University of California Cooperative Extension





San Bernardino County

SOUTHERN CALIFORNIA DAIRY TALK

August 2009

777 East Rialto Avenue Website: http://cesanbernardino.ucdavis.edu

San Bernardino, Ca. 92415 E-mail: ngpeterson.ucdavis.edu

Phone: (909) 387-2171 Fax: (909) 387-3306

**Trouble Shooting High Laboratory Pasteurization Count**

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**Noelia Silva-del-Rio & Carol Collar, UCCE Tulare & Kings Counties**

**1. Temperature, chemical concentration, and duration of the wash cycles**

Follow the chemical label recommendations and check:

**a)** Water temperature at the wash sink (use a thermometer).

***Remember:*** Temperatures above or below the recommended range may have a negative effect on your wash system.

**b)**  Alkalinity or acidity of the washing solutions (use pH strips: 1-14 pH).

**c)** Timing of the different cleaning cycles (use a stop watch). Your equipment manufacturer will provide the calculated water volume and length of your washing cycles.

***Remember:*** The concentration of cleaning chemicals should be adjusted according to water hardness. Make sure your water is not contaminated with bacteria.

**Recommended Guidelines:**

***Pre-Wash Rinse***: Temp: 100-120°F, Time: until discharge is clear

***Detergent Wash****:* Temp: 140-165°F (**never below 120 °F**); pH: 11-13; Time: 10 min.

***Acid Rinse***: Temp: 90-110°F (some chemicals cold); pH: <4

**2. Sanitation and wear of liners, milk hoses, jetters and gaskets**

Replace those as often as recommended. Check the pieces that you are replacing for wear and sanitation. If you see cracks or wrinkles you need to replace those sooner!!

***Remember*:**

1) Cracks can harbor bacteria.

2) High concentration of cleaning chemicals increases wear of rubber parts.

**3. Drainage**

The pipeline should be properly sloped with the appropriate secondary drains. Check for pipes, hoses, fittings and equipment that do not drain when the system is shut off.

**4. Duration of milking shifts**

Thermoduric bacteria grow exponentially on in-line filters if milkings last more than 4 hrs, change out filters as appropriate if your milking time exceeds this.



**5. Air injectors**

Air injectors should be placed properly for a good “scrubbing” action and they should be maintained clean.

Signs related to air injector problems:

1) The water level in the receiver does not change during cleaning.

2) The milk pump never shuts off.

3) The ball valve in the sanitary trap shuts off the vacuum.

4) There are large volumes of water in the distribution tank.

5) Air is entering the system at the wash tank.

***Remember****:* Air can carry bacteria from the environment to the milk equipment surfaces. It is important to maintain the cleanliness of your air lines and the sanitary trap.

**6. Other problems**

1) Pipe bends and pipe dead ends that are difficult to clean.

2) Small components that are tough to reach (milk meters, take off sensors…)

3) Milk level in the reciever can raise up on occasion and leave a milk film. Hours may pass before it is cleaned!!

**Recommemded Reading:** Common Reasons for Elevated LPC. Larry Collar. CDI Quality Corner, Nov. 2007. Troubleshooting high bacteria counts in farm milk. DJ Reinemann, GA Mein, DR Bray, D Reid, JS Britt. <http://learningstore.uwex.edu/Troubleshooting-High-Bacteria-Counts-in-Farm-Milk-P66C10.aspx>

**Controlling Dietary Mineral Content in**

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**Lactating Dairy Animals May Reduce**

**Feed Costs and Manure Production**

Alejandro R. Castillo, UCCE Merced County

Minerals are essential in dairy cow diets for normal lactation performance (milk yield, animal health, and reproduction). But, animal mineral requirements are variable and depend on the animal’s productivity. Also, concentration of minerals in forages and concentrate feeds are variable, and not all the minerals in the diet are available for absorption. Mineral absorption coefficients can be very low, variable, and for some feeds are not very well known. Moreover, interactions between dietary minerals in excess or deficit may affect the minerals’ absorption coefficients. The only solution to minimize and control this situation is to analyze feed mineral content and drinking water mineral composition, and use this information to supply minerals strictly according to the animal’s requirements. There are two main reasons to control mineral content in lactating dairy diets in California: economical and regulatory.

Excessive mineral intake wastes money and in many cases affects the animals’ productivity. For example, excess salts in the diet may affect rumen osmolarity and rumen dilution rate. High osmotic pressure in the rumen was associated with cessation of rumination and increased rate of passage. For high-yielding dairy animals fed highly concentrated diets, a reduction in rumination rates and rumen retention times may reduce rumen fiber fermentation and milk fat content, and increase both subclinical acidosis and laminitis problems.

From the regulatory point of view, the Mineral Tolerance of Animals (NRC, 2005) identified 10 minerals that could be of concern because of their potential effects on crop yields or the environment: cadmium, copper, iron, mercury, phosphorus, potassium, sodium, selenium, sulfur, and zinc. In California, dairy producers are preparing waste management plans and nutrient management plans where nitrogen is currently the primary concern. In the near future, the minerals indicated previously might be considered.

It is recommended to make a mineral content database of the feeds utilized on each dairy, including the drinking water. This database will allow each dairy to formulate diets according to the animals’ mineral requirements. This will improve production efficiency, reduce feed cost, reduce mineral excretion, and help farms comply with environmental regulations.

