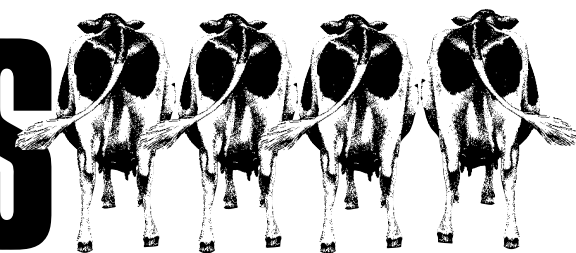


May 1996

# Dairy Lines

Volume 2, Number 5

KANSAS DAIRY EXTENSION NEWS



## Co-Editors

James R. Dunham

*Extension Specialist, Dairy Science*

John F. Smith

*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*

## Hot Weather Impact on Feed Intake

by J.R. Dunham

Every summer high temperatures have a negative impact on feed intake and milk production. Two pounds of milk production are lost for every pound dry matter intake is depressed. The effects of high temperatures cannot be completely eliminated, but feeding adjustments can be made to reduce the effects of high summer temperatures.

Water is the least expensive and one of the most important ingredients in dairy feeding programs. Dry matter intake and water consumption are closely correlated. Water consumption will increase about 50 percent when temperatures are in the 90s compared to the 70s. Therefore, additional watering space will be a benefit on hot days. Adding water tanks in shaded areas close to the cows and feed will improve water consumption and dry matter intake. Cows should never have to wait in line or walk long distances for a drink of water.

Adjusting moisture of a TMR can improve dry matter intake. TMRs usually contain 35 to 40 percent moisture. Adding water to increase the moisture content to 45 to 50 percent should improve dry matter intake. Adding water makes the TMR cooler and more palatable, especially when ensiled forages are a component of the ration.

Also, cows can consume the higher moisture TMR faster, but 50 percent moisture is the maximum recommended.

Feeding early and late and as many times as convenient will encourage dry matter intake. Appetites are better during the cool of the day, and feeding more meals provides fresher feeds.

High quality forages should be selected for summer feeding programs. High quality forages produce less heat during digestion and metabolism. Hence, cows will suffer less from heat stress and will consume more feed. High quality forages provide a more concentrated source of nutrients so cows do not have to consume as much feed.

Concentrate energy to minimize the total amount of dry matter needed to meet energy requirements. Adding a pound of fat will reduce the requirement for grain by about 2.25 pounds. Also, replacing milo with corn will require less total pounds of dry matter. However, make sure the ration is balanced after any formulation change.

We can never expect cows to eat as well when temperatures soar, but we can minimize the effects by managing the feeding program.



## Upcoming Events



August 28 & 29

Midwest Dairy Management  
Conference

Minneapolis, Minnesota

Printing sponsored by

**Protiva**  
HELPING FARMERS FEED THE WORLD  
A Unit of Monsanto Company

## Heart of America Dairy Herd Improvement Summary (January)

# Summer is Here!

by John F. Smith

	Quartiles				Your Herd
	1	2	3	4	
<b>Guernsey</b>					
Rolling Herd Average	16,162	14,028	12,647	10,465	
Summit Milk Yield 1st	56.0	51.1	46.2	40.4	
Summit Milk Yield 2nd	66.9	61.1	55.8	47.1	
Summit Milk Yield 3rd	69.5	63.0	58.9	45.6	
Summit Milk Yield Avg.	63.3	58.4	53.4	44.4	
Income/Feed Cost	1,404	1,210	1,106	627	
SCC 1st LACT	129	253	309	418	
SCC 2nd LACT	133	259	327	385	
SCC 3rd+ LACT	265	387	438	835	
SCC Average	177	306	359	578	
Days to 1st Service	88	86	93	99	
Days Open	150	144	147	161	
Projected Calving Interval	436	429	433	447	

