

PORK SAFETY

Title: Evaluating the sources of Salmonella after carcass chilling – NPB #10-146

revised

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Scientific Abstract:

A comparison was made between three carcass-sampling methods for Biotype I Escherichia coli. The methods included the USDA-FSIS sponge swab method, a surface excision method, and the Microbial-Vac Systems M-Vac sampler. There was a statistically significant difference between the methods, in the recovery of inoculated E. coli on pork carcasses, with the M-Vac recovering the highest populations, followed by the excision and swab sampling. Carcass, loin and trim from loins were sampled in a commercial processing establishment for the qualitative presence of salmonella. On three of the four sampling visits, a total of 2 out of 1180 samples were positive for salmonella (1 carcass and 1 trim). There were 25 positives out of 60 samples from the fourth visit (16 carcasses and 9 loins). This suggests that the level of salmonella on the incoming animals is highly variable, and that on any given day a number of carcasses may be positive. Finally, a series of experiments were conducted to evaluate the potential for conveyor belts to be a point of cross contamination for fabricated pork. Pork loins were inoculated with salmonella at a high and low population, and placed on to samples of three different conveyor belts. After 1 minute of contact, the inoculated loins were removed, and an un-inoculated loin placed on the conveyor belt sample. Both high and low inoculum loins transferred sufficient salmonella to the conveyor belt samples to result in transfer to the uninoculated loins.

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 This report has not been peer-reviewed.

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