COOPERATIVE EXTENSION SERVICE • UNIVERSITY OF KENTUCKY • COLLEGE OF AGRICULTURE • LEXINGTON, KY, 40546

Kentucky Dairy Notes

February 2012

UNIVERSITY OF KENTUCKY College of Agriculture

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DAIRY NEWSLETTER –February 1, 2012

To: All Dairy Farmers
From: Jeff Smith, County Extension Agent for ANR

Jeff Smith

Using MUN to Monitor your Dairy Feeding and Management Program

Donna Amaral-Phillips

Milk urea nitrogen, commonly called MUN, is measured and reported, along with somatic cell count, butterfat, and protein, by many milk companies on each tank of milk picked up and delivered to the processing plant. Some milk companies may only report the MUN content in an electronic format and not on the pay stub. The MUN concentration in a bulk tank sample can help dairy farmers monitor their dairy feeding and management programs. When herd values deviate from the expected values, a review of the feeding and management program can be undertaken.

What do MUN's measure?

MUN's ultimately reflects what occurs during the digestion of feeds within the dairy cow's rumen, the cow's large fermentation vat. The rumen microbes or bugs use ammonia, peptides, and fermentable carbohydrates to make microbial protein. Between 60 to 75% of the cows' protein needs can and are met by microbial protein. Thus, this process is very important to the cow for her to produce milk. When inadequate or excessive amounts of certain types of protein, known as rumen degradable proteins (RDP) or inadequate amounts of carbohydrates are present in the rumen, the concentration of MUN's in milk changes. These changes in MUN content can be used to pinpoint areas within a feeding and management program to critically review.

What is the expected values for MUN's?

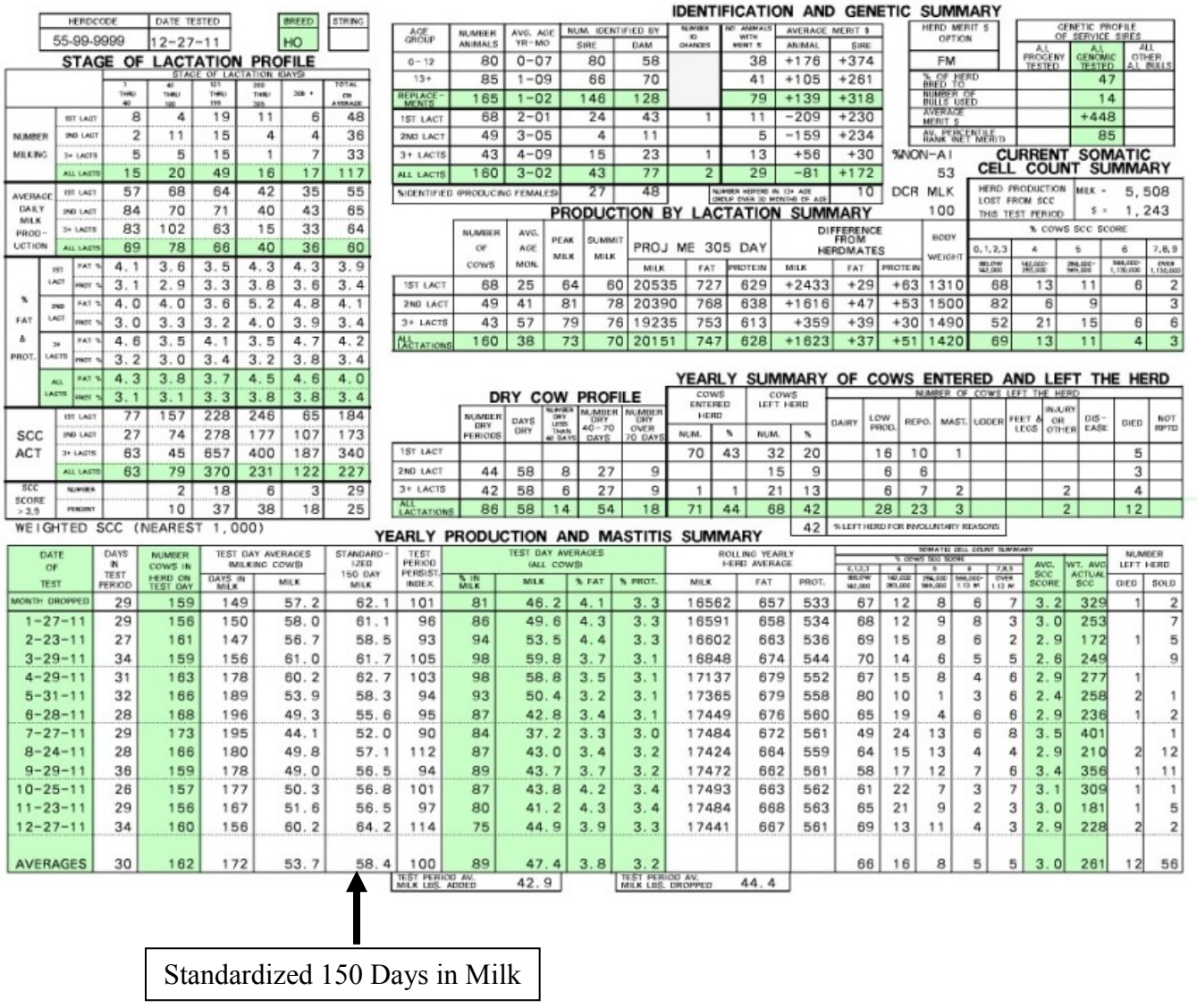
Generally, MUN concentration should be between 10 and 14 mg MUN/dl. Outside of these ranges, an evaluation of the feeding and management program usually is advised. The following table summarizes some of the common problems attributed to lower or higher MUN values than expected. For more information on interpreting MUN values, please see the article on "Milk Urea Nitrogen- A Nutritional Evaluation Too?" at http://www2.ca.uky.edu/afsdairy-files/extension/nutrition/Milk_Urea_Nitrogen.pdf.

