March 1999

Dairy Lines

Volume 5, Number 3

DAIRY RESEARCH & EXTENSION NEWS

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

Co-Editors

John F. Smith
Extension Specialist, Dairy Science

Dan Waldner
Extension Specialist, Dairy Science

Mike Brouk
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

March 26-28, 1999
Spring Fair Jr. Dairy Show,
Oklahoma City, OK

March 25-28, 1999
Professional Dairy Heifer Growers Conference,
Bloomington, MN

March 30-31, 1999
Relocation and Expansion Conference,
Ontario, Canada

continued on page 2

KSTATE Kansas State University Research and Extension

OSU OKLAHOMA COOPERATIVE EXTENSION SERVICE

Research Update

Compiled By Dan Waldner, OSU Extension Dairy Specialist

Mechanical Processing of Corn silage: Engineering, Biological, and Economic Considerations

J.H. Harrison[1], L. Johnson[1], C. Hunt[2], C.A. Rotz[3], D. Sapienza[4], and K. Shinners[5]. [1]Washington State Univ., Puyallup, [2]Univ. of Idaho, Moscow, [3]USDA-ARS, University Park, PA, [4]Pioneer Int'l Inc. Johnston, IA, [5]Univ. of Wisconsin, Madison, Am. Dairy Sci. Assoc. Southern Sect. Abstr. No. 50. 1999. Mechanical processing of whole plant corn silage can be achieved either pre- or post-ensiling. Common methods of mechanical processing are: (1) an on-board kernel processor mounted on a forage harvester, (2) a recutter screen on a forage harvester, and (3) a stationary roller mill. Processing of corn silage reduces particle size, increases the rate of the ensiling process, and reduces dry matter losses during ensiling. Processed corn silage has increased digestibility of starch and fiber as a result of fracturing of the corn kernels and crushing and shearing of the stover and cobs. Improvement in milk production has ranged from 1.0 to 4.4 pounds when cows are fed mechanically processed corn silage. Modeling of this technology at the whole farm level has shown small (100-cow) and medium (400-cow) sized farms could profit by utilizing mechanically processed corn silage. The economic benefit ranged from $5 to $100/cow/year when farm size, maturity of corn silage, milk price, and feed prices varied.

Gonadotropin-Releasing Hormone (GnRH) Improves Reproductive Performance of Dairy Cows with Slow Involution of the Reproductive Tract

R.H. Foote and P.M. Reik. Cornell Univ., Ithaca, NY. J. Anim. Sci. 1999. 77:12. Eighty Holstein cows were assigned at calving to receive either 100n g of GnRH or saline 13 or 14 days postpartum. Cows were palpated weekly starting 4 days postpartum and classified within each group as undergoing slow (delayed) cervical and uterine involution (abnormal) or as normal cows. As expected, treatment of normal cows with GnRH had no significant effect on first estrus or the first estrous cycle postpartum, on services per conception, days open, or any other reproductive trait measured. However, in the abnormal group of cows receiving saline, first rebreeding after calving was delayed (81 vs. 67 days), fewer were pregnant by 105 days postpartum (23 vs. 64%), and number of days open was greater (121 vs. 87 days) compared to those receiving GnRH. Treated abnormal cows were equivalent to control normal cows. Thus, GnRH given 13 to 14 days postpartum to cows characterized as undergoing slow involution of the reproductive system, but with no other clinical problems, seems to assist in promoting rapid normal reproductive function. Subsequent losses due to culling were greatly reduced.

continued on page 2

Heart of America Dairy Herd Improvement Summary (March)

