International Journal of Poultry Science

Non-Invasive Methods to Predict Breast Muscle Weight in Slow-Growing Chickens

M. Larivière, C. Michaux, V. Verleyen, C. Hanzen and P. Leroy
Department of Animal Production, Faculty of Veterinary Medicine, University of Liège, 4000 Liège, Belgium

Abstarc :

This experiment aims to compare in vivo breast morphometric and ultrasound measurements,
as well as live body weight to predict breast meat weight in slow-growing chickens. Traits included Thoracic Circumference (TC), Chest Width (CW), Keel Length (KL) and angle (KA), Live Weight (LW), thickness of muscle determined by sonography (TM) and Breast Meat Weight (BMW). Birds were then slaughtered and total breast muscles (Pectoralis major and Pectoralis minor) were dissected and weighed. A linear model including sex effect and the different predictor measurements, as covariates, were adjusted to the data. Homogeneity test of slopes between sexes showed no difference. Means of the traits were 115.58g (±19.72) for BMW, 1031 g (±163.44) for LW, 68.65o (±6.89) for KA, 26.81 cm (±1.57) for TC, 10.40 cm (±0.62) for KL, 4.67 cm (±0.47) for CW and 11.52 mm (±1.11) for TM. All traits were highly correlated to BMW: TC (0.85), LW (0.84), KL (0.81) and TM (0.79), except for KA (0.28) and CW (0.19). Finally, TC, LW, KL and TM appear to be valuable indicators for estimating BMW in slow-growing chickens but KA and CW remain poor predictors.

Key Word :
Breast muscle, morphometry, slow-growing chicken, ultrasound

Volume 8, Number 7, - 2009 , ISSN 1682-8356