

Abstract

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No. 246: Effects of dietary antibiotics, CALSPORIN[®] plus Q-MOS[™], or antibiotics in combination with either CALSPORIN or CALSPORIN plus Q-MOS on live performance on Cobb male broiler chicks on built-up litter.

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Antibiotic growth promoters such as BMD and Stafac are widely used in the broiler industry. Alternative products such as direct-fed microbials and yeast cell wall mannanoligosaccharide with distinctive and different modes of action may be complementary and additive to AGP for enhancing live performance. This pen trial evaluated 5 dietary treatments: negative control (NC), BMD 55 ppm in starter and grower (0–35 d) and Stafac 22 ppm in finisher (35–42 d) (AGP), CALSPORIN (3 x 10⁵ cfu/g feed) and Q-MOS (1 lb/ton) (CAL & Q-MOS), AGP plus CALSPORIN (AGP + CAL), and AGP plus CALSPORIN and Q-MOS (AGP + CAL & Q-MOS). The objective was to determine effects of various feed additives in combination when added to the diet of growing broilers. A randomized complete block design with 10 blocks, 5 treatments, and 10 pens/treatment was used (LSD; $P \leq 0.05$). Each pen received 50 male Cobb chicks on built-up litter, and birds were grown to 42 d of age. European poultry efficiency factor (EPEF) = $((\text{Livability \%} \times \text{BW, kg}) \times 100) / (\text{Age, d} \times \text{FCR})$; higher value is better. At 42 d, AGP, AGP + CAL, and AGP + CAL & Q-MOS increased ($P = 0.008$) BW compared with NC with CAL & Q-MOS intermediate. The 0–42 d feed conversion ratio was decreased ($P < 0.001$) for AGP, AGP + CAL, and AGP + CAL & Q-MOS compared with NC group with CAL & Q-MOS intermediate. The 0–42 d mortality was variable (3.6 to 7.2%), but not significantly different between treatments. Kcal/lb BW and feed expense/lb BW (assuming \$300/ton basal feed cost) were lower ($P < 0.001$) for AGP, AGP + CAL, and AGP + CAL & Q-MOS groups than for NC group with CAL & Q-MOS intermediate. The EPEF was greater ($P < 0.001$) for AGP, AGP + CAL, and AGP + CAL & Q-MOS than for NC with CAL & Q-MOS intermediate. At 42 d, best performance for BW, FCR, kcal/lb BW, and EPEF was with AGP + CAL & Q-MOS. Therefore, a combination of BMD 55 ppm in starter and grower (0–35 d) and Stafac 22 ppm in finisher (35–42 d) along with CALSPORIN and Q-MOS is recommended to enhance live performance and profitability of broiler chickens.

Keywords: CALSPORIN, Q-MOS, BMD, Stafac, broiler

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