



Western Dairy News

for the West, about the West, from the West

The effect of singeing udder hair on mastitis and the bacterial content of milk

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The Pasteurized Milk Ordinance clearly states that udders should be routinely clipped to keep udder hair short.

It has been written that keeping udder hair short can lead to reduced exposure to bacteria, improved milk somatic cell counts, a decrease in udder preparation time, an increase in milking speed, a decrease in bacterial counts of milk, improved teat disinfection function, improved cleanliness of milker's hands and milking units, improved milk sediment scores and a reduction in the number of towels needed to wash and dry udders.

There is logic to support such claims. Long udder hair may trap dirt and debris, which may increase the contamination of teats and milk by bacteria. Logic would then suggest that short haired udders would have less mastitis than long haired counterparts. Yet dairy operators should demand more than logic to substantiate rules and regulations. There should be hard evidence to support practices, whenever possible.



Table 1: New mastitis infections by pathogen type and by treatment (hair removed quarters versus hair not removed quarters).

pathogen type	infections	
	hair removed	hair not removed
<i>Staph. aureus</i>	3	6
coagulase negative <i>staph.</i>	35	32
<i>Streptococcal sp.</i>	3	1
coliforms	3	0
total	43	39

Table 2: Bacterial counts (CFU/ml of milk) from udder halves with hair removed or not removed.

treatment	SPC	coliform	PI	LPC
hair removed	3.63	1.44	3.35	3.01
hair not removed	3.43	1.48	3.66	3.12

The Washington State University mastitis research group designed experiments to test the hypotheses that

keeping udder hair short will result in: 1) less mastitis; 2) improved milk quality as validated by milk bacterial counts; and 3) reduced bacterial content on the teat skin. In these experiments,

218 cows were used.

Udder hair was removed monthly from one side of the udder of each cow by singeing. On the other side of the udder of each cow, the hair was allowed to grow unrestricted. The study was conducted for 11 months, thus hair removal was not practiced for udder halves for nearly a year. At monthly intervals milk samples were taken to determine mastitis infections. Teat skin swabbing solutions were also collected at this time to determine the bacterial contamination of the teat skin.

It was expected that teat skin bacterial counts would be highest on teats where udder hair was not removed, and likewise, the prevalence of mastitis would be highest in the mammary quarters where udder hair was allowed to remain.

These expectations would be consistent with the assumption that long udder hair traps bacteria, interferes with teat cleaning and thus will lead to an increase in teat skin bacterial counts and an increase in mastitis infections. The findings do not support our hypothesis as indicated in Table 1.

There were 3 more *Staph. aureus* infections and 3 less coagulase negative *staphylococci* infections. (continued on next page)

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fections in hair not removed quarters, but these differences were not significant. Overall, the number of new intramammary infections were almost the same for both udder halves.

The counts of bacteria on the teat skin paralleled these findings. *Staphylococcus aureus* was rarely found on any teat, and the coagulase negative *staphylococci* were found in greatest number on all teats, but there was no significant affect of the udder hair removal treatment on the bacterial count of the teat skin.

The trials examining the milk bacterial counts following udder hair removal was tested in 40 cows. Again, one half of the udder was singed to remove hair, the remaining side was considered the control. At one milking, each udder half was milked into different buckets such that milk from the singed side did not commingle with milk from the control side.

Milk samples were collected and analysis was made for coliform bacteria, the psychrotrophic bacteria (PI count), and the thermophilic bacteria (LPC) and standard plate count (SPC). These

counts, coliforms, PI, LPC and SPC, all have been used to help milk handlers determine the degree milk might be contaminated by bacteria

The results of both trials do not support the contention that removal of udder hair will improve milk quality and reduce mastitis. So perhaps workers in herds that have excellent control of cow cleanliness would not need to remove udder hair to help maintain milk quality.

from environmental sources, outside of the milking parlor, and from problems within the milking parlor, cleanliness of the milking system and procedures use to clean the udder. Presumably if the long udder hair interfered with udder cleanliness, then bacteria could enter into the milk and alter the quality.

Results of this trial are summarized in Table 2.

The differences in bacterial counts between treatment groups were very small and not significant.