**Farm Family Stress and Depression**

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**Carol Collar, UCCE Kings County**

*The following article is a summary of information presented by Dr. Robert Fetsch, a professor at Colorado State University. The presentation was made at the Western Dairy Management Conference last March. You can read Dr. Fetsch’s entire paper in the proceedings at http://www.wdmc.org/proceed.htm*

Financial and emotional stress levels are high everywhere, but nowhere greater than among dairy and farm families. Studies have shown that farming is one of the top high stress occupations based on the incidence of stress related diseases (heart disease, high blood pressure, ulcers and depression). Economic and market conditions change regularly. The weather is unpredictable. Lack of control over what you pay for inputs and what you receive for outputs can make you feel powerless and lead to high stress levels.

Extensive research has found higher suicide rates among farmers and ranchers than among the general public. In the US, suicide rates for rural men are twice that of their urban counter parts, and the rate is increasing over time. It is important during these tough times to look out for one another. Be alert for signs of stress in your friends, neighbors, your family or even yourself. For example, there may be changes in routines, or an increase in illness. The appearance of the farmstead and care of livestock may decline. There could be an increase in farm accidents or farm children may show signs of stress. Watch for the following signs of chronic, prolonged stress:

* Physical – headaches, ulcers, backaches, eating irregularities, sleep disturbances, frequent sickness, exhaustion
* Emotional – sadness, depression, bitterness, anger, anxiety, loss of spirit or humor
* Behavioral – irritability, acting out, withdrawal, passive-aggressiveness, alcoholism, violence
* Cognitive – memory loss, lack of concentration, inability to make decisions
* Self esteem – feelings like “I’m a failure” or “I blew it…”

The greater number of signs or symptoms, the greater your concern should be. If someone you know is exhibiting the following signs, connect them with professional help:

**Depression** - sad face, slow movements, unkempt look, feeling hopeless, discouraged, listless, negative thoughts, reduced pleasure in usual activities, people problems, physical problems, guilt and low self esteem (“it’s all my fault…”).

**Suicidal intent** – severe, intense feelings of anxiety or depression, withdrawn, alone, lack of friends and supports, sense of complete powerlessness, hopeless feelings, alcohol abuse, frequent or constant thoughts with a specific plan in mind, and cries for help including making a will, giving possessions away, or making statements like “maybe my family would be better off without me”.

The first step in helping someone is recognizing signs. But what should you do next? Try to connect with the person you are concerned about. Tell them gently that you are worried about them, ask them to tell you about how things are going, then give them your time and attention and *be a good listener*. Do not judge. Do not tell them to “just tough it out”. Respond to them with respect, honesty and sincerity. Let them know that it is OK to admit they are having problems and to seek help.

**Find out about resources. This website is a helpful resource for locating professional help locally or anywhere in the US:** [**http://www.therapistlocator.net/**](http://www.therapistlocator.net/)**. All cries for help (certain statements that may indicate a person is considering suicide, but has not decided for sure) should be taken seriously. If you recognize suicidal thinking, call 1-800-SUICIDE for help.**

**Looking at Your Dairy from an**

**Outside Perspective**

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**Jennifer Heguy, UCCE Stanislaus/San Joaquin Counties**

I recently received a phone call from a concerned citizen regarding mortalities on dairies. This person drives a heavily traveled road to work, and reported frequently seeing dead cattle lying on the side of the road near a dairy. He didn’t understand why dairy farmers would let their animals die, and wanted to know if this was a common practice. I assured him that animal well-being is a top priority of producers, and it is not in anyone’s best interest to simply allow animals to die. After hanging up the phone, I immediately started to think how this situation could be remedied. Mortalities on dairies can be minimized, but even the best run dairies will have the occasional mortality. In the January issue of the California Dairy Newsletter, we discussed a “carcass shack” that had a number of uses, one being concealing mortalities. While this might be ideal, there is probably not a lot of extra money lying around to start building these types of structures. Because of biosecurity reasons we don’t want rendering trucks driving onto the property, but having dead-stock lying on the side of the road (especially heavily commuted roads) is not great for PR. What about covering dead-stock with a tarp, or putting up a cheaply constructed barrier to conceal dead-stock from traffic? **Public perception of the dairy industry is at a critical point, and it’s important to maintain good standing with consumers.**

**Buying or Selling Wet Forages**

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Gerald Higginbotham, UCCE Fresno/Madera Counties

 If you are currently purchasing corn silage for your dairy, you should consider buying (or selling) forages on the basis of their moisture or dry matter (DM) content. Typically, 30% DM is used for corn and cereal silage and 35% DM is used for alfalfa silage. These figures are used as standard because they represent the optimum dry matter content for making quality silage. As an example, let us say you agree to pay $40/ton for corn silage on a 30% DM basis.

**Case 1:**  The corn silage field actually averaged 27% DM. Then you would pay: 27/30 x 40/ton = .9 x 40 = $36.00/ton. You pay less per ton because you are getting less dry matter per ton than you would have at 30% DM.

**Case 2:** The corn silage field averaged 33% DM. Then you would pay: 33/30 x 40/ton = 1.1 x $40/ton = $44.00/ton. This time you pay a bit more per ton because you are getting more dry matter per ton than you would at 30% DM.

*Buying forages based on the actual dry matter content can alleviate any disagreements that may come about due to forages being too wet or too dry.*

Nyles G. Peterson

Dairy Advisor