

The nutritional value of fishmeal with different gizzard erosion scores for weaner pigs and broilers.

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Abstract:

The aim of this study was to determine the nutritional value of commercially available fish meals with different gizzard erosion (GE) scores, for weaner pigs and broilers and to determine whether low-quality fish meal, that could cause gizzard erosion in broilers, would cause gastric ulceration in pigs.

Four fish meals of different quality were bought from commercial suppliers. The fish meals were:

CH0.3 (a Chilean fishmeal with a GE-score specified as 0.3),
CH0.5 (a Chilean fishmeal with a GE-score specified as 0.5),
RUS (a Russian fish meal specified as fair to average quality) and
PERU (Peruvian meal with no specification of GE-score).

CH0.3 was considered the best fish meal (GE = 0.3), based on the GE-scores that were specified when the fish meals were bought. The GE-scores determined in this study was the highest (GE = 1.92) for this fish meal while PERU, which was not specified, had the best GE-score (GE = 0.40).

The quality of the fish meal used, had a significant effect on the growth performance and feed conversion ratio of broilers, but this was poorly correlated with the GE-score. It was concluded that GE-score is a poor indicator of growth performance and should not be used as a measure of quality, in terms of growth performance, for broiler diets.

The inclusion of 14% fish meal in the weaner pig diets resulted in acceptable performance in terms of growth (mean 412g/day) and feed conversion (mean 2.15g/day), but the difference in quality of the fish meals used in this trial had no effect on the growth performance and feed conversion ratio of weaner pigs

The correlation of feed conversion with the severity of the histopathological and the macroscopical lesions in the gastric mucosa of pigs was -0.11 and 0.07 respectively. This is a clear indication that the lesions caused by the fish meal in this trial were of a low intensity and would not effect the growth performance of the pigs.

It was concluded that weaner pigs are less sensitive to poor quality fish meal than broilers, and that GE-score is a poor indicator of fish meal quality for pigs and for poultry.

Key words: fish meal, gizzard erosion, ulceration, growth response, pigs, poultry.