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Introduction

There has been an increase in consumer pressure to reduce the use of ZnO and antimicrobials in swine diets. There is limited research evaluating alternatives in nursery pig growth performance to replace antibiotics or ZnO.

Procedures and Methods

- Experiment Unit: Pens (6 pigs/pen/treatment)
- A total of 360 PIC 337 (DNA 200 X 400, initially 5.4 ± 0.06 kg BW) weanling pigs
- Treatments:
 - Negative control¹
 - 3,000ppm ZnO phase 1; 1,500ppm ZnO phase 2
 - 50g/ton carbadox
 - 1% blend of C6:C8:C10
 - 1% feed energy R2 (Feed Energy Corp, Des Moines, IA)
 - 1% Formi GML (ADDCON, Bitterfeld-Wolfen, Germany).
- A common diet was implemented at d 20 through d 35.
- Routine: Pig weights, feeder weights, and feed added were taken weekly.
- Data Analysis: Data was collected and analyzed with Statistical Analysis System (SAS Version 9.4, Cary, NC) GLIMMIX program with significance at ($P < 0.05$).

Results

Figure 1. Treatment period (d 0 to 35)

Overall (d 0 to 35)	ZnO	Control	50 g/ton Carbadox	1% C6:C8:C10	1% Feed Energy R2	1% FORMI GML	SEM	<i>P</i> =
ADG, g/d	377 ^a	344 ^{ab}	374 ^{ab}	355 ^{ab}	339 ^b	359 ^{ab}	8.5	0.012
ADFI, g/d	536 ^a	492 ^{ab}	517 ^a	488 ^{ab}	463 ^b	494 ^{ab}	11.5	0.001
G:F	0.70	0.70	0.72	0.73	0.73	0.73	0.012	0.32

