



Dairy Cares Newsletter, July 2019

Feed is key to sustainability, and California leads the world

The diet of today’s California dairy cow is truly remarkable—a result of smart resource management and teamwork. There are a lot of people involved in feeding cows—all working together, communicating regularly, and using science and research to continually improve. To anyone outside of this circle, it may be assumed that feeding cows is a relatively simple process. However, for California’s dairy families, feed is critical to success and a key part of their sustainability story—producing more nutritious milk while using fewer resources and continually reducing their environmental footprint.

Dairy farmers, employees, consulting nutritionists, and others spend a lot of time making sure cows get just the right mix of nutritious feed. Just ask Luciana Jonkman, a California dairy farmer and nutritionist, who earned her master’s degree in animal nutrition at Cornell University.

“It’s really important to feed cows high quality feed because they are like Olympic athletes,” she said. “We create a special diet for each group of cows, so that they can perform at a high level. The better nutrition we provide, the more milk they produce.”



Dairy families put much care into feeding their cows, producing more milk, while using less water and land.

In fact, improvements made in feed quality have played a significant role in the overall efficiency of dairy production: more milk per cow. For example, in 1950, there were 25 million dairy cows in the United States. Today, we have 9 million dairy cows (that’s 16 million less cows), but we’re producing 60% more milk. This tremendous boost in efficiency means, U.S. dairy farmers have reduced the environmental footprint of a glass of milk by more than two-thirds. But, wait, that footprint gets even smaller.

More than 40 percent of feed ingredients used on California dairies are agricultural byproducts, such as almond hulls, tomato pulp, cotton seed, citrus pulp, and brewer’s grain, which could otherwise be wasted. California dairies’ byproduct use is nearly double the national average (23 percent), due to the wide variety of specialty crops that are grown year-round. Cows—with their four-compartment stomachs—can digest parts of plants that humans cannot. California’s dairy farmers have found ways to incorporate a wide variety of byproducts into highly nutritious and appetizing rations (known as total mixed rations or TMRs) for cows and heifers. Of the remaining portion of feed consumed by California dairy cows, much is grown by dairy farmers or other farmers in the state.

A large component of a dairy cow’s diet is silage—a fermented form of plants that is highly nutritious. Corn is grown in the summer, and other forages—often wheat—are grown in the winter. This strategy provides variation in the crop cycle (good for soil health), while feeding cows all year. Silage is also a great way to maximize the use of natural resources. For example, to make corn silage, the entire plant (stalk, husk, and



Dairy cows enjoy their total mixed rations of feed.

kernels) is harvested while still green, chopped into pieces, and stored in airtight conditions. Silage retains moisture that helps cows digest their food. By sealing the silage within 24 hours of harvesting and storing it just right, farmers preserve quality, while preventing bad bacteria from spoiling the feed—eliminating waste and ensuring a nutritious supply of feed throughout the year.

This month, more than 130 farmers gathered for the second annual [California Silage Corn Conference](#), an event that highlights the latest strategies in maximizing the efficiency of corn silage—from [innovative farming and soil management practices](#), to silage storage, seed varieties, and more. Attendee, Richard Mayo of De Jager Farms says he’s always looking for ways to improve.

“On dairies today, forage quality is one of the top drivers of sustainability,” Richard said. “Being able to improve quality and yield is really important moving forward, as we try to use even less water and manage rising costs.”

Conference speakers talked a lot about “more milk per acre,” a phrase that embodies boosting yield and quality, and preserving that quality until cows are fed. To ensure optimal quality, samples of silage, byproducts, and other feed ingredients can be tested in laboratories to identify potential components—perhaps vitamins and minerals—that can be purchased to be mixed in. While some supplements are purchased, much of the quality can be controlled on the dairy itself—everything from harvest timing, the size and shape of chopped silage pieces, the density of stored silage, the way silage is removed and resealed throughout the year, and the list goes on. There’s a lot of science that goes into making the most out of every acre of corn grown.

“The little things add up,” said John Mendonca of Foster Dairy Farms. “We start planning today for next year’s ration.”

In the end, it comes down to the nitty gritty details, explained Julie Barnett, a sales manager with Virtus Nutrition, LLC, a company that focuses on providing fatty acid supplements to dairy farms. Like humans, cows must consume fat to utilize the energy in their feed, absorb vitamins and minerals, and boost their immune systems. She referenced a feed sample bag, which demonstrates the complexity of dairy cow nutrition. The clear, zipper-topped storage bag has more than 100 checkboxes on it, representing all the different analyses that can be performed. Julie said that California dairy farmers continue to breed cows that are highly capable of producing milk, but it’s the optimum nutrition that allows cows to reach their full potential.

“You can’t feed cows like it’s 1997,” Julie quipped. “Feeding cows right is a big part of becoming more efficient. It’s so important to know what’s in every bite.”

While farmers focus on keeping their costs and inputs low and producing more milk, they also recognize there are huge environmental benefits: less water, less land, and fewer fossil fuels used to produce the feed needed. On a global outlook, California’s dairy family farmers continue to lead the world: producing more nutritious milk, while using less resources and further shrinking their environmental footprint.

Through feed efficiency, California dairy farmers are making milk more sustainable than ever.

Dairy Cares is a statewide coalition supporting economic and environmental sustainability and responsible animal care. Our members include Bar 20 Dairy Farms, California Cattlemen’s Association, California Dairies Inc., California Dairy Campaign, California Dairy Research Foundation, California Farm Bureau Federation, Dairy Farmers of America-Western Area, Dairy Institute of California, F & R Ag Services, GHD, Inc., Hilmar Cheese Co., Joseph Gallo Farms, Land O’Lakes, Merck Animal Health, Milk Producers Council, Ruan Transport Corp., Yosemite Farm Credit, Zenith Insurance Company, and others. For information, visit DairyCares.com or call 916-441-3318. To subscribe to the e-newsletter, contact news@dairycares.com.