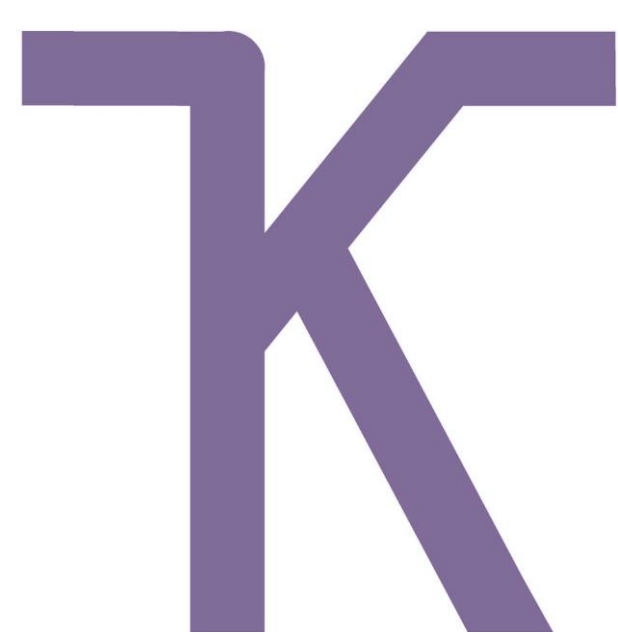
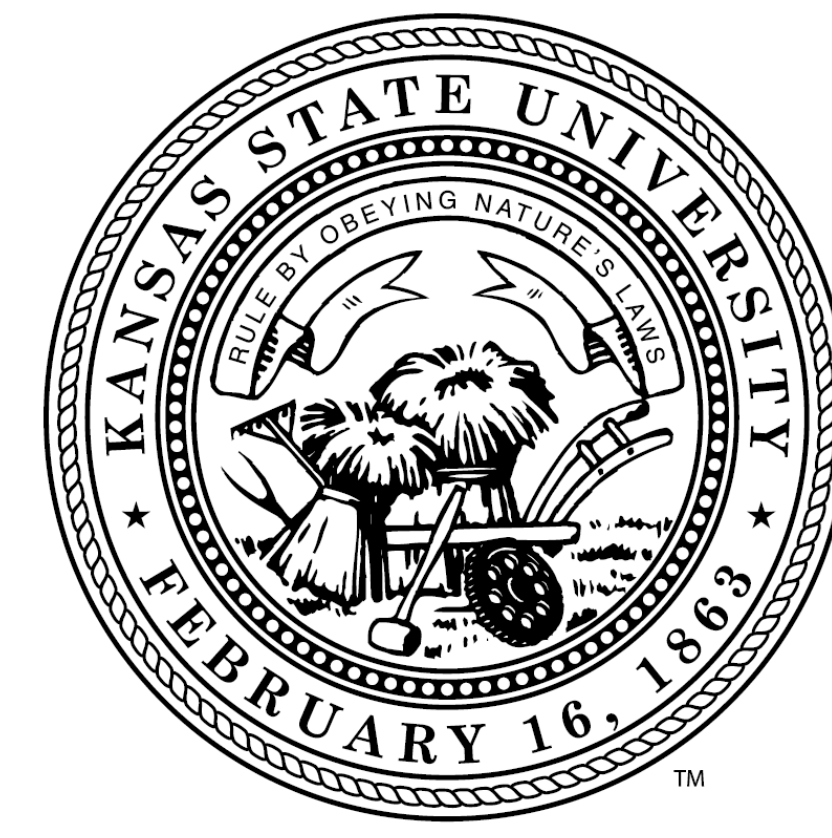




Effects of medium chain acids on early pig diets when compared to carbadox, ZnO and a negative control

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Introduction

Recently, consumers have expressed concerns about the use of carbadox as an antibacterial agent in early swine diets. Antibiotics are used in early swine diets to control and prevent diseases such as Edema Disease and Post-Weaning Diarrhea. ZnO has been shown to have similar effects but is a less than ideal replacement as it poses environmental hazards. Pig excretions from ZnO inclusive diets contain high levels of zinc that can contaminate area soils and water sources. This has created a need for research concerning alternative products such as medium chain fatty acids.

