

Early growth and metabolic characterizations of two chicken lines divergently selected on their breast meat ultimate pH

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Instruction template for abstract submission for EGGMEAT 2017

Preparation of abstracts: Abstracts should be prepared using a Microsoft Word compatible format. Use only Times New Roman font with no bold type, a font size of 12 and the following section headers.

Title: (< 190 characters): EARLY GROWTH AND METABOLIC CHARACTERIZATIONS OF TWO CHICKEN LINES DIVERGENTLY SELECTED ON THEIR BREAST MEAT ULTIMATE PH

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Abstract (maximum 200 words):

In chicken, the ultimate pH (pHu) of meat is largely determined by the muscle glycogen content at slaughter age. A divergent selection on the *Pectoralis major* pHu allowed the creation of the pHu+ and pHu- lines, which represent a unique model for studying the genetic and physiological control of the carbohydrate reserves and the meat quality. Several characteristics have been measured in the two lines at hatch then at 5 days of age. At hatch, the pHu+ and pHu- lines presented equivalent body weights and breast muscle yields. However, the pHu- line shows a higher glycaemia than the pHu+ line, a difference that will persist until slaughter age. After 5 days, the pHu+ and pHu- lines were already divergent in terms of glycogen (and pHu) and muscle yield, for a similar body weight. Differences between both lines observed at hatch and at 5 days were associated with regulation of signaling pathways involved in protein synthesis and muscle glycogen turnover. Furthermore, pHu+ and pHu- chicks have at hatch the ability to respond differently to nutrients and hormones consistent with the fact that after only 5 days of feeding, significant differences in yield and muscle glycogen contents exist between the two lines.

Keywords (maximum 5): Chicken, Metabolism, Glycogen, Muscle

Preferred presentation type (please indicate): ~~ORAL~~ or POSTER

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