<b>Milking Shorthorn</b>					
Rolling Herd Average	15,383	13,675	12,111	10,094	
Summit Milk Yield 1st	43.7	45.6	45.4	41.8	
Summit Milk Yield 2nd	71.3	61.6	50.2	---	
Summit Milk Yield 3rd	66.1	69.5	63.6	60.1	
Summit Milk Yield Avg.	58.6	60.9	52.5	45.0	
Income/Feed Cost	1,163	1,092	755	603	
SCC 1st LACT	130	147	250	320	
SCC 2nd LACT	120	162	284	---	
SCC 3rd+ LACT	297	342	438	924	
SCC Average	208	232	332	562	
Days to 1st Service	86	91	87	93	
Days Open	154	133	102	110	
Projected Calving Interval	433	415	384	392	

<b>Holstein</b>					
Rolling Herd Average	21,660	18,838	16,875	14,071	
Summit Milk Yield 1st	70.1	63.0	57.8	49.8	
Summit Milk Yield 2nd	88.9	79.0	71.6	60.9	
Summit Milk Yield 3rd	94.2	83.7	76.8	65.2	
Summit Milk Yield Avg.	83.3	75.0	69.0	59.4	
Income/Feed Cost	1,617	1,354	1,169	922	
SCC 1st LACT	226	262	295	361	
SCC 2nd LACT	230	276	325	410	
SCC 3rd+ LACT	383	443	500	606	
SCC Average	285	337	389	485	
Days to 1st Service	92	94	97	97	
Days Open	143	141	142	139	
Projected Calving Interval	422	421	422	418	

<b>Jersey</b>					
Rolling Herd Average	15,576	13,331	11,971	10,339	
Summit Milk Yield 1st	51.0	45.7	40.2	37.1	
Summit Milk Yield 2nd	62.3	53.4	49.1	43.1	
Summit Milk Yield 3rd	65.9	58.0	52.4	46.5	
Summit Milk Yield Avg.	60.1	53.2	48.1	42.9	
Income/Feed Cost	1,448	1,023	910	792	
SCC 1st LACT	268	338	260	364	
SCC 2nd LACT	242	244	264	358	
SCC 3rd+ LACT	375	433	412	536	
SCC Average	310	353	333	443	
Days to 1st Service	87	88	87	91	
Days Open	125	124	120	131	
Projected Calving Interval	404	403	399	410	

As summer approaches it becomes important to develop a plan to minimize heat stress on your dairy operation. In this article I will discuss methods to help reduce the effects of heat stress.

### Water Availability

Making cool and clean water easily available to lactating dairy cows is the first priority. Water should be made available when cows leave the milking parlor, at every crossover in freestall housing, and a minimum of two locations in drylot housing. In a pasture situation, water should be provided in multiple locations to reduce walking distance to water. Evaluate the capacity of your water system to determine if it will meet peak demand on your dairy.

### Walking Distance

When a dairy cow is walking she is working. Look at strategies to reduce walking distance to the milking parlor, feed, water and shade. Try to house cows as close to feed, water, shade and milking parlor as possible. Reducing walking distance will reduce the workload of the cow and allow her to use more energy to dissipate heat and produce milk.

### Shade

Research trials completed in Arizona and Florida indicate that providing shade during heat stress will increase milk production by 4 to 5 pounds per cow per day. Shade should be provided in housing areas and over the holding pen.

### Milking Center

Often, dairy cows are under the most heat stress in the holding pen. Heat stress in the holding pen can be reduced by minimizing the amount of time cows spend in this area. The sides should be open during the summer to increase ventilation.

Once these basic strategies to reduce heat stress are implemented, producers can look at other techniques to cool cows on the dairy. Good luck keeping your cows cool and comfortable this summer.



# Dairy Industry Conference Highlights

by Karen Schmidt

On April 3, 1996, the 30th Dairy Industry Conference was held in Manhattan. This meeting is an annual event for Dairy Manufacturers in the State to meet and discuss some of the latest technologies, regulations and strategies. Highlights of the conference sessions are listed below.

The morning session focused on current developments in the dairy industry. Dr. Ronald Richter from Texas A&M University started the conference by speaking about the possibilities of using high pressure homogenization to manufacture dairy products. Currently, homogenizers are used in the milk industry at pressures of 1500 psi. Dr. Richter showed that if higher pressures (15,000 psi) were used, the resultant dairy products had unique characteristics such as increased thickness or firmer gels. This will be important for the low fat/nonfat dairy food markets.

