July 1998

Dairy Lines

Volume 4, Number 7

DAIRY RESEARCH & EXTENSION NEWS

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

Co-Editors

James R. Dunham
Extension Specialist, Dairy Science

John F. Smith
Extension Specialist, Dairy Science

Dan Waldner
Extension Specialist, Dairy Science

Contributors

Karen Schmidt
Associate Professor, Dairy Products

John Shirley
Associate Professor, Dairy Science

Jeff Stevenson
Professor, Dairy Science

Dave Sukup
Manager, Heart of America DHI

Upcoming Events

July 30–August 1
Sooner State Dairy Show
Payne County Fairgrounds
Stillwater, OK
(4-H/FFA Dairy Judging Contest July 31 at 8:30 a.m.)

August 17–18
Midwest Dairy Management Conference
Minneapolis, MN

Mycoplasma Mastitis Infections

James S. Cullor, DVM, Ph.D.
Veterinary Medicine Teaching and Research Center
Tulare, CA

Mycoplasma mastitis in the United States has been reported to include at least five different species of this organism (M. bovis, californicum, canadensis, bovigenitalium, and alkalescens). The clinical course of mycoplasma mastitis differs from other common mastitis syndromes in the probable existence of a systemic phase of the disease process. This finding has been confirmed by the rapid spread of the disease to unaffected quarters and joints and the isolation of organisms from a variety of tissues and body fluids coincidental with intramammary infection. The systemic phase of mycoplasma mastitis raises the possibility for modes of infection other than milk borne transmission. The epidemiology and pathogenesis of mycoplasma mastitis are poorly understood at present. The concentration of reports in the southwestern United States and Florida (outbreaks have also been noted in New York, Massachusetts, Connecticut, and other states) and common isolation of mycoplasma from the respiratory tract in herds with no history of mycoplasma mastitis suggests that unknown environmental or management factors promote the establishment and transmission of intramammary infections.

Mastitis due to M. bovis is usually severe with marked changes in the secretions from watery to purulent. Clinical signs often are first noted in a single quarter, then may spread until all four quarters produce grossly abnormal secretions. Clinical cases do not respond to currently available therapeutic agents, either systemic or intramammary. Milk secretion may cease until the next lactation. The patients are not systemically ill and continue to eat well. Mild forms of this exceptionally contagious disease occur, presenting with clinical signs indistinguishable from mastitis caused by Staphylococci, Streptococci, or Gram-negative bacteria. Mycoplasma mastitis should be suspected in herds with a history of nonresponsive mastitis and negative milk cultures using standard microbiologic methods. Formulation of bulk mastitis treatments and poor intramammary treatment hygiene has been associated with herd epidemics of mycoplasma mastitis. Particular

The systemic phase of mycoplasma mastitis raises the possibility for modes of infection other than milk borne transmission.

continued on page 2

Heart of America Dairy Herd Improvement Summary (April)

