

Mozzarella Cheese Keeps Leprino Smiling

WAVERLY, N.Y. — One of the world's largest mozzarella cheese manufacturing facilities is in Pennsylvania — or just over the line in New York, depending which side of the plant you happen to be standing on.

At the facility operated by Leprino Foods Company under a 20 year lease agreement from Eastern Milk Producers, officially in Waverly, N.Y., up to two million pounds of milk can be processed per day. Leprino also has the "recipe" for over 100 different

kinds of mozzarella.

The manufacturing process begins with the arrival of the milk truck to the plant. Prior to unloading, the trucks are weighed and a sample of milk is taken. For cross-checking and verification, the sample is split for analysis by Leprino's lab and by Eastern's lab.

Eastern's sample goes direct from the truck to testing by the Charm II milk analysis equipment for, antibiotic testing. When the sample of milk is found to be free of contaminants, the trucks are

permitted to unload, usually within 15 minutes. The samples are also checked for milkfat content, cell count and added water.

Most trucks deliver two routes per day and are unloaded using two pumps with a capacity of 250 gallons per minute. The milk is pumped into one of five silos. These silos have a combined capacity of 2.8 million pounds and are emptied and sanitized on a rotating schedule of every 48 hours.

From the silos the milk travels to the pasteurizer and milk separator which have a capacity to process 117,000 pounds of milk per hour.

Pasteurization heats the milk to 164°F. for 16 seconds to destroy pathogenic and spoilage organisms. Separators remove cream from the whole milk and standardize the butterfat content of milk used in the cheesemaking process.

The separator works on the principle of centrifugal force, with the heavier component spinning to the outside.

A by-product of the separating process is sweet cream. Approximately 73,000 pounds of sweet cream is produced daily and sold to various markets in the tri-state region for use in such products as butter, ice cream and packaged sweet cream.

The milk from which the sweet cream has been subtracted is transferred to one of six cheese vats used on a rotating sequence with a combined capacity of 285,000 pounds of milk per rotation. At these vats the start of the actual cheese production begin.

Cultures, rennet and vinegar are added at this point to coagulate the homogenized skim milk. Through a series of heating and cooling processes the end product resembles a hard jello. Blades cut the jelled product to allow excess water (whey) to drain.

After draining is completed, the product is at the cheese curd stage and at the stage where the flavor of the cheese can be adjusted in accordance with customer specifications.

Once the specification are met, the cheese is poured into loaves and enters a brine tank where natural salts of the cheese are formed.

The packaging process requires that each individual loaf of cheese be quality inspected by hand, placed in a barrier bag, passed under a metal detector, and sealed using a cryovac type process.

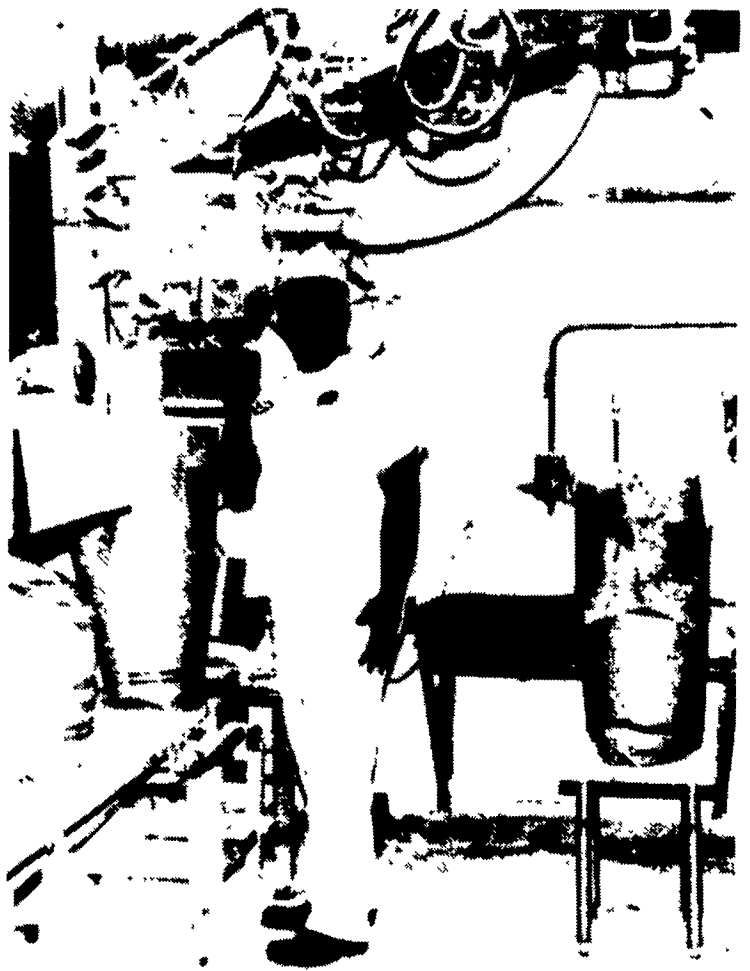
Once sealed, individual cheese loaves are again inspected for packaging quality and deformities prior to the final boxing process.

