University of California Cooperative Extension

# Dairy Newsletter

Stanislaus and San Joaquin Counties August 2008

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## WITH HIGH FEED COSTS, CAN YOU AFFORD TO FEED YOUR HEIFERS? CAN YOU AFFORD NOT TO?

*Jennifer Heguy, Farm Advisor and Jed Asmus, Independent Nutritionist*

Feed prices are at an all-time high, and dairy producers are facing tough decisions with regard to cutting input costs to stay profitable. A common response during times of high feed prices is to remove high cost inputs from areas where cash flow is not compromised. For example, when the quality of the lactation diet decreases, milk production rarely remains constant. However, when high priced commodities are removed from heifer rations, the monthly creamery check is not immediately affected.

A potential problem with the above rationale is described in the following scenario. A dairy has a relatively cheap heifer feeding program, but the dairy producer questions the age at first calving, and resulting production of his replacements. The average feed cost per day is low, but heifers are not freshening until 26-27 months of age. First-calf heifers are smaller than previous replacements, with lower feed intake than predicted for fresh cows. Milk yield of first lactation cows has dropped, while days open has increased.

Unfortunately, this scenario may be more realistic than one would hope, especially in times of escalated feed prices. Research studies have shown that body weight at first calving influences total milk yield during the first-lactation, more so than age at first calving. Further, smaller primiparous cows may be less able to compete for space at the bunk during feeding times, as well as for free-stalls, decreasing resting time. Size and body weight at calving also impact the incidence of calving difficulties.

Results from a study conducted on three California dairies reflect the fears of the dairy producer in the presented scenario. Researchers looked at impact of age at first calving of Holstein heifers on lactation performance, reproduction indices, health, and income for the first lactation. Heifers that freshened before 23 months of age, with lower estimated body weights, produced less milk in the first lactation than heifers 24 months of age and older with estimated larger mean body weights. Authors suggested that the ration fed to the lactating cows may have been insufficient in nutrient density to meet the demands of both growth and lactation for the smaller heifers. Nutrients were likely being diverted towards growth in the smaller heifers, rather than milk synthesis compared with their larger counterparts. This limited nutrient intake may also affect the ability of first-calf heifers to conceive at first AI service, thus increasing days open when compared with animals with larger body weights at first calving. While dairy producers strive

for a high quality genetic herd, animals with greater genetic potential are expected to have more metabolic consequences when body weight is not adequate in first-lactation heifers.

The authors of the study attempted to determine the economic impact of the age at first calving on milk yield produced during the first lactation. Heifers raised to calve at 24 months of age were the most profitable compared with heifers calving at less than 23 months and those calving at 26 months. During the heifer raising period prior to the first lactation, decreased nutrient density is associated with a decrease in feed cost per day. However, when the effects of decreased animal body weight and subsequent decreased milk production during the first lactation were taken into account, the economics change. Heifers that calved at 24 months of age were $138.33 more profitable than heifers that calved at less than 23 months and were $98.81 more profitable than animals that calved at greater than 26 months during their first lactation. The difference in profit between the group calving at 24 months and less than 23 months was largely associated with increased calving problems and decreased performance in the younger group, as associated with lower body weights. Heifers that calved after 26 months of age had lower profitability due to increased feeding costs prior to parturition. It should be noted that the data used in the present scenario were from a 2004 study. Recent changes of input costs will have an effect on the actual cost differences, but the general relationship should remain true.

The take home message: You can't rob Peter to pay Paul! Decreasing feed costs at the expense of heifer growth performance and breeding may yield cost savings in the short term, but can have a large impact on the economic performance of the dairy in the long term. If rations do not meet the nutrient and energy demands of the animal throughout gestation, smaller heifers calve with increased health problems and produce less milk during their first lactation. If the diet changes result in an increased age at first calving, the added days on feed without production reduce profits and require added production to overcome this lost revenue. The highest profits are associated with heifers of adequate body weight and calving at 24 months. These animals produce more milk during their first lactation and are the most profitable.

## NON-AMBULATORY COW MANAGEMENT AND HUMANE EUTHANASIA TECHNIQUES WORKSHOP

I recently attended the Dairy Cattle Welfare Workshop at the UC Davis Veterinary Medicine Teaching and Research Center in Tulare, which addressed aspects of handling and caring for non-ambulatory cattle.

