

**Golden State Dairy Management Conference  
Presentations Now Online!**

University of California’s dairy research conference was held March 4, 2020 in Modesto. We designed the conference with the producer in mind and delivered information in a “news you can use” format. Most importantly, the research presented was derived from California data. With session themes of by-product/alternative feedstuffs, agronomy, economics, animal health, calf management and “hot topics,” there was surely something for everyone.

Be on the lookout for our next research conference in 2022 – we hope to see you there! In the meantime, check out the presentations from this year’s conference here: <https://ucanr.edu/sites/CA Dairyconference/Bios/>

**UC Farm Advisors Working Remotely**

The State of California has issued a shelter-in-place order to reduce the spread of COVID-19 and Cooperative Extension offices are now working remotely. **We are still here to answer your questions and address needs** during this unprecedented situation. Please contact your local dairy advisor:

**Randi Black**

Sonoma, Marin & Mendocino Counties  
[rablack@ucanr.edu](mailto:rablack@ucanr.edu)

**Daniela Bruno**

Fresno, Madera & Kings Counties  
[druno@ucanr.edu](mailto:druno@ucanr.edu)

**Jennifer Heguy**

Stanislaus, San Joaquin & Merced Counties  
[jmheguy@ucanr.edu](mailto:jmheguy@ucanr.edu)

**Betsy Karle**

Northern Sacramento Valley  
[bmkarle@ucanr.edu](mailto:bmkarle@ucanr.edu)

***Also In this Issue...***

- By-Product Management .....2
- Early Lactation Milking.....3
- AMMP Funds .....4
- Research Opportunity .....4
- CA Breeding Strategies .....5

***Newsletter Editor:***

Jennifer Heguy  
UCCE Dairy Advisor

[jmheguy@ucdavis.edu](mailto:jmheguy@ucdavis.edu) (209)525-6800

# By-Product Management Practices on California Dairies

Jennifer Heguy – UCCE Merced, Stanislaus & San Joaquin Counties

Ed DePeters – Department of Animal Science, UC Davis

By-product feeding is a common practice on California dairies. From a recent survey, California dairies reported feeding 58 unique by-products; 89% of dairies that responded to the survey fed by-products. In addition to quantifying by-products fed on dairies, we also wanted to gauge how by-products are being managed.

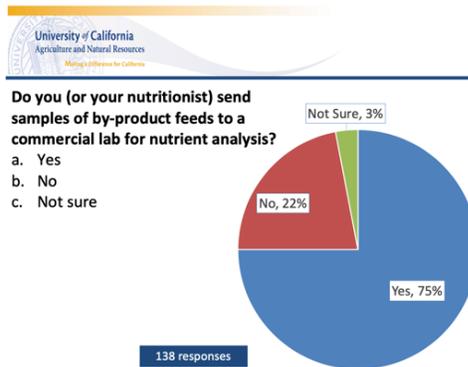


Figure 1. Are by-products analyzed for nutrients?

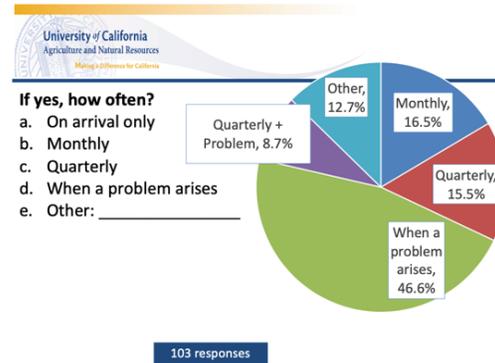


Figure 2. How often are samples analyzed?



Figure 3. Visible quality difference between two samples of almond hulls.

