Research Notes S-66

Arm & Hammer Animal and Food Production

Effect of BG-MAX on piglet growth performance, diarrhea rate and apparent digestibility in weanling pigs.

INTRODUCTION

Weanling pigs in particular have under-developed digestive systems and their gut flora is not well established, leading to poor digestibility and diarrhea. Pig health and growth performance is improved with the use of antibiotics, but as more and more countries are moving away from antibiotics, the need to look for alternatives is urgent.

OBJECTIVE

A trial[1] was conducted to explore the effect of BG-MAX™ on growth performance, diarrhea, and apparent feed digestibility in weanling pigs.

MATERIALS & METHODS

One hundred eighty Dallan weaned pigs, 30-days-old, were allotted to three treatments in a completely randomized block design based on sex, weight, and litters. Each treatment had 6 pens with 10 pigs/pen. Ratio of barrow to gilts was 1:1. The treatments were: Control diet + CTC 150 mg/kg (CTC), Control diet + 0.1% BG-MAX (BG-MAX), and Control diet containing 3% lower digestible energy (3325 Kcal/kg) + 0.1% BG-MAX (LE BG-MAX). The nutrition level of every diet met or exceeded the nutrient requirements suggested by NRC (3400 Kcal/kg), except for the energy level of diets formulated according to experimental design. Pigs had free access to feed and water.

Pigs were weighed at the start and end of the 28 day trial. ADG, ADFI and feed conversion rate (FCR) were calculated. Fecal scoring was done daily on a scale of 1-5, with 1 denoting solid feces and 5 watery feces. Data was analyzed using one-way GLM in SPSS® 13.0 software and $P<0.05$ was considered a significant difference.

RESULTS

There was no difference in ADFI ($P=0.630$), ADG ($P=0.767$), and FCR ($P=0.14$) among treatments, although numerical advantages were seen in ADG and FCR in pigs on the BG-MAX supplemented diet. Piglets on dietary BG-MAX gained weight more uniformly than control pigs. There was no difference in the energy and crude protein digestibility between treatments (data not shown). The fecal scores of pigs receiving BG-MAX were improved compared to the control group ($P=0.01$).

TABLE 1 Results.

Treatment	Initial weight, kg	Final weight, kg	ADG g/d	ADFI g/d	FCR	Fecal scores (0-27d)
CTC	10.9±1.7	24.3±4.3	473±47	778±101	1.64±0.08	1.69±0.48[a]
BG-MAX	10.9±1.7	24.3±3.2	487±13	762±58	1.57±0.08	1.47±0.36[b]
LE BG-MAX	11.0±1.6	24.1±4.1	483±32	807±77	1.68±0.11	1.47±0.38[b]
P Value	0.46	0.91	0.77	0.63	0.14	0.01

CONCLUSIONS

Diets supplemented with BG-MAX™ at 0.1% level could improve the growth uniformity and fecal scores of weanling pigs, especially while the digestible energy level remains the same in diets.

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1 China Agricultural University. Data on file.