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Dairy Lines

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DAIRY RESEARCH & EXTENSION NEWS

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

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Upcoming Events

Kansas

All Breeds Dairy Sale and Show

Kansas State Fair Grounds
Hutchinson
All Breeds Sale—April 24, 12:00 p.m.
All Breeds Show—April 25, 10:00 a.m.

see page 2 for more dates

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Testing for Milk Urea Nitrogen

by Dick Dunham
Kansas State University

A new technology, milk urea nitrogen (MUN) testing, is available to dairy farmers to help manage the nutrition program. Until recently, blood samples had to be tested for blood urea nitrogen (BUN) for a similar evaluation. Now, through the DHI testing program, milk samples can be tested for MUN more conveniently and at less expense.

Concentrations of MUN, although lower, reflect the BUN concentration. Thus, an analysis for MUN provides a good evaluation of the concentration of urea in blood.

The main source of urea in blood is from protein digestion by microbes in the rumen. Rumen microbes release ammonia from digestion of degradable intake protein (DIP). This ammonia is used by the microbes to synthesize amino acids for their growth. If too much DIP is available, the concentration of ruminal ammonia will increase and be absorbed into the blood stream. Ammonia in the blood is converted to urea by the liver, causing BUN to increase. Urea is removed from the blood stream by the kidneys and is excreted in the urine. Hence, protein from the ration can be wasted if ammonia is released in the rumen faster than the microbes can utilize it. Hence, protein from the ration can be wasted if too much DIP or too much crude protein is fed.

Ammonia can increase in the rumen if the starch content of the diet is too low. The rumen microbes require a readily available source of energy, starch, to efficiently utilize ammonia for growth.

Low MUN concentrations usually indicate a protein-deficient ration or one that contains too much undegradable intake protein (UIP), also known as bypass protein. In either situation, the amount of DIP is too low and rumen microbial growth will be depressed, resulting in less dry matter intake and depressed milk production.

Testing DHI milk samples for MUN can help balance rations more precisely to avoid too much or too little protein intake, and to possibly improve milk protein tests and reproduction.

Most herds will not need to test every cow for MUN each month. The best time to test is after significant ration changes. A MUN test of a bulk tank sample is a good way to monitor the herds protein nutrition program after an initial evaluation has been made.

Group or herd average MUN values are the most meaningful evaluations. Most herds will have individual cows with high and low MUN values. Don't be concerned with individuals—averages are the most meaningful. The desired range for average MUN is 12 to 14 milligrams. If MUN averages are above or below the ideal range, the ration should be carefully balanced for protein, DIP, UIP and starch.

Heart of America Dairy Herd Improvement Summary (January)

