DAVISCOPE

DAVISCO FOODS INTERNATIONAL, INC. ■ QUARTERLY NEWSLETTER

In This Issue

Stretching
to meet customer demand

You're hungry for pizza. Mmmmmmmmm! You can almost taste it: golden, chewy, perfectly melted cheese atop a freshly baked crust covered with savory tomato sauce, herbs, and your favorite toppings.

Two very talented women work hard at Davisco's Lake Norden Cheese Plant to make sure that the cheese on your pizza is perfect—in looks, taste, smell and, yes, even stretchability. They strive to please the consumers who will eat the 320,000 pounds of cheese made in the plant each day—cheese sold for retail, frozen food, customer-labeled retail, food service, and ingredient products.

Linda Collins and Glenda West evaluate how the cheese tastes, slices, browns, shreds, smells, melts, stretches, and feels when chewed. Technicians in the lab and pizza test kitchen, the pair spend at least four hours Monday through Friday evaluating cheese and recording test scores. The testing is either quantitative, which is checking for moisture and fat; or qualitative, which is subjective and is based on customer perception.

The Lake Norden plant makes part-skim and whole-milk mozzarella and provolone cheeses that are packaged and sold in 6-, 10- or 20-pound blocks. Most customers buy mozzarella, which is typically shredded for use on pizzas or other food products. Provolone is sliced by customers for deli sandwiches.

Showcase for Quality

The pizza test kitchen is an integral part of the plant. The kitchen supports the plant's goal of meeting each customer's product specifications. "It's our first line of defense for quality assurance. We are seeing exactly what the customer sees when the customer gets the cheese," explains Sheri Kahnke, Lake Norden lab manager.

Collins and West work in the brightly lit kitchen with gleaming black floors and deep red counters. Work surfaces, grinding machines, and ovens sparkle.

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Linda Collins

Pizza Test Kitchen Yields Customer Satisfaction

Collins and West describe their efficient and consistent cheese testing process:

1. ***Slice each block of cheese to be tested. Observe for any abnormality; check firmness, smell and taste.***
2. ***Shred entire block of cheese from the library to check for shredding characteristics, such as length of shred. Collect waste in the rework barrel.***
3. ***Weigh 55 grams of cheese from each shredded block and place on one-fourth of a pizza crust. Label each quarter.***
4. ***Bake pizzas four minutes, five at a time in Blodgett® oven or in conventional ovens, depending on customer protocol.***
5. ***Check melted cheese on each quarter of pizza for such characteristics as blister, coverage, melting, oiling, and browning. Stretch the cheese with a fork and measure, looking at the firmness.***
6. ***Wrap, or fling, each cheese sample around a fork. Taste. Discard each sample without swallowing.***
7. ***When the process is completed on the 80 to 100 vats sampled each day, clean-up and prepare for tomorrow.***

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The kitchen is located adjacent to the observation corridor, which showcases Lake Norden's cheese production to customers and tour groups.

The two women start by securing totes of cheese from the "cheese library" in the cooler of the plant. The library houses rows of grey plastic totes that contain a sample from each vat of cheese produced. Samples are kept for 45 days. "It's a representative sample of what the customer sees and gets," says Kahnke.

Collins and West slice and smell each sample and record their observations on the "Melt Sheet." Next they shred, measure, and sprinkle the sample cheeses on prepared crusts. Each pizza holds four different samples; 20 to 25 pizzas are baked every day.

Customers also test Lake Norden cheese in their own test kitchens. "We receive direct instructions from our customers, based on the customers own 'bake test,'" says Polly Vander Wal, quality assurance manager. There should be no issues with the cheese, she says. "We want to meet or exceed their expectations."

The Spice of (Work) Life

While everyone in the plant goes about their daily tasks, pizza odors start wafting from the test kitchen about 11:15 a.m. "We need fresh pizza by 11:20 for the "regulars" that stop by," Collins explains. The regulars are employees who use the convenience of the test kitchen for a quick, tasty lunch. Pizza from the hot plate and good-natured banter with Collins and West make the plant a friendly place to work.

Employees in the lunchroom, as well as customers who are meeting in the conference room or touring the plant, are also regularly served pizza. In the fall, when Collins has extra peppers and onions from her garden, she adds them for a special treat. "It adds to the enjoyment of doing our jobs," she says. "People look forward to it."

