Gut morphology
Subtherapeutic levels of antibiotics in the diet have been shown to reduce the weight and length of the intestines (Ververis et al., 2011, Postuma et al., 1999). A thinner intestinal epithelium in antibiotic-fed animals may enhance nutrient absorption (Miles et al., 2006, Vaeu et al., 1978) and reduce the metabolic demands of the gastrointestinal system.

Many publications reported that the addition of an oligosaccharide (MOS) products improves gut health by increasing villi height (Baynton, 2012, N.C. A&T Research, 2011). Dietary factors, enteric colonization, toxins and coccidiosis lesions; however, MRF increases the expression of genes in the ileum (Brennan et al., 2013) and mucins dynamics and gut immunity affects animal growth, performance, intestinal development, cecal morphology through alterations in gut integrity, MRF enhances the efficiency of digested and absorption during enteritis challenges. MRF has shown promise as a potential viable alternative to in-feed additives for the prevention of necrotic enteritis. A more definitive understanding of the importance of dietary intervention in nutritional strategies for disease resistance and production efficiency will be gained by focusing on gene expression and functional genomics.

References
Bauhoo, B., P.R. Ferket and X. Zhao. 2009. Effects of diets containing different concentrations of mannan oligosaccharide or antibiotics on growth performance, immunity, development, cecal and litter microbial populations and carcass parameters of broilers. Poult. Sci. 88:2218-2227.
Bauhoo, B., L. Phillip and C.A. Ruz. 2007. Effects of MRF lowers the postprandial inflammation stress that reduces energy utilization, decreases energy preservation translates into better feed efficiency and a growth promotion (Tables 1 and 2). By providing protection of gut morphology through alterations in goblet cells, mucin dynamics and gut integrity, MRF enhances the efficiency of digested and absorption during enteritis challenges. MRF has shown promise as a potential viable alternative to in-feed additives for the prevention of necrotic enteritis. A more definitive understanding of the importance of dietary intervention in nutritional strategies for disease resistance and production efficiency will be gained by focusing on gene expression and functional genomics.


diff -0.005 0 -0.05
difference (%) 0.771 0.889 0.935

MRF in starter 0-7 days, grower 7-21 days and finisher 21-42 days, unless otherwise stated.

MRF in starter 0-21 days, grower 21-35 days and finisher 35-42 days, unless otherwise stated.

MRF in starter 0-15 days, grower 15-28 days and finisher 28-35 days.

MRF in starter 0-15 days, grower 15-28 days and finisher 28-35 days.

MRF in starter 0-21 days, grower 21-35 days and finisher 35-42 days.

MRF in starter 0-15 days, grower 15-28 days and finisher 28-35 days.

MRF in starter 0-7 days, grower 7-21 days and finisher 21-42 days.

Feed phase age not given; mortality % from 0-32 days.

1Feed phase age not given; mortality % from 0-32 days.

2Feed phase age not given; mortality % from 0-32 days.

3Feed phase age not given; mortality % from 0-32 days.

4Feed phase age not given; mortality % from 0-32 days.

5Feed phase age not given; mortality % from 0-32 days.

6Feed phase age not given; mortality % from 0-32 days.

7Feed phase age not given; mortality % from 0-32 days.

8Feed phase age not given; mortality % from 0-32 days.

9MRF in starter 0-7 days, grower 7-21 days and finisher 21-42 days.

10Feed phase age not given; mortality % from 0-32 days.