	Quartiles				Your Herd
	1	2	3	4	
Ayrshire					
Rolling Herd Average	17,376	15,469	14,571	11,675.5	
Summit Milk Yield 1st	56.5	53.0	52.5	42.7	
Summit Milk Yield 2nd	35.5	60.0	63.5	48.0	
Summit Milk Yield 3rd	76.0	67.0	66.5	56.3	
Summit Milk Yield Avg.	67.5	61.5	60.5	50.7	
Income/Feed Cost	1,522	1,469	1,256	880	
SCC Average	385	289	350	223	
Days to 1st Service	81	67	68	104	
Days Open	153	146	113	191	
Projected Calving Interval	14.3	14.0	12.9	15.5	
Brown Swiss					
Rolling Herd Average	19,901	16,092	14,508	13,535	
Summit Milk Yield 1st	62.2	49.0	48.4	48.2	
Summit Milk Yield 2nd	63.2	67.8	57.8	59.6	
Summit Milk Yield 3rd	84.4	67.2	68.0	64.8	
Summit Milk Yield Avg.	75.0	61.8	60.0	58.2	
Income/Feed Cost	1,896	1,529	1,487	1,233	
SCC Average	297	284	231	369	
Days to 1st Service	93	56	79	94	
Days Open	177	162	133	189	
Projected Calving Interval	15.0	14.6	13.6	15.4	
Holstein					
Rolling Herd Average	22,318	19,530	17,466	14,400	
Summit Milk Yield 1st	70.9	63.9	58.5	49.1	
Summit Milk Yield 2nd	90.9	80.6	71.3	60.0	
Summit Milk Yield 3rd	95.6	85.0	77.5	66.3	
Summit Milk Yield Avg.	84.4	76.3	69.4	59.7	
Income/Feed Cost	2,142	1,793	1,555	1,238	
SCC Average	329	383	407	516	
Days to 1st Service	88	85.7	92	80	
Days Open	159	164	168	191	
Projected Calving Interval	14.4	14.6	14.7	15.5	
Jersey					
Rolling Herd Average	16,812	14,202	12,379	9,888	
Summit Milk Yield 1st	44.3	45.8	44.3	34.1	
Summit Milk Yield 2nd	63.1	55.8	47.0	35.3	
Summit Milk Yield 3rd	68.9	62.8	56.5	45.7	
Summit Milk Yield Avg.	63.1	55.1	52.1	41.2	
Income/Feed Cost	1,740	1,658	1,294	958	
SCC Average	340	284	306	439	
Days to 1st Service	60	85	75	83	
Days Open	139	129	147	151	
Projected Calving Interval	13.8	13.4	14.0	14.2	
Guernseys					
Rolling Herd Average	15,474	14,411	13,541	11,164	
Summit Milk Yield 1st	53.0	49.0	52.0	47.0	
Summit Milk Yield 2nd	62.0	64.0	0.0	46.0	
Summit Milk Yield 3rd	63.0	68.0	0.0	56.0	
Summit Milk Yield Avg.	59.0	60.0	52.0	50.0	
Income/Feed Cost	1,926	1,447	935	1,261	
SCC Average	168	279	763	251	
Days to 1st Service	84	103	0	83	
Days Open	178	197	421	185	
Projected Calving Interval	15.1	15.7	23.1	15.3	

Production Response of Dairy Cows Grazing Winter Annuals

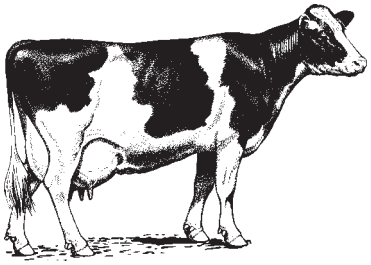
J.K. Bernard[1] and R.J. Carlisle[2], [1]Univ. of Georgia, Tifton, [2]Univ. of Tennessee, Grand Junction, Am. Dairy Sci. Assoc. Southern Sect. Abstr. No. 117. 1999. A two-year study was conducted to determine the effect of level of concentrate fed to Holstein cows grazing pasture seeded with Marshall ryegrass-Crimson clover on variables of economic interest. Following a pretrial adjustment period, sixteen cows were assigned to one of four levels of concentrate: 0 or 1.0 pounds of concentrate for each 7, 5, or 3 pounds of energy-corrected milk. Pastures were divided into four paddocks and rotationally grazed. Quality of pasture dry matter was higher in 1996 (18.5% CP, 21.5% ADF, 49.1% NDF) than 1997 (14.6% CP, 25.2% ADF, 51.6% NDF). Across both years, yield of milk, fat, and protein increased linearly with increased concentrate feeding, but percent milk fat declined. From the data, researches concluded when high quality ryegrass-clover is available in adequate quantities, income over concentrate cost over a range of milk and concentrate prices was optimized when 10 to 14 pounds of concentrate was fed per cow per day.