Dr. James Reynolds, Service Chief, On-Farm Clinical Medicine, started the workshop with a talk on the care of non-ambulatory cattle. Dr. Reynolds stressed the importance of correcting the cause of ailment, as well as minimizing secondary nerve and muscle damage due to compartmentalization (or Crush) syndrome when medical treatment of non-ambulatory cattle is an option. When medical treatment is not a viable option, a quick and effective euthanasia plan is necessary to alleviate pain and distress in non-ambulatory cattle. Dr. John Madigan, of the International Animal Welfare Training Institute, School of Veterinary Medicine, Davis, addressed the topic of lifting down cows for rehabilitative purposes, such as placing animals in float tanks, or moving non-ambulatory cattle to a designated section of the dairy. A demonstration of the large animal lift system, which was designed and tested at UC Davis,

accompanied the talk. The large animal lift system allows the animal to be moved without additional injury, and without placing additional stress on the animal. Proper use of captive bolts for euthanasia was the third installment of the workshop. In addition to proper procedures of captive bolt euthanasia being presented, each workshop attendee was encouraged to fire two types of captive bolt guns. Captive bolt euthanasia was presented as a viable option for euthanizing non-ambulatory animals on farms.

If you would be interested in attending a similar workshop, please contact me at (209) 525-6800 or jmheguy@ucdavis.edu and I will work on bringing one to our area.

## WDR NEWS FROM CALIFORNIA DAIRY QUALITY ASSURANCE PROGRAM

Industry Submits Reports

July 1 was the due date for the first annual report for dairies covered under the General Waste Discharge Requirements. Over 90% of the dairy operators involved in this process submitted reports. This is a phenomenal response. The staff at the Regional Water Quality Control Board (Regional Board) is identifying the non-filers and is busy reviewing submitted documents. There are 84 producers in the South Valley (Madera county south), 42 producers in the mid-valley (Merced to Glenn) and 2 north of Glenn county that have not filed.

So what happens to those who didn't submit? The Regional Board is working with producers (calling, inspecting) to get reports submitted. They are also drafting a letter (going through legal review) that will be sent to all non-filers identifying the requirements of the operator and that there is a potential for a **$1,000 per day** fine for late submissions.

In addition to identifying those who have not submitted, staff is also doing their diligence to review submitted documents. Those producers that forgot or neglected to submit specific documents will be notified. Anticipate this letter in the next weeks.

Pathogen Concern Letter

Some producers received a request for information from the Regional Board back in May to identify practices related to land they control that grows human food. These individuals had identified (in their PDFA turned in December 2007) that manure was placed on crops that ultimately were consumed by humans. The letters from the Regional Board served to follow-up and allow operators to identify practices with manure or the crops to minimize spread of pathogens. This was all prompted by the Department of Public Health.

The Regional Board has established a food safety committee and is working with individuals from UC Davis at the Western Institute of Food Safety and Security, California Department of Food and Agriculture and Department of Public Health to develop literature reviews related to each commodity. Dairy and other commodity industries will be involved as this process proceeds.

Inspections

With any formal regulatory process there are always inspections. Staff from the Regional Board is committed to conducting inspections. Inspectors will spend at least one day a week on farms

doing inspections. If there were unusual numbers submitted as part of the PDFA (December 2007) then you may see inspectors sooner than later. Small or negative values for pond storage or very low or very high numbers for Nitrogen balance may also earn you an early inspection. Inspectors are looking to see how manure is managed and if the information submitted has backup documentation on the farm to support what was submitted. Certainly, inspectors will want to see documentation on daily inspections of the land application area (to be sure nothing is leaving the property) and the weekly (rainy season) or monthly (dry season) reports for the production facility. Of course, monthly pond photos will also be on the list. Keep up the good work with keeping records current and up-to-date.