MUN value	Ration parameters to evaluate
Less than 9	Rumen bacteria do not have enough ammonia for optimum synthesis of microbial protein. -- Inadequate amounts of RDP (ruminally degradable protein) -- Protein content of diet lower than expected -- Check protein content of corn, other byproducts and forages to make sure current feedstuffs being fed reflect the nutrient composition used to balance rations. -- Composition of the diets consumed by the cows contains the amounts of dry matter and forage/grain ingredients specified and suggested by your nutritionist.
Greater than 15	Rumen bacteria cannot utilize the ammonia produced in the rumen—the excess is absorbed across the rumen wall, converted to urea in the liver and transported in the blood which is detected in milk -- Too much RDP in the diet -- Not enough carbohydrates present or present at the correct time in the rumen -- Usually seen on pasture diets, high alfalfa haylage/baleage diets -- High MUN concentrations may decrease reproductive performance

Using your DHI Data to Evaluate Your Feeding Program
Interpreting Standardized 150 Day Milk

Donna Amaral-Phillips

This article is the beginning of a monthly series of articles describing (or reviewing) how to use data from your DHI reports to help you better manage your herd. We will cover one or two numbers found on these reports each month. My goal is to explain how the numbers are calculated but, more importantly, how you can use them to better manage your dairy operation. This first month we will review how to use standardized 150 day milk found on the second page of your Herd Summary sheet (DHI- 202).



HERDCODE 55-99-9999 | DATE TESTED 12-27-11 | BREED HO | STRING

STAGE OF LACTATION PROFILE

		STAGE OF LACTATION (DAYS) 1 THRU 40	41 THRU 100	101 THRU 199	200 THRU 305	306 +	TOTAL OR AVERAGE
NUMBER MILKING	1ST LACT	8	4	19	11	6	48
	2ND LACT	2	11	15	4	4	36
	3+ LACTS	5	5	15	1	7	33
	ALL LACTS	15	20	49	16	17	117
AVERAGE DAILY MILK PRODUCTION	1ST LACT	57	68	64	42	35	55
	2ND LACT	84	70	71	40	43	65
	3+ LACTS	83	102	63	15	33	64
	ALL LACTS	69	78	66	40	36	60
% FAT & PROT.	1ST LACT FAT %	4.1	3.6	3.5	4.3	4.3	3.9
	1ST LACT PROT %	3.1	2.9	3.3	3.8	3.6	3.4
	2ND LACT FAT %	4.0	4.0	3.6	5.2	4.8	4.1
	2ND LACT PROT %	3.0	3.3	3.2	4.0	3.9	3.4
	3+ LACTS FAT %	4.6	3.5	4.1	3.5	4.7	4.2
	3+ LACTS PROT %	3.2	3.0	3.4	3.2	3.8	3.4
	ALL LACTS FAT %	4.3	3.8	3.7	4.5	4.6	4.0
	ALL LACTS PROT %	3.1	3.1	3.3	3.8	3.8	3.4
SCC ACT	1ST LACT	77	157	228	246	65	184
	2ND LACT	27	74	278	177	107	173
	3+ LACTS	63	45	657	400	187	340
	ALL LACTS	63	79	370	231	122	227
SCC SCORE > 3.9	NUMBER		2	18	6	3	29
	PERCENT		10	37	38	18	25