April 7–10, 1999
Western Dairy Management Conference
Las Vegas, NV

April 9–10, 1999
Oklahoma Holstein Show and Sale
Payne Co. Fairgrounds
Stillwater, OK

April 24, 1999
Oklahoma 4-H State Qualifying Dairy Cattle Judging Contest
OSU Dairy Unit
Stillwater, OK
Registration: 7:30am

May 13, 1999
Southwest Dairy Field Day
Alan Ritchey Inc, Dairy
Yuba, OK
Contact Dan Waldner for more information: 405-744-6058



Northeast Kansas Dairy Tour
Controlling and Handling Manure Nutrients

Friday, April 23

Tour Schedule

9:15 a.m.	Registration at NRCS Office in Seneca, KS (Participants can start at Nemaha County NRCS office or Nemaha River Dairy)
9:30 a.m.	Depart NRCS Office
9:45 a.m.	Registration at Bob and Karla Sextro's
10:00 a.m.	Nemaha River Dairy (wetland cells and solids storage)
11:15 a.m.	Vern Buessing Dairy (diversion channel and solids storage)
12:00 p.m.	Buessing Dairy (wetland cell and solids storage)
1:00 p.m.	Lunch at Nemaha County Extension Office
2:00 p.m.	Heartland Jersey Dairy (application of effluent)
3:15 p.m.	Adjourn

Note: Sites can be revisited between 3:00 and 4:30 p.m.

About the Tour

Each dairy has installed concrete basins for storing solid (scraped) manure prior to land application. The dairies are currently using sand bedding in their free stalls.

The dairies have installed different systems for controlling runoff and milk parlor waste water. These systems, which include wetland cells, vegetative filter strips, diversion channels and total containment structures, will be viewed on the tour.

Land application equipment will also be viewed.

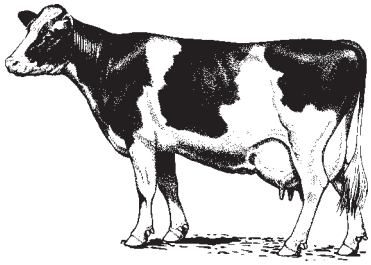
A description of each system will be provided during the walking tour. Efforts will be made to limit group sizes to 30 people during the walking tour. The walking tours will last 15 to 25 minutes and then participants will be allowed to view the system on their own for 15 to 25 minutes

Contact the Nemaha County Research and Extension office for more details at 785-336-2184.

Feed Stuffs Prices

	Location	Price ($/ton)
SBM 48%	Kansas City	139–144
Cotton Seed Meal	Kansas City	118–130
Whole Cottonseed	Memphis	148
Meat and Bone Meal	Central United States	121.50–125
Blood Meal	Central United States	290
Corn Hominy	Kansas City	66–68
Corn Gluten Feed	Kansas City	65–70
Corn Gluten Meal 60%	Kansas City	200–215
Distillers Dried Grain	Central Illinois	80–86
Wheat Middlings	Kansas City	53–55

Source: USDA Weekly Feed Stuffs Report, *Week ending March 2, 1999*



Hay Prices—Oklahoma

	Location	Quality	Price ($/ton)
Alfalfa	Central / Western, OK	Premium	100–120
Alfalfa	Central / Western, OK	Good	85–100
Alfalfa	Panhandle, OK	Premium	95–110
Alfalfa	Panhandle, OK	Good	85–95

