



# Effects of feeding medium chain fatty acids (MCFA) as a replacement to ZnO or carbadox

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## Introduction

Due to high demands from consumers to limit antimicrobial usage in nursery pig diets, pork producers are seeking replacements that improve growth performance. Some currently used antimicrobials include ZnO and carbadox. However, each have their own disadvantages. ZnO can lead to subsequent ground contamination of Zn in soil while carbadox residue has been found to be carcinogenic. Literature suggests a possible replacement could be medium chain fatty acids (MCFA). However very few studies exist that compare MCFA to ZnO or carbadox.

## Objective

- The objective of this experiment was to evaluate the ability of MCFA to replace ZnO and carbadox in nursery pig diets.

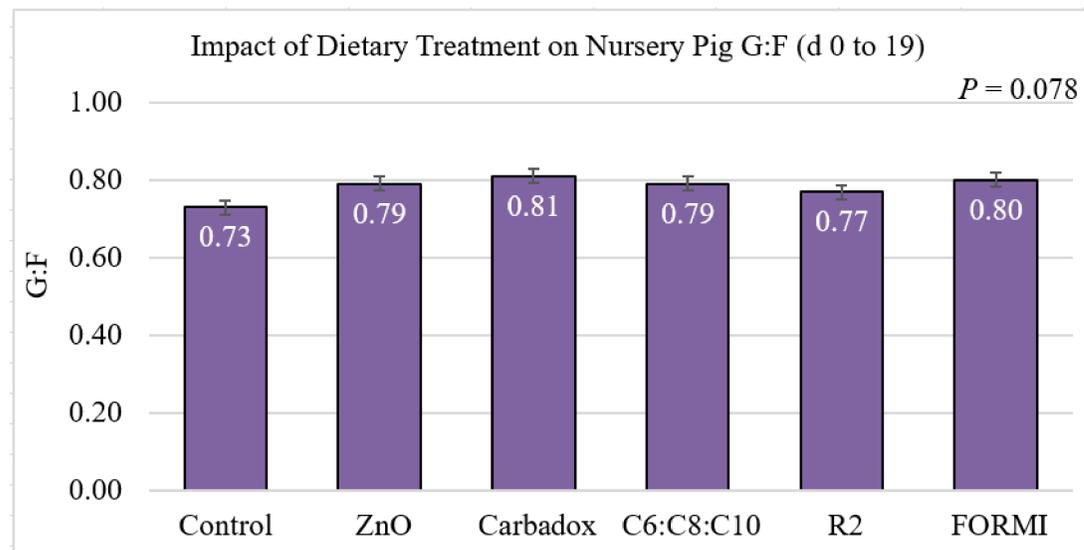
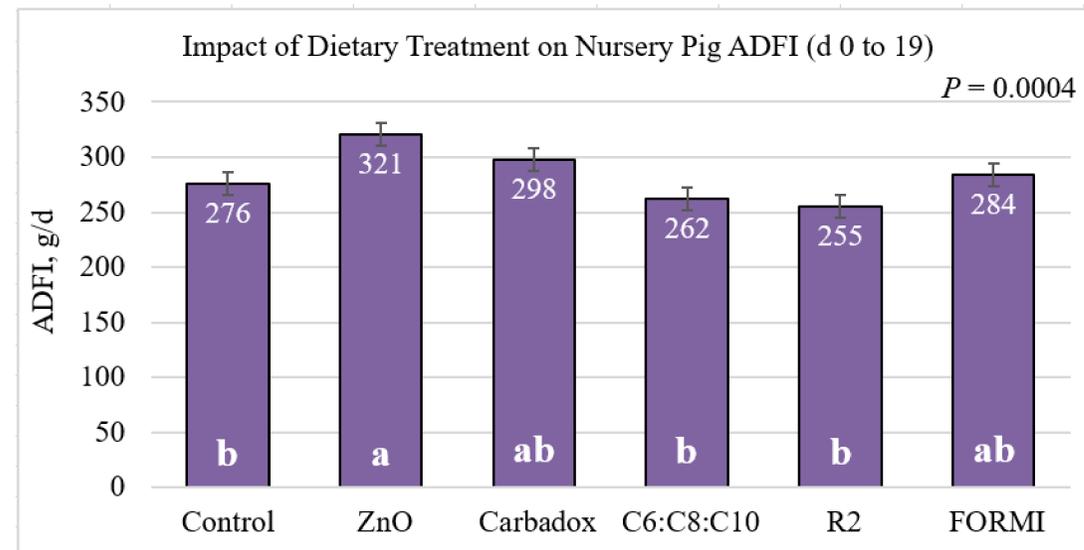
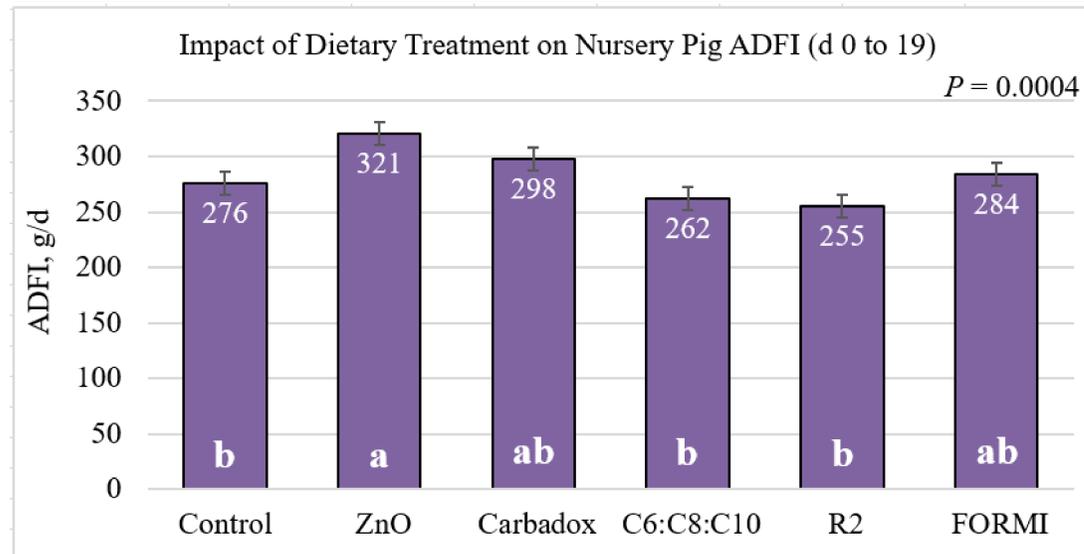
## Experimental Procedures

