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Supplementation of Mannan Oligosaccharides in Guinea Pigs: Mortality and Growth Performance

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Abstract : Mannan oligosaccharides (MOS) is one of the prebiotic most used in livestock nutrition. In this research, the effect of MOS dietary supplementation on growth performance and mortality in meat guinea pigs were studied. Three different experimental groups were compared: Control group (no additives); MOS 1 (1.5 g kg−1); MOS 2 (2 g kg−1). Guinea pigs were housed in 15 collective cages (n = 50 animals in each trial; 10 animals per cage). The young guinea pigs were weaning at day 28 and individually identified by a little ear tag. The fattening period was 49 days. Guinea pigs in both groups were fed ad libitum, with a standard commercial pellet diet (10 MJ of digestible energy/kg, 17% crude protein, 11% crude fiber, and 4.5% crude fat) and alfalfa (Medicago sativa) as forage. Growth traits, including body weight (BW), average daily gain (ADG), feed intake (FI), and feed conversion ratio (FCR), were measured weekly. On day 74, the animals were slaughtered. Contrasts between groups were obtained by calculated generalized least squares values. Mortality were evaluated by Fisher's exact test. Between MOS groups no significant differences were observed for growth traits and mortality. However, significant differences against the control group were observed for traits studied (pvalue < 0.05). In conclusion, the use of MOS could be a good prebiotic supplement to raise guinea pigs because it MOS has shown positive effects in growth traits and immune response in animals.

Keywords : guinea pig, growth, mannan oligosaccharides, mortality
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