Source: Oklahoma Department of Agriculture, *March 4, 1999*

Hay Prices*—Kansas

	Location	Quality	Price ($/ton)
Alfalfa	Southwestern Kansas	Premium	80–100
Alfalfa	Southwestern Kansas	Good	65–85
Alfalfa	South Central Kansas	Premium	80–95
Alfalfa	South Central Kansas	Good	55–70
Alfalfa	Southeastern Kansas	Premium	85–100
Alfalfa	Southeastern Kansas	Good	75–85
Alfalfa	Northwestern Kansas	Premium	80–90
Alfalfa	Northwestern Kansas	Good	70–80
Alfalfa	North Central Kansas	Premium	85–95
Alfalfa	North Central Kansas	Good	70–80

Source: USDA Weekly Hay Report, *Week ending March 5, 1999*

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

K-STATE RESEARCH & EXTENSION
U.S. DEPARTMENT OF AGRICULTURE
KANSAS STATE UNIVERSITY
MANHATTAN, KANSAS 66506–3403

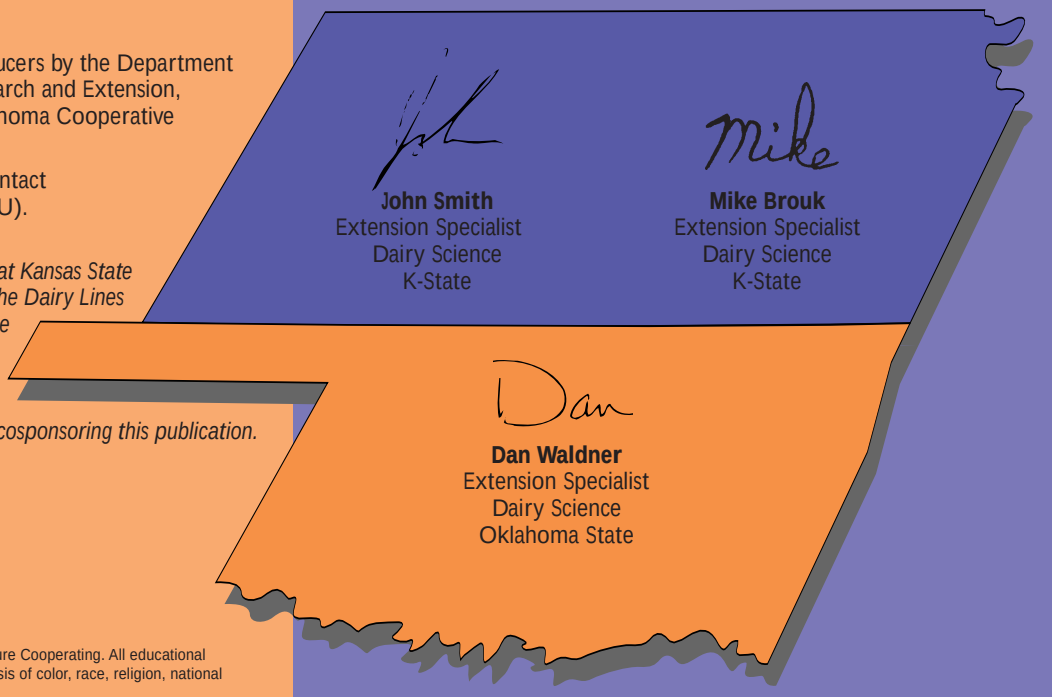
OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

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 785.532.5654 (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
K-State Research & Extension
Department of Animal Sciences and Industry
Call Hall, Room 139
Kansas State University
Manhattan, Kansas 66506



John Smith
Extension Specialist
Dairy Science
K-State

Mike Brouk
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