**Background**

Consumption of undercooked ground beef contaminated with bacteria, typically *E. coli* and *Salmonella*, is a well known cause of foodborne illness. In order to recall product associated with illnesses from commerce and identify appropriate actions to improve product safety, the Food Safety and Inspection Service (FSIS) investigates reports of foodborne illnesses that may be associated with FSIS-regulated products. In many circumstances where ground beef was purchased at retail stores, investigators are provided with only purchase information (e.g., date and location of purchase, description of ground beef). Investigations must rely heavily on retail production records (grinding log) kept in retail stores and meat markets to gather the information needed to undertake traceback activities.

**Methods**

FSIS conducted a retrospective review of 28 investigations from October 2007 through September 2011 in which FSIS determined production records were adequate to describe their beef grinding and record-keeping practices. Cases included in the study provided production information adequate to identify the product in question, the date of production, and the date and location of purchase. Investigations gathered information through purchase receipts, shoppers’ cards, and credit card records. During the investigation, investigators that described ground beef that was ground or re-ground at retail stores to describe their beef grinding and record-keeping practices. Cases included in the study provided production information adequate to identify the product in question, the date of production, and the date and location of purchase. Investigations gathered information through purchase receipts, shoppers’ cards, and credit card records. During the investigation, investigators observed that the studies indicated the source product contaminate the ground beef. Investigators observed that the source product contamination was identified through the purchases made by the identified patient. During the investigation, investigators observed that information on the purchases made by the identified patient was identified through the purchases made by the identified patient. During the investigation, investigators observed that the studies indicated the source product contamination was identified through the purchases made by the identified patient. Investigators observed that the source product contamination was identified through the purchases made by the identified patient. During the investigation, investigators observed that information on the purchases made by the identified patient was identified through the purchases made by the identified patient. During the investigation, investigators observed that the studies indicated the source product contamination was identified through the purchases made by the identified patient. Investigators observed that the source product contamination was identified through the purchases made by the identified patient.

**Results**

- **28 outbreaks were attributed to consumption of undercooked ground beef.**
- **28 outbreaks met the inclusion criteria**

**Discussion**

Consumption of undercooked ground beef is a well-recognized cause of illness. However, when the ground beef is not handled and used properly, FSIS determined production records were adequate to identify the specific implicated product and its source establishment. FSIS determined production records were adequate to identify the specific implicated product and its source establishment. FSIS determined production records were adequate to identify the specific implicated product and its source establishment. FSIS determined production records were adequate to identify the specific implicated product and its source establishment.

**Recommendations**

FSIS recommends:
- Retail stores develop policies and procedures to accurately record and keep information:
  - Include production records, product striking, and pull times, sanitizing techniques, and procedures to determine customer purchases.
  - While not required, the example production record coupled with appropriate store policy and procedures, it is likely that retail stores could identify the specific product they sold as necessary.


**References**

- Quandt et al. 2011. JFP 74(8):1315
- Schneider et al, 2011. *JFP 74(8):1315*
- *JFP 74(8):1315*