

Evaluating the Effects of Medium Chain Fatty Acids on Nursery Pig Health and Performance Compared to Traditional Feed Supplements Carbadox and Zinc Oxide

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Introduction

- Carbadox and Zinc Oxide (ZnO) are traditional feed supplements for nursery pig diets, but they have many modern disadvantages, including antibiotic resistance and negative environmental impacts.
- Medium chain fatty acids (MCFA) have some advantages, including being antiviral and bactericidal. This could prove effective in preventing common illnesses in nursery pigs.

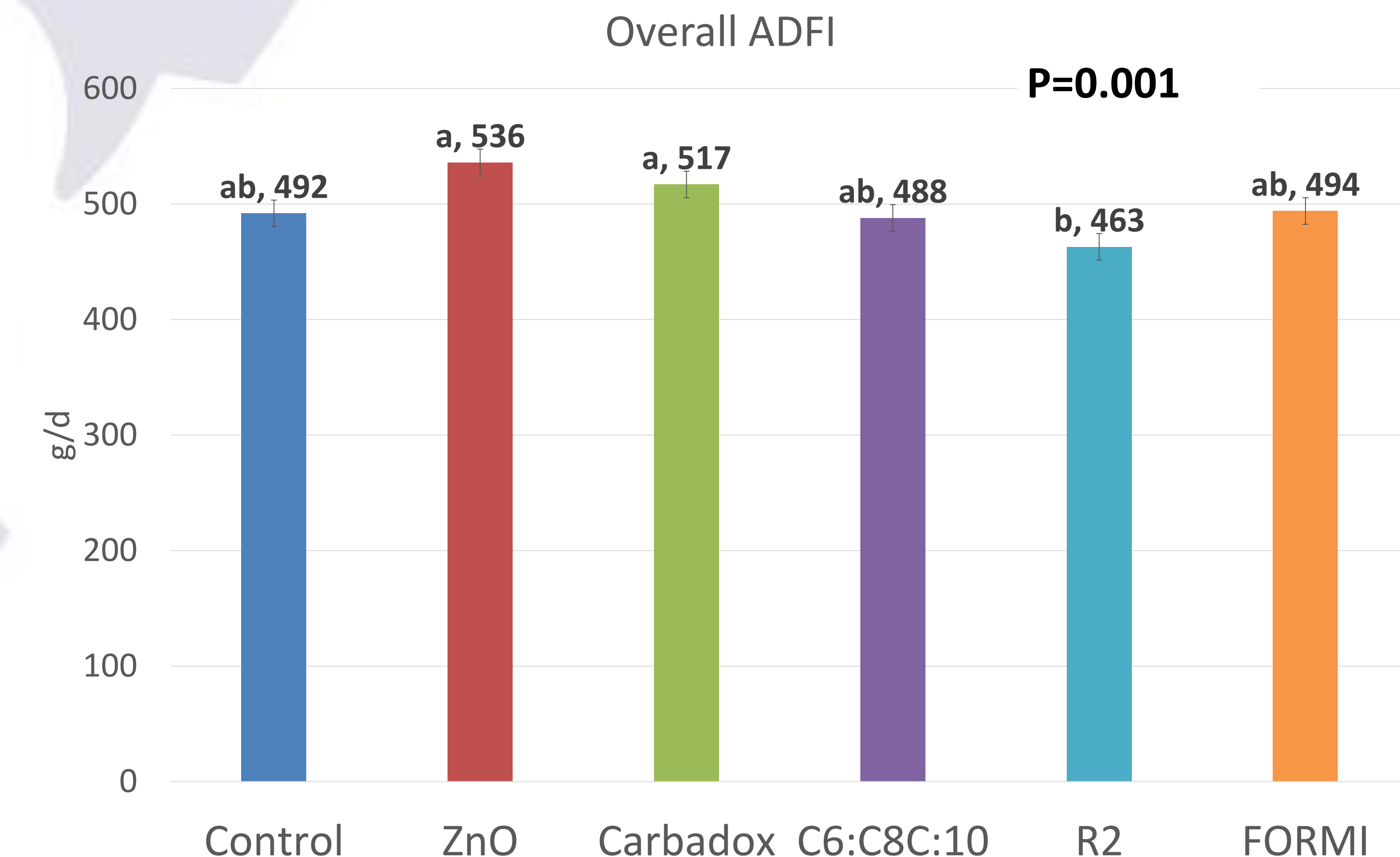
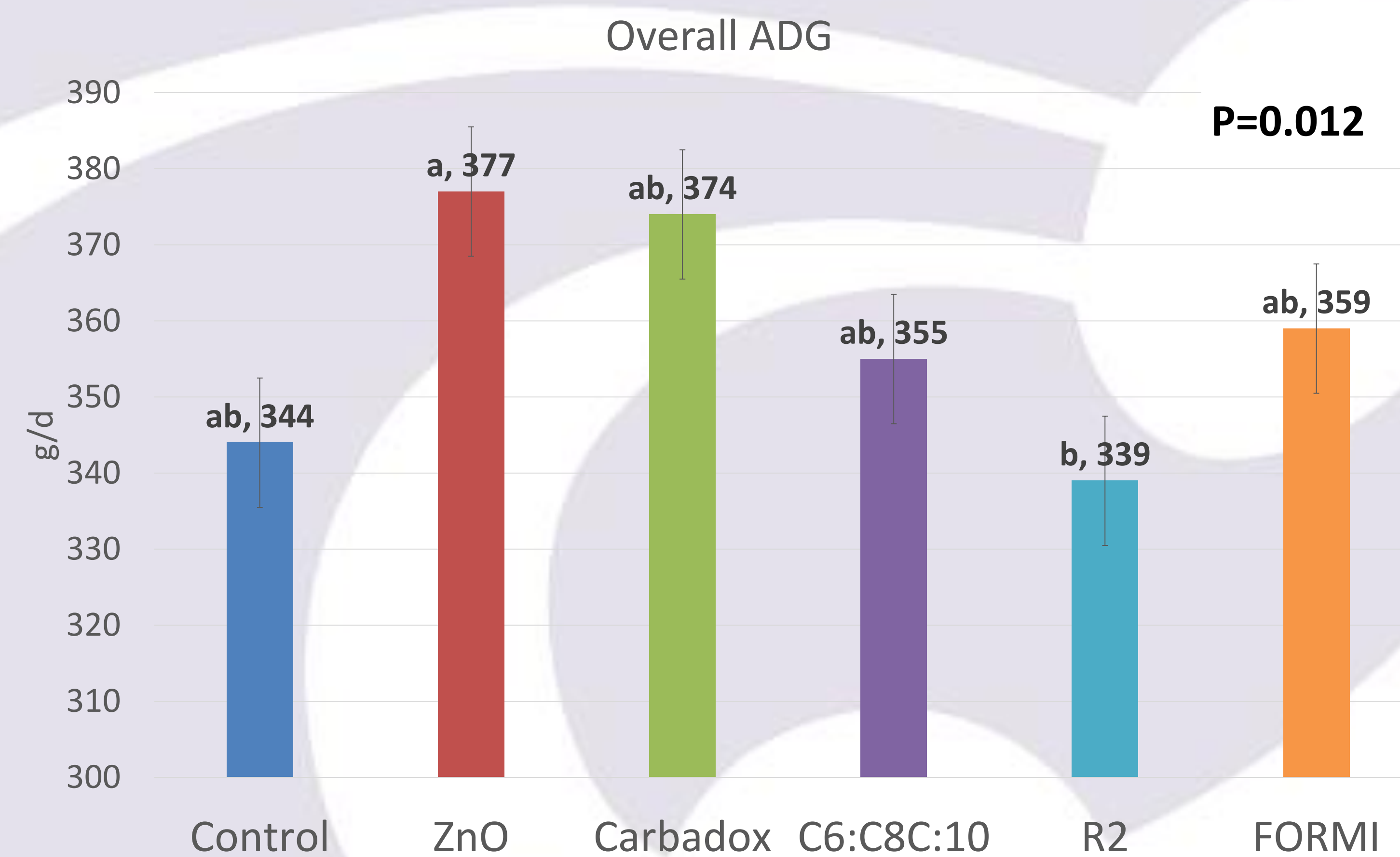
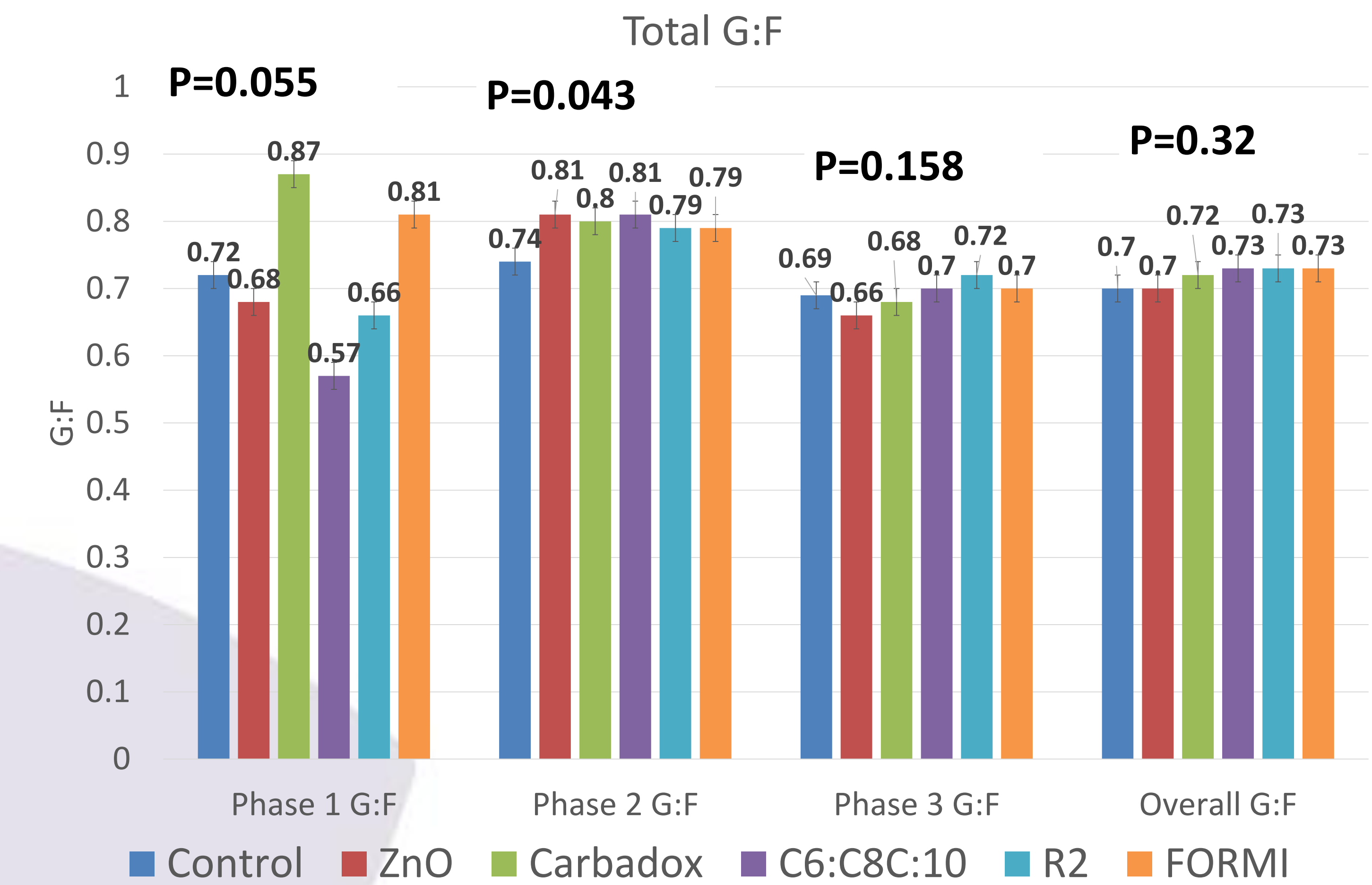
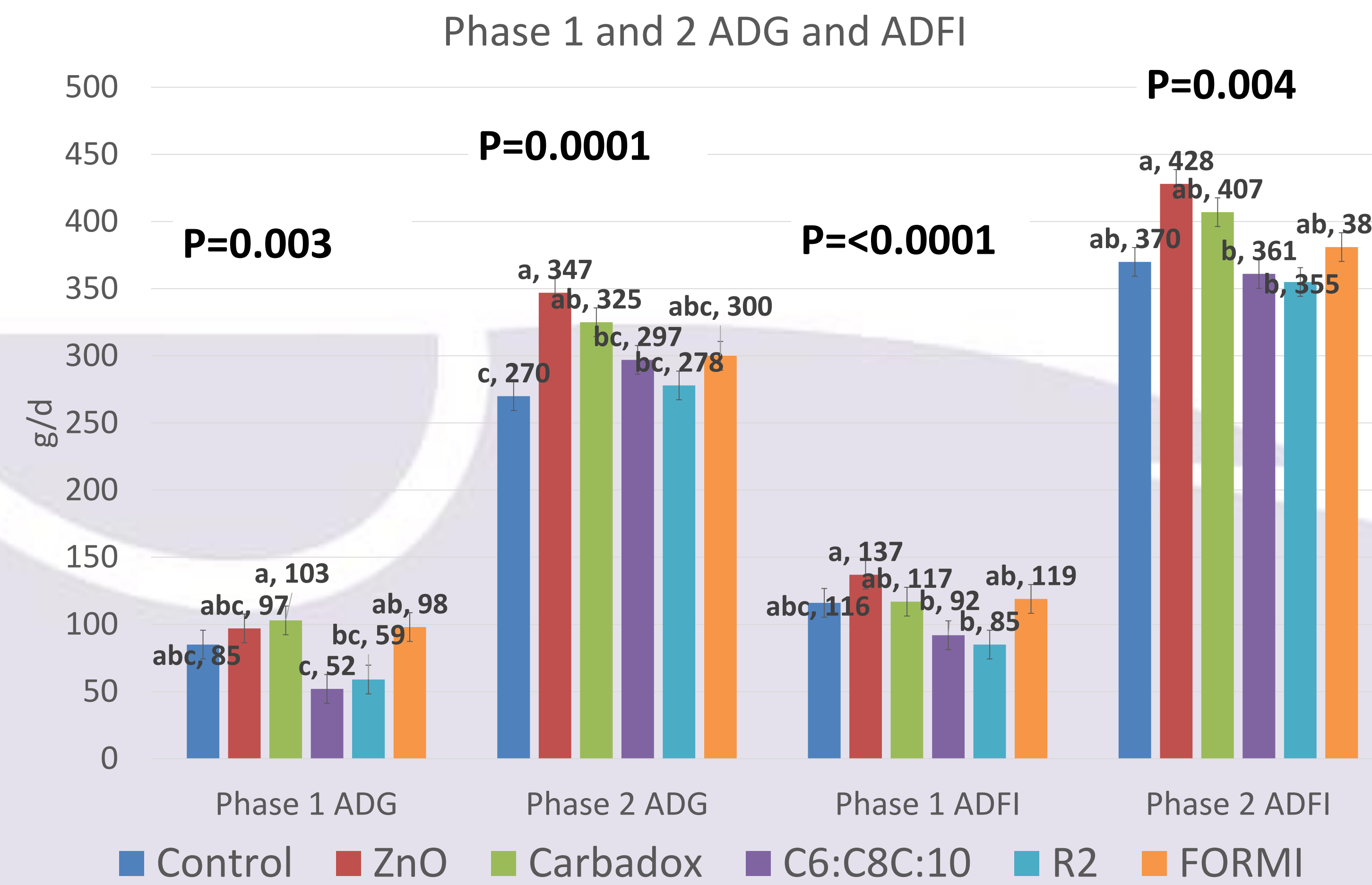
Objective

