Title	Validation of Time and Temperature Values as Critical Limits for Ground Beef Processing and Storage- *Escherichia coli* 0157:H7
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Abstract

In order to provide beef processors with valuable data to validate critical limits set for temperature during grinding, a study was conducted to determine *Escherichia coli* 0157:H7 growth at various temperatures in raw ground beef. Ground beef samples were inoculated with a cocktail mixture of streptomycin-resistant *E. coli* 0157:H7 to facilitate recovery in the presence of background flora. Samples were held at 4.4°C, 7.2°C, 10°C and room temperature (22.2°C to 23.3°C) to mimic typical processing and holding temperatures observed in meat processing environments. *E. coli* 0157:H7 counts were measured, on TSA with streptomycin (1000 µg/ml), at 2 h intervals over 12 h for samples held at room temperature. Samples held under refrigeration temperatures were sampled at 4, 8, 12, 24, 48 and 72 h. Less than one log of *E. coli* 0157:H7 growth was observed at 24 h for samples held at 10°C. Samples held at 4.4°C and 7.2°C showed less than one log of *E. coli* 0157:H7 growth at 72 h. Samples held at room temperature showed no significant increase in *E. coli* 0157:H7 counts for the first 4 h. These results illustrate that meat processors can utilize a variety of time and temperature combinations as critical limits to minimize *E. coli* 0157:H7 growth during the production and storage of ground beef.