

Research Notes P-88

Arm & Hammer Animal Nutrition



CELMANAX improves adjusted feed conversion ratio amid multiple challenges

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

STUDY OVERVIEW

- Determine the effect of CELMANAX in diets when broilers are exposed to a range of biological challenges.
- Ross male broiler chicks were randomly assigned to pens with 13 chicks/pen to give 6 replicate pens/treatment. Treatments were as follows:
 - Group 1: No challenge, no additive
 - Group 2: Group 1 treatment + CELMANAX SCP (50 g/MT)
 - Group 3: Intermediate Challenge + CELMANAX SCP (50 g/MT)
 - Group 4: Maximum Challenge
 - Group 5: Group 4 treatment + CELMANAX SCP (50 g/MT)
- The basal diet contained on average 50 ppb Aflatoxin, 0.4 ppm DON and 2.7 ppm Fumonisin
- Water in drinkers designated as “clean” was dumped daily while water was never changed in drinkers designated as “dirty.” The degrees of challenge are further described in Table 1.
- Birds were grown for seven weeks with body weight and feed intake measured by pen. Mortality was noted daily and used to adjust feed conversion ratio (adj. FCR).

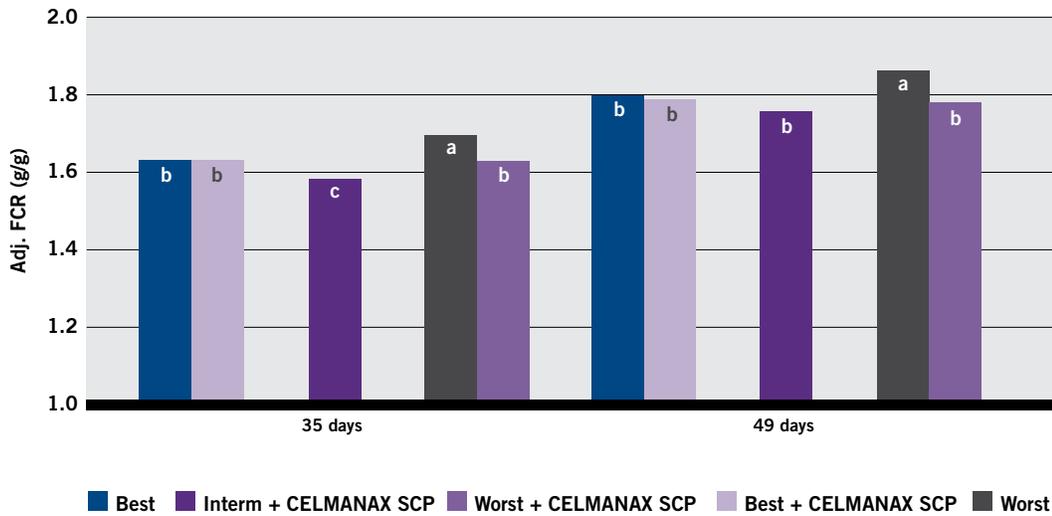
TABLE 1 Degree of challenge by group

Scenario	Litter	Water	Coccidiostat
Best	New	Clean	In starter, grower, finisher diets
Intermediate	Used	Dirty	In starter, grower, finisher diets
Worst	Used	Dirty	In starter diets only

RESULTS

- There was no difference between groups related to feed intake or body weight at days 35 and 49.
- Adjusted feed conversion ratio was significantly improved in broilers supplemented with CELMANAX at days 35 and 49 and exposed to challenge.
- With the aid of the coccidiostat, CELMANAX improved adj. FCR by an additional two points.

FIGURE 1: Effect of CELMANAX™ SCP and different challenge scenarios on Adj. FCR



^{a,b} Superscripts differing within category indicate significant difference ($P=0.05$)

CONCLUSION

- This study demonstrated the capacity of CELMANAX SCP to maintain feed efficiencies in the absence of a coccidiostat in the grower and finisher phase.
- CELMANAX did not create any negative effects when there was no challenge present.
- In the presence of water, litter, mycotoxin and coccidia challenge, CELMANAX SCP improved the feed conversion ratio at 35 and 49 days of age.
- Under all three challenge conditions, 50 g/MT of CELMANAX SCP in all three broiler diet phases was found to support optimal live performance.



Animal Nutrition



Brake, et al. Coccidiostat withdrawal from broiler diets containing Refined Functional Carbohydrates™ (RFC™) from enzymatically hydrolyzed yeast. 2015; Abstract M3. Presented at IPSF, Atlanta, GA.

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