Lake Norden's facility is "one of the nicest test kitchens in the industry," says Vander Wal. "It's great having a room of this kind to show customers."


Glenda West

Cheese Must Function Properly

High school or college students who tour the plant often ask, "How can we get this job?!"

Although cheese testing seems like fun, testers have an important and high-profile position. "They need to be detail oriented, organized, observant, and accurate in recording data," says Kahnke.

"I can't stress enough how important the functionality of the cheese is," says Todd Pennings, plant manager. He explains that the analyticals can be right, according to what the customer wants, but if the cheese doesn't function the way the customer expects, it isn't acceptable.

"I can't stress enough how important the functionality of the cheese is."

– Todd Pennings, plant manager

When Collins and West detect anything unusual during testing, they communicate immediately with Vander Wal and Ivan Beck, supply chain manager.

Quality 24/7 Monitoring

The pizza-test kitchen is not the only area in the plant where testing occurs. The main lab, employing 22 technicians, conducts tests throughout the cheese-making process. The lab, for example, tests each ingredient according to established criteria. Lab technicians run in-process tests on cheese milk from every vat of cheese produced, making sure that it meets specifications, Kahnke explains. Results are obtained in a minute.

Food scanning equipment uses an infrared laser to analyze moisture, fat, pH, and salt. Moisture level is important because it affects how cheese functions. "If the moisture is too high, the cheese will be soft and won't shred properly," Kahnke says.

Lab tests are recorded on computers and spreadsheets. "We can track the progress of the incoming milk through the finished cheese to insure consistency," Kahnke explains.

The main lab operates 24 hours a day, seven days a week. Its work is critical to producing the excellent quality cheese that West and Collins test. Such scrutiny insures that Lake Norden cheese is what customers—and ultimately pizza-lovers—are hungry for. ■

InFocus

Mark Davis

The amount of sampling, testing and quality assurance afforded the ingredients and the processing of those ingredients into the nation's food supply are all encompassing, incredibly thorough and accurate.

Nutrition, functionality and food safety are maximized with attention to detail and process management.

Having said and done all of that, it still comes down to 'does it taste good, leaving the consumer with a satisfied and pleasant eating experience?' The final word is left in the most capable hands of Linda Collins and Glenda West.

At Davisco, they represent our customers. And they represent the "seal of approval" for all of the efforts of our suppliers, our employees and our systems.

They do an extremely capable job!

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Producer Update

Schilder Dairy Built on Cow Comfort, Consistency

The philosophy at Schilder Dairy is the same today as when John and Aggie started in the dairy business 35 years ago: "If you take care of the cows, the cows will take care of you!"

The Schilders began their dairy career as newlyweds in western Washington with $5,000 of savings. To help them get started, Aggie's father co-signed a loan for 42 cows and John's father gave the couple two loads of hay.

In 1979, the Schilders moved to Buhl, Idaho, where they still dairy today. The couple's son B.J. and son-in-law Dean Dekruyf are also involved in the present operation. Dekruyf manages a second dairy owned by Schilders, located a few miles away.

The dairies include 2,200 milking and 500 dry cows and 150 acres. Another 1,800 heifers are custom-raised off site. Father and son work together on most aspects of cow management. But B.J. takes the lead on feeding, fresh-cow temping, and reproductive management tasks; he also supervises milking and vet check. Aggie, as the dairy's bookkeeper, gets credit for managing the numbers.

John and B.J. believe that cow comfort and consistency are the cornerstones of running a successful dairy operation. "We've used the same nutritionist and veterinarian service since 1979. We don't jump in and out of things, but consider things carefully before making a change," says John.

John Schilder, B.J. Schilder and Dean Dekruyf

New Parlor Enhances Milk Quality

In 2005, the Schilders began researching new parlors by visiting other dairies. They had remodeled their original side-opener parlor seven times and it needed replacing. "It was dark, small and cold in winter and hot in summer," John says about the old double-20 parallel.

With careful planning, their new milking parlor/barn was completed about two years ago. The new, De Laval parlor is a double-30 parallel with operating equipment tucked into the basement.

The Schilders added 500 cows since milking operations began in the new parlor, bringing cow numbers to their present level. Their somatic cell count is now under 100,000 cells per milliliter. In 2006 and 2007, the Schilders were named finalists for the "Producer of the Year Award" sponsored by Idaho State Milk Producers.

The Schilders also earn the highest premium for milk quality offered by Jerome Cheese.

