

You Sent a Cow to College, Let's See What They've Learned.

The Past, Present, and Future of Brown Swiss at SDSU.

by Kelsey Erf

In 1996, Brown Swiss Breeders from across the United States donated more than 35 registered heifers to be put to work at the South Dakota State University's Dairy Research and Training Facility in Brookings, South Dakota. Twenty-five years later, the Brown Swiss cows are now a staple on the SDSU campus. But there is more to their presence on campus than just a portrait of a Brown Swiss cow on the wall of the SDSU Dairy Bar.

Following the SDSU dairy herd moving into its current facility in 1994, the farm began to look into adding a second breed. After taking into consideration the breed's high components and the fact that the Brown Swiss was South Dakota's second most popular breed at the time, it was an easy choice for the University to go with the big brown cow.

Working closely with the Brown Swiss Cattle Breeders' Association, SDSU began the "*Send a Cow to College*" program. The goal of this program being to add more teaching and research opportunities by adding the Brown Swiss, as well as increase exposure to the breed.

Once the Brown Swiss herd was established, it had opened up some research focusing on nutrition and other comparisons to Holsteins. Due to SDSU's Dairy Manufacturing Program, there was research done on separating Brown Swiss milk and using it to make cheese to see what the impact the breed's milk had on the product.

In the early 2000s, the SDSU Dairy Plant manufactured a line of limited-edition products made from this Brown Swiss milk. The Brown Swiss Cheddar Cheese and Brown Swiss Ice Cream products even made an appearance at the National Brown Swiss Convention in Rochester, Minnesota.

Today, the milking herd is composed of 26 Brown Swiss and 107 Holsteins. The "Campanile" prefix has been leaving its mark on the Brown Swiss breed in many ways. The university's dairy department has ties to nearly every aspect of the dairy industry. Not only are they known for their manufacturing plant, research projects, teaching, and public outreach, but the dairy's Brown Swiss cattle are found in other areas of the industry, such as the show ring, and are especially known on the genomic side of the breed.

"We want the Swiss here to be either high in genomics or something that the students can take to the show ring," says Pete Linke, the current Manager of the SDSU Dairy Research and Training Facility. Danielle Tews, Assistant Manager, continues saying, "Showing the animals is a student driven project. Our goal for showing cattle is to compete at the national level."

Tews explained how there are several universities that exhibit cattle at local shows and even fewer that compete at the national level. This allows for promoting SDSU and the Dairy and Food Science Department, as well as recruiting students from other states.

Some of the university's favorite shows to attend are the South Dakota State Fair and Minnesota State Fair where they have been competitive with both their Brown Swiss and Holstein cattle.

A treasured memory of theirs was when in 2019, South Dakota State University exhibited their first heifer on the colored shavings at World Dairy Expo. Cutting Edge D Nadine, who was purchased from the Spring Selections 3 sale, placed 8th in a competitive Brown Swiss Fall Yearling class. Nadine was scored VG88 as a

two year old and is due with her second calf in early April to CE Thunder.

The Brown Swiss herd at SDSU has a history of many cows scoring EX and by taking a look at the heifer and calf pens, there are sure to be many more. There are currently 4 EX cows on the facility, the highest classified Brown Swiss cow in the barn being Kruses GK Lazer Michelle, who is scored EX 91.

What most may recognize SDSU for is their success with Brown Swiss genomics. One highlight, Campanile Silver 513-ET, a heifer out of Olson's Get Lucky Jes Jaysie ET, ranked in the top 20 in the nation for PPR in 2019. World Dairy Expo saw 513 when she was consigned to the 2019 World Premiere sale. Today, 513, who is owned by Voegeli Farms Inc., Dan & Angie Reider, and Paul Zimmerman, WI, has a current PPR of +180 and a NM\$ of +457.

Another genomic highlight, Campanile Sax 536 NP, a great granddaughter of Old Mill E Snickerdoodle, was the high seller of the 74th annual Minnesota Brown Swiss Association State Sale. 536, a polled heifer now owned by ST Genetics, TX, is also doing well with a PPR of +138 and a NM\$ of +323.

The SDSU Brown Swiss herd maintains a rolling herd average of 23,651 pounds of milk, 4.7% butterfat test, with 1,111 pounds of fat and a 3.6% protein test and 851 pounds of protein with the 26 cows.

Having the two breeds together in a research setting allows for comparisons. In the early 2000's, research was done on Brown Swiss milk. The study indicated that Brown Swiss milk may contain more conjugated linoleic acids, known to have cancer-preventing benefits, than milk from other breeds.

A characteristic that has been observed more recently is the Kappa Casein gene frequencies between the Brown Swiss and the Holsteins. There are three variations - A, B and E. A is the intermediate variety, B is the preferred variety that allows for more cheese yield, and E is the least desirable as it results in little to no cheese from its milk. At SDSU, the Holstein herd for calves born in 2020 have 38% A, 44% B and 18% E. Meanwhile the Brown Swiss born in 2020 possess 12% A and 88% B genes. There is no known E Kappa Casein in the Brown Swiss breed.

Linke explained how their goals at the facility can be different than a typical dairy farm. "Obviously we still are looking to make a profit while producing a wholesome and nutritious product, and care for our animals as well as we possibly can, but at the same time we are conducting research that can help improve the profitability of dairy farmers across the country." Linke continues, "Our biggest focus is that we are helping to grow the next generation of dairy leaders for the industry."

Linke and Tew's passion for making the farm successful while including the students as much as possible was shown clearly when they discussed the student involvement. As it happens, both are graduates of the SDSU Dairy Science and Food Science program. Linke graduated in 2005, and Tews in 2013.