- 360 nursery pigs (DNA 200x400; 5.4±0.06kg;) were used in a 35-d growth experiment.
- There were 6 pigs/pen and 10 pens/treatment
- Pigs allotted to pens based on randomized design to 1 of 6 dietary treatments.
- Fed in two phases from weaning to d 19 of the experiment and a common phase 3 diet fed from d 20 to 35.
- Feeder, pig, and fecal data were collected weekly
- Blood Samples taken d 0, 7, 21 and 35.
- Data analyzed using PROC GLIMMEX (SAS version 9.4; Cary NC).

## Experimental Diets

- Negative Control
- ZnO (3,000 ppm in phase 1 and 1,500 ppm in phase 2)
- Carbadox (50 g/ton)
- MCFA (1% C6:C8:C10 (MCFA blend))
- MCFA (1% R2 (Feed Energy, City, IA))
- MCFA (1% FORMI GML (ADDCON; Bitterfeld-Wolfen, Germany))

## Results



## Conclusions

- During the treatment period, pigs fed ZnO or carbadox had greater ADG than those fed the control or R2 diets.
- For pigs fed ZnO compared to pigs fed the negative control ADFI was improved with little impact on G:F.
- It can be concluded that ZnO and carbadox improved weaning growth and feed intake while MCFA were variable in performance.
- Therefore, more research is needed on MCFA as a possible replacement to ZnO or other antimicrobials.