University of California
Agriculture and Natural Resources

California Dairy Newsletter

Vol. 10, Issue 1 February 2018

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De-Pooling of Milk in the Proposed California Federal Milk Marketing Order

Leslie J. Butler, PhD - Agricultural and Resource Economics, UCD

While a final rule has not yet been issued by the USDA, it is likely that de-pooling under a California Federal Milk Marketing Order (FMMO) would be similar to de-pooling in other FMMO's. Under the current California milk marketing order, nearly all milk is required to be pooled, and processors are required to pay the minimum regulated blend price on all milk that is pooled. Thus, under the current California Milk Marketing Order, de-pooling is an infrequent occurrence. In contrast, under the proposed FMMO for California, there will probably be more opportunities for processors to de-pool in any month when manufacturing class use values are higher than the uniform price. It is important that California milk producers understand what de-pooling is and what implications it has for the prices they receive for their milk.

What is de-pooling? The following definition was offered by USDA in response to a question about de-pooling when a California FMMO was first proposed in 2015.

"De-pooling" is when milk normally associated with a market is not pooled during a particular month. Currently in all Federal orders, only Class I milk is required to be pooled. Handlers may opt to not pool Class II, III or IV milk when manufacturing class use values are higher than the uniform price. A handler that de-pools milk does not contribute into the market-wide pool and retains the higher valued manufacturing class use-value. Federal orders do not enforce minimum blend price payments for milk not pooled on the order.

Why would a processor opt to de-pool?

When milk is pooled, all producers in the pool receive the initial uniform blend price, adjusted for processor premiums such as quality and, in some cases, protein bonuses.[1] A processor pays into the pool (usually for Class I and II milk) and/or draws from the pool (usually for Class III and Class IV milk), based on the value of their end-use values. If the manufacturing class values (for Class II, III or IV) are higher than the calculated values for the pooled milk, then a handler may opt to de-pool for that month and retain the money that would normally have been paid into the pool.[2] Since he/she is now (after de-pooling) not obligated to pay into the pool, the processor would

1. In the proposed FMMO for California, quota will also be paid to quota holders, but that money will first be drawn from the pool prior to the pooling calculations.

2. The opportunity to de-pool usually occurs when the market value of cheese, butter or non-fat dry milk powder increase rapidly over a month, and cause the following months manufacturing use class values to increase. This is due to the timing of prices used to calculate pool values.

potentially pay producers a higher price for their milk, and probably retain some of it for profit. Thus when de-pooling occurs, that handlers producer suppliers will potentially be paid a higher than minimum price for their milk.

Some Qualifications

However, there are a number of qualifications that should be understood. First, de-pooling by one or more handlers will also affect the entire pool because the volume of milk that is de-pooled does not get valued into the pool, so potentially, it will affect the prices for pooled milk.

Second, when the uniform price rises above the manufacturing class use-value of milk (usually the month following the de-pooling), the same handler may opt to "re-pool" their milk receipts and draw from the pool to pay their producer suppliers the usual uniform blend price. Obviously, continued and unlimited ability to de-pool and re-pool could potentially cause a fair amount of volatility in pool volumes and prices, not just for the processors who de-pool and re-pool and their producer suppliers, but also for the entire market pool. The ability of manufacturing handlers and cooperatives to engage in the unlimited de-pooling and re-pooling of manufacturing milk has been found to be inequitable to both producers and handlers in certain situations. To limit de-pooling, certain orders have adopted standards and rules for re-pooling. These standards limit the volume of milk a handler or cooperative may pool during a month based on the volume of milk pooled the prior month. USDA has found that re-pooling standards are justified for the proposed California FMMO (see USDA-AMS 2017). The proposed re-pooling standards for the California FMMO are 125% of the previous month's milk for the months April through February and 135% for the month of March.

It is widely acknowledged that de-pooling and re-pooling provisions are required to expedite the orderly disposition of milk when is not needed for fluid (Class 1) use because the diversion of milk (not required for fluid purposes) facilitates the orderly and efficient marketing of milk. The bottom line is that processors must take into consideration future prices and pool draws before they de-pool.

Third, under FMMO rules, cooperatives are not obligated to pay minimum prices, even if they are in the pool. Thus, if cooperatives receive excess milk, one option is to de-pool and sell that milk to other processors, many of whom may be non-pool plants and who are not obligated to pay minimum class prices. If the price offered by non-pool plants is lower than the minimum class price, a cooperative may be forced to sell their excess milk at lower prices, and pay their producer suppliers lower prices than FMMO minimums. Since there is no data available to ascertain whether this will happen or not, it is posited here only as a possibility. In addition, the proposed California FMMO contains a provision that allows the market administrator to waive the re-pooling rules due to unusual circumstances.

