Effect of supplementation of Calsporin (*Bacillus subtilis* C-3102) during gestation and lactation on sow and piglet performance until weaning

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Introduction

- Probiotics are live organisms that, if ingested in adequate amounts, can improve the intestinal microbial balance and benefit the animal (Fuller, 1989)
- Calsporin is a direct-fed microbial product based on viable spores of *Bacillus subtilis* C-3102.
- It is thought that this strain of probiotic will increase the populations of beneficial intestinal microflora, specifically *Lactobacillus* sp. (Maruta et al., 1996).

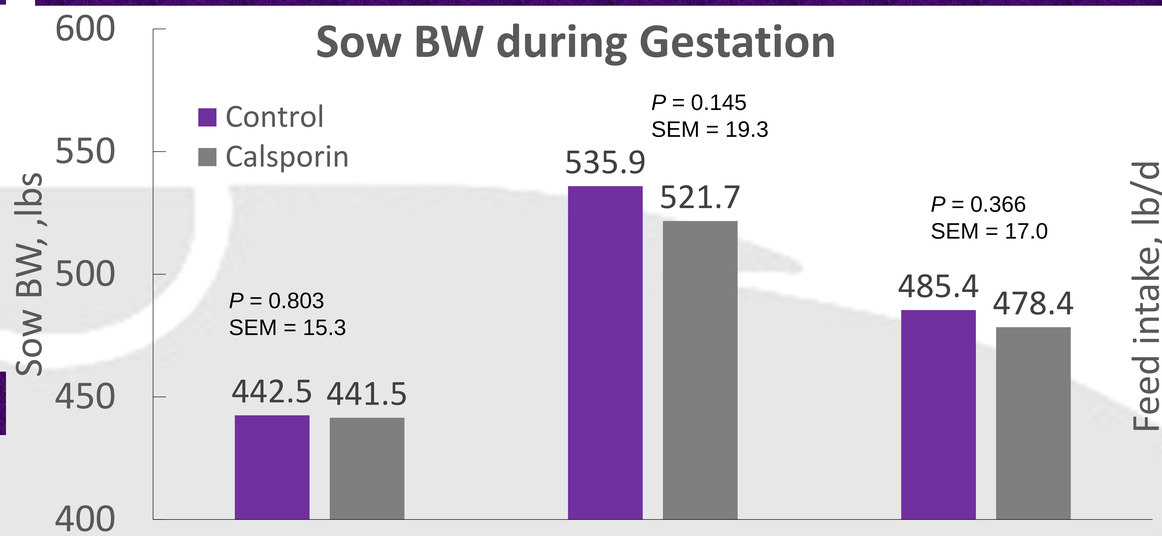
Objective

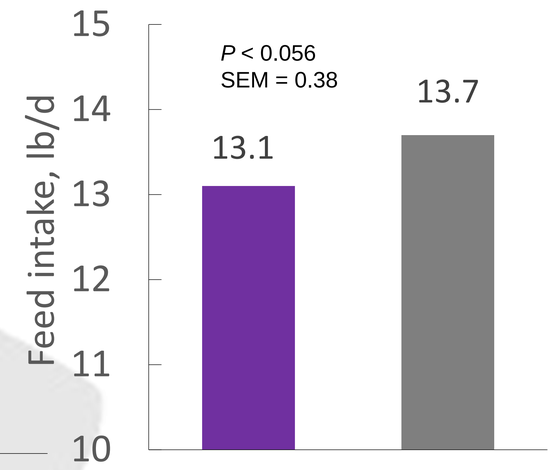
To determine the effects of Calsporin supplementation during gestation and lactation on sow and piglet performance until weaning

