

Title: Determination of Salmonella Classification Levels for Selected Iowa Swine Herds and an Evaluation of Production Risk Factors for Classification Status - **NPB #02-187**

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Date Received: May 20, 2004

Abstract: This study represents the first attempt to classify Midwestern production sites for *Salmonella* spp. sero-prevalence. The data suggest that the herds tested are similar in their distribution with respect to sero-prevalence of Salmonella as in Danish herds. Ignoring herd size, 90.2% of surveyed herds were negative or Level I, 8.2% were Level II herds, and 1.6% Level III. These results are similar to previous Danish studies (Alban et al., 2002; Mousing et al., 1997). Studies by Carstensen et al. (1998) suggested that herd size was statistically associated, albeit weakly, with *Salmonella* sero-prevalence, but the authors concluded the relationship was probably not biologically significant. The current data suggests that larger herds tend to have a higher sero-prevalence than smaller units; however, formal analysis has yet to be conducted to determine the direct association between herd size and salmonella sero-prevalence. Additional survey data is needed to evaluate this relationship.

The development and testing of survey documents for measurement of on-farm production practices is important to evaluation of on-farm risk factor analysis. The current survey vehicle demonstrated that producer interviews provided superior accuracy to producer self-assessment using the same questions. Common error sources were rooted in form and clarity of questions. Another important developmental hurdle was the limited agreement about on-farm risk factors by a pool of food safety and swine management experts. This limited expert agreement and the lack of "gold standards" to measure Salmonella exposure make evaluation of on-farm risk reduction strategies more difficult.

These research results were submitted in fulfillment of checkoff funded research projects. This report is published directly as submitted by the project's principal investigator. This report has not been peer reviewed

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