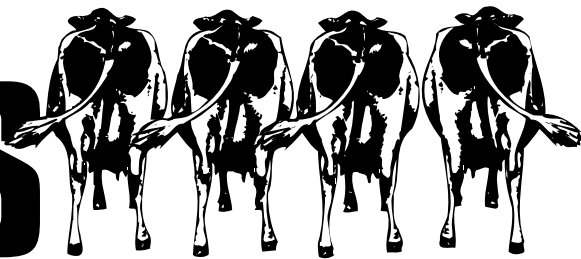


August 2000

Dairy Lines



Volume 6, Number 8

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Upcoming Events

Oklahoma State Fair

Sept. 15-19

Oklahoma City, OK

Tulsa State Fair

Sept. 21-24

Tulsa, OK

Kansas State Fair

Sept. 8-17

Hutchinson, KS

See Page 2 for a list of scheduled dairy events.



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DAIRY RESEARCH & EXTENSION NEWS

http://www.oznet.ksu.edu/dp_ansi/dairylin.htm

Bulk Tank Milk Culturing

Dan N. Waldner, Extension Dairy Specialist, Oklahoma State University

Introduction

Although based on limited scientific data, the practice of bulk tank milk (BTM) culturing may provide clues to help reduce or prevent mastitis problems. It may be used to identify the presence or absence of a bacterial group and predominant bacterial groups.

Sampling

The more often BTM is sampled, the more useful the information. Samples taken over consecutive days or weeks are most useful. Use caution when interpreting results from a single BTM sample.

To get the most out of bulk tank sampling, follow these suggestions:

1. Take samples for four or five days in a row.
2. Agitate the milk in the bulk tank for 10 to 15 minutes before sampling.
3. Take samples from the top of the tank with a sterile syringe and needle or vial to avoid contamination from the outlet valve. If sampling from the top is not possible, allow a gallon or two of milk to flow through the outlet valve before taking a sample in this manner.
4. Freeze the sample immediately and pack for shipment to ensure the sample will stay frozen until it reaches the laboratory. It is a good idea to not ship samples to the laboratory after Wednesday in order to avoid long storage times.
5. If results are inconclusive or inconsistent with current management practices, retake samples or identify and sample individual

cows with high somatic cell counts to provide further information.

Predominate Bacterial Isolates

Bacterial isolates from BTM are typically a mixture of various groups. Theoretically, any bacterial isolate from BTM could arise from an intramammary infection. The probability of an isolate originating from a mammary infection depends on the bacteria. For example, coliforms and environmental streptococci may originate from intramammary infections, but more common sources of elevated counts caused by these bacteria are milking wet udders, organic soil in milk lines, cracked inflations, inadequately heated wash water and inadequate milk cooling.

Interpreting Results

The first question to ask when interpreting BTM cultures is whether or not the samples are positive for *Streptococcus agalactiae*, *Staphylococcus aureus*, or *Mycoplasma* spp. Presence of these pathogens in BTM almost always indicates the presence of infected quarters in the herd. But negative culture results do not necessarily mean the herd is negative for infection caused by the pathogens. It is important to remember that BTM cultures are not useful as indicators of mastitis prevalence in the herd, nor should they be used as a substitute for determining infection incidence and prevalence based on quarter milk samples.

Use the figure on page three to help determine the response to BTM culture results.

continued on page 3

Heart of America Dairy Herd Improvement Summary (July)