They switched to Jerome Cheese 12 years ago and appreciate being able to call Mark or Jon Davis about concerns.

The Schilders believe solid relationships with experts in nutrition, genetics, artificial insemination, and financing are important in running a top-notch dairy.

Nutrition is an example: "Remember, there's no miracle feed out there. Cows need a balanced ration," says John. Their nutritionist tests hay and silage every six weeks, formulating the ration according to test results. If the herd's milk fat or protein decreases unexpectedly on Jerome Cheese's lab tests, the Schilders work with the nutritionist to remedy the situation.

Electronic ID

A tool the Schilders recently added to help with cow management is electronic identification, offered through Valley Ag Software, Tulare, California (www.valleyagsoftware.com). To use the software, a cow's ear is tagged with an electronic identification button. The cow can then be identified with a wand and her information accessed through a palm pilot, or hand-held computer. This ends the need for paper records during vet check because cow data is entered into the palm pilot and downloaded into the dairy's main computer.

"It's pretty impressive and it saves a lot of time," says B.J. "I can push a button and determine if a cow needs a shot or confirm her pregnant on the same Dairy Comp preg check screen," he explains.

The Schilder's goal is to be in business long-term by increasing their land base to up cow numbers. "We just take it one day at a time," says John. You can bet each day includes devotion to the care and comfort of the cows! ■

Successful Strategies for High Quality Forage

Working Smart

Your forage goals should revolve around feeding cows the highest quality forage. "Harvest quality and silo management have profound effects on silage quality at feeding," says Dr. Limin Kung, Jr., University of Delaware professor of animal and food sciences. The following strategies can help boost forage quality during the growing and harvesting season just ahead.

Evaluate Hybrids

For quality forage, select a group of hybrids. A good evaluation tool for comparing hybrids on-farm is the "MILK2006" spreadsheet from the University of Wisconsin, says Kung. The program calculates milk/ton and milk/acre for silage hybrids. (Web addresses for this and other programs are listed.)

"Most growers seek out hybrids that give high milk/ton and milk/acre," explains Kung. "CornPicker," an Excel spreadsheet from Michigan State University, also evaluates corn silage hybrids, he says. This program calculates partial budgets and compares net farm income between two corn silage hybrids. "The program is more complicated than "MILK2006" but unlike that program, "CornPicker" provides a monetary bottom line between hybrids," he says.

Optimize Maturity and Dry Matter

Harvest timing is critical, says Kung. "It can make or break all other management strategies. High quality forage drives cow intake and milk production," he says. Harvest corn silage when the whole plant is at 30-35 percent dry matter (DM) and the kernels are at one-half milk line. Make whole-plant DM the overriding factor for corn silage harvest. Monitor DM with a moisture tester, advises Kung.

"Managing the wilting period is a big challenge for making good alfalfa or grass silage. The goal is to get maximum conservation of fermentable sugars and obtain an adequate DM level to prevent the growth of clostridia," explains Kung. A quick dry down is best because during prolonged wilts sugars are metabolized in the windrow. Wilt your grass and alfalfa crops above 30-35 percent dry matter, he advises. This practice makes it harder for clostridial fermentations to dominate the ensiling process.

Fine-tune Cutting Height and Particle Size

"Corn silage is normally harvested to leave 4 to 6 inches of stalk in the field. Typically, the only time that cutting height should be higher is during drought years when the potential for nitrate accumulation in the lower third of the stalk may occur," Kung says. "No recommendations are currently being made relative to high cutting of corn silage until more research has been completed."

Avoid chopping corn silage too fine or too coarse. "Finely chopped silage reduces the effective fiber and coarsely chopped silage doesn't pack well and often leads to feed sorting," he says. The theoretical chop size is usually one-quarter to one-half inch for unprocessed corn silage and about three-quarters inch for processed silage, he explains.

Mechanical Processing Important

Whole-plant processing crushes the entire corn plant through rollers and boosts silage quality, says Kung. You can mechanically process in the field during harvesting, at the silo but prior to storage, or after ensiling and just prior to feeding. "Processing corn silage improves starch digestibility and allows for good packing in silos even with a longer length of particle chop," he says. Set rollers so that at least 95 percent of the corn kernels are cracked or crushed for optimum digestibility, Kung advises.

