

Abstract

Feed costs account for nearly 70 percent of the cost of a poultry unit. So paying attention to nutritional efficiency is one of the most important goals in many breeding programs for poultry. The aim of this study was to estimate the genetic correlation of growth traits (body weight, average daily weight gain at five-day intervals), and feed efficiency (conversion factor, food intake difference) in Japanese quail. In this research, breeding birds and record keeping of growth traits and the remaining feed intake were carried out at the research farm of the livestock research center of Zabol University. For this purpose, the fifth and sixth generation birds of the Japanese Quail population were randomly assigned. The identity of each of the chicks was identified immediately after leaving the egg and thus the pedigree was recorded. The body weight and the remaining feed intake from 20 to 45 days of the bird were measured and recorded every 5 days. All records collected in this study were analyzed by six animal models using the Gibbs3f90 software (2002, Misztal). After analyzing the traits with six models, we compared the models using the standard deviation of data. Finally, using the most suitable model for each trait, genetic correlations of growth traits and feed intake improvement using decomposition analysis Multivariate analysis was estimated. In general, heritability of body weight traits was estimated at different ages, and selection for these traits could improve the growth performance of the next generation. Heritability of the traits of feed intake at different ages up to 40 days was less than 10% and for the average age of 40-45 days, the average was estimated, so selecting for this trait could have a greater genetic response than other traits of feed intake.

Keywords: body weight, food efficiency, dietary intake, quail



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Supervisor

Dr. Mohammad Rokouei

Dr. Ali Maghsoudi

Adviser

Dr. Hadi Faraji Arough

By

Hossein ali Rakhshani rad

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