## FDA PROHIBITS EXTRA-LABEL USE OF CEPHALOSPORINS

Source: Federal Register: July 3, 2008 (Volume 73, Number 129)

The Federal Register notice is found at http://edocket.access.gpo.gov/2008/E8-15052.htm

**Summary:** FDA is issuing an order prohibiting the extra-label use of cephalosporin antimicrobial drugs in food-producing animals. FDA is issuing this order based on evidence that extra-label use of these drugs in food-producing animals will likely cause an adverse event in humans and, as such, presents a risk to the public health.

**This rule becomes effective October 1, 2008.**

Certain cephalosporins are currently approved for use in a number of animal species. These approved uses include the treatment of respiratory disease in cattle, swine, sheep, and goats, as well as acute bovine interdigital necrobacillosis, acute metritis, and clinical and sub-clinical mastitis in cattle. They are also approved for the control of bovine respiratory disease, and the control of early mortality associated with Escherichia coli infections in day-old chicks and poults. Furthermore, approved animal uses of cephalosporins include the treatment of skin and soft tissue infections in dogs and cats, genitourinary tract infections (cystitis) in dogs, and respiratory tract infections in horses.

Cephalosporins are also some of the most widely used antimicrobial agents in human medicine. Older agents are widely used as therapy for skin and soft tissue infections caused by Staphylococcus aureus and Streptococcus pyogenes, as well as treatment of upper respiratory tract infections, intra-abdominal infections, pelvic inflammatory disease, and diabetic foot infections. Newer cephalosporins, with or without aminoglycosides, have been considered drugs of choice for serious infections caused by Klebsiella, Enterobacter, Proteus, Providencia, Serratia, and Haemophilus spp. These cephalosporins are also used to treat systemic salmonellosis, although not specifically approved for this purpose. Fourth generation cephalosporins are indicated for treatment of urinary tract infections, febrile neutropenia, intra-abdominal infections, pneumonia, and skin structure infections.

FDA is concerned that the extra-label use of cephalosporins in food-producing animals is likely to lead to the emergence of cephalosporin-resistant strains of food borne bacterial pathogens. If these drug-resistant bacterial strains infect humans, it is likely that cephalosporins will no longer be effective for treating disease in those people.

## RICE STRAW IN FREE CHOICE DAIRY HEIFER RATIONS

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Sutter County and UC Davis

A demonstration study of five dairies from Bakersfield to Tulare showed that the use of a Heston/Lexion cutter baler to put up rice straw allowed it to be mixed directly out of the bale, into the TMR, and fed at the 2-3 pounds/day in replacement heifer diets. Most dairies used it to replace wheat straw as an intake limiter in the TMR that were fed free choice to heifers. Surveys of the managers/feeders showed that there was no increase in mixing time, low sorting by the heifers and they ate from the TMR all day.

If you are interested in feeding rice straw, a web site has been designed by the California Rice Commission to market rice straw at http://www.ricestrawmarket.org/ . Rice straw producers no longer bale straw in anticipation of sales. Most will take orders from July to September and bale during the harvest (August through October). Many will require a deposit to secure the production of rice straw. Delivery to the dairy should occur in the fall, as many rice producers store the straw out on the rice levees and rain can make the shipment difficult. The 2007 delivered costs of rice straw into Tulare and Kern Counties ranged from $70 to $78 per ton.

For more information, email Peter Robinson at: phrobinson@ucdavis.edu or Glenn Nader at: ganader@ucdavis.edu .

# DAIRY FOOD SAFETY LABORATORY

**Dr. James Cullor & Lynn Perani, SRA**
**Room 1003 Haring Hall, University of California**
**Davis, CA. 95616-8739**
**Lab: (530)752-7346 / Fax: (530)752-5845**

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Simply collect your clinical, fresh or bulk tank samples and ship them to us. The Dairy Food Safety Laboratory provides quality mastitis screening. Our screening's are for the primary isolation and differentiation of organisms responsible for mastitis in dairy populations. These can include *Staphylococcus, Staphylococcus aureus, Streptococcus* species, coliforms and other bacteria. Mycoplasma screening and Mycoplasma species identification, bacterial identifications and antibiotic susceptibility test are just a sample of the services that DFSL can provide. And with some results available within 24 hours!

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For more information please call Lynn Perani at (530)752-7346.
Email at mlperani@ucdavis.edu

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## Look What's Inside:



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