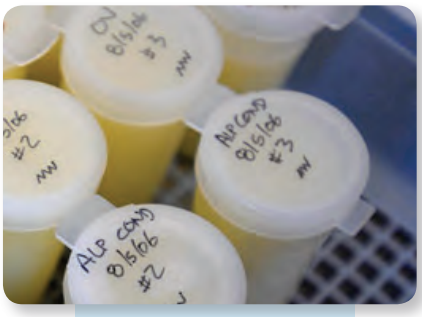
DAIRY FOOD SAFETY FACT SHEET

The dairy industry takes food safety very seriously. Throughout the years, dairy farmers and processors have worked closely with the Food and Drug Administration (FDA) and state regulatory officials to establish safety regulations and practices including the Pasteurized Milk Ordinance and the Hazard Analysis and Critical Control Point system. As a result, American milk and dairy products are among the safest and most highly regulated foods in the world.

Milk Safety Regulations and Procedures

The federal Pasteurized Milk Ordinance (PMO) is a set of requirements for milk production, milk hauling, pasteurization, product safety, equipment sanitation and labeling. It is one of the most effective tools to protect the safety of milk. Today, less than 1 percent of foodborne illness outbreaks in the U.S. involve dairy products. [1]



All milk is sampled according to the federal Pasteurized Milk Ordinance to assure its safety and quality.

Milk is routinely sampled and tested by state regulatory authorities according to procedures outlined in the PMO. In addition, the FDA and Environmental Protection Agency (EPA) monitor dairy farmers and processors nationwide to ensure that the regulations of the PMO are being followed. [2]

The Hazard Analysis and Critical Control Point (HACCP) system is a structured and scientific process used throughout the food industry to help ensure food safety. Processing plants identify critical steps throughout the manufacturing process and establish plans to monitor and minimize any risks. HACCP plans are reviewed, approved, and enforced by food safety agencies.

The Role of Pasteurization

Since its introduction more than a century ago, pasteurization has been recognized around the world as an essential tool for ensuring that milk and dairy products are safe. Pasteurization is a simple, effective way to kill bacteria without affecting the taste or nutritional value of milk. [3]

Pasteurization involves heating raw milk to a certain temperature for a specific period of time. In the U.S., pasteurized milk must be heated to a minimum of 145°F for 30 minutes or to 161°F or more for 15 seconds. [4]

The dairy industry, the Centers for Disease Control and Prevention (CDC), the FDA, and many health and scientific organizations strongly support the pasteurization of milk. [5]

Antibiotics

On every dairy farm, antibiotics are given only when they are necessary to treat and cure an illness. They are only given for a prescribed period of time to treat the specific illness. The milk from cows undergoing treatment never reaches the food supply. During 2010, nearly four million tests (3,892,196) were conducted on milk samples to detect antibiotic or other drug residues with less than 0.03% positive (1,245). Any milk testing positive was destroyed—it never reached the consumer market. [6]

In spite of the many benefits antibiotics bring to animals and humans, there is concern from public health, food safety, and regulatory perspectives about use of antimicrobials in food-producing animals. Raw food and undercooked food of plant and animal origin can be sources of antimicrobial-resistant pathogenic bacteria, such as *Salmonella* or *enterotoxigenic E. coli* or *C. jejuni.* [7] Raw milk consumption can significantly increase human exposure to antimicrobial-resistant bacteria. [8] Still, the overall health consequences of antimicrobial resistance of dairy pathogens affecting humans appears to be small and is likely not a human health concern as long as the milk is pasteurized.[9]

The Facts about Bovine Somatotropin

Cows naturally produce bovine somatotropin in their pituitary gland; it directs how energy and nutrients are used for growth in young cattle and for milk production in lactating cows. Dairy farmers may choose to use a supplemental recombinant bovine somatotropin (rbST) to allow cows to produce more milk. [10]

There are several reasons why bovine somatotropin, which is naturally present in cow's milk, does not have any physiological effect on humans consuming the milk. Bovine somatotropin is species-specific, which means that, because it is only produced in cows, it is not biologically active in humans. [11] Therefore, any trace amounts of bovine somatotropin that remain after pasteurization of milk are broken down in the gut into inactive protein fragments (i.e., amino acids) by enzymes in the human gastrointestinal tract, just like any other dietary protein. [12]

Milk from rbST-supplemented cows is safe for human consumption. This has been affirmed and reaffirmed since the use of bovine somatotropin was approved in the early 1990s. Considerable testing was done before rbST was commercially released, and the FDA has determined that there is no difference between milk from cows who receive rbST and those that do not. In 2008, the Journal of the American Dietetic Association published findings from research that tested whole milk samples obtained from retail stores across the U.S. with three label claims related to farm practices: 1) conventional, 2) from cows not treated with rbST, and 3) USDA-certified organic. The research concluded that all three types of milk are virtually identical in terms of quality, safety and nutritional composition. None of the samples had detectable levels of antibiotics. Concentrations of bST in milk were the same regardless of milk label. [13]

Pesticides

Pesticide and herbicide residues are not a health concern in any U.S. milk products as a result of preventative programs in the industry and federal regulations that limit exposure to these contaminants. [14, 15] All pesticides sold in the U.S. must be approved for safety by the Environmental Protection Agency before being used.19 Regulatory agencies have also set tolerance or threshold levels for allowable pesticide residues in foods such as milk. [15] Because pesticides and herbicides are found in water and soil, extremely low levels can be found in all foods, conventional and organic.

The FDA, under its pesticide monitoring program, collects and samples food nationwide for pesticide and other chemical contaminants. [16] This surveillance has shown that pesticide contamination of foods in the U.S. is extremely low. For example, no samples of domestic dairy products tested in Fiscal Year 2008 contained levels of pesticide residues above well-established thresholds. [16] Foods shown to contain levels of chemical residues above the maximum allowable levels are removed from the marketplace. [16]

Also refer to Midwest Dairy Association "Milk and Hormones" and "Raw Milk" fact sheets.

This fact sheet was reviewed by John Fetrow, VMD, MBA; Mike Hutjens, PhD; Lloyd Metzger, PhD; JW Schroeder, PhD; and Leo Timms, PhD, in November 2011 for its content and accuracy.

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2 USDHHS/PHS/FDA. 2009. Grade 'A' pasteurized milk ordinance, 2009 revision. <http://www.fda.gov/downloads/Food/FoodSafety/Product SpecificInformation/MilkSafety/NationalConferenceonInterstateMilkShipmentsNCIMSModelDocuments/UCM209789.pdf>. Accessed 2011 November.

3 USDHHS/PHS/FDA. 2009. Grade 'A' pasteurized milk ordinance, 2009 revision. <http://www.fda.gov/downloads/Food/FoodSafety/Product SpecificInformation/MilkSafety/NationalConferenceonInterstateMilkShipmentsNCIMSModelDocuments/UCM209789.pdf>. Accessed 2011 November.

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