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

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

KSU KANSAS STATE UNIVERSITY

KANSAS DAIRY EXTENSION NEWS

VOLUME 13 (5) OCTOBER-DECEMBER 1992

KSU DAIRY DAY OCTOBER 30TH

WATCH DAYS OPEN

SCC AND PROFIT

WATCH DAYS OPEN - COWS NOT YET BRED

Reproductive efficiency is mostly determined on the performance of cows that have been bred. Parameters include calving interval, services per conception, days dry and age of calving for heifers. Cows not yet bred - OPEN COWS - may also contribute to lower reproductive performance. Without adequate records these open cows may be overlooked and contribute to "hidden" or insidious losses.

Table 1. Average Days Open in Pregnant and Open Cows and Percent of Herd Not Bred in Kansas Holstein Herds Grouped by Rolling Herd Average (RHA) (1991).

RHA (lb)	Group: Pregnant Days open	Group: Not bred % of herd	Group: Not bred Days open
12,715	135	41	138
15,924	130	32	90
17,580	130	34	87
19,978	128	30	70

Figure 1 illustrates a means of monitoring the open cows in the herd grouped by average days open. While all herds will have open cows at any point in time, the primary focus should be on cows open beyond 60 days fresh and especially those open > 120 days.

A recent study was conducted to determine the effect of yearly production per cow on days open and percent of cows open. Research has indicated a negative genetic relationship between production and reproduction. Kansas Holstein herds (N = 463) were ranked by rolling herd average (RHA) for milk and grouped by quartile.

Table 1 shows no differences among herds in days open for pregnant cows. However, there was a favorable relationship between RHA and cows not yet bred. As production increased both the percent of herd open and the average days open declined.

A similar positive relationship was seen when herds were grouped according to RHA and open cows categorized by average days open. Higher producing herds have fewer cows open beyond 60 days and particularly beyond 120 days.

Table 2. Percent of Herd Open by Average Days Open in Kansas Holstein Herds Grouped by Rolling Herd Average (RHA) (1991).

RHA (lb)	Percentage of cows open: < 60 d	> 60 d	> 120 d
12,715	43	57	35
15,924	57	43	22
17,580	54	46	19
19,978	60	40	12

Although a negative relationship exists between production and reproduction, Managers of higher producing herds apparently overcome this inverse effect by initiating procedures to get cows serviced earlier in the postpartum period. Synchronization programs are available to minimize cows open that should be bred.

To Breed by Date by String - Cows (Final)

Barn Name	Dys-Open or Age	Service Sire	Bred Date
NATALIE	156		
INKA	154		
TILLIE	146		
MYRA	106		
CANDICE	97		
FOXY	91		
SHERRY	67		
AGGIE	65		
KITTEN	59		
THERESA	53		

FIGURE 2. EBS-MORE REPORT SHOWS COWS NOT-YET-BREI BUT SHOULD BE.

REPRODUCTIVE SUMMARY

Group	Replacement Females	Producing Females: Number	Producing Females: Avg Days Since Fresh	Number of Animals Open: < 60 Days	Number of Animals Open: 60 - 120 Days	Number of Animals Open: > 120 Days	Average Days Open	Number of Animals Bred: Once	Twice	3 + Times	Ago / Days to First Bred	Breeding Interval: < 18 Days	18 - 24 Days	> 24 Days	Days Minimum Freshening Interval
Pregnant	9	73	275	12	32	10	96	46	20	7	1-04	1	10	11	376
Possibly Pregnant	5	47	141	7	26	12	98	31	12	4	1-07	1	2	13	378
Open	64	31	46	24	4	2	46	Total Animals: 134 Total Services: 195			Average Services Per Conception	Replacements 1.1	Producing Females 1.5	Total 1.5	

FIGURE 1. DHIA 202A PROVIDES A REPRODUCTIVE SUMMARY TO ASSIST IN MONITORING THE STATUS OF THE HERD.

1992 KSU DAIRY DAY – OCTOBER 30

KANSAS MASTITIS COUNCIL

The Kansas Mastitis Council (KMC) was organized in 1970 "to promote educational activities and research in mastitis control."

KMC sponsors the Quality Milk Awards, Basic Milker's School and programs at the annual meeting. Since 1986, the annual meeting has been a part of KSU Dairy Day. The 1992 Dairy Day focuses on Waste Management and is sponsored in part by KMC.

KMC annual dues are $3 for individuals and $25 for companies. Your dues are used to sponsor the Council's activities. You are encouraged to join the KMC and play an important role in shaping the future of the Kansas Dairy Industry and the marketing of high quality milk.

