

Title Comparison of Petrifilm and ChromAgar ECC for Isolation of *Escherichia coli* from Chicken  
Author J. Stan Bailey, Paula F. Cray, Mark E. Berrang, and Jodi R. Plumbee  
Citation Program and Abstract Book, IAFP 2005 (International Association for Food Protection) - 92<sup>nd</sup> Annual Meeting, 14-17 August 2005, Baltimore, Maryland, USA. 256 pages.  
Keyword chicken; *Escherichia coli*

### Abstract

Generic *Escherichia coli* is frequently recovered from processed broiler chickens, and FSIS is requiring meat and poultry slaughter plants to test carcasses for generic *E. coli* as an indicator of the adequacy of the plant's process control for fecal contamination. The majority of *E. coli* enumeration in the poultry and meat, industries currently uses Petrifilm as the plating medium of choice. The objective of the current study was to determine if different subpopulations of *E. coli* were selected for by Petrifilm in comparison to ChromAgar ECC, a chromogenic medium for isolation of *E. coli*, and to compare the relative effectiveness of these two media to enumerate generic *E. coli* from processed broiler chicken rinsates. Rinse samples of broiler chickens taken from the processing line immediately after the picker or after the chill tank from eight processing plants were transported to the laboratory and sampled within 24 h. Serial dilutions of the rinses were plated on Petrifilm and ChromAgar, and plates were incubated for 24 and 48 h before counts were determined. Selected colonies were stored to compare antimicrobial resistance profiles and PFGE patterns. No significant difference in *E. coli* counts (log 2.58 vs log 2.49) were found between Petrifilm and ChromAgar. However, analysis of antibiotic resistance profiles and PFGE patterns indicates that the two plating media select for different subpopulations of *E. coli*. In general, ChromAgar selected for *E. coli* which had more antibiotic resistance. Further studies are required to determine the origins and significance of the different *E. coli* populations.