- The objective of this experiment was to evaluate the effects of MCFAs on nursery pig health and performance and determine if they are an adequate replacement for carbadox and ZnO.

Experimental Procedures and Diets

- 360 weanling pigs (DNA 200x400: 5.4+/-0.07 kg) were randomly assigned to 6 diets, with 10 pens per diet and 6 pigs per pen
- The 6 diets were fed at 3 phases, Phase 1 (d0 to d7) and 2 (d8 to d19) included treatment diets, while Phase 3 (d20 to d35) was a common diet with no experimental supplements.
- The Diets (Phase 1 and 2):
 - 1: Control
 - 2: 3,000 ppm ZnO in Phase 1 and 1,500 ppm in Phase 2
 - 3: 50 g/ton carbadox
 - 4: 1% blend of C6:C8:C10
 - 5: 1% Feed Energy R2 (Feed Energy Corp, Des Moines, IA)
 - 6: 1% FORMI GML (ADDCON, Bitterfeld-Wolfen, Germany)
- Piglet weights and feeder weights were collected weekly during the 35 day trial. These weights were used to calculate average daily gain (ADG), average daily feed intake (ADFI), and gain to feed ratio (G:F).

Results



Conclusions

- This experiment found that nursery pigs fed traditional feed supplements carbadox and ZnO had greater ADG and ADFI when compared to the control.
- The experimental diet FORMI illustrated an intermediate improvement in ADG and ADFI.
- The other MCFA diets did not show ADFI improvement in comparison to the control.
- In conclusion, further studies are needed to evaluate if MCFAs are an adequate replacement for carbadox and ZnO.

Acknowledgements

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