	Quartiles				Your Herd
	1	2	3	4	
Ayrshire					
Rolling Herd Average	16,796	14,676	13,773	11,432	
Peak Milk Yield 1st	60.0	52.0	51.0	47.0	
Peak Milk Yield 2nd	76.5	69.0	57.5	52.6	
Peak Milk Yield 3rd	81.5	73.5	64.5	59.6	
Peak Milk Yield Avg.	72.5	63.5	59.0	54.3	
Income/Feed Cost	944	792	1023.5	584	
SCC Average	284.5	350.5	138	369	
Days to 1st Service	77	66	63.5	120	
Days Open	139.5	130.5	129.5	186.3	
Projected Calving Interval	13.8	13.5	13.5	15.3	
Brown Swiss					
Rolling Herd Average	20,029	15,461	14,434	13,333	
Peak Milk Yield 1st	69.2	54.5	52.1	50.5	
Peak Milk Yield 2nd	84.8	71.1	64.4	63.1	
Peak Milk Yield 3rd	92.6	77.6	69.6	67.7	
Peak Milk Yield Avg.	85.0	69.3	62.1	61.7	
Income/Feed Cost	1,280	1,184	990	790	
SCC Average	316	295	354	272	
Days to 1st Service	81	94	82	70	
Days Open	140	147	174	168	
Projected Calving Interval	13.8	14.0	14.9	14.7	
Milking Shorthorn					
Rolling Herd Average	15,072	14,027	13,350	13,065	
Peak Milk Yield 1st	57.0	51.0	55.0	48.0	
Peak Milk Yield 2nd	72.0	61.0	61.0	54.0	
Peak Milk Yield 3rd	82.0	69.0	71.0	70.5	
Peak Milk Yield Avg.	72.0	62.0	64	56.0	
Income/Feed Cost	1,304	717	1,083	895	
SCC Average	277	45	223	326.5	
Days to 1st Service	96	45	0	94	
Days Open	104	159	244	123.5	
Projected Calving Interval	12.6	14.4	17.2	13.3	
Holstein					
Rolling Herd Average	22,294	19,430	17,269	13,904	
Peak Milk Yield 1st	76.9	68.5	63.4	53.6	
Peak Milk Yield 2nd	95.0	84.9	76.6	65.0	
Peak Milk Yield 3rd	100.9	90.7	83.0	69.8	
Peak Milk Yield Avg.	90.4	81.5	74.9	64.1	
Income/Feed Cost	1,612	1,349	1,147	874	
SCC Average	323	362	396	478	
Days to 1st Service	88	91	85	83	
Days Open	158	156	163	184	
Projected Calving Interval	14.4	14.3	14.5	15.2	
Jersey					
Rolling Herd Average	15,707	13,253	12,168	9,986	
Peak Milk Yield 1st	53.9	47.0	42.9	44.5	
Peak Milk Yield 2nd	65.7	57.5	54.9	50.4	
Peak Milk Yield 3rd	72.4	61.8	60.2	52.9	
Peak Milk Yield Avg.	63.9	56.3	53.1	49.4	
Income/Feed Cost	1,436	946	921	627	
SCC Average	329	284	247	358	
Days to 1st Service	96	83	86	89	
Days Open	134	124	147	139	
Projected Calving Interval	13.6	13.2	14.0	13.8	

Hay Prices*—Kansas

	Location	Quality	Price ($/ton)
Alfalfa	Southwestern Kansas	Premium	105–115
Alfalfa	Southwestern Kansas	Good	95–105
Alfalfa	South Central Kansas	Premium	100–115
Alfalfa	South Central Kansas	Good	90–100
Alfalfa	Southeastern Kansas	Premium	100–110
Alfalfa	Southeastern Kansas	Good	90–100
Alfalfa	Northwestern Kansas	Premium	100–110
Alfalfa	Northwestern Kansas	Good	85–90
Alfalfa	North Central Kansas	Premium	100–120
Alfalfa	North Central Kansas	Good	90–100

Source: USDA Weekly Hay Report, *Week ending March 6, 1998*

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

Hay Prices—Oklahoma

	Location	Quality	Price ($/ton)
Alfalfa	Central/Western, OK	Premium	100–130
Alfalfa	Central/Western, OK	Good	75–100
Alfalfa	Panhandle, OK	Premium	100–120
Alfalfa	Panhandle, OK	Good	75–100

Source: Oklahoma Department of Agriculture, *February 26, 1998*

Feed Stuffs Prices

	Location	Price ($/ton)
SBM 48%	Kansas City	180.50–185.40
Cotton Seed Meal	Kansas City	153–154
Whole Cottonseed	Memphis	142
Blood Meal	Central United States	360–370
Corn Hominy	Kansas City	92–98
Corn Gluten Feed	Kansas City	83–85
Corn Gluten Meal 60%	Kansas City	280–285
Distillers Dried Grain	Central Illinois	92–97
Brewers Dried Grain	St. Louis	NA
Wheat Middlings	Kansas City	69–72