WEIGHTED SCC (NEAREST 1,000)

IDENTIFICATION AND GENETIC SUMMARY

AGE GROUP	NUMBER ANIMALS	AVG. AGE YR-MO	NUM. IDENTIFIED BY SIRE	NUM. IDENTIFIED BY DAM	NUMBER ID CHANGES	NO. ANIMALS WITH MERIT $	AVERAGE MERIT $ ANIMAL	AVERAGE MERIT $ SIRE
0-12	80	0-07	80	58		38	+176	+374
13+	85	1-09	66	70		41	+105	+261
REPLACEMENTS	165	1-02	146	128		79	+139	+318
1ST LACT	68	2-01	24	43	1	11	-209	+230
2ND LACT	49	3-05	4	11		5	-159	+234
3+ LACTS	43	4-09	15	23	1	13	+56	+30
ALL LACTS	160	3-02	43	77	2	29	-81	+172
%IDENTIFIED (PRODUCING FEMALES)			27	48				10

NUMBER HEIFERS IN 13+ AGE GROUP OVER 30 MONTHS OF AGE

HERD MERIT $ OPTION	GENETIC PROFILE OF SERVICE SIRES: ALL PROGENY TESTED	ALL GENOMIC TESTED	ALL OTHER A.I. BULLS
FM			
% OF HERD BRED TO		47	
NUMBER OF BULLS USED		14	
AVERAGE MERIT $		+448	
AV. PERCENTILE RANK (NET MERIT)		85	

%NON-AI 53
DCR MLK 100

CURRENT SOMATIC CELL COUNT SUMMARY

HERD PRODUCTION LOST FROM SCC THIS TEST PERIOD: MILK - 5,508; $ - 1,243

% COWS SCC SCORE	0,1,2,3	4	5	6	7,8,9
	BELOW 142,000	142,000-283,000	284,000-565,000	566,000-1,130,000	OVER 1,130,000
	68	13	11	6	2

PRODUCTION BY LACTATION SUMMARY

	NUMBER OF COWS	AVG. AGE MON.	PEAK MILK	SUMMIT MILK	PROJ ME 305 DAY MILK	PROJ ME 305 DAY FAT	PROJ ME 305 DAY PROTEIN	DIFFERENCE FROM HERDMATES MILK	DIFFERENCE FROM HERDMATES FAT	DIFFERENCE FROM HERDMATES PROTEIN	BODY WEIGHT
1ST LACT	68	25	64	60	20535	727	629	+2433	+29	+63	1310
2ND LACT	49	41	81	78	20390	768	638	+1616	+47	+53	1500
3+ LACTS	43	57	79	76	19235	753	613	+359	+39	+30	1490
ALL LACTATIONS	160	38	73	70	20151	747	628	+1623	+37	+51	1420

DRY COW PROFILE

	NUMBER DRY PERIODS	DAYS DRY	NUMBER DRY LESS THAN 40 DAYS	NUMBER DRY 40-70 DAYS	NUMBER DRY OVER 70 DAYS	COWS ENTERED HERD NUM.	COWS ENTERED HERD %	COWS LEFT HERD NUM.	COWS LEFT HERD %
1ST LACT						70	43	32	20
2ND LACT	44	58	8	27	9			15	9
3+ LACTS	42	58	6	27	9	1	1	21	13
ALL LACTATIONS	86	58	14	54	18	71	44	68	42
									42

