



# Creamery Operations, Quality Cheese, Educational Opportunities at WSU: *World Class. Face to Face*

With a student population of 23,000 choosing 245 fields of education, the Washington State University in Pullman, WA offers those students interested in the food science and nutrition field, educational opportunities so diverse they could never fit into a neat little package.

But it's unique packaging and the subsequent quality of the university's canned cheese that is what the WSU Creamery is known for.

The university's creamery operation is just one of a virtual trove of instructional opportunities, from a cooperative food science program with the University of Idaho, to a number of short courses for the commercial as well as artisanal cheese makers, to an equipped creamery that is on par with any university creamery in the US.

The WSU Creamery is a nearly 20,000 square foot production and retail facility that processed roughly 5.2 million pounds of milk in 2005.

The creamery hires up to 70 students to work part-time jobs.

Russ Salvadalena is the current manager of the creamery and a WSU food science graduate. He said that student employees come from all over the campus and have varied backgrounds and majors.

"The creamery strives to provide an atmosphere that encourages students to learn about dairy products and to develop skills that will make them sought-after employees when they enter the dairy industry," Salvadalena said.

The creamery is a self-supporting entity, part of the department of food science and human nutrition.

Salvadalena said sale of the creamery's cheeses and ice creams fund a faculty position; 10 full-time staff position salaries; two research assistantships for graduate students; and a portion of the salaries of staff in the FSHN department. In addition, revenue also covers the cost of new equipment, repairs and building construction.

Continuing to serve as a vocational lesson, all of the milk the creamery processes comes from a university-owned dairy farm—managed by the department of animal sciences—about six miles away.

The creamery currently purchases all of the milk produced on the farm, Salvadalena said, including the milk from cows owned by the Cooperative University Dairy Students (CUDS).

Students wake early in the morning to collect the milk. This may be plebeian to some students, but it is representative of what it takes to run a dairy processing facility.

"The WSU Creamery has been

essential in my success at WSU," says Stephanie Clark, associate professor and associate scientist at WSU.

"I utilize the creamery for teaching, research, extension, service, and recruitment activities."

In addition, Clark says she collaborates with numerous faculty not only at WSU, but also at the University of Idaho who also utilize the creamery and sensory evaluation facilities.

The cheese manufactured by the creamery is famed not only for its distinguishable taste, but is also unique because of the way the cheese is packaged.

In the late 1930's the United States military was eager to develop products that could withstand the rigors associated with shipping to points throughout the world.

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—Stephanie Clark

According to historical reports, WSU researcher Dr. Norman S. Golding searched for bacteria culture strains that wouldn't produce too much CO<sub>2</sub> eventually causing cans to bulge. Golding happened upon some cultures that not only didn't bloat the cans, but he found the strain also produced a pretty tasty cheese.

The creamery manufactures about 500,000 pounds of cheese, as well as 12,000 gallons of ice cream and a small amount of fluid milk annually. Of the cheeses produced, about 80 percent is one product, the celebrated Cougar Gold—in a tin can.

Besides Cougar Gold, other cheeses the creamery makes include American Cheddar; Smoky Cheddar; Viking, which is comparable to a Monterey Jack; and then Flavored Viking cheeses, including dill garlic, sweet basil and the newest flavor, Crimson Fire!

Of the cheese, 67 percent is sold through the student-employed direct marketing department. "About 25 percent of the cheese is sold at Ferdinand's Ice Cream Shoppe (attached to the creamery) while the rest is sold through local resellers and a Seattle-based store that the university opened in June of 2004," Salvadalena said.

Salvadalena said the creamery, to handle the increase in volume, has gone to processing two vats of cheese per day twice per week.

Today, Salvadalena said processing and sales continue to grow.

"Spurred by requests from university administrators," Salvadalena said, "the amount of milk processed by the creamery has increased by 50 percent from 2000 to 2005." Already the refrigerated storage facility has needed to be increased in size to accommodate the increased production, Salvadalena said.

Currently the creamery is not concentrating any of its whey. And if given a magic wand, Salvadalena thought it would be nice to have the funds, or a supplier donation, "to install whey processing equipment to have that technology available for our students to learn."

He also thought the creamery would be more efficient if it had a larger cheese vat and finishing table.

While the number of students enrolled as undergraduate students in food science is not remarkable, shining on the other side is potential, says Stephanie Clark

"I have seen our undergraduate numbers gradually increase. I personally have 14 undergraduate advisees, several of whom are interested in dairy. Our food science program itself has 22 undergraduates right now. There are truly more opportunities available in dairy now and there is a need for our graduates," she said.

Clark says she is encouraged by the quality of students coming into and graduating from the WSU food science program.

"Our graduates have earned numerous national awards, she said. "Our Food Science Club, Dairy Products Evaluation Team and Food Product Development Team are among the best in the nation."

In the 1980's, Marc Bates, the creamery manager at the time (1974 to 2000) and Dr. Lloyd Luedecke, WSU faculty advisor to the cream-

ery, noticed that they were receiving a great number of calls from industry and from dairy farmers wanting more information on the cheesemaking process.

"With the amount of time we were spending on questions, Dr. Luedecke and I remarked to each other that we should launch a cheesemaking short course.

"Our courses have always focused on the basics: milk quality, sanitation, cultures, enzymes, food safety and good procedures," Bates said

For a number of years, the short course was evenly split among large dairy manufacturers, farmstead cheese makers and supplier personnel, Bates said.

"By 2001 we saw a shift to almost all farmstead, so we launched a course just for that audience in addition to the course designed specifically for the commercial industry," Bates said.

The university and Bates have now taken the courses on the road.

"Not having the creamery with me is the biggest disadvantage of offering courses at other locations," Bates said. "You just can't do everything right when you don't have all your tools with you."

The creamery's prestigious quarters mirrors the prominence of its current and past leaders.

Edgar Olson managed the creamery from 1951 to 1974 and invented the Viking cheeses.

Dr. Lloyd Luedecke has served as the faculty advisor to the WSU Creamery for 40 years and may have had the most to do with the continuing success of the creamery and FSHN program.

Bates, Salvadalena and Clark continue to make the educational opportunities *World Class. Face to Face* as the cheese they make.

For more information or to order cheese visit [www.wsu.edu/creamery/index.html](http://www.wsu.edu/creamery/index.html). •