	Quartiles				Your Herd
	1	2	3	4	
Ayrshire					
Rolling Herd Average	14,728	14,066	13,258	11,659	
Summit Milk Yield 1st	59.0	25.5	47.0	46.0	
Summit Milk Yield 2nd	68.0	63.0	53.5	48.0	
Summit Milk Yield 3rd	72.0	33.0	64.0	58.0	
Summit Milk Yield Avg.	69.0	63.5	58.0	54.0	
Income/Feed Cost	962	898	1,072	741	
SCC Average	—	223	260	176	
Days to 1st Service	61	37	63	163	
Days Open	181	174	116	142	
Projected Calving Interval	15.2	14.9	13.0	13.9	
Brown Swiss					
Rolling Herd Average	19,718	15,837	14,796	12,200	
Summit Milk Yield 1st	61.3	52.2	50.0	45.1	
Summit Milk Yield 2nd	77.5	66.1	62.4	56.2	
Summit Milk Yield 3rd	86.5	71.1	68.4	62.4	
Summit Milk Yield Avg.	74.0	63.4	61.8	55.8	
Income/Feed Cost	1,522	1,225	1,150	944	
SCC Average	419	329	281	389	
Days to 1st Service	93	99	55	82	
Days Open	169	152	161	211	
Projected Calving Interval	14.8	14.2	14.5	16.1	
Guernsey					
Rolling Herd Average	16,544	16,427	13,904	12,121	
Summit Milk Yield 1st	59.0	28.0	48.0	46.5	
Summit Milk Yield 2nd	70.0	75.5	54.0	52.5	
Summit Milk Yield 3rd	67.0	37.0	61.0	57.5	
Summit Milk Yield Avg.	65.0	74.5	55.0	53.0	
Income/Feed Cost	1,436	1,440	1,296	915	
SCC Average	236	175	276	287	
Days to 1st Service	92	69	77	137	
Days Open	185	109	122	210	
Projected Calving Interval	15.3	12.8	13.2	16.1	
Holstein					
Rolling Herd Average	23,302	20,128	17,872	14,495	
Summit Milk Yield 1st	73.9	66.2	61.0	52.1	
Summit Milk Yield 2nd	94.6	83.7	75.6	63.5	
Summit Milk Yield 3rd	100.8	89.8	81.0	69.1	
Summit Milk Yield Avg.	88.1	79.4	73.2	62.6	
Income/Feed Cost	1,839	1,497	1,305	984	
SCC Average	344	357	388	502	
Days to 1st Service	93	89	91	92	
Days Open	164	169	179	201	
Projected Calving Interval	14.6	14.7	15.1	15.8	
Jersey					
Rolling Herd Average	17,598	15,010	13,546	11,317	
Summit Milk Yield 1st	55.5	51.1	45.8	40.7	
Summit Milk Yield 2nd	52.7	62.3	55.8	50.5	
Summit Milk Yield 3rd	73.8	60.0	54.5	51.7	
Summit Milk Yield Avg.	65.3	59.0	54.6	48.1	
Income/Feed Cost	1,690	1,474	1,211	920	
SCC Average	271	313	330	436	
Days to 1st Service	104	80	82	82	
Days Open	140	139	140	154	
Projected Calving Interval	13.8	13.8	13.8	14.3	
Milking Shorthorn					
Rolling Herd Average	17,813	15,015	14,446	11,893	
Summit Milk Yield 1st	61.0	49.0	57.0	24.5	
Summit Milk Yield 2nd	83.0	62.5	71.0	55.5	
Summit Milk Yield 3rd	90.0	69.5	77.0	64.5	
Summit Milk Yield Avg.	79.0	59.0	70.0	58.5	
Income/Feed Cost	—	1109	1146	1,138	
SCC Average	95	268	195	285	
Days to 1st Service	0	104	0	73	
Days Open	136	159	292	119	
Projected Calving Interval	13.7	14.4	18.8	13.1	

Hay Prices*—Kansas

	Location	Quality	Price (\$/ton)
Alfalfa	Southwestern Kansas	Supreme	90–110
Alfalfa	Southwestern Kansas	Premium	75–90
Alfalfa	Southwestern Kansas	Good	—
Alfalfa	South Central Kansas	Supreme	90–105
Alfalfa	South Central Kansas	Premium	80–90
Alfalfa	South Central Kansas	Good	70–75
Alfalfa	Southeastern Kansas	Supreme	—
Alfalfa	Southeastern Kansas	Premium	75–95
Alfalfa	Southeastern Kansas	Good	60–75
Alfalfa	Northwestern Kansas	Supreme	90–105
Alfalfa	Northwestern Kansas	Premium	80–90
Alfalfa	Northwestern Kansas	Good	60–70
Alfalfa	North Central Kansas	Supreme	—
Alfalfa	North Central Kansas	Premium	80–90
Alfalfa	North Central Kansas	Good	—

Supreme = over 180 RFV (less than 27 ADF)
 Premium = 150–180 RFV (27–30 ADF)
 Good = 125–150 RFV (30–32 ADF)

