

Comparison of Monensin Sodium and Xylanase in High Fiber Poultry Diets

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Introduction

- Antimicrobials, such as monensin sodium, have been used to increase nutrient digestibility in poultry diets.
- Consumers have been putting increasing pressure on producers to limit the amount of antimicrobials used
- Another common additive is exogenous xylanase, an enzyme used to improve digestibility in high fiber feeds.
- There has been a search for a replacement for antimicrobials in high fiber diets.

Experimental Procedures

- 216 1-day old Cobb chicks were randomly placed in cage of 6 chicks, assigned a place in one of three batteries, and one of six dietary treatments.
- Treatments were fed ad libitum over a 21 day period.
- Initial body weight was taken on day 1.
- BW and feed intake were monitored weekly to determine overall weight gain, total feed intake, and FCR.
- The data was analyzed using GLIMMIX and SAS with the cage as the experimental unit and the treatments as the fixed effect

Experimental Diets

Table 1. Formulas of Dietary Treatment

Ingredient, lbs	Trt 1 – Corn Negative Control	Trt 2 – Wheat Negative Control	Trt 3 – Corn Positive Control	Trt 4 – Wheat Positive Control	Trt 5 – Corn + Xylanase	Trt 6 – Wheat + Xylanase
Wheat	0	165	0	165	0	165
Corn	147	0	147	0	147	0
Soybean meal	88	68.4	88	68.4	88	68.4
Soy oil	4.45	6.83	4.45	6.83	4.45	6.83
Dical	5.43	5.08	5.43	5.08	5.43	5.08
Limestone	1.95	0.85	1.95	0.85	1.95	0.85
Salt	0.58	0.35	0.58	0.35	0.58	0.35
L-Lys	0.45	0.85	0.45	0.85	0.45	0.85
DL-Met	0.63	0.60	0.63	0.60	0.63	0.60
L-Thr	0.075	0.30	0.075	0.30	0.075	0.30
Sodium bicarb	0.45	0.90	0.45	0.90	0.45	0.90
Poultry VTM	0.75	0.75	0.75	0.75	0.75	0.75
Econase XT	0	0	0	0	12.5 g	12.5 g
Coban 90	0	0	0.125	0.125	0	0
Total	250	250	250	250	250	250