Thus, while "de-pooling" has both positives and negatives associated with it, most of the potential negative aspects have been addressed in the proposed FMMO.

References

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Colostrum Immunoglobulin G Concentration in First and Second Milking from Multiparous Jersey Cows

Noelia Silva del Rio, DVM, PhD, VMTRC, Tulare

Providing newborn calves with adequate IgG supply from colostrum is recognized as an essential management practice in calf rearing. Calves that fail to reach serum IgG levels above 10 g/L within the first 2 days of life are considered to undergo failure of passive transfer (**FPT**). Economic losses associated with FPT have been estimated to average $65 per calf when accounting for calf mortality, morbidity, and decrease in average daily weight gain.

Industry standards define colostrum as high quality when IgG concentration is greater than 50 g/L (measured with radial immunodiffusion assay). Parity, pre-partum diet, season, breed, dry-period length, vaccination of the dam, and delayed colostrum collection are factors associated with colostrum quality. In a recent survey, almost 30% of maternal colostrum failed to reach IgG concentrations above 50 g/L. Thus, to prevent FPT, it is essential to know the IgG concentration of colostrum and to restrict the first feeding to colostrum that meets the standard of quality. On-farm %Brix refractometry can be successfully used to estimate IgG concentration.

In a recent extension meeting, a dairy producer asked if %Brix readings on second milking colostrum is an appropriate method to estimate colostrum IgG. After evaluating multiparous Jersey cow colostrum samples from first and second milkings, we are able to provide an answer: YES. In **Figure 1**, we see there was a strong association between IgG concentrations of colostrum from first and second milkings and Brix readings. We also found that nearly half of the second milking colostrum samples from cows on their third or greater lactation (42.7%) met industry standards for desirable IgG concentrations. This warrants %Brix readings on second milking colostrum from mature cows, especially during colostrum shortage periods

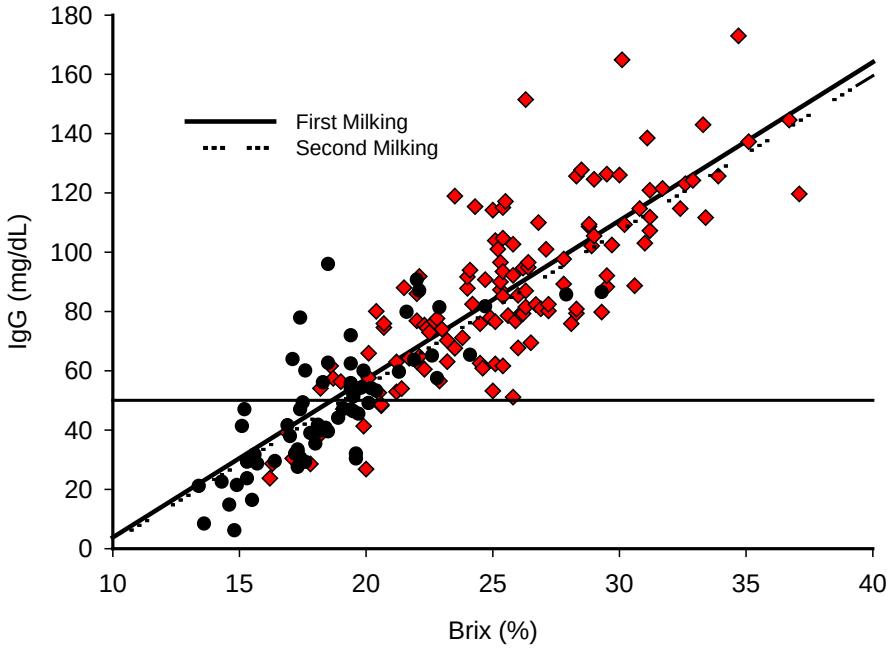

Figure 1. Association between %Brix readings and IgG concentration by radial immunodiffusion assay from multiparous Jersey colostrum at first (red diamonds; n = 134) and second milking (black dots; n = 68).

Liquid Manure Pipes Clogged? You Might Have Struvite.

Deanne Meyer, PhD - Livestock Waste Management Specialist, UC Davis

Most manure lagoons in California are anaerobic. The microbes digest manure (residual cow food). This removes some of the solids from the lagoon and generates carbon dioxide, methane, and other volatile gases. Depending on your lagoon nutrient content, you may also end up with magnesium, ammonium and phosphate in just the right proportion to form struvite.