YEARLY SUMMARY OF COWS ENTERED AND LEFT THE HERD

NUMBER OF COWS LEFT THE HERD

DAIRY	LOW PROD.	REPRO.	MAST.	UDDER	FEET & LEGS	INJURY OR OTHER	DISEASE	DIED	NOT RPTD
	16	10	1					5	
	6	6						3	
	6	7	2			2		4	
	28	23	3			2		12	

% LEFT HERD FOR INVOLUNTARY REASONS

YEARLY PRODUCTION AND MASTITIS SUMMARY

DATE OF TEST	DAYS IN TEST PERIOD	NUMBER COWS IN HERD ON TEST DAY	TEST DAY AVERAGES (MILKING COWS) DAYS IN MILK	TEST DAY AVERAGES (MILKING COWS) MILK	STANDARDIZED 150 DAY MILK	TEST PERIOD PERSIST INDEX	TEST DAY AVERAGES (ALL COWS) % IN MILK	TEST DAY AVERAGES (ALL COWS) MILK	TEST DAY AVERAGES (ALL COWS) % FAT	TEST DAY AVERAGES (ALL COWS) % PROT.	ROLLING YEARLY HERD AVERAGE MILK	ROLLING YEARLY HERD AVERAGE FAT	ROLLING YEARLY HERD AVERAGE PROT.	SOMATIC CELL COUNT SUMMARY % COWS SCC SCORE 0,1,2,3 BELOW 142,000	4 142,000-283,000	5 284,000-565,000	6 566,000-1.13 M	7,8,9 OVER 1.13 M	AVG. SCC SCORE	WT. AVG ACTUAL SCC	NUMBER LEFT HERD DIED	NUMBER LEFT HERD SOLD
MONTH DROPPED	29	159	149	57.2	62.1	101	81	46.2	4.1	3.3	16562	657	533	67	12	8	6	7	3.2	329	1	2
1-27-11	29	156	150	58.0	61.1	96	86	49.6	4.3	3.3	16591	658	534	68	12	9	8	3	3.0	253		7
2-23-11	27	161	147	56.7	58.5	93	94	53.5	4.4	3.3	16602	663	536	69	15	8	6	2	2.9	172	1	5
3-29-11	34	159	156	61.0	61.7	105	98	59.8	3.7	3.1	16848	674	544	70	14	6	5	5	2.6	249		9
4-29-11	31	163	178	60.2	62.7	103	98	58.8	3.5	3.1	17137	679	552	67	15	8	4	6	2.9	277	1	
5-31-11	32	166	189	53.9	58.3	94	93	50.4	3.2	3.1	17365	679	558	80	10	1	3	6	2.4	258	2	1
6-28-11	28	168	196	49.3	55.6	95	87	42.8	3.4	3.1	17449	676	560	65	19	4	6	6	2.9	236	1	2
7-27-11	29	173	195	44.1	52.0	90	84	37.2	3.3	3.0	17484	672	561	49	24	13	6	8	3.5	401		1
8-24-11	28	166	180	49.8	57.1	112	87	43.0	3.4	3.2	17424	664	559	64	15	13	4	4	2.9	210	2	12
9-29-11	36	159	178	49.0	56.5	94	89	43.7	3.7	3.2	17472	662	561	58	17	12	7	6	3.4	356	1	11
10-25-11	26	157	177	50.3	56.8	101	87	43.8	4.2	3.4	17493	663	562	61	22	7	3	7	3.1	309	1	1
11-23-11	29	156	167	51.6	56.5	97	80	41.2	4.3	3.4	17484	668	563	65	21	9	2	3	3.0	181	1	5
12-27-11	34	160	156	60.2	64.2	114	75	44.9	3.9	3.3	17441	667	561	69	13	11	4	3	2.9	228	2	2
AVERAGES	30	162	172	53.7	58.4	100	89	47.4	3.8	3.2				66	16	8	5	5	3.0	261	12	56

TEST PERIOD AV. MILK LBS. ADDED 42.9

TEST PERIOD AV. MILK LBS. DROPPED 44.4

Standardized 150 Days in Milk

What is standardized 150 day milk?

Standardized 150 day milk allows one to compare the average milk production for your herd from one month to the next. It removes the effects of days in milk, breed, and number of lactations which will vary from test to test. For each cow in the herd under 330 days in milk, the computer calculates what she would have given if she was exactly 150 days after calving. The computer then averages all cows in the herd and reports this average on the second page of the Herd Summary (DHI-202).

