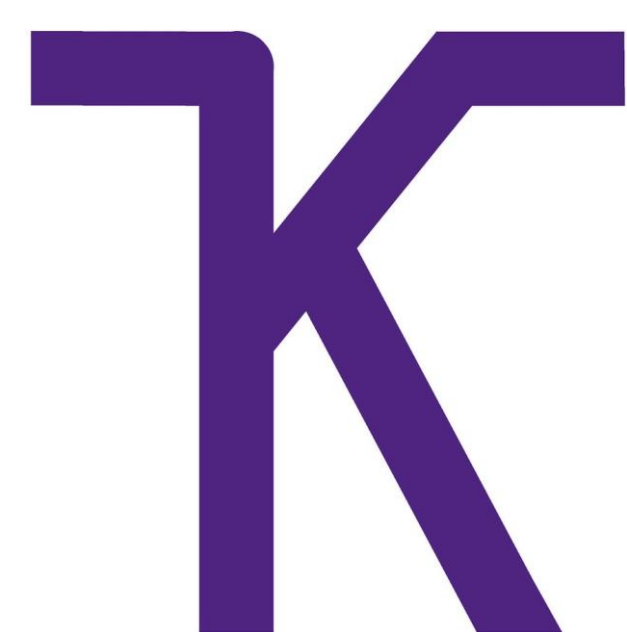




The Effects of Medium Chain Fatty Acids on Weanling Pig Growth



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Introduction

- Increasing consumer demands of the livestock industry require additional research to ensure the drugs given to food animals is safe for human consumption and the environment.
- The drugs carbadox and zinc oxide as feed additives in weanling pig diets have proven to be effective in preventing *E. Coli* and stimulating growth in weanling pigs.
- However, these drugs have been linked to human health and environmental impact issues.
- Medium chain fatty acids may also have the ability fight *E. Coli* because of its ability to disrupt the lipid bilayer of bacterial cells.

Objective

- This study has worked to further the investigation of medium chain fatty acids as a feed additive in weanling pig diets to replace the use of carbadox and zinc oxide while still preventing *E. Coli* and stimulating growth.

