Incidence and Control of Salmonellosis in Swine: The Public Health Relevance

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The incidence of clinical salmonellosis in swine remains a difficult, if not an impossible assessment. The variables of husbandry, stress, sampling methodology, serotypes isolated, sanitation/hygiene, climate, all contribute to the complexity of the Salmonella problem, not only in swine, but other livestock and poultry. A large percentage of swine are asymptomatic carriers of Salmonella, creating a serious challenge to control initiatives. Equally relevant is the well accepted theory that shipping and other stress related activities increase the number of salmonellae shed in the feces. This could possibly heighten the potential for the organism to enter the food chain and obvious food safety concern.

The four main isolates of swine in the United States continue to be S. choleraesuis, the predominant serotype, about 65% of the isolates; S. derby, 8%; S. typhimurium, 6%; and S. agona, 3-4%. One of the very interesting aspects of the entire control/prevention perspective is that although S. choleraesuis is doubtless the most common isolate of swine, human infection with S. choleraesuis is rare. What inference, if any can be made! And, indeed, in humans, S. choleraesuis will not be overlooked because this serotype is especially pathogenic with a high case of fatality rate.

Salmonellosis in swine will continue to be a significant problem because of the existing variables. Sanitation/hygiene and husbandry will remain a resource for control. The production of an effective vaccine will prove to be a positive impact both at the farm level and the public health relevance.

The rendering industry through the Animal Protein Producers Industry (APPI) Salmonella reduction/education program and its planned objective to implement Hazard Analysis and Critical Control Points (HACCP) throughout the industry to assist in the production of a safe feed should add impetus to the prevention/control initiative.