How to use this information to evaluate your dairy feeding and management program

Example #1: In the example #1, the standardized 150 day milk drops in the summer months. Three possible scenarios to explain this drop can include but are not limited to:

Example #1:	
Date of test	Standardized 150 day milk
Month dropped	65.5
2-11-xx	64.8
3-15-xx	67.7
4-18-xx	63.5
5-14-xx	67.4
6-22-xx	63.0
7-21-xx	56.2
8-25-xx	57.8
9-18-xx	58.7
10-11-xx	62.6
11-16-xx	65.8
12-19-xx	71.1
1-15-xx	69.4

1) Cows are subjected to heat stress and do not have adequate cooling in place to maintain milk production or minimize decreases in milk production.
Areas to evaluate:

- Are fans and sprinklers or shade provided near the feed bunk and loafing areas?
- Are fans and sprinklers used in the holding pen?
- Are dry cows provided adequate shade and cool, clean water?

2) Forages and/or ration fed during the summer does not provide adequate energy or other nutrients to maintain milk production
Areas to evaluate: Contact your nutritionist and retest forages and rebalance rations to reflect forages and other feeds currently being fed.
3) Disease issues in the herd such as an increase in the incidence of mastitis or fresh cow problems
Areas to evaluate: Review milking practices and cleanliness of cows if somatic cell count has increased. Did you have a higher incidence of fresh cow problems within the first 60 days after calving?
4) Are there other possibilities to explain the drop in production?

Example #2: Decreases are seen in milk production in the fall. Milk production improves later in the fall but never recovers to that seen in previous years. Cows are housed in the same facilities as previous years and no changes are seen in disease status. However, forage quality may have changed from the previous year or more variability of the TMR being fed.

Example #2:	
Date of test	Standardized 150 day milk
Month dropped	65.5
2-11-xx	64.8
3-15-xx	67.7
4-18-xx	63.5
5-14-xx	67.4
6-22-xx	63.0
7-21-xx	66.2
8-25-xx	67.8
9-18-xx	63.7
10-11-xx	52.6
11-16-xx	57.8
12-19-xx	62.1
1-15-xx	61.4

1) Decrease in energy available to support high milk production.
Areas to evaluate: Retest forages, request a silage fermentation analysis, and/or evaluate digestibility of NDF to look for places that have decreased the amount of nutrients available to support milk production. You will more than likely need to add additional nutrients from purchased feeds in order to improve milk production and income over feed cost. Again, you will need to work closely with your nutritionist to correct the problems.
2) Feed bunk management and maintenance of TMR mixer
Areas to evaluate:

- Are the groups of cows overcrowded for resting space or feed bunk space?
- Is a consistent mixture of feed being supplied to the cows?
- Are the cows getting the amounts of each feed (accounting for varying dry matter) noted on the balanced ration?
- Are cows sorting their feed?
- Is the mixer weighing added feeds accurately?
- Is the TMR mixture mixed for the correct amount of time?
- Is the feedbunk being managed so cows always have feed available?

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Livestock Safety for Kids

Larissa H. Tucker

We all love to see children working with livestock. These experiences can provide children with many valuable life lessons, such as responsibility and time management. However, we all need to remember livestock can be dangerous and a source of injuries to children in agricultural settings.

According to the National Safety Council, -17% of all farm injuries involve animals. It is important to realize how those injuries could be prevented.

Animals and humans sense their surroundings very differently; so, it is important to recognize those differences and use that information to help handle animals safely. Cows do not have a good depth perception. Cattle, hogs and sheep have panoramic vision, which means they can see everything around them, except the area directly behind them, known as a blind spot. They also have a fear of shadows, stepping over grid patterns, and unfamiliar surroundings. Livestock have extremely sensitive hearing. This is why loud noises frighten animals. This helps explain why animals can balk or become skittish in unfamiliar surroundings. Finally, animals are very protective of their young and could become dangerous if they perceive harm to their young.

Another important factor to know is the flight zone or comfort zone of the animal. This area can change and depends on how familiar the animal is with people or the person working with the animal. Anyone who enters the flight zone suddenly or without allowing the animal to adapt could be hurt.