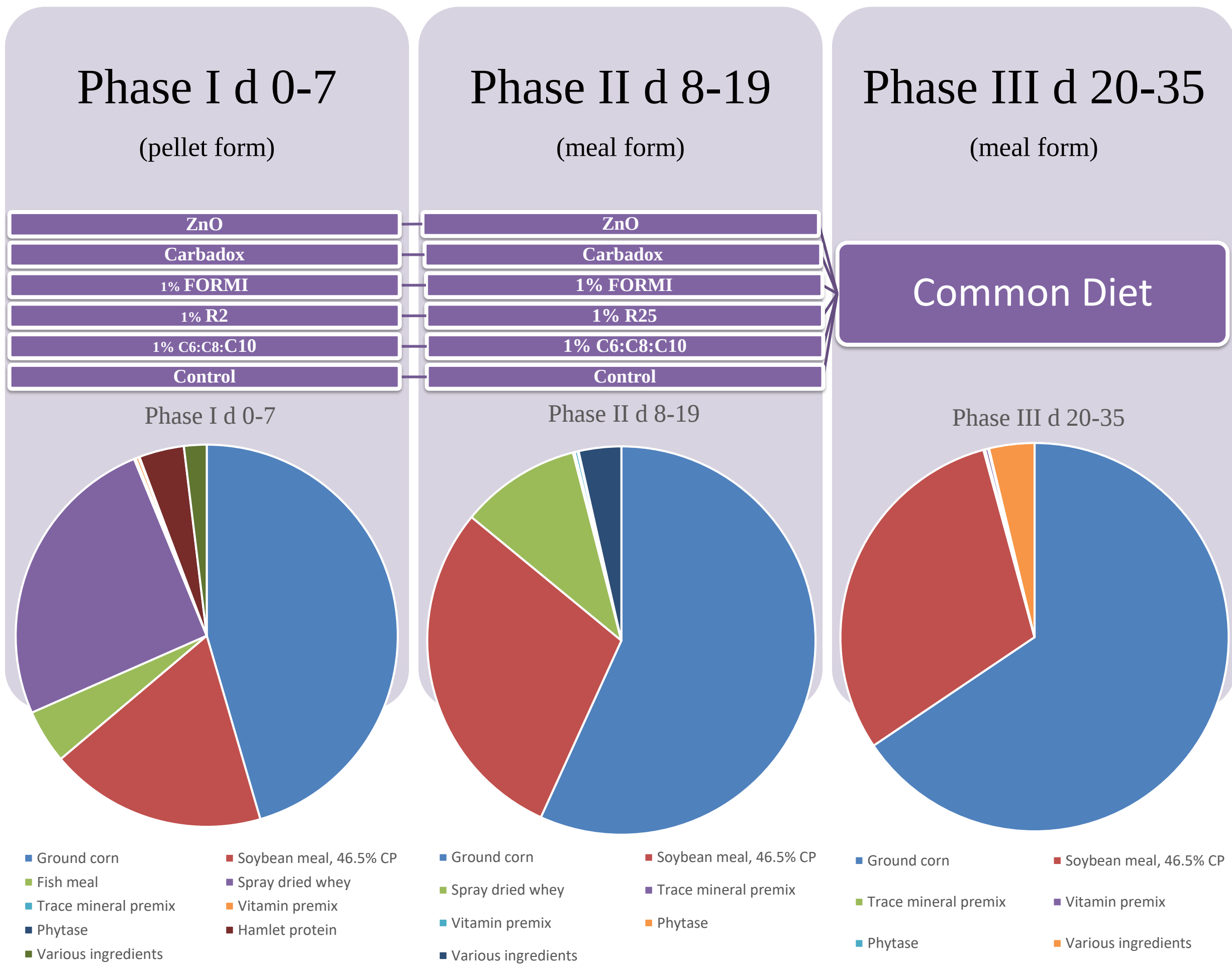
Objective

To evaluate the effects of medium chain fatty acids on average daily gain (ADG), average daily feed intake (ADFI) and gain to feed (G:F) when compared to carbadox, ZnO or a negative control.

