

Food Safety Focus: NAHMS Dairy '96

Food safety and quality are primary concerns for everyone involved in food production, processing, and preparation - all along the path from farm to consumer. All segments of the food industry are impacted by consumer purchasing decisions, and product safety and quality influence consumer confidence and therefore, consumer demand. Everyone involved shares responsibility, and by working together, we can provide consumers with increasingly safer and higher quality foods.

Within the U.S. cattle industries, several programs that contribute to the high reputation of U.S. meat and dairy products have been ongoing for many years. These programs include: 1) eradication efforts directed towards food-borne pathogens from domestic animal populations including *Brucella abortus* and *Mycobacterium bovis* from cattle), 2) a quality milk program (including dairy herd inspections and pasteurization as the critical control step), and 3) a meat inspection system based on removal of diseased animals from the human food chain.

Currently justification is increasing for renewed food safety and quality efforts industry-wide, particularly those focused on microbial pathogens. U.S. medical and productivity costs of bacterial human food-borne illness have been estimated at 2.9 to 6.7 billion dollars each year. Pathogens at the top of the list are:

Salmonella species (\$0.6-3.5 billion)

Staphylococcus aureus (\$1.2 billion)

Campylobacter species (\$0.6-1.0 billion)

Escherichia coli (\$0.2-0.6 billion)

Widespread and rapid news of human food-borne disease outbreaks increase public concern, especially with recognition that public health risks can be linked to food products from healthy animals (e.g. recovery of *E. coli* 0157 and *Salmonella* from the feces of healthy cattle). Additionally, adoption of world trade agreements (e.g. General Agreement of Tariffs and Trade [GATT]) are expanding trade, and U.S. food production and processing industries are focusing on expanding their world food market share.

To compete, U.S. industries must convince consumers in the U.S. and abroad of our food products' high quality and safety. How are we meeting this challenge? State and federal animal health agencies are cooperating to complete current eradication programs for brucellosis and tuberculosis. To prevent chemical residues in milk and dairy products, the U.S. Pasteurized Milk Ordinance requires extensive testing of milk supplies for antibiotics, and a Milk and Dairy Beef Quality Assurance Program has been developed and implemented by dairy producers. Additionally, the USDA-Food Safety and Inspection Service (FSIS) has implemented the Pathogen Reduction and Hazard Analysis

and Critical Control Points (HACCP) system, a process to identify, monitor, and control food hazards in meat processing plants.

The dairy production industry also has a role in pathogen reduction. Though there are multiple sources of microbial contamination of cattle and foods off the farm, reducing the pathogen burden on the farm could lessen the pathogen burden throughout the rest of the food chain. How can these pathogens be reduced on the farm? The interactions between pathogens, cattle, and the environment are not well understood currently but research completed to date suggest herd management can play a role. As the role of management to pathogen interactions becomes understood, adoption of key management practices could provide significant reduction in pathogen shedding. Understanding this, and recognizing their role in the human food chain, dairy industry leaders are laying groundwork for an expanded herd quality assurance program using management practices shown effective for reducing pathogens. This quality assurance program can benefit consumers and producers by reducing risks from contaminated food products. It may also benefit producers by ensuring domestic and global future market access and may even improve cattle health in the process.