Source: USDA Weekly Feed Stuffs Report, *Week ending March 4, 1998*

April 27–28, 1998
Heart of AmericaDairy Management Conference
Kansas City, MO

August 17–18, 1998
Midwest Dairy Management Conference
Minneapolis, MN

Oklahoma
AI Update & Nutrition Workshop
9:15–3:00
April 2, Grady Co. Fairgounds—Chickasha
April 9, Mayes Co. Fairgrounds—Pryor

4-H/FFA State Qualifying Dairy Cattle Judging Contest
8:00 am
April 25
OSU Dairy Unit

Freestall Management for Cow Comfort: Part 1

J.F. Smith, G.A. Jones[1], and J. Harner

Bedding or cushioning is also very important to encourage freestall use. If the stalls are hard, there is very little incentive to use the freestalls over the alleys. The bedding of choice is anything that provides 4 inches of cushion, absorbs moisture, prevents friction and does not promote the growth of bacteria. Common beddings include sand, mattresses, composted manure, and wood shavings or sawdust.

When sand is used as bedding, with a 4 inch minimum, it can be both a base and bedding. Sand provides great cow comfort, drains well, and helps keep cows very clean. Sand will not support bacterial growth. In addition, when a cow steps out of the stall and kicks sand onto the alleys, it improves cow footing. Sand is the GOLD STANDARD for cow comfort. The major problem with sand bedding is sand in the manure systems. As much as 35 to 70 pounds per cow per day can be added to the manure. When the sand settles out in the manure system this can be a major problem. The only sound advice for sand-laden manure is to plan on sand settling and to then be able to remove it from the manure system.

Mattresses can provide a satisfactory base and adequate cushioning. A mattress can be filled with a variety of materials: sawdust, shavings, straw, hay, or ground rubber. The mattress, when properly filled, only provides cushioning. Producers still need to add adequate amounts of dry bedding on top of the mattress to help keep the surface dry and to reduce friction on the hocks. Mattresses are easily the second best things that can be used for a freestall surface, and they may be the best choice for a manure system that can not handle sand-laden manure.

Many producers have successfully used composted manure from a solid separator as freestall bedding. It is critical that producers who choose this option have the facilities and equipment to properly handle and compost the manure to provide high quality bedding.

Selecting a bedding type is important. However, the success of using the bedding will be determined by the producers ability to keep stalls full of bedding and properly groomed. This will intice cows to use the stalls on a regular basis.

[1] Falls Animal Health, Inc., Oconto Falls, Wisconsin

Production Efficiency Improves

DHIA members in Kansas improved milk production efficiency during 1997. This continued trend has helped dairy farmers somewhat survive with rather flat milk prices.

Production efficiency is closely related to level of milk production, since feed is utilized more efficiently as production increases. The 1997 DHIA Annual Summary shows that the rolling herd average increased 565 pounds of milk per cow to an all time high of 19,322 pounds. This increase represents a 3 percent increase over 1996. During the last 10 years, Kansas DHIA members have increased cow productivity 22 percent. No other segment in agriculture can approach this kind of efficiency.

Most of the improved efficiency of today's dairy cow is due to genetics. Improved feeding programs, especially the move toward feeding total mixed rations, can be utilized more efficiently by cows with high genetic potential. Using DHI records to evaluate each cow's ability to utilize feed for milk production, DHIA members can cull those individuals that do not respond to improved nutrition. Thus, production efficiency continues to improve.

Forsbergs Named Kansas Distinguished Dairy

Kurt and Elaine Forsberg of Assaria were honored with the Kansas Distinguished Dairy Award February 21 at the Kansas Dairy Association Annual Meeting in Newton. The Forsbergs received the traveling Milk Can Trophy which is given annually to a selected dairy farm.

Kurt and Elaine were members of the Forsberg partnership that began in 1946 with brothers Romaine, Glen (deceased) and Gus (deceased). The Forsbergs developed an outstanding Registered Holstein herd which had a yearly herd average of 23,883 pounds of milk at the time it was sold in December 1997.

Known nationally, the Forsberg Brothers dairy had sold bulls for use in artificial insemination throughout the United States and females have been sold to several other countries.