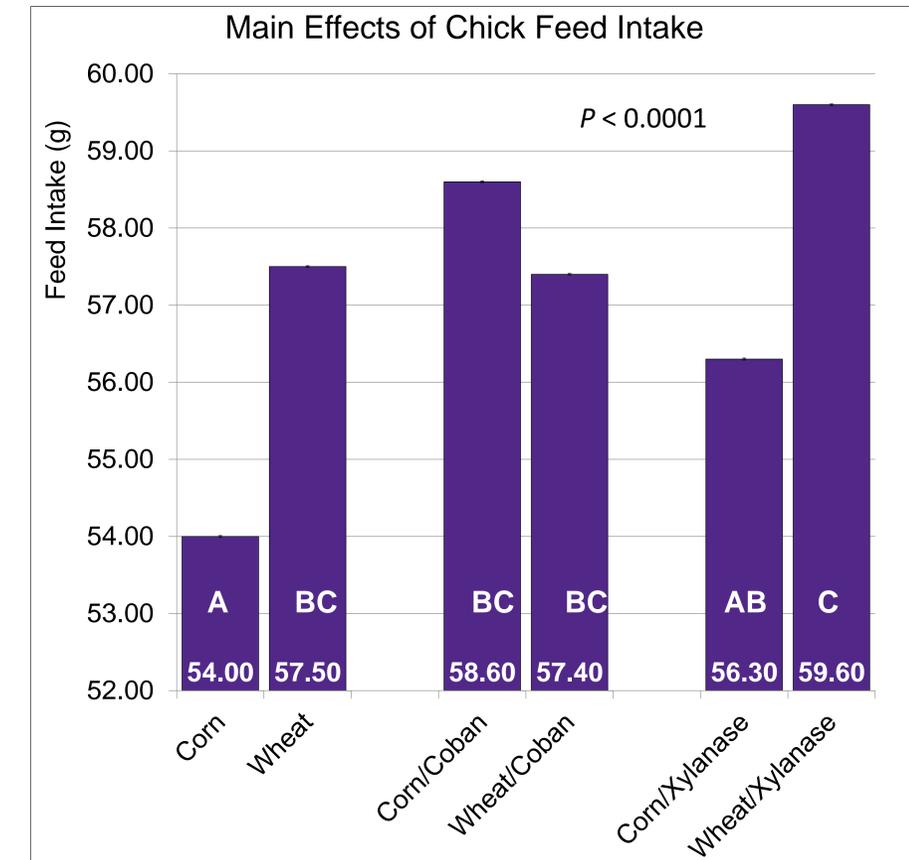
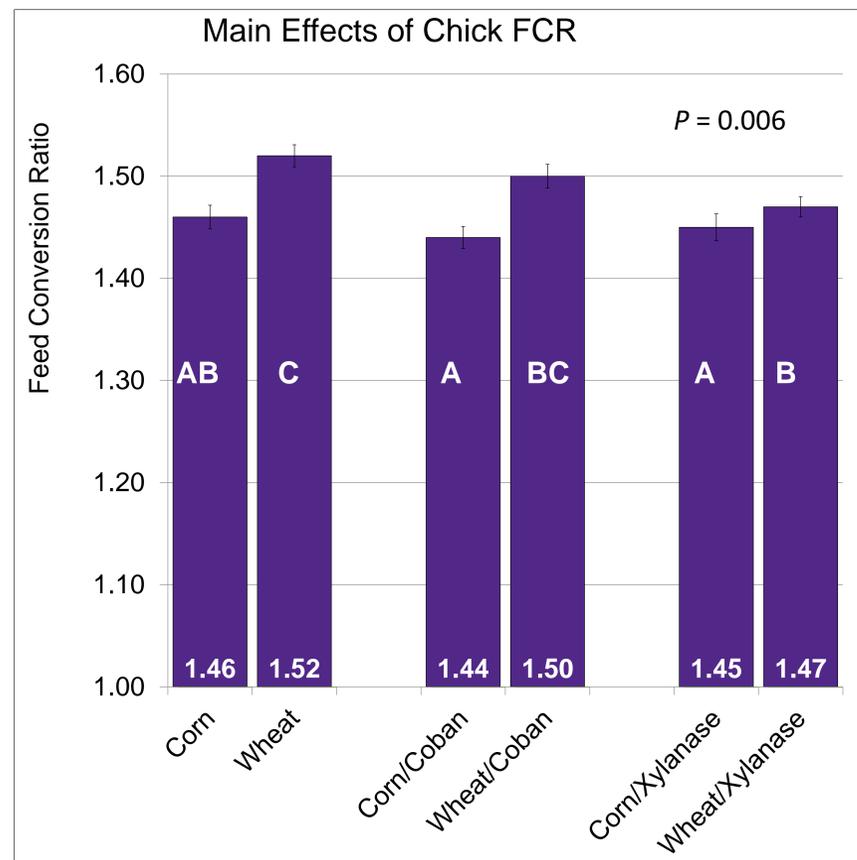
Objective

- To compare the digestibility of monensin sodium and xylanase in high fiber broiler diets.

- Figure 1: Cobb broiler chicks
- Figure 2: Battery cage examples



Effects



Conclusions

- The corn-based control diet improved FCR by $P < 0.05$ compared to the wheat-based control diet
- Corn-based control compared to corn-based monensin sodium and xylanase treatments, there was no statistical difference ($P > 0.05$) in the FCR.
- Wheat-based control diet compared to the wheat-based xylanase treatment, the FCR improved ($P < 0.05$).
- The only statistical difference in feed intake was between corn-based control and corn-based monensin sodium treatment.
- Monensin sodium showed little impact in this environmental setting possibly due to lack of stress.

Support

Appreciation is expressed to Koch Industries for financial support of this experiment.