Source: USDA Kansas Hay Market Report, August 8, 2000

Hay Prices—Oklahoma

	Location	Quality	Price (\$/ton)
Alfalfa	Central/Western, OK	Premium	80–105
Alfalfa	Central/Western, OK	Good	60–85
Alfalfa	Panhandle, OK	Premium	85–95
Alfalfa	Panhandle, OK	Good	60–85

Source: Oklahoma Department of Agriculture, USDA Market News Service, July 29, 2000

Feed Stuffs Prices

	Location	Price (\$/ton)
Blood Meal	Central US	340–343
Canola Meal		123–128
Corn Gluten Feed	Kansas City	48–50
Corn Gluten Meal	Kansas City	220
Corn Hominy	Kansas City	57–60
Cotton Seed Meal	Kansas City	145–157
Whole Cotton Seed	Memphis	138
Distillers Grains	Central Illinois	72–75
Pork—Meat and Bone Meal	Texas Panhandle	170
SBM 48%	Kansas City	146–157
Sunflower Meal		85
Wheat Middlings	Kansas City	27–31

Source: USDA Feedstuff Market Review, August 2, 2000

State Fair Dairy Events

Oklahoma State Fair

9 a.m.	Sept. 16	4-H State Qualifying Dairy Cattle Judging Contest
*	Sept. 17	Junior Dairy Show
*	Sept. 18, 19	Open Dairy Show

Tulsa State Fair

*	Sept. 22, 23	Open Dairy Show
9 a.m.	Sept. 23	4-H/FFA Dairy Cattle Judging Contest
*	Sept. 24	Junior Dairy Show

Kansas State Fair

9 a.m.	Sept. 9	4-H Dairy Judging Contest
10 a.m.	Sept. 10	Guernsey and Jersey
10 a.m.	Sept. 11	Holstein
10 a.m.	Sept. 15	Milking Shorthorn
9:30 a.m.	Sept. 16	Brown Swiss
10 a.m.	Sept. 16	Ayrshire
2 p.m.	Sept. 12	Celebrity Cow Milking Contest

*Check schedule for time.

Interpreting results of bulk tank milk cultures

Bacteria Type	Source	Suggested Control Procedures
<i>Streptococcus agalactiae</i>	Infected udders	<ul style="list-style-type: none"> • Use separate towels to wash and dry udders • Use postmilking teat dip • Dry treat all cows at dry-off
<i>Staphylococcus aureus</i>	Infected udders	<ul style="list-style-type: none"> • Use separate towels to wash and dry udders • Use postmilking teat dip • Dry treat all cows at dry-off • Cull chronically infected cows • Milk infected cows last
<i>Mycoplasma species</i>	Infected udders	<ul style="list-style-type: none"> • Respiratory tract • Urogenital tract • Follow proper milking procedures • Use premilking teat disinfection • Use postmilking teat dip • Milk infected cows last • Culture all replacement animals • Culture all cows and heifers at calving • Cull infected cattle when possible • Maintain a closed herd
<i>Non-agalactiae Streptococci</i>	Environment	<ul style="list-style-type: none"> • Milk only clean, dry udders • Improve cleanliness of housing environment • Use premilking teat disinfection • Use postmilking teat dip • Dry treat all cows at dry-off
<i>Coliforms</i>	Environment	<ul style="list-style-type: none"> • Milk only clean dry udders • Improve cleanliness of housing environment • Use premilking teat disinfection
<i>Coagulase-negative staphylococci</i>	Environment	<ul style="list-style-type: none"> • Skin • Milk only clean dry udders • Improve cleanliness of housing environment • Use postmilking teat dip • Dry treat all cows at dry-off

Source: National Mastitis Council. 1999. *Laboratory Handbook on Bovine Mastitis*.

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Dairy Lines is jointly published for dairy producers by the Department of Animal Sciences and Industry, K-State Research and Extension, and the Department of Animal Science, Oklahoma Cooperative Extension Service. For more information or questions, please contact 785.532.5654 (K-State) or 405.744.6058 (OSU).

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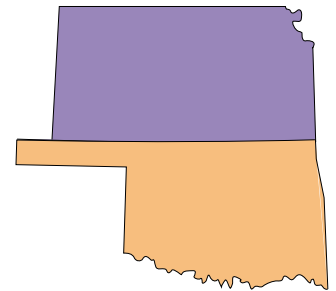
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