Prior to entering the cooler, each individual box of cheese is then weighed and marked with a special coding system that permits use of a computerized inventory control system and the Quality Control Department to monitor cheese production through final disposition.

Cheese is stored in a 1,200,000 pounds cheese cooler that is maintained at 35°F. and is used to age the cheese for the first five to seven days after packaging, in accordance with customer specifications.

The cheese processing department further processes a large portion of the manufactured cheese into sliced, diced or shredded products. The processing lines have a slicing capacity of 15,000 pounds per line and a dicing or shredding capacity of 115,000 pounds per line. By operating two dice lines and one slicing line on a two shift operation allows Leprino to have a combined capacity of 245,000 pounds of production per day.

Block cheese for dicing or shredding is pre-blended on tables in the processing area. The cheese is then unwrapped, cut into



Following a drying process, whey is packaged in 50 pound bags. Ernesto Dela Osa Cruz, of the whey bagging department, expresses his opinion of Leprino Foods.

smaller chunks, conveyed to the dicer where it is diced or shredded to customer specifications. It is then blended, boxed, and checked weighed.

To assure that all finished products meet our customer specifications, the cheese is continually tested throughout the manufacturing process as well as during frozen storage.

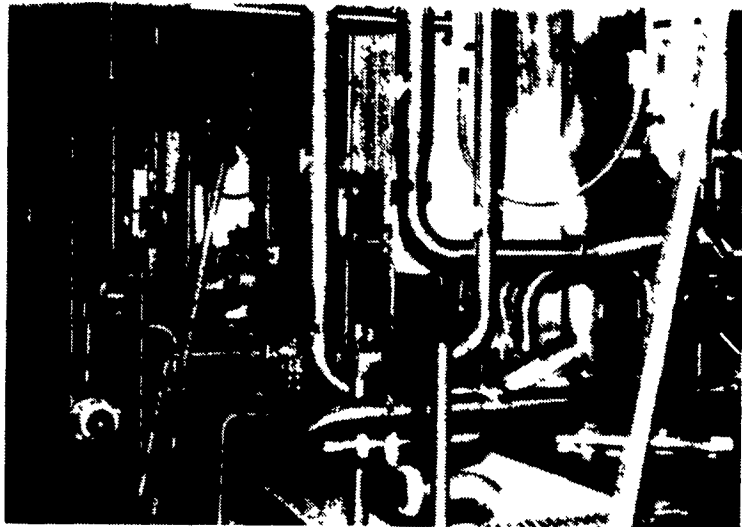
All tests such as chemical composition, melt characteristics, body and texture are designed to assure the customer that the cheese will meet their specs and make exactly the type of pizza they

want to sell in their restaurants.

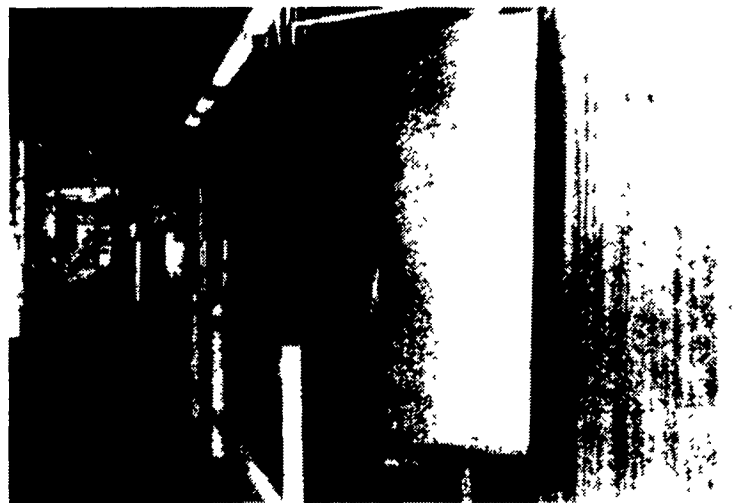
While the cheese process ends with shipment of the finished product to the customers, the plant continues to process by-products of the manufacturing process. The largest by-product is whey.

The Whey Department produces primarily two whey products, sweet whey powder and whey blends. The unprocessed liquid whey is first pumped over a wire screen to remove the remaining cheese curd and then processed through a separator to remove any remaining milkfat. This milkfat is

