Evaluation of a nutritional water supplement on growth performance of nursery pigs

A.M. Sawyer*, S. D. Carter*, C. V. Cooper, P. Aparachita*, M. R. Bible†, and F. B. Sandberg†
* Oklahoma State University, Stillwater, OK and † Furst-McNess, Freeport, IL
PSIV-1

ABSTRACT
One-hundred forty weanling pigs (3.76 kg; 20 d of age) were used to determine the effects of a nutritional water supplement (WB; Water Boost, Furst-McNess, Freeport, IL) on growth performance of nursery pigs. Pigs were randomly allotted to two water treatments (7 pens/treatment; 10 pigs/pen). The water treatments were 0 and 62.5 mL WB/L of water (stock solution) supplied by water mediators (1:128 dilution). Pigs were fed simple, corn-soybean meal diets (no plasma or crystalline lactose utilized) in four dietary phases (Phase 1: d 0-7, Phase 2: d 7-14, Phase 3: d 14-21, and Phase 4: d 21-42). The water treatments were provided on d 0 through d 3. Pigs and feeders were weighed weekly to determine ADG, ADFI, and G:F. Water meters were used to record and calculate water disappearance. Data were analyzed as a randomized complete block design with pen serving as the experimental unit. Water disappearance (L/pig/d) was not affected from d 0-21, but it increased (P < 0.01) for pigs provided WB for d 21-42 (1.71 vs 2.12) and d 0-42 (1.11 vs 1.35). Growth performance was not affected by WB during d 0-21, however, from d 21-42, WB tended to increase (P < 0.10) ADG (463 vs 528 g/d) and ADFI (706 vs 767 g/d) but it had no effect on G:F. For the overall period, pigs provided WB from d 0-3 tended to have improved G:F (0.671 vs 0.684) and numerical increases in ADG (P = 0.14) and ADFI (P = 0.17) were observed. Final ending body weight tended to be increased (P < 0.10) for pigs provided WB (18.6 vs 19.9 kg). These results suggest providing WB for the first three days in the nursery to pigs fed corn-soybean meal-based diets increased water disappearance and tended to improve growth performance of nursery pigs.

OBJECTIVE
Determine the effects of a nutritional water supplement (Water Boost, Furst-McNess Company, Freeport, IL) on growth performance of nursery pigs.

LITERATURE
- Dietary probiotics tended to increase final BW, ADG, and FI in pigs at 22 d post-weaning (Prieto et al., 2014).
- Weaned (21 d) piglets supplemented with certain strains of probiotics had a greater weaner weight and a greater weight to crypt depth ratio present in the duodenum, ileum, and jejunum (Lee et al., 2014).
- Piglets fed a yeast product had a reduced instance of diarrhea and a lower death rate (Xu et al., 2018).
- Supplementing pigs with an organic acid in feed reduced the number of S. Typhimurium in the cecum (Tanaka et al., 2010).

WATER TREATMENTS
- Two treatments provided during d 0-3 upon arrival to nursery 1: 0 (NC) 2: 62.5 mL Water Boost/L of water (WB) supplied by water mediator (1:128) with ad libitum access.
- Water Boost (WB; Furst-McNess Company, Freeport, IL) is a nutritional supplement containing probiotics, yeast fermentation extract, organic acids, and botanical extracts.

MATERIALS & METHODS
- Pigs: 140 crossbred weaned pigs (average BW = 5.26 kg) 10 pens/treatment; 10 pigs/pen.
- Allotment: 10 pigs/pen with 1 pen/treatment.
- Timeline: d 0-42.
- Housing: Environmentally-controlled buildings.
- Pigs and feeders weighed weekly (ADG, ADFI, G:F).
- Water meter readings on each pen recorded daily.
- Statistical Analysis:
  - MIXED procedure of SAS (SAS Institute, Inc., Cray, NC)
  - Randomized complete block design
  - Pen served as the experimental unit.
  - Differences between treatments were considered significant with P-value ≤ 0.05 and a trend P-value > 0.05 and ≤ 0.10.

RESULTS

FIGURE 1: Average Daily Gain

FIGURE 2: Average Daily Feed Intake

FIGURE 3: Average Water Intake

TABLE 4: Average Feed Conversion Ratio (G:F)

TABLE 5: Average Body Weight

REFERENCES

800.435.5100 EXT 425
swine@mcness.com
www.mcness.com/swine