Perhaps you've had crystalline formation problems in pipes, elbows, pumps or valves. Once, a dairy producer brought a large cup of crystals to an Environmental Stewardship Class. These were nice long brown crystals. Another producer sent me a photo last fall and said, "It's not tri-tip." True enough! If this sounds familiar, think about the time of year it occurs. Does it seem like pipes slowly clog or are they on some regular cycle? If it occurs on a regular cycle, there may be a clue to follow for prevention.

Most people talk with their equipment dealers to manage the precipitate. First be sure you have a struvite precipitate. If you suspect struvite formation in your pipes, take a chunk of crystals and get them analyzed. The lab that runs your manure samples can do this. Ask for magnesium, nitrogen, phosphorus, and calcium analyses. Chemically, struvite is $NH_4MgPO_4 \cdot 6H_2O$. Also, you should look at the pH of your pond water. Pond pH values run between 7.2 to 7.8. There are some ponds with lower or higher values. Usually, the higher the pH, the higher the probability of struvite formation in pipes as long as the ammonium, magnesium and phosphate are present in about equal amounts.

Prevention when possible! Have a conversation with your nutritionist to determine that you are not over-feeding magnesium, nitrogen or phosphorus. Each of these elements is important for animal health and production so they are needed in diets, you just want to be sure you are not adding to the problem.

Determine which pipes in your liquid manure flow are most likely to clog. Are these pipes coming from animal housing and going to the pond or are the clogging pipes occurring between the pond and the return water to animal housing? This may pin-point the origin of the problem and help troubleshoot where intervention is appropriate.

Liberating the struvite can be done mechanically or chemically. Either method takes expertise. Some producers just include a rotor rooter type activity of suspect lines annually. Others use chemical treatment. If calcium is present in the struvite (likely in a carbonate form), use of an acid can dissolve the calcium carbonate and return the elemental components into solution. If you're going down this route, talk with someone who is familiar with acid use in wastewater.

Things to think about. Safety and cost are important things to remember. Both the mechanical and chemical ways to remove struvite require expertise in use and safety measures to be sure no one is harmed in the process. Also, if you have an anaerobic digester agreement, be sure to have the discussion with your vendor to ensure your approach to struvite is acceptable. Remember, if you have a history of struvite in your pipes, plan to manage it and not let it get the best of you.

Improved Detection and Management Reduces Respiratory Disease in Dairy Calves

Betsy Karle - UCCE Dairy Advisor, Northern Sacramento Valley
Sharif Aly, BVSc, MPVM, PhD - UC Davis Veterinary Medicine Teaching & Research Center

The problem

Bovine respiratory disease (BRD) is a disease of major economic importance to the dairy industry in California and across the United States, resulting in losses in excess of $700 million annually. However, BRD remains difficult to detect, leading to poor treatment outcomes, suboptimal animal welfare, and sometimes unnecessary antibiotic use. Diagnostic challenges arise because the specific clinical signs presented by calves with BRD are widely variable, and there are no clinical signs that are ***always*** present in affected animals. Management practices to reduce the incidence of BRD have been similarly misunderstood. Since BRD can be caused by environmental, bacterial or viral agents, it has been unclear where we should focus management efforts to reduce this disease. While we knew much about how to prevent the disease through the basic mechanisms of improving a calf's immunity, be it through better colostrum management, feeding or vaccination, we really didn't have a quantitative understanding of how the daily management of calves and their dams can modify a calf's risk for BRD.

What have we done?

Researchers in UC Cooperative Extension, the UC Davis School of Veterinary Medicine and the California Department of Food and Agriculture worked together to develop a clinical scoring system and mobile application to detect BRD in preweaned dairy calves that you have read about in this newsletter before (see November 2014, October 2015, and January 2017 issues). We then visited 100 dairies throughout the state to survey management practices and estimate BRD prevalence in over 4,600 calves using the newly developed scoring system. These management practices were analyzed to determine their association with BRD prevalence on different dairies. With this information in hand, the team followed over 10,000 calves on six different dairies from birth to weaning, keeping careful records on cases of BRD and associated management practices. All of this data has been compiled and analyzed, identifying important management practices that can help reduce BRD in young calves.

Now what?

With this information, we have successfully identified the primary risk factors for BRD in young dairy calves and are working on finalizing a risk assessment tool to help manage this complex disease on dairies. This tool will help producers assess the risk of BRD in calves on a dairy in a comprehensive way, producing a road map that can be used to make the needed changes to control this costly disease in preweaned dairy calves. The assessment will rely on a questionnaire with specific sections and the questions will be linked to scores for each management practice associated with BRD in calves, based on the earlier studies. The combined risk assessment with scores will make the tool one that can be used by consultants, veterinarians or producers to assess the risk of BRD on a specific herd, which in turn is used by the dairy farmer to identify areas where management is deficient (low score) in prevention and control of BRD. We will be rolling out the risk assessment soon. Please contact us (bmkarle@ucanr.edu or saly@ucdavis.edu) if you are interested in helping beta test the first version.