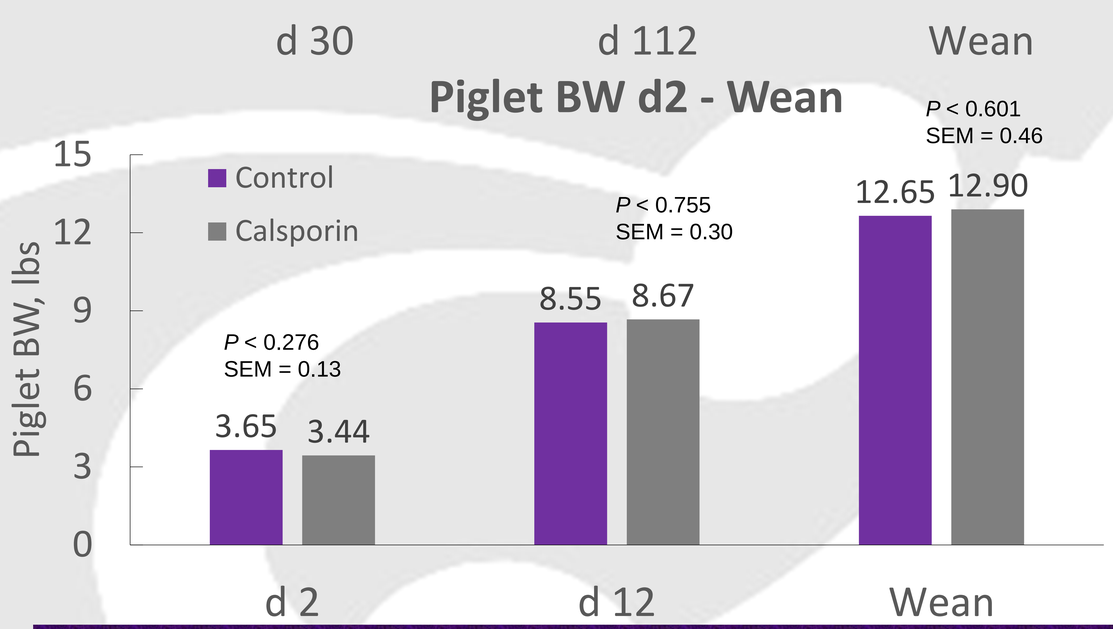
Experimental Procedures

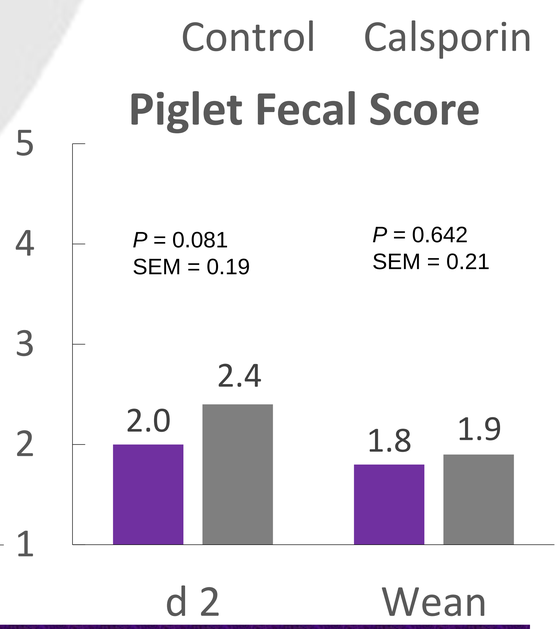
- A total of 29 multiparous sows (Line 241; DNA, Columbus, NE) were used in a 106-d study
- There were two dietary treatments:
  - **Control:** Control diet without Calsporin
  - **Calsporin:** Control diet + Calsporin at 500,000 CFU/g of complete feed in gestation and 1,000,000 CFU/g in lactation
- On d 30 of gestation, sows were assigned to treatment according to BW and parity
- Sows were weighed on d 112 of gestation, farrowing, and weaning on d 19 of lactation
- Piglet BW was collected at birth, d 2 and d 12 of lactation, and at weaning on d 19 of lactation
- Fecal scoring was conducted on piglets at d 2 and at weaning to categorize fecal consistency: 1=hard feces, 2=firm formed, 3=soft formed, 4=soft unformed, 5=watery feces
- Data were analyzed using a linear mixed model (PROC GLIMMIX, SAS®) where treatment served as fixed effect and block as random effect

Results









Summary & Conclusions

- There was no evidence for a Calsporin effect on sow BW in gestation, lactation or BW loss during lactation.
- A marginal increase in sow ADFI by 0.6 lb/d was observed during the lactation period when sows were fed a diet containing Calsporin over the control diet.
- No evidence for differences was observed in piglet BW, weight gain, or percent weaned.
- A marginal reduction in fecal firmness on d 2 was observed in piglets from sows fed Calsporin over control.
- This study suggests that inclusion of Calsporin does not impact sow or piglet performance until weaning but there are marginal effects on sow ADFI during lactation and fecal consistency of piglets on 2 after birth which if confirmed, could benefit pork producers.