

Productive performance of broilers at the final stage of breeding submitted to different levels of metabolizable energy in different thermal environments

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Abstract. The Brazilian poultry industry is an activity in constant development due to the high indices of productive efficiency. The accelerated evolution of poultry production has allowed to obtain early and very efficient broilers able to convert different foods into animal protein. However, due to this intensive breeding system, a series of metabolic and management problems appeared, with emphasis on thermal stress. The objective of this work was to evaluate the physiological responses of broiler chickens in the final stage of breeding (21 to 42 days of life), submitted to two thermal conditions, one representative of the thermoneutrality situation (T1) and one giving a situation of cyclic stress by heat (T2). For each experimental thermal condition, the birds were submitted to different levels of metabolizable energy of 3,050, 3,125, 3,200, 3,275 kcal kg⁻¹. At 28, 35 and 42 days, the birds and the feed leftovers were weighed to measure the performance variables: CR (feed intake), GP (weight gain) and CA (feed conversion), viability of the rearing (Vb), productive efficiency index (PEI).

As conclusions, the GP was 13.6% higher for the birds maintained at the thermoneutrality situation T1. The PEI was 32.5% higher for the birds maintained in T1 condition, when compared to those kept in T2. However, both in thermoneutral and in heat stress conditions, the increase in the level of metabolizable energy in the diet did not influence the performance and the productive efficiency index of broiler chickens aged between 21 and 42 days of age.

Key words: broilers, feed, metabolizable energy, productivity, thermal stress.

INTRODUCTION

The Brazilian poultry industry is an activity in constant development thanks to the indexes of productive efficiency with the largest and most advanced technological collection of the agricultural sector. The accelerated evolution of poultry breeding