"Every class in the dairy production program has a lab that will utilize the facility in some way. This has been a change over the past few decades, and even more involvement has come from the recent years." says Linke. "We want their experience to be as hands on as possible, and we want them to focus on what they are most interested in."

The Dairy Research and Training Facility employs about 20 students who are responsible for almost every aspect of running the dairy farm, including feeding, milking, calf care, reproduction, and more.

A majority of these students are also active in other programs that involve the facility and their cattle, especially the Brown Swiss. SDSU's annual Dairy Camp, Little International, and FFA all utilize the Brown Swiss in their programs. This allows for more exposure of the Brown Swiss breed, as well as opportunities for youth without an agricultural background to learn more about where their food comes from.

The farm gives as many grade school tours as they can every spring to tell the story of agriculture, in fact, they say yes to every grade school that calls. "In 10 years these kids are the ones who will be voting and building the future, and they can do this with the knowledge we give of what goes on the farm," mentioned Linke.

Dr. Vikram Mistry, SDSU Dairy Science Department Head, estimates that over 1000 people outside of the department tour the farm on a normal year. "Our farm and plant are very connected," Mistry says, "and through the tours they are able to see milk's journey from cow to product. We love to show the whole picture."

The Brown Swiss are a crowd favorite. While visiting the SDSU Dairy Bar and enjoying a scoop of cookies-and-cream ice cream that was invented just down the hall, you can also stop to admire the portraits of Brown Swiss that cover the walls inside, all thanks to the breeders who donated their animals all those years ago.

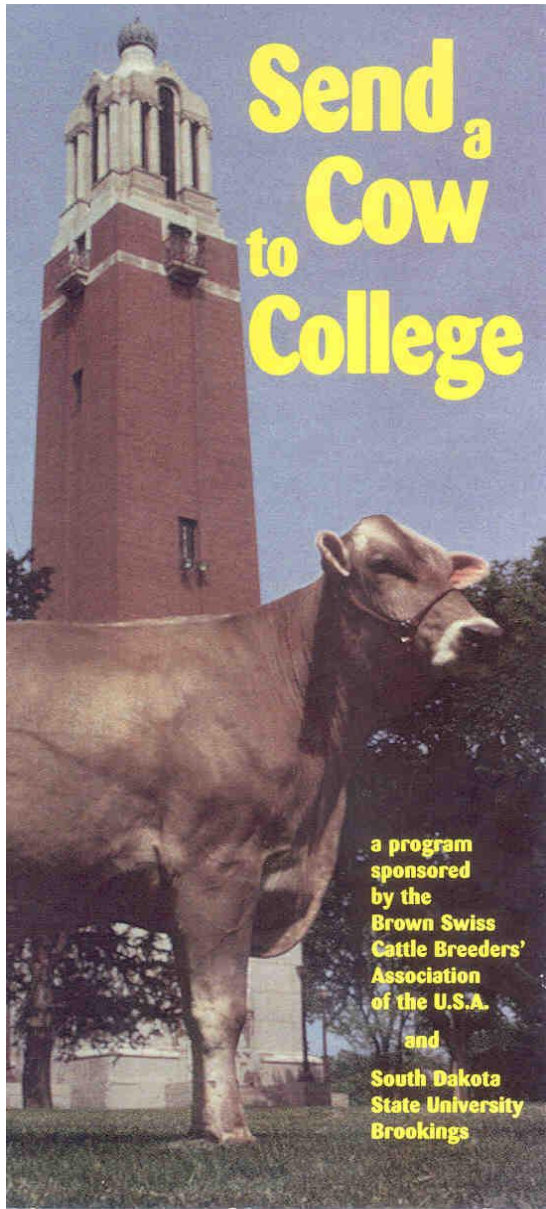
The donation agreement that was incorporated with the 1996 program included a statement disclosing that 'SDSU agrees to maintain the Brown Swiss herd for at least 25 years.' Now

that a quarter of a century has passed, there is no plan of the Brown Swiss leaving the herd, as a matter of fact, one of Linke's goals for the future is to expand their presence at the farm.

"We love that the Swiss' have healthier calves," discussed Linke and Tews. Components, durability, and the breed not having many metabolic issues were also brought up. "The Swiss are the first ones to the bunk and the first ones to the parlor," says freshman Ella Bauer who is employed by the farm. "It's really great to work with Brown Swiss cows with such good type, good production, and just overall good genetics."

When asked about bulls that will help them expand the Brown Swiss herd, the familiar names of top bulls in the breed such as Rampage, Martini, CE Thunder, Famous, and more are being used to breed the next generation of high quality Brown Swiss.

With Pete Linke only being involved with the herd for the past five years and Danielle Tews for nearly three, the genetic progress the Brown Swiss in the herd have made under their management is impressive, and there is no telling what progress the Campanile Brown Swiss herd can make in the next 25 years.



Cover of the 1996 pamphlet that started the Brown Swiss program at SDSU.



The Brown Swiss bulls used during the groundbreaking of the SDSU dairy farm in 1993, supplied by South Dakota dairy farmer and Brown Swiss breeder, Harland Pronto (right).



High seller of the 74th annual Minnesota Brown Swiss State Sale, Campanile Sax 536 NP. Led by SDSU sophomore Kelsey Erf (center), and accompanied by freshman Maggie Molitor (left).



Engstrom with a Brown Swiss calf at the SDSU Dairy Teaching and Research Facility.



Cutting Edge D Nadine - 8th place Fall Yearling at the 2019 World Dairy Expo.



SDSU Senior Brooke Engstrom pictured with one of SDSU's Brown Swiss cows.



SDSU students making cheese in the Davis Dairy Plant.

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