Kurt is a past president of the Kansas Holstein Association and has been active in many of the Association's activities as well as serving on the board of directors of several other organizations.

The Kansas Distinguished Dairy Award is sponsored by the Kansas Farmer Magazine, Mid-America Dairymen, Associated Milk Producers, and K-State Research and Extension.

Oklahoma State University
62nd Annual Dairy Day

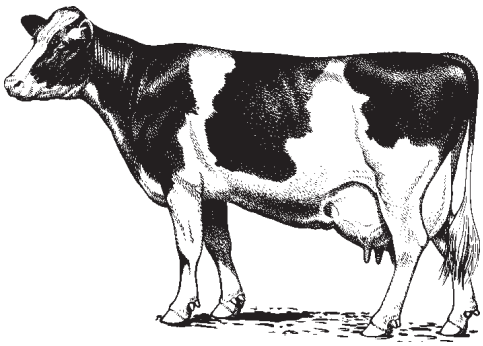
8:00 am to 3:00 pm

Wednesday, April 22
Northeast Vo-Tech Center, Pryor
(6 mi. West of Pryor on Hwy. 20)

Thursday, April 23
Grady County Fairgrounds, Chickasha
(1.5 mi. West of 144 & Hwy. 62 Junction)

Contact Dan Waldner
405-744-6058

Registration: $10/person, $15/couple,
children under 12—free.
Registration includes lunch and 1 copy of proceedings.



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For more information or questions, please contact 913.532.5654 (K-State) or 405.744.6058 (OSU).

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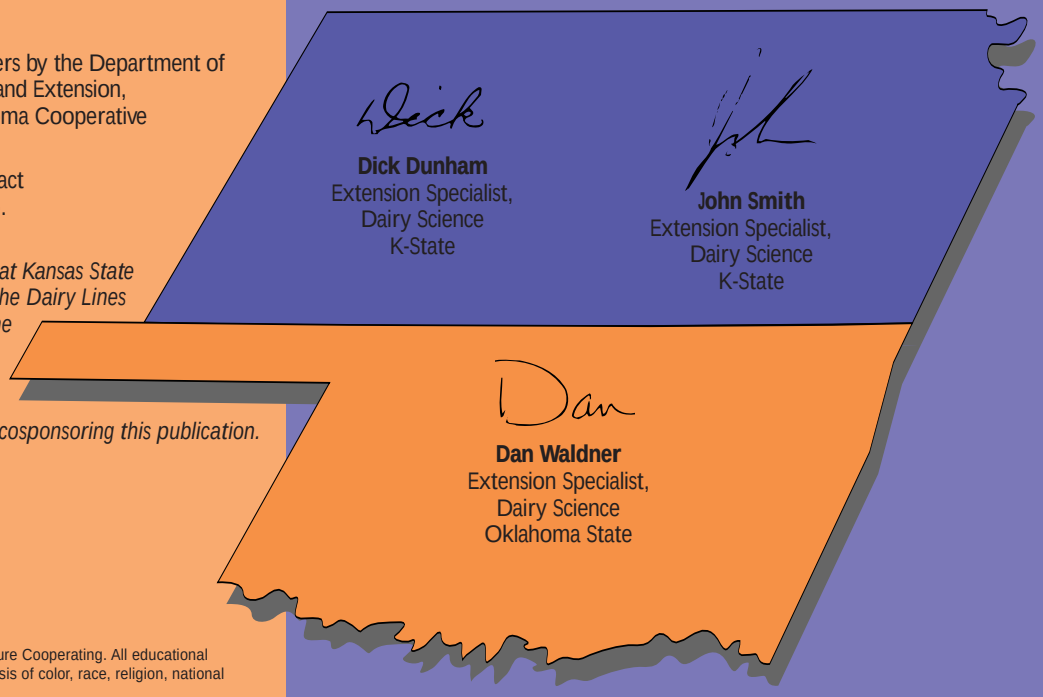

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