Yes, I'd like to join the Mastitis Council. Enclosed is:

*$3*_____ *$25*_____
(self) *(company)*

Complete name and address:

_____
_____
_____

Return to: John E. Shirley, Dept. of AS&I, Call Hall, KSU, Manhattan 66506-1600

THE 1992 ANNUAL KSU DAIRY DAY

SEVENTH IN THE SERIES –
MANAGING HIGH PRODUCING HERDS:

WASTE MANAGEMENT ON DAIRIES

Pottorf Hall – CICO Park (Riley County Fairgrounds)
From KSU SPORTS COMPLEX: 1 MI W ON KIMBALL, .4 MI S ON WREATH, .2 MI W ON ROBINSON

FRIDAY, OCTOBER 30, 1992

8:00 a.m. *REGISTRATION - VISIT EXHIBITS**

10:00 a.m. *WELCOME*
Dr. Jack Riley, Head, ASI, KSU

10:15 a.m. *TODAY'S CHALLENGES*
John Shirley, KSU

10:20 a.m. *MINI RESEARCH UPDATES*
Heifer Rearing – J.L. Morrill, KSU
Reproduction – J.S. Stevenson, KSU
Nutrition – J.E. Shirley, KSU

10:50 a.m. *WASTE MANAGEMENT - Regulations and Problems in Kansas*
J.P. Harner, Kansas State University

11:20 a.m. *IMPACT OF ENVIRONMENTAL REGULATIONS ON DAIRY PRODUCERS*
Dr. Charles Fulhage, University of Missouri

NOON *LUNCH, Courtesy of Exhibitors*

1:15 p.m. *KANSAS QUALITY MILK AWARDS*
J.R. Dunham, KSU

1:30 p.m. *DAIRY WASTE MANAGEMENT: Problems and Solutions*
Dr. Charles Fulhage, University of Missouri

2:15 p.m. *QUESTIONS/ANSWERS*

2:30 p.m. *ADJOURN - VISIT EXHIBITS**

3:00 p.m. *TOUR - DAIRY TEACHING AND RESEARCH CENTER*

*A special "thanks" to the exhibitors who support KSU Dairy Day

1992 KANSAS QUALITY MILK AWARDS
(Deadline - October 19)

1992 Kansas Quality Milk Awards Program

Sponsored by:

Cooperative Extension Service, KSU
Kansas Mastitis Council, Inc.
West Agro, Inc.

The Kansas Mastitis Council, in cooperation with West Agro, Inc., is sponsoring an awards program to recognize Kansas producers.

Requirements

Contestants must fill out the entry form, showing the WMT or ESCC, Bacteria (SPC) and Antibiotic tests for the period of August 1, 1991 through July 31, 1992. Four tests are required during any 6-month period.

Awards

The competition will be split into two divisions according to herd size: Large herd division - 60 or more cows and Small herd division - 59 or fewer cows. The following awards will be made:

- Lowest yearly average WMT or ESCC and bacteria count in both divisions will receive a plaque.
- Second lowest yearly average WMT or ESCC and bacteria count in both divisions will receive a plaque.
- Third lowest yearly average WMT or ESCC and bacteria count in both divisions will receive a plaque.
- CERTIFICATES OF MERIT will be presented to all entrants with an average WMT under 10 mm or ESCC under 300,000 and bacteria counts averaging 10,000 or less.

Entry Form

1992 Kansas Quality Milk Awards

Month	Year	WMT or ESCC	Bacteria (SPC)	Antibiotic	Total Cows*
August	1991				
September	1991				
October	1991				
November	1991				
December	1991				
January	1992				
February	1992				
March	1992				
April	1992				
May	1992				
June	1992				
July	1992				

*Include dry cows in total.

Name_____
Address_____
_____
Phone( )_____

Send results on this form to:

Dr. John E. Shirley
Call Hall, KSU
Manhattan, KS 66506-1600
Entry Deadline: October 19, 1992

SOMATIC CELL COUNT INVERSELY RELATED TO POTENTIAL PROFITS IN DAIRYING

Herd average Somatic Cell Count (SCC) is inversely related to potential profit in a dairy herd due to the relationship of SCC to mammary infections. As SCC increases, more mastitis occurs resulting in lower milk production, higher treatment costs, more dumped milk and more cows culled. A recent summary indicated that SCC average and Rolling Herd Average (RHA) are inversely related. Most SCC problems can be resolved with improved management.

A Dairy Herd Improvement Association (DHIA) summary of Kansas Holstein herds grouped according to RHA shows in Table 1 that SCC, SCC Linear Score and loss due to SCC decreases as RHA increases. This summary also indicates potential causes of higher SCC in lower producing herds.

First lactation SCC averages are a good indication of the level of mastitis in heifers entering the herd. Heifers should be free of mastitis at freshening with a SCC average less than 100,000. Lower producing herds exceed this level which indicates many herd SCC problems are related to too many heifers freshening which are already infected with mastitis.

