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BLACK SOLDIER FLY LIVE LARVAE AS ENVIRONMENTAL ENRICHMENT IN MEDIUM-GROWING CHICKEN DIET

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Introduction. Few studies on the effects of live larvae provision in poultry have been previously conducted [1,2,3]. However, trials on the long-term provision of live larvae in chicken reared for meat consumption have never been performed before. This study evaluated the impact of Black Soldier Fly (BSF) live larvae provision on growth performance and larvae consumption behavior of intermediate-growing strains. A total of 240 Label naked neck birds were reared from 21 to 82 days of age, and four experimental groups (10 birds/pen, 6 replicates/treatment) were considered according to the birds' gender and larvae provision. Experimental groups were fed 10% supplementation of BSF live larvae based on the daily feed intake. The live weight (LW), feed conversion ratio (FCR), average daily feed intake (ADFI) and average daily gain (ADG) were evaluated considering two periods: 21-35d and 35-82d. The larvae were provided daily and consumption times were analyzed considering periods of 10 days (5-time frame-T1, T2, T3, T4, T5). Data were analyzed by means of a GLMM (SPSS software, $P < 0.05$). The larvae groups displayed a lower ADFI than the control groups regardless the birds' gender at 21-35d ($P = 0.01$). This could be explained by the larvae nutritional contribution that led to a lower feed consumption in the experimental groups. Moreover, treated birds revealed a lower FCR than control groups (21-35d; $P < 0.001$). Otherwise, only treated males performed a better FCR than control groups during the second period ($P < 0.01$). Overall, time of larvae consumption at T1 and T5 was respectively higher and lower than the other considered periods in both sexes ($P < 0.05$). Such differences could be related to a progressive birds' adaptation to larvae consumption. Significant differences between sexes were recorded only at T5, when females employed much time than males in larvae consumption ($P < 0.05$). Live larvae provision ameliorated both the ADFI and FCR. Furthermore, the time of larvae consumption shranked as birds became older.

References.

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