



VPH-007

A LONGITUDINAL STUDY OF *SALMONELLA* IN PIGS FROM BIRTH UP TO SLAUGHTER

V. Farzan, M. Ainslie-García, J. Newman, R.M. Friendship, B.N. Lillie.

University of Guelph, Guelph, Canada.

Background and Objectives

Human outbreaks of salmonellosis are most frequently related to contaminated food products including those of animal origin. Pigs are often asymptomatic carriers of *Salmonella* and contribute to the spread of *Salmonella* through the food supply system. The objectives of this study were to investigate *Salmonella* shedding in pigs at four stages of production, and to determine whether there was an association between on-farm fecal shedding and presence of *Salmonella* in tissue samples collected at slaughter.

Materials and Methods

Fourteen cohorts for a total of 809 pigs originating from 8 commercial farrowing sources were monitored from birth up to slaughter. Fecal samples were collected from pigs five times over the entire production period and tissue samples were collected from palatine tonsils and sub-mandibular lymph node at slaughter. All samples were cultured for *Salmonella*. A survey was conducted to collect information about farm management. A multi-level mixed-effects logistic regression modelling method was used to analyze the data.

Results

Overall, 35% and 12% of pigs were tested positive for *Salmonella* at least once or on more than one occasion, respectively. *Salmonella* was recovered from 4.9%, 10.5%, 12.6%, 12.3%, and 20.2% of pigs at 1-4 days of age, at weaning, at the end of the nursery, grower, and finisher stage, respectively. Older pigs and pigs tested in the summer months were more likely to shed *Salmonella* ($p < 0.05$). *Salmonella* was isolated from tissue samples collected from 23% (134/580) of pigs at slaughter; however, the presence of *Salmonella* at slaughter was not associated with on-farm shedding ($p > 0.05$).

Conclusion

The highest level of *Salmonella* shedding in this study observed prior to market, which may increase the risk of transmission during transportation, or cross-contamination of carcasses at slaughter. Further, the identification of repeat shedders warrants interventions that target this source of infection on swine farm.

 P
 O
 S
 T
 E
 R