To learn more about how to use the mobile application, effective ways to manage BRD in your calves, and so much more, attend the 2018 Golden State Dairy Management Conference, March 29-30, in Stockton!

Achieving High Reproductive Performance on Dairy Herds

J.P. Martins, PhD - UCCE Dairy Advisor, Tulare and Kings Counties

Achieving high reproductive performance in high producing lactating dairy cows was once a nearly impossible task. However, during the last two decades, several advancements were made in reproductive management, and new technologies became available, making it more common to find high production herds achieving high reproductive efficiency. Every year, the Dairy Cattle Reproductive Council (DCRC) recognizes and honors top US dairy producers who have successfully achieved high reproductive efficiency. Last November, during the DCRC annual meeting in Reno, these producers shared their strategies during a round table event, and a summary of the Dairy Comp 305 data from the awarded herds was presented.

All 24 awarded producers combined timed-artificial insemination (timed-AI) protocols with estrus detection (ED) for their reproductive management strategy. Timed-AI protocols' efficiency is undeniable. Protocols such as Presynch-Ovsynch, G6G-Ovsynch and Double-Ovsynch increase both service rate (estrus detection rate) and fertility of high producing, lactating, dairy cows (the most efficient timed-AI protocols were covered in the January 2017 edition of the California Dairy Newsletter). However, traditional ED is still a useful tool for finding and breeding non-pregnant cows sooner. Estrus detection also reduces costs associated with reproductive hormones. Eleven of the 24 awarded producers used only timed-AI protocols for first service, while the other 13 producers used timed-AI (Presynch-Ovsynch) in combination with ED (cherry-picking) for first service. All awarded producers used a combination of ED and resynchronization protocols to re-inseminate cows. Cows not detected in estrus and inseminated after first service were listed for pregnancy diagnosis ("preg check") and enrolled to a resynchronization protocol, if not pregnant. Producers emphasized that managers, employees, and technicians must have a good understanding of the reproductive strategy implemented.

Awarded producers also payed close attention to other areas of management that have negative effects on the fertility of lactating dairy cows, including transition cow management and heat abatement strategies.

Transition period: Producers must reduce the percentage of cows with problems during the transition period to achieve reproductive success. Cows that struggle with severe negative energy balance, loss of body condition score (BCS) and clinical or subclinical diseases during the transition period will delay showing heat and have reduced fertility and greater chance of pregnancy loss. Thus, cows in the transition period must receive special care in the areas of nutrition, cow-comfort, grouping strategies and health monitoring to maximize reproductive potential later in lactation.

Heat abatement strategy: Last summer (2017) was the second consecutive record warm summer (Source: NOAA). Heat stress has a huge negative impact on production and reproductive performance of lactating dairy cows. Lactating dairy cows during heat stress have a substantial reduction of pregnancy rates and a significant increase in the percentage of pregnancy losses. Enhancements in milk production per cow has made the regulation of cows' body temperature even more difficult. To reduce the deleterious effects of heat stress on production and reproduction during summer, it is critical to optimize the heat abatement strategy used (more information in the April 2017 edition of the California Dairy Newsletter).

Achieving high reproductive efficiency requires effort in many areas of management but it can be done. It is also essential to keep accurate breeding records on cow ID, breeding rate, technician, sire ID, and breeding code (e.g. standing in heat, timed-AI program, resynch) to evaluate the reproductive strategy used.

Congratulations to the 2017 DCRC awarded dairy farms from California: Jer-Z Boyz Dairy, Platinum Award (Gary and Daniel De Graaf, Pixley), and K & R Blount Dairy, Gold Award (Kevin and Ryan Blount, Crows Landing).

March 29-30, 2018
UCCE San Joaquin County
2101 E. Earhart Ave
Stockton, CA

University of California
Agriculture and Natural Resources

California Topics for California Dairies
Our speaker line-up includes University of California Farm Advisors, Specialists, and Dairy Faculty on topics relevant to California dairying.

Topics
Managing Nutrients and Maintaining Yields, Herd Health, Feeding High Quality Forage, Feed and Diet Management, Current Topics, Reproduction, Hands-on Demonstrations

Who should attend
Dairy producers, nutritionists, veterinarians, and other members of allied industry who are interested in topics related to dairy production in California.

Continuing Education
ARPAS and CCA credits requested.

For more information, including the agenda and to register, visit our website:
http://ucanr.edu/sites/CAdairyconference

For more information about the program, please contact:

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University of California Cooperative Extension

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Merced, Stanislaus & San Joaquin Counties

February 2018

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