Introdução

- Enterotoxigenic E. coli (ETEC) are the most common type of E. coli that cause diarrhea in post-weaning piglets.
- Supplementation of Bacillus spp. probiotics reduces incidence of diarrhea and improves growth performance of post-weaning pigs (Bhandari et al., 2008; Pan et al., 2017)
- Probiotics can affect the immune system by increasing local antibody levels, and blood immune cell populations (Schierack et al., 2007)

Objective

- To investigate the effects of supplementation of Bacillus spp. probiotics on the growth performance, diarrhea frequency, and systemic immunity of weaned pigs experimentally infected with a enterotoxigenic F-18 E. coli

Materials and Methods

- Animals and facility
  - 36 weanling pigs (7.61 ± 0.40 kg)
  - Weaned at 21 d of age into 2 confinement nursery rooms
- F18 E. coli challenge
  - Enterotoxigenic F18 E.coli (LT, STb, SLT-2)
  - Oral inoculation, 10^{10} cfu/dose with 3 doses
- Experimental design
  - Randomized Complete Block Design
  - Blocking factors: body weight x gender
- Nursery treatments: 12 pigs/treatment
  - Nursery basal diet (CON)
  - CON + 500 mg/kg Bacillus spp. strain 1 (PRO1)
  - CON + 500 mg/kg Bacillus spp. strain 2 (PRO2)
- Data collection
  - Growth performance: Body weight (BW), Average Daily Gain (ADG), Average Daily Feed intake (ADFI) and Feed to Gain ratio (F:G)
  - Blood sampling: d 0 before inoculation and d 3, 7, 14, and 21 post-inoculation (PI)

Conclusions

- Compared to pigs without PRO1 supplementation, supplementation of PRO1 had
  - improved growth performance
  - enhanced disease resistance and reduced systemic inflammation