Research Notes P-78

Arm & Hammer Animal and Food Production

CELMANAX study shows improved weight gain in broilers fed mycotoxin-contaminated diets.

CELMANAX™ is a multicomponent, all-natural feed supplement containing Refined Functional Carbohydrates™ (RFCs™) that has Generally Recognized as Safe (GRAS) status as a feed ingredient.

STUDY OVERVIEW

- The study objective was to evaluate the effect of CELMANAX supplementation on performance when broilers were fed mycotoxin-contaminated diets.
- Broilers were fed one of two diet series that were naturally contaminated with either low or high mycotoxin levels, and assigned to one of three treatments as outlined in Table 1.
- The study included 17 broiler chicks/pen with 6 replicate pens/treatment.
- Birds were grown for five weeks with body weight (BW) and feed intake determined by pen and mortality and body weight recorded daily and used to calculated adjusted feed conversion (adj. FCR).

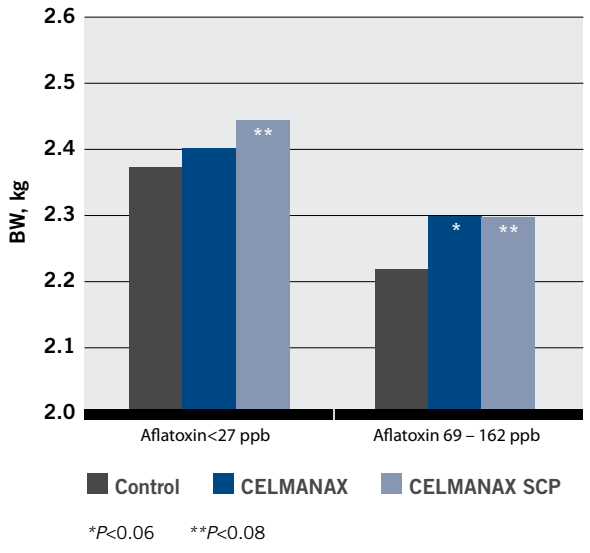
TABLE 1 2x3 Factoral design with two diets and three treatments.

Low Aflatoxin diet (1 – 27 ppb)	High Aflatoxin diet (69 – 162 ppb) and 0.2 – 0.6 ppb DON
Control (no supplementation)	Control (no supplementation)
CELMANAX 2 kg/MT in starter; 1 kg/MT in grower	CELMANAX 2 kg/MT in starter; 1 kg/MT in grower
CELMANAX SCP 200 g/MT in starter and 100 g/MT in grower	CELMANAX SCP 200 g/MT in starter and 100 g/MT in grower

RESULTS

- At 35 days of age BW was greater for broilers fed CELMANAX or CELMANAX SCP ($P<0.06$ and 0.08, respectively) compared to either control group (Figure 1). Feed intake was numerically greater in both treatment groups compared to the controls.
- FCR was not affected by treatments within each mycotoxin diet series (Figure 2).

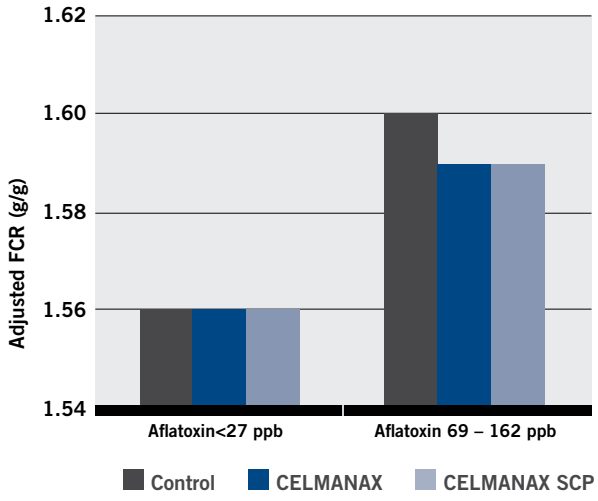
FIGURE 1: Effect of treatments on BW of broilers at 35 days of age.



CONCLUSION

- The adverse effects of mycotoxins in broiler diets is known but the level of contamination is often inconsistent. There are normal background levels that cause little concern and there are levels that require action.
- Combined effects of feeding high doses of naturally occurring mycotoxins to broilers caused decreased BW gain and FI and worsened FCR.
- CELMANAX™ and CELMANAX SCP supplementation improved BW and FI in broilers fed diets contaminated with either low or high levels of mycotoxins at the same feed efficiency.
- The broad spectrum effect of CELMANAX on a variety of mycotoxins and the ability of CELMANAX to improve broiler BW gain when challenged, as seen in this trial, provide poultry growers with a product that can be expected to be beneficial in spite of the variability of mycotoxins in feed.

FIGURE 2: Effect of treatments on FCR of broilers at 35 days of age.



To learn more about CELMANAX contact your nutritionist, veterinarian or ARM & HAMMER™ representative or visit AHfoodchain.com.

Adapted from the data of the study by J. Nixon, J. Grimes, and J. Brake. Data on file.