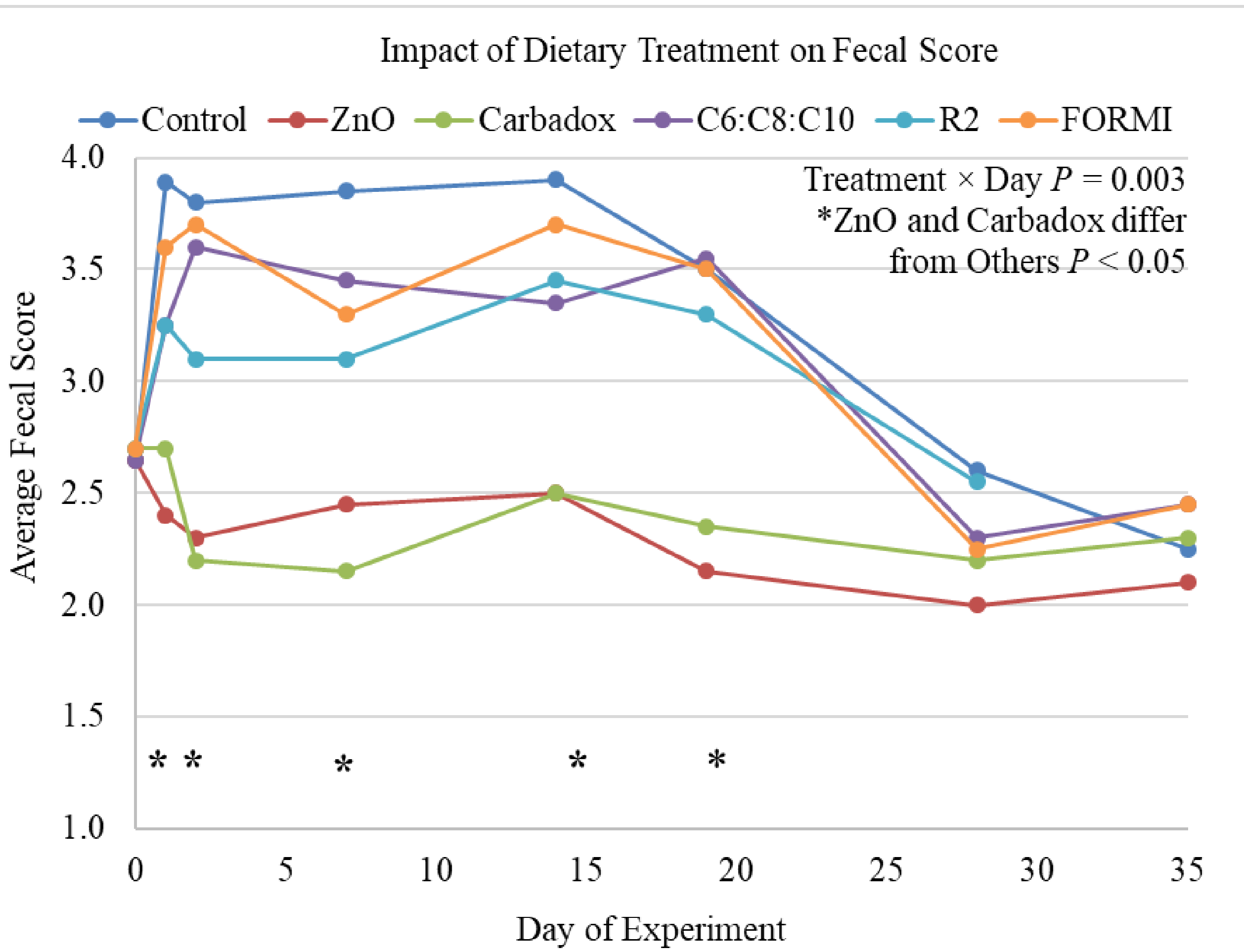
Experimental procedure

- Experimental Unit:** Individual pen
- Animals:** 360 pigs (DNA 200×400; 5.4±0.07 kg BW; 21 days old)
- Treatments:** Pigs were allotted to 1 of 6 treatments in a completely randomized design using 10 replicates per treatment and 6 pigs per pen.
 - Normal diet with ZnO-positive control 3000 ppm in phase 1, 1500 ppm in phase II.
 - Normal diet without ZnO- negative control
 - Carbadox 50g/ton
 - FORMI by ADDCON Bitterfeld-Wolfen, Germany
 - Start R2 by Feed Energy Feed Corp, Demoin, IA
 - 1% C6:C8:C10 by PMI Nutritional Products .
- Data was analyzed using:** Statistical Analysis System (SAS version 9.4 Cary, NC)

Experimental diets



Results of fecal scores



Discussion

- Fecal scores of pigs fed the control, C6:C8:C10, R2 and FORMI were higher than that of pigs fed ZnO or carbadox.
- Low palatability of R2 product led to decreased feed intake which resulted in lowered average daily gain of pigs.
- FORMI had similar ADG and ADFI to carbadox and ZnO.

Conclusions

- Higher fecal scores of C6:C8:C10, R2 and FORMI could cause confusion among producers of efficacy of product.
- Medium chain fatty acid FORMI offers possible alternative to ZnO and carbadox.

Future directions

- More research is needed to determine effects of varied levels of medium chain fatty acid products in early pig diets.

Acknowledgments

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Results of ADG BW and ADFI

