

## **SURVEY OF *SALMONELLA* SPP. WITHIN A SWINE PRODUCTION COMPANY TRANSITIONING TO ANTIBIOTIC FREE**

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### **Introduction**

As farms remove antibiotics from grow finish diets increases in *Salmonella* prevalence have resulted. Identification of *Salmonella* spp. early on can minimize future disease. The objective of this study is to determine the prevalence of *Salmonella* spp. in a swine production system through cross-sectional surveillance of wean-to-finish sites.

### **Materials and methods**

The 24 wean-to-finish sites sampled pigs ages 10, 15, and 20 weeks for surveillance. Per site, 20 random pig serum samples were collected and tested by ELISA for *Salmonella* exposure. Per barn, 6 pens were tested using an EnviroBootie™ pair, which were individually sent for *Salmonella* culture. Twelve necropsies on pigs 6-9 weeks of age exhibiting clinical signs were submitted. Samples were sent to ISU-VDL and BI Health Management Center (Ames, IA).

### **Results**

Antibodies to *Salmonella* were detected in 67.6% of the pigs sampled. The highest prevalence of *Salmonella* antibodies was in the 20-week age group with 91% positive. Pigs at 10 and 15 weeks of age had *Salmonella* positive samples 44% and 70% of the time, respectively. EnviroBootie™ *Salmonella* cultures returned 6.2% positive of the pigs sampled. Culture positive prevalence was highest in the 15-week age group with 9% positive. Tissue diagnostics for *Salmonella* spp. identified clinical salmonellosis in 1 of the 12 pigs submitted.

### **Conclusion**

The variation in prevalence among set age groups in the initial surveillance concluded that secondary testing was essential. *Salmonella* spp. diagnostics revealed 1 pig with clinical salmonellosis, but high percentage of exposure in the herd. This raises a large concern within a swine production company as it questions routine hygiene, biosecurity, management practices and subclinical disease. Vaccination may reduce overall disease status within the herd, however, it is important to have all-inclusive management and biosecurity protocols in place to minimize risk and help in overall reduction of exposure.