Most dairies sent by-products out for nutrient analysis (**Figure 1**), but frequency of analysis varied (**Figure 2**). Almost half of responding dairies waited for a problem to arise before a by-product feedstuff was sampled for analysis. That may pose an issue with some by-products due to the highly variable nature of what’s being delivered to dairies. **Figure 3** shows the visible quality difference of almond hulls sampled from two neighboring dairies and depicts the importance of sampling. The sample to the right has fewer sticks and shells and has larger sized hulls. Talk with your nutritionist to determine if more frequent sampling makes sense for your farm for those feedstuffs that can vary in nutrient composition and/or physical components (debris pictured in **Figure 3**, for example).

When a by-product was not analyzed, most dairies (80%) relied on their nutritionist to determine the values. The top five concerns when feeding by-products were reported as: availability (82%), quality of material delivered (69%), variability in load quality delivered (50%), molds, yeasts, other undesirable products (47%), and variability in load moisture content (43%). That question was “select all that apply,” so percentages do not add up to 100.

By-product feeding on dairies can reduce ration costs, extend other commodities that are in short supply, and recycle otherwise “wasted” nutrients. Work with your nutritionist to ensure you’re getting the best value from your feedstuffs, both in terms of getting what you paid for and value in the ration.

To see more results from the survey, please visit: <https://ucanr.edu/sites/CEStanislausCo/files/323974.pdf>

# Milking Strategies to Improve Energy and Mineral Balances in Early Lactation

*Ainhoa Valldecabres, PhD Student & Noelia Silva-del-Rio – UCCE Dairy Herd Health Specialist*

At lactation onset, energy and nutrient demands for milk synthesis increase, but intake falls short in meeting those requirements. As a result, cows enter a state of negative energy and mineral balances. Early lactation diseases such as retained placenta, metritis, ketosis, and hypocalcemia have been associated with these negative balances, and are known to compromise reproductive performance and milk yield.

To alleviate peripartum negative energy and mineral balances, most dairy operations implement pre or postpartum nutritional strategies that aim to increase energy and mineral availability. Alternatively, reducing early lactation milk output could reduce energy and mineral demands imposed by the mammary gland and ease transition into lactation. Some early lactation milking strategies that reduce milk output have been compared with twice-a-day milking (control group). The strategies evaluated include:

- **Reduced milking frequency:** once-a-day milking (2 or 7 days postpartum).
- **Restricted milking:** twice-a-day milking restricted to either 3 L per milking (2 days postpartum) or 1/3 of the milk yield produced by control cows (5 days postpartum).



These studies evaluated blood markers of energy balance [glucose, non-esterified fatty acids (NEFA), and beta-hydroxybutyrate (BHB)] and/or blood mineral concentrations (calcium and phosphorus). Results showed that early postpartum milking strategies to reduce milk output **improved energy balance and increased calcium and phosphorus blood concentrations** compared to twice-a-day milking.

Common concerns of reducing milk output in early lactation are potential long-term milk yield losses and udder health issues. These studies evaluated milk yield and somatic cells count (SCC) from 1 to 3 months postpartum. Milk yields were similar among cows on milking strategies that reduced milk output and control cows, except when cows were milked once a day for 7 days. For these cows, energy-corrected milk was similar, but milk yield was lower. In addition, SCC were similar for cows on reduced frequency or restricted milking strategies and control cows. These studies did not have enough cows to evaluate differences in the number of mastitis cases or disease incidence.

In conclusion, restricted milking for 2 to 5 days postpartum, or milking once-a-day for 2 days postpartum, could help cows maintain postpartum energy and mineral balances. Future studies are needed to demonstrate if these changes will affect health and production outcomes.

## COVID-19 Resources

The UC Davis Western Center for Agricultural Health and Safety's website has a number of COVID-19 related resources for employers and employees, in both English and Spanish. Audio/video resources are available, as well as a number of download/print items.

Visit their website here: <https://aghealth.ucdavis.edu/covid19>

## **Grants Fund Alternative Manure Management Practices on Dairies**

*Deanne Meyer, UCCE Livestock Waste Management Specialist, Zaira Joaquin Morales, Trish Price - Department of Animal Science, UC Davis and Denise Mullinax – California Dairy Research Foundation*

The April 27 deadline passed! That was the deadline for this year's California Department of Food and Agriculture program submission through the Office of Environmental Farming and Innovation. Let's take a look at how the Alternative Manure Management Program (AMMP) has been used by dairy operators in previous years. The objective of the AMMP is to keep manure from anaerobic conditions. That is, keep it from being wet in storage.