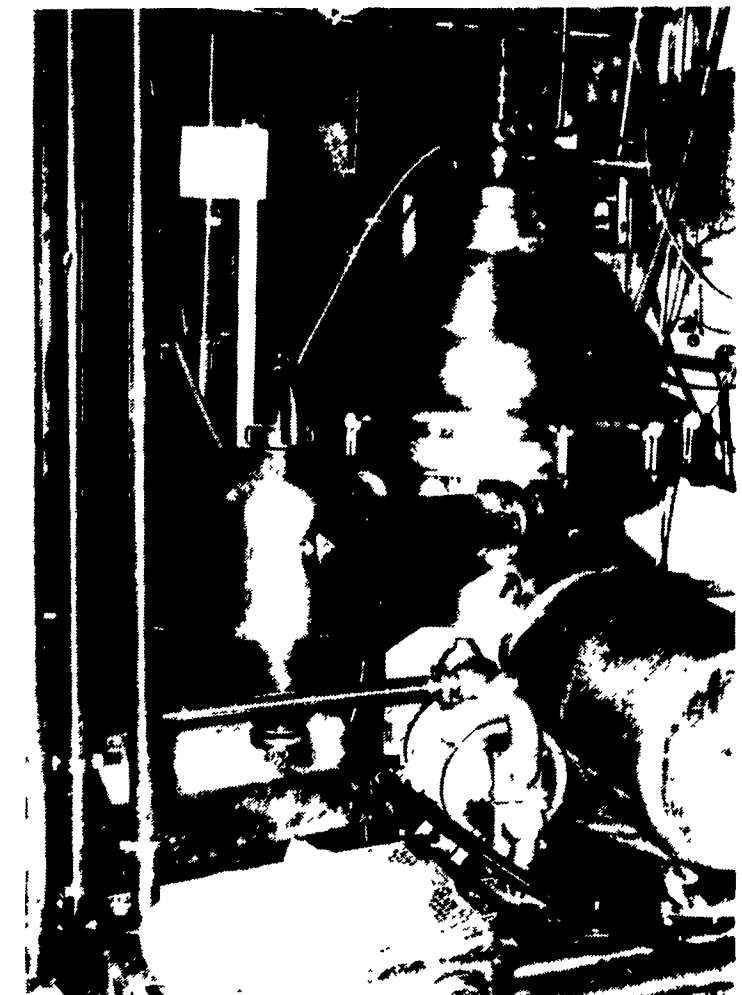
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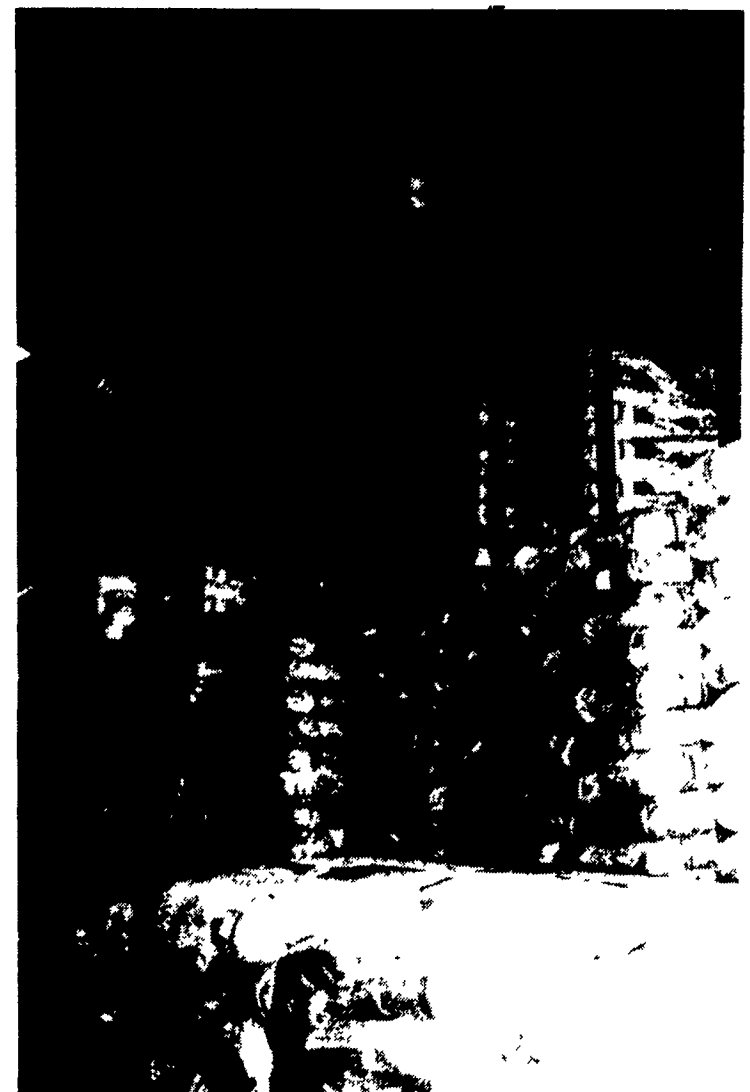
Five silos, different than the ones normally found on dairy farms, are used to store the milk that tankers bring to the cheese plant. The silos have a combined capacity of 2.8 million pounds of milk.



Six cheese vats, used on a rotating sequence with a combined capacity of 285,000 pounds of milk per rotation, are used to coagulate the cheese through a series of heating and cooling after the addition of rennet.



Separators at the Leprino plant are used to remove cream from the whole milk and standardize the milkfat content of milk used in the cheesemaking process.



Whey, formerly a waste product of the cheese making process, is now an important by-product economically. Dried whey and dried whey products are stored in the dried goods warehouse which has a capacity of 1.2 million pounds. Whey is used in the confectionary, health food and baby food industries.