Table 1 also shows that SCC average is lowest in first lactation cows in all production groups. If first lactation SCC is too high, then the herd average SCC will likely be too high since the SCC increases in succeeding lactations. Many herds could markedly reduce their SCC if the heifers entered the herd with low SCC.

The most likely reasons for heifers freshening with high SCC are: (1) becoming infected in a pond during late gestation, (2) becoming infected due to poor sanitation in the springer pen, and/or (3) becoming infected due to poor control of flies.

A similar sort of a problem is indicated by the high SCC of all early lactation cows. In many herds bred heifers and dry cows are kept together in a pasture and the springing cows and heifers are in the same springer pen. Some herds could go a long ways toward solving their SCC problem by improving the environment for the bred heifers and dry cows.

All production groups have lower SCC averages when in milk <50 days as compared to >300 days in milk. This indicates some improvement in level of mammary infection is occurring due to dry cow treatment. However, lower producing herds' SCC is still too high which indicates too many cows are becoming reinfected with mastitis-causing bacteria near the time of freshening.

Another conclusion which can be drawn from the summary is that higher producing herds' SCC do not increase as much during lactation as lower producing herds. This indicates increased rate of mammary infections due to: (1) poor milking techniques including sanitation, (2) milking equipment which is operating inadequately, (3) poor environmental conditions, and/or (4) damage to teat ends caused by warts. Any herd experiencing an increase of more than 150,000 SCC as cows go from early lactation to late lactation should review these conditions.

In conclusion, SCC affects productivity of a dairy herd and thus potential profit. Almost all SCC problems can be solved by management. The DHIA SCC program is very useful for evaluating the situation in a dairy herd for solving SCC problems.

Table 1. Comparison of Rolling Herd Average Groups to Somatic Cell Count, Linear Score, and Losses in Dairy Herds.

			SCC AVERAGES (,000)								
	Linear	Loss/		--Lactation Number--			Stage of Lactation (Days)				
RHA	Score	Cow/Day	SCC	1	2	3+	<50	51-100	101-200	201-300	>300
13084	3.9	$0.37	483	277	375	647	423	431	463	588	588
15737	3.5	$0.31	402	255	333	541	297	356	400	519	473
17762	3.2	$0.24	317	205	268	440	273	296	322	346	400
20187	2.9	$0.18	262	183	227	354	212	240	273	287	328

NEW EBS-MORE REVISION

The September 1992 EBS update is now on line. There are numerous revisions that enhance the usefulness of EBS-MORE in dairy herd management. Finally, Option 15 - General Herd Health Practices is available as an extra cost option. Information such as treatment, condition, comments, attending technician, costs and days milk withheld can be entered for each animal. Dates for treatment/condition can be entered as far back as 1 January 1985 to the present sample date. The health data is transmitted to the DRPC for storage and periodic summarization. The cost of Option 15 is $0.02/record transmitted. Your DHIA supervisor has all the details of Option 15 and other revisions.

Body Condition Scores (BCS) can now be recorded in the EBS program. It is suggested that BCS be recorded at calving, at first breeding, 60 days prior to dry off and again at dry time.

User Defined Reports (UDR) have been expanded from 15 to 45 possibilities with the September revision of EBS-MORE.

FALL BREED MEETINGS

Most of the breed organizations have meetings in the fall to conduct business and plan activities. Listed below are dates and places along with a contact person. Plan to attend and participate in your association's affairs.

October 18	Kansas Ayrshire Ass'n, 10:00 am, Barnstormer Cafe, Goessel. Keith Burgess (316-543-6449)
October 24	Kansas Jersey Cattle Club, 11:00am, Manhattan Holidome. Mike Frey (913-765-3759).
October 30	Kansas Milking Shorthorn Society, 6:30pm, Hickory Gables, Hutchinson. Pat Lisenby (316-463-2374).
November 21	Holstein Ass'n of Kansas, 10:00am, Great Bend Holiday Inn. Shari Strauss (913-238-8899).
November 30	Kansas Interbreed Dairy Council, 10:00am, Manhattan Holidome. Harold Scanlan (913-263-4358).
January 2	Kansas Brown Swiss Ass'n, 10:30am, (to be announced), Hutchinson. Wanita Schrag (316-327-4169).

KSU
KANSAS STATE UNIVERSITY

Cooperative Extension Service
Extension Animal Sciences and Industry
Call Hall
Manhattan, Kansas 66506-1600
913-532-5654
FAX: 913-532-5681

Dear Producer:

Waste Management - K-State Dairy Day's theme - is a timely topic of interest to all producers and agri-business leaders. Some 30 exhibitors will again provide a complimentary lunch Friday, October 30th CICO Park, Manhattan. Also, plan to attend your respective breed association's annual meeting.

Sincerely yours,

Edward P. Call
Extension Specialist
Dairy Science

Dick

James R. Dunham
Extension Specialist
Dairy Science