More than \$64,000,000 have been awarded for AMMP since 2017. Almost all 2017 projects are complete: 7 compost bedded pack barns, 8 solid separation, 2 flush-to-scrape. There is 1 solid separation project that hasn't started. In 2018, 36 projects were funded. More than half of these are complete.

What's popular?

Coastal dairies took advantage of solid separation (39%), compost bedded pack barns (34%) or conversion to scraping (27%). In the Central Valley the practices were in a different order: solid separation (70%), compost bedded pack barns (19%) or conversion to scraping (27%). Facility housing type and available space, primary method of manure collection and annual rainfall all impact which alternative practice is a good fit for a specific facility.

If you're interested in knowing more about how these practices are working out, feel free to contact Deanne Meyer at [dmeyer@ucdavis.edu](mailto:dmeyer@ucdavis.edu).

## **Research Opportunity: Improving Our Understanding of Antibiotics in Dairy Farms**

Antibiotics play an essential role in maintaining animal health and productivity. To provide guidance and knowledge on antibiotic use and management practices, it is important to constantly update our understanding on the role of therapeutic antibiotic use and its impact on animal health. A veterinary project is being conducted by UC Davis to better understand antimicrobial resistance patterns in dairy calves, and we are looking for interested farms to participate in the study.

The project will last around 1-2 months, with up to 2 people visiting the farm a few times a week to collect fecal samples and health data from animals. Any and all data generated will be made available to the owner/manager, and anyone entering the premises is willing to sign a waiver liability release if requested. Identity of participants will remain confidential. No photos will be taken on the facility without consent, and participants are free to back out of the study at any point, if they wish to do so.

If interested and/or to obtain more information, please contact:

Katie Lee (UCD, graduate student): [lectlee@ucdavis.edu](mailto:lectlee@ucdavis.edu) (408-239-9140)

Rob Atwill (UCD, Professor): [ratwill@ucdavis.edu](mailto:ratwill@ucdavis.edu) (530-754-2154)

# What are the Sexed and Beef Semen Strategies Adopted by California Dairy Farmers?

Jessica Pereira - PhD Student, Daniela Bruno – UCCE Fresno, Madera & Kings Counties

Fernanda Ferreira – UCCE Herd Health & Management Economist Specialist

Adjusting heifer inventory is an important strategy to improve dairy herd profitability. From an article published in the Journal of Dairy Science (April 2020), the cost of raising heifers to 24 months is \$2,016. Average price of a top springer in California is currently \$1,550 (March 2020), therefore it is not economical to raise excess heifers. Dairy farmers have adopted strategies to improve their herd by using sexed semen (SS), and to control heifer inventory by using beef semen (BS). This strategy may be viable for your farm, especially in low milk price scenarios.

In January 2020, we surveyed California dairy producers about their management practices and use of BS in their herds. We received surveys from 139 dairies (14% response rate). Breed breakdown of responding dairies was 75% Holstein, 14% mixed breed (had both Holstein and Jersey), 8% Jersey and 3% crossbred (farmers are using a crossbreeding program). The average herd size was 1,667 milking cows (range 105-5,500) with an average 77.8 lbs of milk/cow/d (range 40-100).

Eighty percent of the producers who responded to our survey are using BS, and 21% of the herds use more than one beef breed. Most **Holstein herds** are breeding with Angus (91%), followed by Wagyu (10%) and Charolais (7%). **Mixed herds** are using Angus (92%) and Limousin (39%). **Jersey herds** also use Angus (60%) and Limousin (50%).