	Quartiles				Your Herd
	1	2	3	4	
Ayrshire					
Rolling Herd Average	15,311	14,204	13,252	10,270	
Peak Milk Yield 1st	56.5	49.0	50.0	40.0	
Peak Milk Yield 2nd	70.0	62.5	59.5	51.3	
Peak Milk Yield 3rd	78.0	64.5	65.5	60.5	
Peak Milk Yield Avg.	69.0	57.5	58.5	49.3	
Income/Feed Cost	963	788	1,013.5	341	
SCC Average	218.5	340	397	346	
Days to 1st Service	76	73.5	58.5	85	
Days Open	140.5	135.0	110.5	167	
Projected Calving Interval	13.8	13.6	12.8	14.7	
Brown Swiss					
Rolling Herd Average	19,365	15,700	14,403	13,742	
Peak Milk Yield 1st	66.6	54.8	51.0	51.5	
Peak Milk Yield 2nd	85.6	69.6	63.8	65.1	
Peak Milk Yield 3rd	91.2	74.8	72.8	69.5	
Peak Milk Yield Avg.	82.4	68.3	63.4	63.3	
Income/Feed Cost	1,319	1,245	952	937	
SCC Average	306	317	306	236.5	
Days to 1st Service	75	92.5	82	88	
Days Open	139	145	165	138	
Projected Calving Interval	13.7	13.9	14.6	13.7	
Guernsey					
Rolling Herd Average	16,115	15,164	12,991	11,501	
Peak Milk Yield 1st	61.0	58.0	49.5	50.5	
Peak Milk Yield 2nd	74.0	67.5	55.5	51.0	
Peak Milk Yield 3rd	69.0	73.0	60.5	57.5	
Peak Milk Yield Avg.	67.0	67.0	55.5	53.5	
Income/Feed Cost	1,579	1,325	1,106	328	
SCC Average	135	222.5	608	404	
Days to 1st Service	93	42.5	32	46	
Days Open	147	167	205.5	227	
Projected Calving Interval	14.1	14.7	16.0	16.7	
Holstein					
Rolling Herd Average	22,344	19,451	17,432	14,251	
Peak Milk Yield 1st	78.8	69.5	63.9	54.4	
Peak Milk Yield 2nd	96.2	85.4	77.4	65.8	
Peak Milk Yield 3rd	102.1	91.6	83.3	71.2	
Peak Milk Yield Avg.	91.9	82.5	75.5	65.4	
Income/Feed Cost	1,679	1,373	1,186	921	
SCC Average	325	337	377	437	
Days to 1st Service	88.5	89	85	76	
Days Open	156	155	160	182	
Projected Calving Interval	14.3	14.3	14.5	15.2	
Jersey					
Rolling Herd Average	15,739	13,289	11,841	9,651	
Peak Milk Yield 1st	54.8	47.8	41.9	39.9	
Peak Milk Yield 2nd	65.0	58.7	53.5	43.7	
Peak Milk Yield 3rd	71.5	62.0	56.3	48.3	
Peak Milk Yield Avg.	64.2	57.6	50.5	45.1	
Income/Feed Cost	1,411	996	846	474	
SCC Average	303	338	227	383	
Days to 1st Service	85.5	78	77	65	
Days Open	124	128	134.5	183	
Projected Calving Interval	13.2	13.4	13.6	15.2	

continued from page 1

care should be taken in the design of mastitis culture and treatment protocols in herds where there is the history or suspicion of mycoplasma mastitis.

Prevention and control

Although not amenable to therapeutic intervention, control measures used to control Streptococcus agalactiae and Staphylococcus aureus will limit the spread of mycoplasma to nonaffected herdmates. If rigorously adhered to, teat dipping and proper milking procedures will reduce the incidence of new cases. Segregation and culling procedures prescribed for Staphylococcus aureus mastitis should also be considered and adopted if possible. Given the potential for explosive outbreaks, producers and veterinary practitioners will often opt for eradication programs involving serial herd cultures.

Routine cultures of bulk tank clinical samples, fresh cows and new cows can provide an early warning system and insure the herd management team can respond to the introduction of mycoplasma mastitis in a timely fashion. Maintenance of negative herd status depends upon culturing milk from all additions to a closed herd. Heifers purchased from herds that have previously experienced mycoplasma mastitis may carry the organisms in the nasal passages as well as mammary gland.

The mycoplasma responsible for bovine mastitis can be readily cultured, given access to media meeting the more rigorous growth requirements of mycoplasma and microaerophilic incubation facilities (a candle jar may be adequate). Positive growth on defined media can only be considered a presumptive test. Nonpathogenic contaminants, Acholeoplasma laidlawii, are common contaminants in milk samples. Differentiation on an individual sample basis necessitates more laborious serologic or biochemical growth requirement characterization.