Mr. Bob Freemore, Director of Manufacturing Operations for the Southern Region of AMPI, challenged us to change the way we look at people, events and things. He asked us to look at innovations in processing, operations and marketing. He dared us to dream beyond current products so that we as dairy processors will be prepared for the market changes in the next five years.

Dr. Daniel Y.C. Fung from Kansas State University concluded the morning session. He addressed pathogen (disease producing bacteria) control. His talk focused on the latest developments to rapidly detect pathogens in food systems. Testing equipment was available for demonstrations in the afternoon. Some techniques demonstrated are able to assess cleaning effectiveness within five minutes.

In the afternoon, Ms. Kerri Ebert from Kansas Dairy Association and Mr. Mel Brose from Kansas Department of Agriculture talked briefly about their organizations and recent developments in the State. The afternoon technical session was devoted to Management Strategies of Waste Disposal. Concerns such as waste water disposal, new compounds to precipitate sludge, and reduction in water usage were covered by various speakers.

Overall, this conference was successful in bringing new ideas and technologies to the attention of the industry.



## Don't Forget to Test Forages

As the first cutting of alfalfa is made, be sure to get representative samples and test for the following components:

- ✓ Moisture
- ✓ Crude protein
- ✓ ADF
- ✓ NDF
- ✓ Calcium
- ✓ Phosphorus

Use the analyses to formulate your dairy rations. Formulating dairy rations without a forage analysis is like driving at night without lights.

## Hay Prices\*

	Location	Quality	Price (\$/ton)
Alfalfa	Southwestern Kansas	Premium	100-120
Alfalfa	Southwestern Kansas	Good	90-100
Alfalfa	South Central Kansas	Premium	90-105
Alfalfa	South Central Kansas	Good	80-90
Alfalfa	Southeastern Kansas	Premium	90-100
Alfalfa	Southeastern Kansas	Good	80-90
Alfalfa	Northwestern Kansas	Premium	90-100
Alfalfa	Northwestern Kansas	Good	80-90
Alfalfa	North Central Kansas	Premium	90-100
Alfalfa	North Central Kansas	Good	80-90

Source: USDA Weekly Hay Report, Week ending May 3, 1996

\*Premium Hay RFV = 170-200

Good Hay RFV = 150-170

## Feed Stuffs Prices

	Location	Price (\$/ton)
SBM 48%	Kansas City	242.30-243.30
Cotton Seed Meal	Kansas City	215-219
Whole Cottonseed	Memphis	188-190
Meat and Bone Meal	Central United States	214-216
Blood Meal	Central United States	445
Corn Hominy	Kansas City	157-160
Corn Gluten Feed	Kansas City	145-150
Corn Gluten Meal 60%	Kansas City	345-350
Distillers Dried Grain	Central Illinois	180-185
Brewers Dried Grain	St. Louis	145-147
Wheat Middlings	Kansas City	112-116

Source: USDA Weekly Feed Stuffs Report, Week ending May 5, 1996

COOPERATIVE EXTENSION SERVICE  
U.S. DEPARTMENT OF AGRICULTURE  
KANSAS STATE UNIVERSITY  
MANHATTAN, KANSAS 66506

OFFICIAL BUSINESS  
PENALTY FOR PRIVATE USE. \$300



Dairy Lines is published for dairy producers by the Department of Animal Sciences and Industry, Cooperative Extension Service, Kansas State University.

For more information or questions, please contact Extension Animal Sciences and Industry at (913) 532-5654.

**Dick Dunham**  
Extension Specialist,  
Dairy Science

**John Smith**  
Extension Specialist,  
Dairy Science

*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 inquires from other individuals, associations and firms that may be interested in cosponsoring this publication.*



**Cooperative Extension Service**  
Department of Animal Sciences & Industry  
125 Call Hall  
Manhattan, Kansas 66506

KSU, County Extension Councils and U.S. Department of Agriculture Cooperating. All educational programs and materials available without discrimination on the basis of color, race, national origin, sex, age, or disability.

# Dairy Lines



KANSAS DAIRY EXTENSION NEWS