Most of the respondents using BS **started less than 3 years ago (72%)**, and 31% of all dairies are breeding more than 30% of all eligible cows with BS. **Extra profit and managing the extra heifers** were the main reasons for BS use. **Farmers choose which BS to use** based on the preference of the calf ranch (41%), cost of the semen (37%), and calving ease (21%). Cow's reproductive performance (76%), lactation number (54%), milk production (43%) and genomic value (34%) are the **main criteria to select which cows receive BS**. Regardless of lactation number, the majority of respondents (46%) start breeding with BS after the cow's 3<sup>rd</sup> breeding, 29% after the 4<sup>th</sup> and 29% after five or more breedings.

**A large proportion of dairies use SS (78%)**, and 84% of these combine the use of SS with the use of BS. The main factors for selecting cows to receive SS are lactation number (50%), reproductive performance (43%), and genomic value (39%). Most SS is being used in heifers (92%) and first lactation cows (64%).

The price received for crossbred calves varies depending on the beef breed used. On average, **crossbred calves from Holstein and Jersey herds are being sold for \$150 and \$130 per calf**, respectively (Figure 1). In general, crossbred Angus have the greatest variation in price (Holstein x Angus: from <\$50 to >\$250; Jersey x Angus: from <\$50 to \$200). In Holstein herds, Wagyu and Limousin crossbred calves have the best market value (above \$150/calf). For Jersey herds, Charolais crossbreds had the best market value (\$201-\$250). This variation shows an opportunity to maximize the crossbred sale price by understanding the market needs. **Each farm should be aware of the strategy that will maximize their profits**. This will depend on their needs for replacement heifers, heifer raising costs, reproductive performance, and crossbred prices. We are happy to answer questions about the beef usage survey results and discuss strategies presented. Please feel free to contact us.

**Figure 1.** Crossbred sale price according to the beef breed used for Holstein and Jersey herds.



University of California Cooperative Extension

# California Dairy Newsletter

Merced, Stanislaus & San Joaquin Counties

May 2020



A handwritten signature in black ink that reads "Jennifer". The signature is fluid and cursive, written in a dark color.

Jennifer Heguy, Dairy Advisor

Merced, Stanislaus & San Joaquin Counties

The University of California, Division of Agriculture and Natural Resources (UC ANR) prohibits discrimination against or harassment of any person in any of its programs or activities on the basis of race, color, national origin, religion, sex, gender, gender expression, gender identity, pregnancy (which includes pregnancy, childbirth, and medical conditions related to pregnancy or childbirth), physical or mental disability, medical condition (cancer-related or genetic characteristics), genetic information (including family medical history), ancestry, marital status, age, sexual orientation, citizenship, status as a protected veteran or service in the uniformed services (as defined by the Uniformed Services Employment and Reemployment Rights Act of 1994 [USERRA]), as well as state military and naval service. UC ANR policy prohibits retaliation against any employee or person in any of its programs or activities for bringing a complaint of discrimination or harassment. UC ANR policy also prohibits retaliation against a person who assists someone with a complaint of discrimination or harassment or participates in any manner in an investigation or resolution of a complaint of discrimination or harassment. Retaliation includes threats, intimidation, reprisals, and/or adverse actions related to any of its programs or activities. UC ANR is an Equal Opportunity/Affirmative Action Employer. All qualified applicants will receive consideration for employment and/or participation in any of its programs or activities without regard to race, color, religion, sex, national origin, disability, age or protected veteran status. University policy is intended to be consistent with the provisions of applicable State and Federal laws. Inquiries regarding the University's equal employment opportunity policies may be directed to: John I. Sims, Affirmative Action Compliance Officer and Title IX Officer, University of California, Agriculture and Natural Resources, 2801 Second Street, Davis, CA 95618, (530) 750-1397. Email: [jsims@ucanr.edu](mailto:jsims@ucanr.edu). Website: [http://ucanr.edu/sites/anrstaff/Diversity/Affirmative Action/](http://ucanr.edu/sites/anrstaff/Diversity/Affirmative%20Action/).