Figure 2. ADG, treatment period d 0 to 19

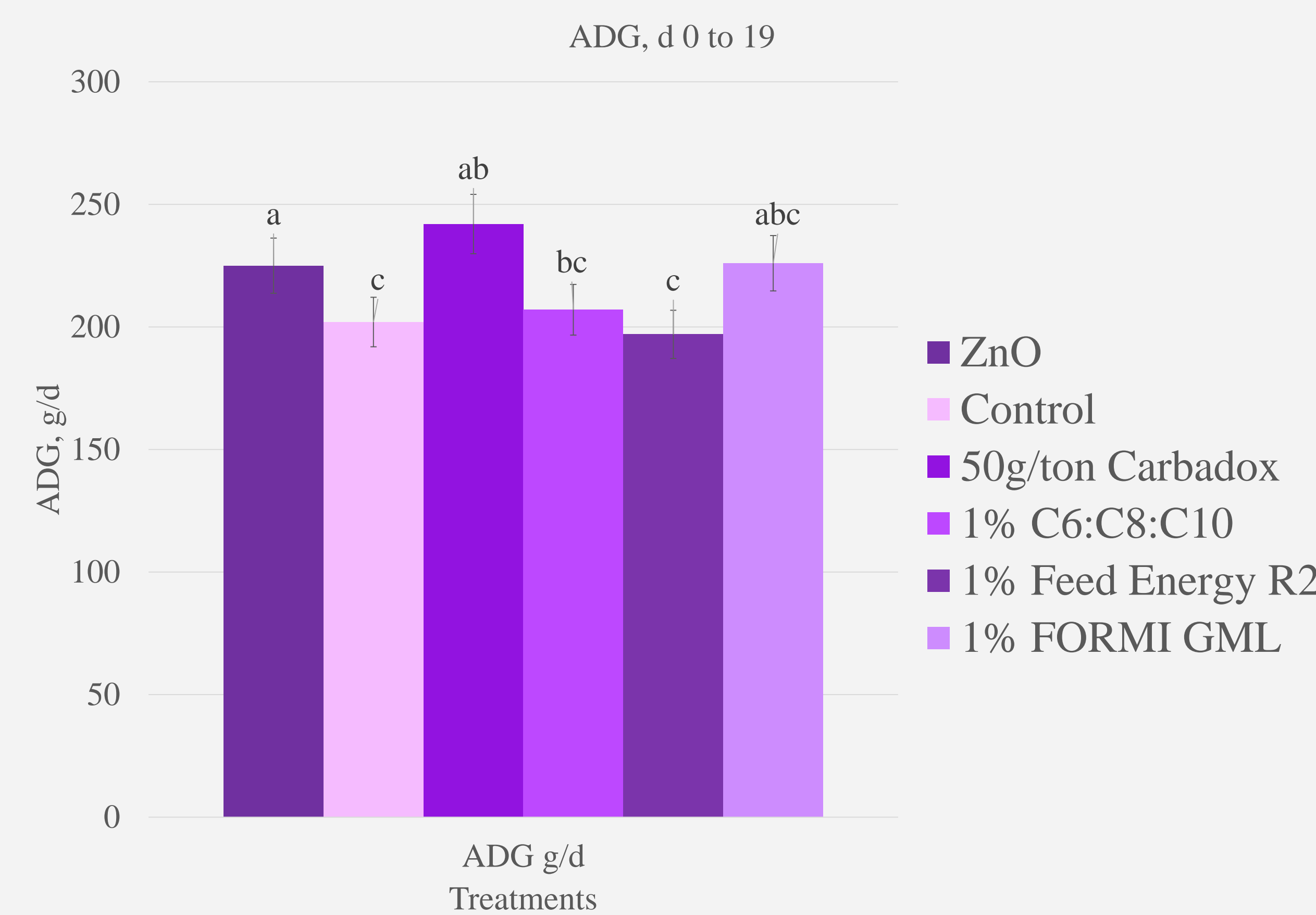


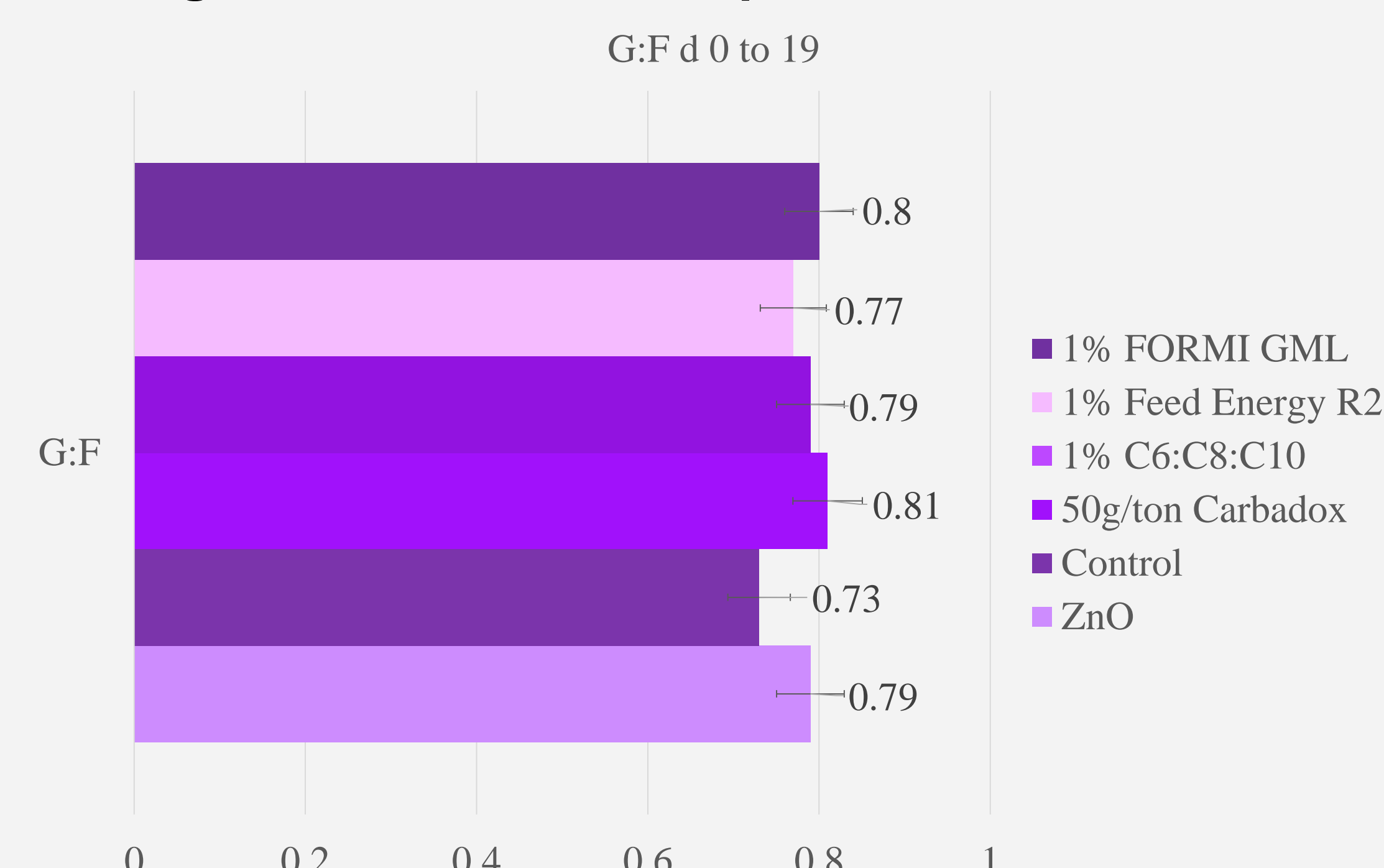
Figure 3. ADFI, treatment period d 0 to 19



abc Means within a row that do not share a common superscript differ $P < 0.05$.
¹Control diet was formulated using 1% choice white grease.



Figure 4. G:F, treatment period 0 to 19



Objective

To evaluate the dietary effects of ZnO, Carbadox, and Medium Chain Fatty Acids (MCFA) on nursery pig performance.

Conclusions

- Pigs fed ZnO, carbadox, or 1% FORMI GML had greater ADG ($P < 0.0001$).
- During the common diet phase there was no detected difference between the treatments for ADG ($P = 0.873$), ADFI ($P = 0.089$), and G:F ($P = 0.158$).
- More research is required to determine whether MCFA-based products can replace ZnO or carbadox with little overall effect

Appreciation

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