Summary

The results of both trials do not support the contention that removal of udder hair will improve milk quality and reduce mastitis. It could be argued that because the herd had excellent housing management, keeping cows clean and dry, and excellent milking technique, that udder hair removal was not necessary. Indeed, the herd has a long history of SPC counts less than 5,000 and SCC counts less than 200,000.

So perhaps workers in herds that have excellent control of cow cleanliness would not need to remove udder hair to help maintain milk quality. However, it should be noted that because udder hair removal is stipulated by the PMO, it should be done as required. The PMO is revised every two years. Perhaps the requirement to remove udder hair is unnecessary and should be part of some revised PMO in the future.

14 ways to minimize the expansion or relocation blues

By Deanne Meyer
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Recently I had the opportunity to sit through a county Board of Supervisors' meeting. It honestly wasn't any different than any of the previous meetings I've sat through. I've worked with many dairy producers who get their financing lined up for staged growth, only to find out five years into the project that it isn't going to happen that way. Here is a decade of lessons learned from sitting through meetings:

The permitting process:

1. Always be nice to the County and/or State staff. You need to be nice. It doesn't matter how wrong they may be. It's essential that you work with them even when you're frustrated beyond belief. Answer questions as politely as possible and maintain a paper trail as if your project depended upon it.

2. Stay in touch with changes in County or State policy that may affect your ability to expand. Changes in local, regional or state policy can alter your ability to expand.

3. Obtain every permit necessary. Be sure that every permit needed is obtained at the beginning of the project – before construction begins. Keep copies of all documentation in a fire-proof safe. Your copies may be the only ones available when you really need them.

4. Plan for growth. When you build a new dairy or go through a permitting process identify what the limiting factors are for future expansion. Is it land, proximity to neighbors, water availability, or something else? Identify what your maximum population can be and where your vulnerable sides are. What is the county growth plan during the lifetime of your facility? Is a city going to expand or encroach? If so, how can you minimize the potential conflict between them and you when you were there first.

5. Have good legal counsel. Be sure your legal council is familiar with agricultural issues in your area. Be sure they understand your goals and objectives with your dairy. Include a junior partner if

your legal counsel may retire before your project is finished.

6. Meet regularly with your consultant. Understand the strengths and weaknesses of your project. Take an active role in managing the different people needed to get the facility permitted. This may require regular meetings of everyone involved or just a few of the players. Realize that consultants have other clients as well and regular

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meetings are critical to be sure nothing slips through the cracks.

7. Establish a realistic budget that reflects the current legal process. It may take two or three years and hours of fees to complete the job. Include legal costs in the cost of expansion or relocation.

8. Keep your lender informed. Be sure they learn of news (positive or negative) regarding your activity from you, not from the paper or at a cof-

fee shop. A voice mail message or written note can minimize surprises later.

The public input process:

9. Meet your new neighbors if this is a new dairy. Put your best foot forward to get to know them. Find out if they have any concerns before you begin. Your best asset is information. It's great when neighboring land owners can stand up and say your project is not objectionable to them.

10. Get involved in the community so people know you. Involvement in agricultural activities can generate positive press (i.e. farm-city tours). The local paper is often a source for staff to glean information if a Supervisor is looking for information.

11. Testify yourself. No matter how much you may dislike public speaking be sure to stand up for yourself. Work with a trade association or your creamery if you need a little assistance to be confident in the Supervisors' chambers.

12. Stick to the issues. Don't let people take you off the target. If you need a building or use permit from the County then that is what is germane to the discussion. Avoid confrontation or discussion about animal welfare, air emissions, water quality, etc.

13. Trouble shoot ahead of time. Be prepared with answers to the logical questions about traffic, animal noise, odor, and dust. Know how to address questions about fly and vector control. The last few meetings I've attended I was surprised to hear people going on and on about West Nile virus and how ponds (potential mosquito breeding habitat) would kill horses.

14. Stay educated about hot issues. Understand issues in neighboring counties or neighboring states. How will litigation in Idaho or Washington affect your proposed project?

The days of just building a dairy are long gone. Now, it takes all kinds of logistics to get a facility permitted and built. It is a given that time and patience will be expended. I've witnessed first hand the stress associated with expansions or relocations. I've been so very impressed with the strength and patience of dairy operators and their families through these incredible experiences.

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