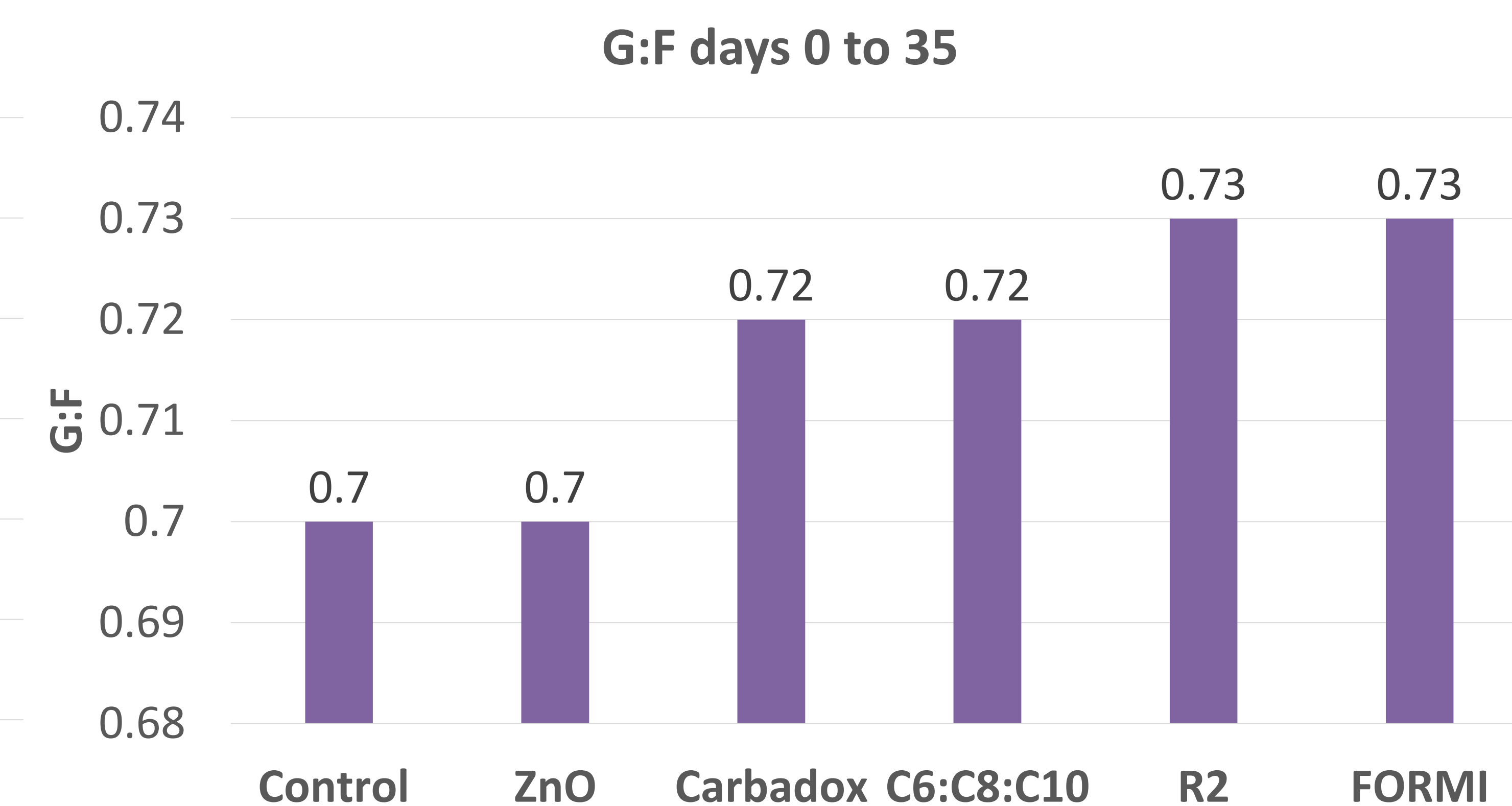
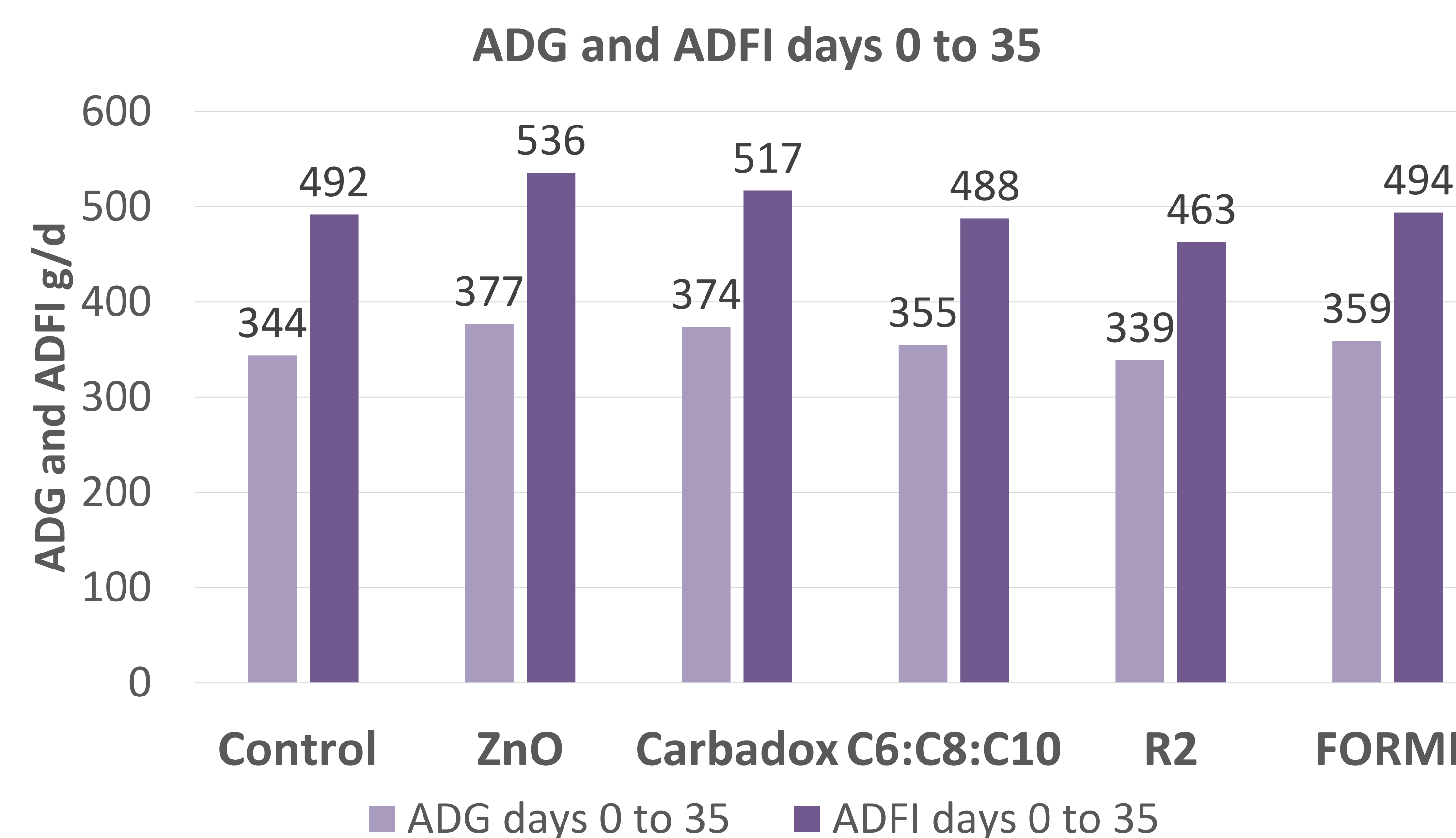
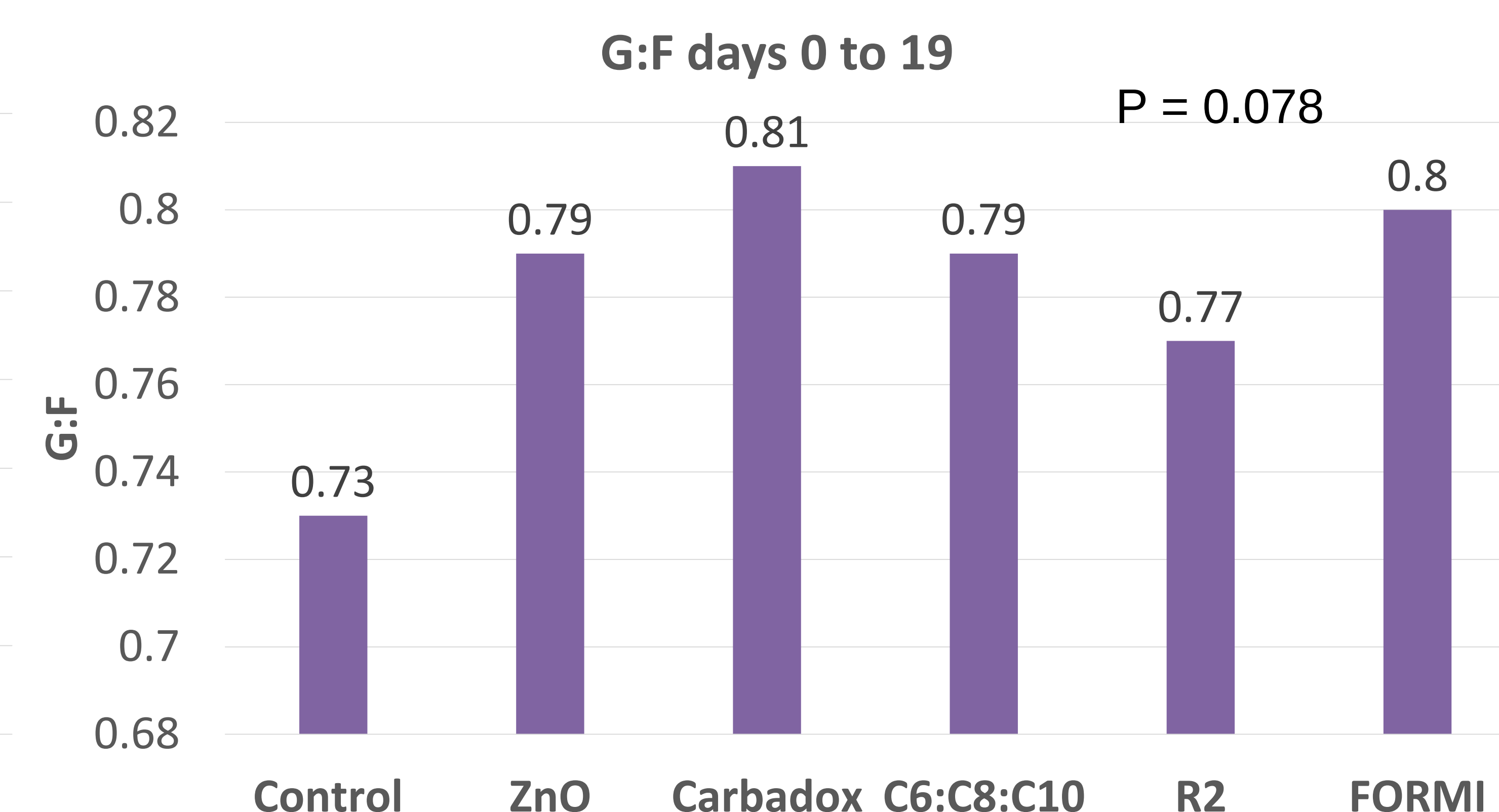
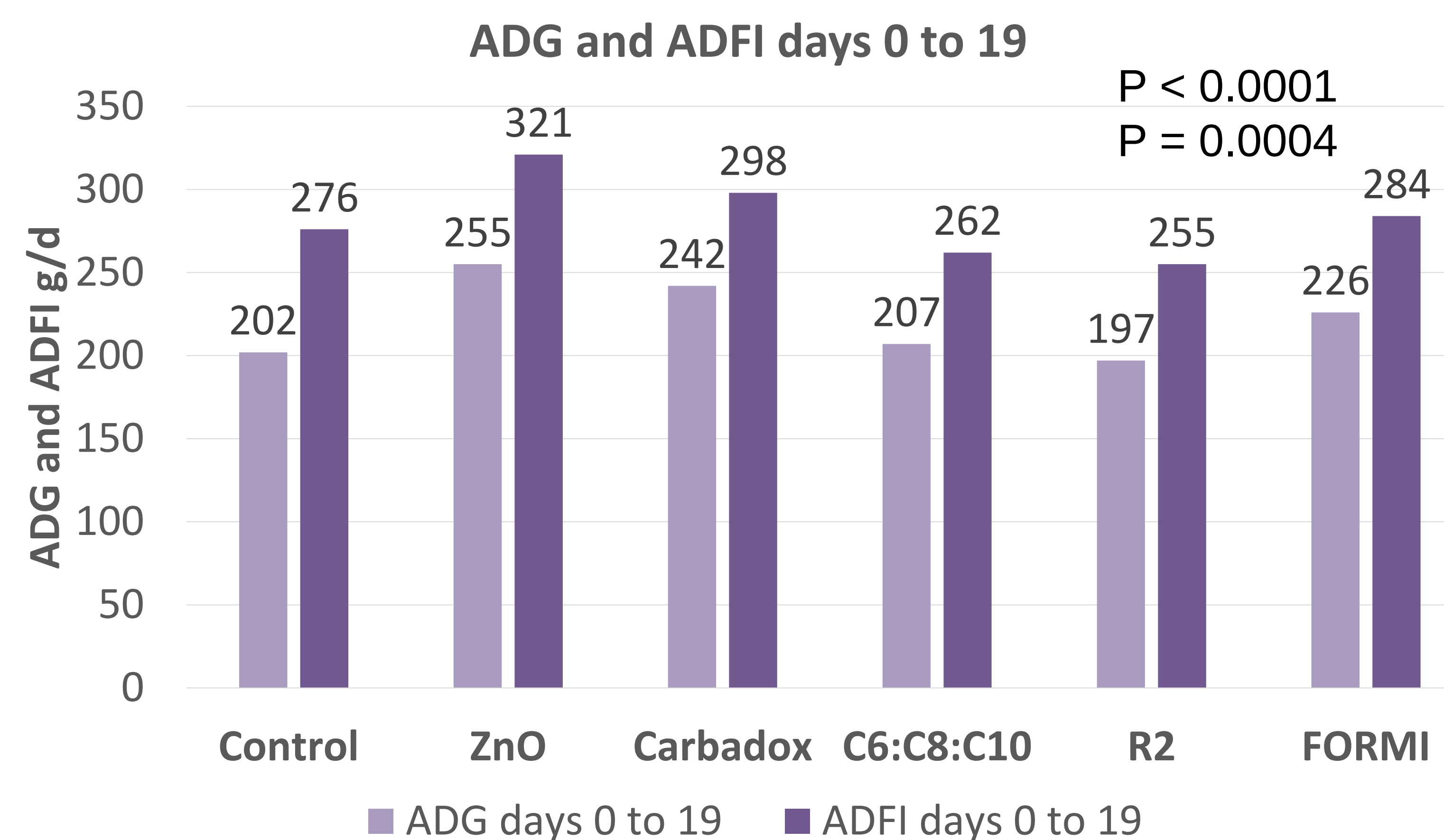
Experimental Procedures

- 360 weaned pigs (DNA 200×400 BW 5.4kg ± 0.07kg)
- 10 pens per treatment and 6 pigs per pen
- This study was a completely randomized block design
- Pigs were fed in three phases. Treatment diets were fed during phases one and two (days 0 to 19) and a common diet was fed during phase three (days 20 to 35).
- All pigs and feeders were weighed every seven days to calculate ADG, ADFI, and G:F.
- Data was analyzed using PROC GLIMMIX (SAS version 9.4; Cary, NC)

Experimental Diets

- Control
- 3000ppm ZnO phase one and 1500ppm phase two
- 50g/ton Mecadox
- 1% blend C6:C8:C10
- 1% feed energy R2 (Feed Energy Corp, Des Moines, IA)
- 1% FORMI GML (ADDCON, Bitterfeld-Wolfen, Germany)

Results



Conclusions

- Zinc oxide and carbadox resulted in the highest average daily gain and average daily feed intake rates in weanling pigs (P = 0.05), however the pigs on the FORMI diet closely resembled these growth patterns.
- FORMI showed promise for further investigation as a potential replacement to these drugs.
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