The bottom Line

Remember, regardless of the organism causing mastitis an effective control program must be in place before a problem occurs. Components of an effective mastitis control program include: following proper milking procedures using properly functioning equipment, milking clean dry udders, dipping teats immediately after milking with a product known to be safe and effective, good udder hygiene between milking, culling cows with chronic mastitis infections, and keeping accurate records of clinical mastitis and somatic cell counts on individual cows to assist in making management decisions.

(Source: 1998 OSU Dairy Day Proceedings)

Midwest Dairy Management Conference

August 17 & 18

Minneapolis Convention Center

Conference Hotel and Lodging

Regal Minneapolis Hotel
1313 Nicollet Mall
Minneapolis, MN 55403–2697
612-332-6000 or 800-522-8856
FAX 612-359-2164

A block of rooms has been reserved at the Regal Hotel until July 24, 1998. Ask for the Midwest Dairy Conference block. Requests after this date will be accepted based on space available and rate availability. A non-refundable deposit equal to one night's room and tax must be received at the hotel reservation department at least 10 days prior to arrival to confirm the reservation. Major credit cards may be used for deposit. Special rates are (single & double rooms) $99 plus tax.

Registration

To register, complete and return the attached registration for one person, copy as needed. The conference fee is $149 ($129 for educators) if postmarked by August 1; $199 at the door. There are no partial registration fees. Fees include the conference proceedings, refreshments, two noon lunches and two continental breakfasts. Additional proceedings cost $25 per copy within the U.S. Full refund will be made if cancellation is received before August 15, 1998.

Information

For information concerning registration material, call Leon Meger or Fred Hoefer at 800-367-5363 or 612-625-2722. For other information, call Joe Conlin at 612-624-4995, or John Smith at 785-532-1203.

see last month's issue for more information!

Hay Prices*—Kansas

	Location	Quality	Price ($/ton)
Alfalfa	Southwestern Kansas	Premium	75–85
Alfalfa	Southwestern Kansas	Good	70
Alfalfa	South Central Kansas	Premium	90–95
Alfalfa	South Central Kansas	Good	70–85
Alfalfa	Southeastern Kansas	Premium	100–115
Alfalfa	Southeastern Kansas	Good	75–85
Alfalfa	Northwestern Kansas	Premium	90–100
Alfalfa	Northwestern Kansas	Good	85–90
Alfalfa	North Central Kansas	Premium	85–90
Alfalfa	North Central Kansas	Good	90–100

Source: USDA Weekly Hay Report, *Week ending July 10, 1998*

*Premium Hay RFV = 170–200
Good Hay RFV = 150–170

Hay Prices—Oklahoma

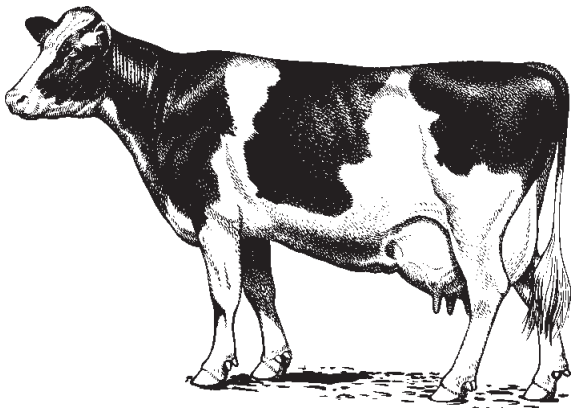
	Location	Quality	Price ($/ton)
Alfalfa	Central / Western, OK	Premium	90–120
Alfalfa	Central / Western, OK	Good	80–90
Alfalfa	Panhandle, OK	Premium	90–110
Alfalfa	Panhandle, OK	Good	80–90

