

Relationships between pectoralis muscle growth and meat quality issues in Japanese quail

Authors:**Ehsan Nasirifar¹,****Mokhtar-Ali Abbasi²,****Naser Emam Jome kashan³,****Mehdi Aminafshar⁴ and****Masoud Sami⁵.****Institution:**

1. Ph.D. Student, Department of Animal Science, Science and Research Branch, Islamic Azad University, Tehran, Iran

2. Department of Animal Breeding and Genetics, Animal Science Research Institute of Iran (ASRI), P.O. Box 1483, Karaj 3146618361, Iran

3. Professor, Department of Animal Science, Science and Research Branch, Islamic Azad University, Tehran, Iran

4. Department of Animal Science, Science and Research Branch, Islamic Azad University, Tehran, Iran.

5. Food Security Research Center, Isfahan University of Medical Sciences, Isfahan, Iran. Department of Food science and Technology, School of Nutrition and Food Science, Isfahan University of Medical Sciences, Isfahan, Iran.

Corresponding author:**Mokhtar-Ali Abbasi****ABSTRACT:**

The improvement of the meat quality, because of some important factors, namely consumer preferences and the industry demands, has become a top priority lately. Selection of performance traits induced several changes in quail meat quality. Therefore, there are three significant factors to be considered while selecting the quail meat type: the growth performance, carcass parts, and improved meat quality. In this study a Japanese quail population was used to estimate the genetic parameters of body weight and carcass traits at 42 days of age. The studied population consisting of 368 quail were selected for 42 days body weight up to seventh generation. Multivariate analysis were used to estimate heritability, genetic and phenotypic correlations among all combinations of traits. Estimated parameters were obtained using the restricted maximum likelihood method (Wombat) software. Two types of quail (with high and low breeding value) were used in the experiment. Then meat quality traits of pectoralis muscle (pH and temperature, water holding capacity, water absorption capacity, drip loss, cooking loss and meat colour) were measured between two groups. In this study, the results of the quantitative and qualitative characteristics for 368 birds found that the average of water holding and absorption capacity, drip loss and primary pH were lower than the reported values. But average values of L * and b * were higher. Thus it can be concluded that selection for increased productive for weight gain at 42 days of age may be a reason for the decrease of water holding capacity and increase in colour characteristics.

Keywords:

Breeding value, Japanese quail, Meat quality.