Eliminate Air to Boost Quality

"The keys to making high-quality silage are to 1) rapidly exclude air from the forage mass, which will result in a rapid production of lactic acid and reduction in silage pH, and 2) to prevent air penetration into the silage mass during storage," says Kung. Excessive air results in utilization of sugars and excessive degradation of plant protein. "Air also encourages the growth of undesirable microbes such as yeasts and molds," he adds.

"Air can be eliminated by fast filling (but not too fast), even distribution of forage in the storage structure, chopping to correct length and ensiling at recommended dry matters (DM) for specific storage structures," Kung advises. For help with bunker silo filling you can download an Excel spreadsheet at the University of Wisconsin Extension web site. ■

Source: "Cutting, Harvest & Storage Management for Forages" a paper presented by Limin Kung, Jr. PhD, University of Delaware, at the Carver County/ University of Minnesota Dairy Expo, February 2008. Used with permission. For more information, see the complete article on the website listed below.

Web Contacts for Silage Production, Harvesting, Storing and Management

Find more silage management information on the web. Check these resources.

- Dr. Limin Kung's article: "Cutting, Harvest and Storage Management of Forages" ag.udel.edu/anfs/faculty/kung/technical_publications.htm
- "MILK2006" an Excel spreadsheet and many other forage-related fact sheets www.uwex.edu/ces/crops/uwforage/dec_soft.htm
- "CornPicker" an Excel spreadsheet from Michigan State University www.msu.edu/~mdr/cornpicker.html
- Excel spreadsheet on bunker silo filling and more forage resources www.uwex.edu/ces/crops/uwforage/storage.htm

2007 Employees of the Year

Every year each of Davisco's cheese plants honors one employee for outstanding effort and dedication. The work habits, people skills, and attention to detail of these special employees nurture a warm, friendly work environment and add to the company's culture of safety and success. Winners receive plaques and gift certificates at each plant's annual holiday party.

JEROME CHEESE

Martin Perez

Martin Perez is known for his willingness to tackle any task given to him, getting the job done to the best of his abilities and coming into work at any time of the day or night. That kind of work ethic is highly valued when your responsibility is operating the drying and packaging equipment in a plant that processes 6.4 million pounds of milk per day.

Perez has worked at the Jerome Cheese Plant for two years and "always has a positive attitude, and brings that attitude to others," says Bill Riebesell, plant manager. When not working, Perez enjoys freehand drawing of wildlife and outdoor scenery and spending time with his family at his home in Twin Falls.

LE SUEUR CHEESE

Vicky Wilking

Vicky Wilking was hired in February of 2005 as a shipping clerk for Le Sueur Cheese. She combines knowledge and skill with her work ethic and attitude. These attributes help Wilking keep the flow of information and documentation running seamlessly as she deals with transport drivers who deliver supplies or pick up loads, says Darrel Coffelt, HR/safety administrator for Le Sueur.

"Vicky is more than a shipping clerk and has the ability to handle daily challenges while communicating with production and quality personnel. She monitors cheese inventory as well as packaging supplies," says Roger Schroeder, cheese production manager. "She willingly takes on new tasks, all the while maintaining a positive attitude and a smile in difficult situations."

Wilking lives on a small farm south of town. Her hobbies include raising purebred beef cattle with her dad and sister. She is president of the Minnesota Simmental Cattle Association and works with junior livestock exhibitors through 4-H Club. She also exhibits cattle at the Minnesota State Fair and other major shows throughout the United States.

LAKE NORDEN CHEESE

Bob Hauschildt

What shines through Bob Hauschildt's 24 years of service in the maintenance department at the Lake Norden plant is his "hard work, dedication and loyalty," says David Kindt, Lake Norden maintenance manager.

"He's a team player. He has a great attitude and he is willing to do all the jobs required in the plant. He gets plenty of work done, is on time, and is never sick. He has excelled at learning new things as new plant automation has come on board," says Todd Pennings, Lake Norden plant manager.

Hauschildt lives south of Lake Norden on a small acreage with his family. He enjoys farming and caring for a variety of animals but is always willing to come into the plant if help is needed. "He is the kind of guy that can step up and take care of any situation that may arise in the plant," says Kindt.

Former Employee of the Year recipients *Jerome: Mike Payne (2006); Tim Robbins (2005) Lake Norden: Tony Fuerstenau (2006); John Spieker (2005) Le Sueur: Larry Card (2006); Glen Tesch (2005)*