All of these differences are why it is important to teach children a few safety measures for when they are around livestock. Whether it be working with them on a daily basis or visiting them for the first time. Here are a few important safety measures:

- *Always ask permission before working with or touching animals*
- *Avoid loud noises and sudden movements*
- *Wear closed toed shoes, preferably steel toed boots*
- *Stay away from the legs*
- *Approach large animals at the shoulder*
- *Stay away from animals with newborns*
- *Stay away from bulls, boars, or rams*
- *Have an escape route when working with animals in close quarters*

Following these safety measures can decrease your chances of becoming injured while working with livestock. Remember, be alert and handle animals appropriately. They may look friendly, but they can be dangerous and unpredictable.

Kentucky Dairy Partners Annual Meeting

February 28 & 29, 2012

Sloan Convention Center, 1021 Wilkinson Trace, Bowling Green, Kentucky

Tuesday, February 28th

10-4:30 CST	KDDC Young Dairy Producers Conference SUDIA/ADA Board Meeting
3-5 PM	Set up Exhibits
6-8 PM	Reception and Exhibit Hall Open

Wednesday, February 29th

8:30 AM CST	Registration and View Exhibits 9:30 Welcome
10:00	Positioning Your Dairy for the Future Using the Millionaire Dairy Model - *Larry Tranel*, Iowa State
10:30	Break
10:40	Enhancing the Image of Dairy Farmers in the Southeast – *Cheryl Hayn and Billy Rowe*
11:10	Options for Setting up First A.I. Breedings - *Jeff Stevenson* – Kansas State University
11:40	KDDC Annual Business Meeting
12:10-1:30 PM	Lunch and Visit Exhibits
1:30	Improving Dairy Consumption: Pike County Success Story – *Melissa Lowe* – Child Nutrition Program Assistant, Pike County School District
2:00	Early Pregnancy Diagnosis and Resynchronization of Ovulation - *Jeff Stevenson* – Kansas State University
2:30	How Herds are Making A.I. Work - Farmer Panel – *Eddie Gibson, Billy Crist and Joey Clark*
3:20	Wrap up and Door Prizes
3:30	Adjourn

Registration $25/ person at the door. No registration fee for Kentucky dairy producers - limit 2 per dairy permit (more than 2 per permit may attend but must pay $25.00 for each additional person) A block of rooms is available at the Holiday Inn $95/night. Please contact the hotel directly at (270) 745-0088 to make your reservations.

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DAIReXNET (national eXtension) Webinars- Free to the Public

You can find information on accessing these webinars here. If you're on twitter, please share our webinars using this link: http://bit.ly/8XiTaX

Animal Welfare Certification Options

Date: February 8th, 2012, 12:00 PM Central Time

Speaker: Dr. Jim Reynolds, University of California-Davis International Animal Welfare Training Institute

Dr. Reynolds will discuss current options in animal welfare certification, along with the value of certification and how to determine if you should become part of one of these programs.

Strategies to Improve Reproduction During Summer Heat Stress

Date: March 5th, 2012, 12:00 PM Central Time

Speaker: Dr. Todd Bilby, Texas A&M

Reproductive failure is the number one reason dairy cows involuntarily leave the dairy farm and summer heat stress exemplifies this costly issue. However, managerial, hormonal and novel reproductive technologies are available for producers to utilize which will reduce the severity of summer heat stress on reproduction. The various strategies will be presented in detail to educate both producers and consultants to be able to implement reproductive program changes to subside summer's negative effects.

Nutrition Programs for the Heat Stressed Herd

Date: March 19th, 2012, 12:00 PM Central Time

Speaker: Dr. Jose Santos, University of Florida

Proper dietary programs are essential to cow health and performance during heat stress. Understanding what dietary changes can be made prior to and during summer heat stress are important for assisting thermoregulatory mechanisms of our modern high producing lactating dairy cows to aid in reducing the negative effects of heat stress. Nutritional changes will be presented for producers and consultants to make informed decisions on the proper dietary changes necessary to reduce the severity of summer heat stress

You can also view past webinars at http://www.extension.org/pages/Archived_Dairy_Cattle_Webinars.

COOPERATIVE EXTENSION SERVICE

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Todd & Christian Counties

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Todd & Christian Counties

February 28 & 29
Kentucky Dairy Partner's Meeting