



## **KayCee Hartwig-Dittman**

The buzzword “sustainability” has become widespread, often targeted towards American commodities and industry. Sustainability can be defined as striking the balance of meeting the food needs of today’s society, without compromising the ability of future generations to meet their own needs. Our industry is under a microscope from environmentalist groups and the wider population to reduce greenhouse gases. Many want the agricultural industry to turn on a dime and switch into total sustainability, but often fail to see how this beautiful industry has already evolved so much. Both modern documentaries and animal activist groups repeatedly misunderstand the agriculture sector, specifically the California dairy industry. When one thinks about sustainability its often associated with environmental reduction of greenhouse gas emissions. I view sustainability as the balance of self-sacrifice for the greater good of our planetary health and reduction of world hunger. Dairy farmers already have a history of self-sacrifice, simultaneously feeding the population, minimizing waste, and ensuring a healthy and profitable bottom line.

California farmers play a large role in meeting the global demand for dairy products. Average California dairy exports peaked at almost 33% of all U.S. dairy exports in the past year. Dairy farmers in California are tasked with meeting this global, rather than simply domestic demand. They’ve had to improve their production targets, becoming more efficient, minimizing waste, and therefore becoming more sustainable. Sustainability and cow efficiency go hand and hand. If a cow can produce more than what she is expected to, she has therefore caused less of an environmental impact by making more product and creating fewer polluting byproducts. The future of the dairy industry is promising; famers have proved their ability to innovate, recycle, and improvise long before public pressure of sustainability was pressed onto them.

I am relatively new to this industry but due to my experience at California State University Fresno, I have still been able to see the hard work dairy farmers put in first-hand to achieve sustainability. It’s easy for me to recognize sustainability due to my background as a chef in the restaurant industry in the San Francisco Bay Area. “Farm-to-table” has been a competitive hot button issue with sustainability. Many restaurants have taken their sustainability practices and used them as a marketing tool to attract a certain type of clientele. With a distinguished chef mentor and restaurant, I was working in an environment where sustainability and efficiency was already integral.

Sustainability in the food service industry has primarily centered around minimizing food waste, an issue which has been a growing across the United States. My chef, for instance, has a knack for using a product to absolute completion. An example of this is the large wheels of parmesan cheese we have delivered into the restaurant. In a normal setting, parmesan cheese is grated and the skin (or rind) is discarded. This discarded rind would likely go into a landfill and be a contributor to global warming via landfill generated heat. The restaurant mitigated this potential contributor of global warming by taking that portion of the cheese and transforming it into a lovely dish of parmesan risotto with a parmesan rind stock as its edible base. My culinary career has centered around sustainable cooking and the reduction of food waste. This has made it easy to transfer these skills into my new career in dairy science.

I started my dairy science career with the goal of learning everything I could about this industry. Fresno State offered me a unique opportunity of a hands-on experience on new innovations within the dairy industry. My introduction into dairy science class went into detail surrounding the industry and how it is cultivating change on a daily basis. The dairy industry encompasses everything necessary for sustainability. An aspect that the dairy industry thrives in sustainability is in feed recycling. We discussed in depth about how the dairy industry has the unique opportunity of being able to utilize food waste such as beet pulp, tortilla scraps, and even almond byproducts. Dairy cows can eat these byproducts and turn them into consumable products. Furthermore, the dairy industry has also been able to innovate through genetics. These genetics allow for a high production for milk per individual cow. Genetics can also influence feed conversion, milk production, and so much more. With the use of genetic engineering, the United States dairy industry has been able to reduce herd size while increasing milk production.

This is a huge development because you're almost killing two birds with one stone. The dairy industry is solving world hunger by exporting 176,896 metric tons to countries like China and Mexico. I'm so excited to see this number rise to reduce, if not eliminate, world hunger through dairy. The United States has had the sustainable practices that reduce greenhouse gases while producing an abundance of milk to feed other countries. The United States have the opportunity of becoming a model of sustainability through genetic and the use of food scraps in the cows feed. With increased values in sustainability, the U.S. Dairy industry will be able to reduce world hunger through exports and increased production. From my internship this summer with the California Milk Advisory Board, working on international marketing and export, has inspired me to take my career in the direction of export and dairy marketing. I would be proud to represent the California dairy industry internationally.