Department of Food Science

Food Safety

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Producing Safe, High-Quality Dairy Products

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The dairy industry is justifiably proud of its safety record. Milk products reaching the consumer have been produced and processed with careful attention to detail. Since milk is a highly perishable product it must be produced and processed under the strictest sanitary conditions.

Caring for milk starts on the farm. Federal, state and local inspectors ensure that the farm meets strict standards for the production of milk. The facilities, the animals, management practices and proper handling procedures are stressed. Dairy cows are bred for their ability to produce large amounts of high quality milk. The health of each cow is carefully monitored. Cows are vaccinated and constantly monitored for disease. An ill dairy cow does not produce high quality milk. Fieldmen from the company which buys the milk help train the farmer and monitor proper management and handling practices.

Before the milk is picked up by specially trained and certified haulers, it must be inspected. The hauler checks the milk temperature, the surface of the milk and the odor. He then takes a sample for chemical and microbial analyses which will be performed at the plant. At this point, the hauler will, in most cases, take a second sample and test the milk for any antibiotic residues. This would indicate if a recently treated cow had been milked. Only after the hauler is satisfied that the milk is of top quality and properly cooled, will he begin to pump it into his transport.

When the milk transport arrives at the plant, the hauler takes his samples to the lab for further analysis. The receiving person opens the top of the tanker, checks the surface, taste the milk and pulls more samples for microbiological and chemical testing. Before the tanker can be unloaded into the silo, tests for antibiotics, temperature abuse and butterfat must be passed. Tests for microbiological quality are initiated.

The samples originally pulled by the hauler from each farmer's milk are evaluated. Trends in production and quality are logged. The fieldmen will monitor these records to insure that proper practices are being followed on the farm.

All the processes and equipment at the milk plant are designed to maintain the quality of the milk. The plant is inspected by county, state and federal regulators. Trained quality control personnel will monitor all operations in the plant. They are responsible for ensuring sanitation, quality, and proper pasteurization of the milk. Laboratory technicians analyze both the raw and finished products. Packaged dairy products must pass laboratory tests for pasteurization, keeping quality, butterfat content and flavor.

Since much of the work in the modern dairy plant is automated, each process is

documented. From cleaning and sanitizing, to processing, to proper storage careful adherence to well designed processes is monitored. Dairy processing and quality control is the most sophisticated in the food industry.

Milk is a product used by almost every household. It is expected to be fresh, to taste good and to be a excellent source of nutrients. Safety and quality of the product come first. The consumer can be assured of a high quality product which tastes good and provides the best of nutrition.