus* at 6-wk of age were done, and number of nuclei per field were counted. The level of some blood serum constituents: total proteins (STP), creatine phosphokinase (CPK) and lactate dehydrogenase (LDH) enzymes, and triiodothyronine (T_3) hormone were determined. The correlation coefficients between live BW at 4 and 6-wk and blood serum constituents at 6-wk of age by generation, line and sex were estimated. Results obtained that mean live body measurements of all traits except SL and SC exhibited significant ($P<0.01$) differences between generations and lines. Mean BWI for females was significantly higher than that of males. While males showed significant increase in LC and SC than those of females.

Although mean percentage carcass weight was similar in female and male, the absolute carcass muscle weight increased in male than female. Muscle bone ratio was significantly ($P<0.01$) increased in G_0, H-line and males. Total carcass muscle weight increased significantly ($P<0.01$) in G_0, G_2 and H-line. Edible offal weight increased significantly in G_2 and H-line. In edible offal increased in G_0, H-line, and females. The *m. pectoralis* and *m. peroneus longus* weight, area, width and length increased significantly ($P<0.01$) in H-line and the two muscles lengths in females were significantly higher than males. Means of nuclei number per field microscope in *m. pectoralis* and *m. peroneus longus* increased slightly in control and H-line. The muscle fibers of *m. pectorals* were more compact and dense than *m. peroneus longus.* The increase in BW was associated with increase in STP, LDH and T_3, and decrease in CPK. There were highly correlation coefficients for muscle traits and various body measurements. These results indicated that selection for high line BW at 4-wk of age resulted in increase in body weight at 6-wk of age. The use of body measurements, carcass composition and blood constituents support the use of these parameters as indices in a well planed selection, which could result in an improvement in later generations.

Key words: Japanese quail, carcass composition, skeletal muscle, histology, serum total protein, CPK, LDH, T_3.

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