Source: Oklahoma Department of Agriculture, *July 9, 1998*

Feed Stuffs Prices

	Location	Price ($/ton)
SBM 48%	Kansas City	178–182
Cotton Seed Meal	Kansas City	161–163
Whole Cottonseed	Memphis	160
Blood Meal	Central United States	330
Corn Hominy	Kansas City	80–90
Corn Gluten Feed	Kansas City	60–65
Corn Gluten Meal 60%	Kansas City	250–260
Distillers Dried Grain	Central Illinois	80–83
Brewers Dried Grain	St. Louis	NA
Wheat Middlings	Kansas City	57–60

Source: USDA Weekly Feed Stuffs Report, *Week ending July 8, 1998*



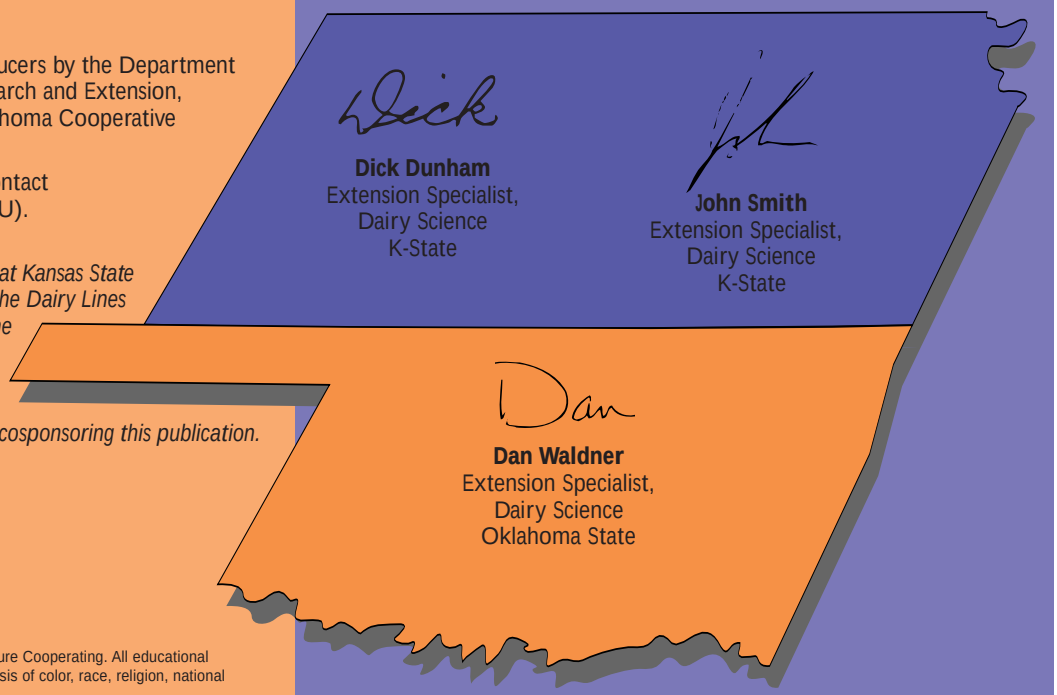
Department of Animal Sciences and Industry
Call Hall, Room 139
Kansas State University
Manhattan, Kansas 66506

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 913.532.5654 (K-State) or 405.744.6058 (OSU).

The Department of Animal Sciences and Industry at Kansas State University greatly appreciates the sponsor(s) of the Dairy Lines Newsletter. These sponsorships in no way imply the Department's endorsement of the products and services offered by the sponsors. The Department welcomes inquiries from other individuals, associations and firms that may be interested in cosponsoring this publication.

Kansas State University
Cooperative Extension Service
Department of Animal Sciences and Industry
Call Hall, Room 139
Kansas State University
Manhattan, Kansas 66506



Dick Dunham
Extension Specialist,
Dairy Science
K-State

John Smith
Extension Specialist,
Dairy Science
K-State

Dan Waldner
Extension Specialist,
Dairy Science
Oklahoma State

Dairy Lines

DAIRY RESEARCH AND EXTENSION NEWS
K-State Research and Extension
and Oklahoma State University