January 2000

Dairy Lines

Volume 6, Number 1

DAIRY RESEARCH & EXTENSION NEWS

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

Upcoming Events

Dairy Waste Management & Pollution Prevention Workshops

Feb. 16, 2000—10am to 2pm
(Lunch provided)
Indian Capital Area Vo-Tech,
Hwy 59N, Stillwell, OK

Feb. 17, 2000—10am to 2pm
(Lunch provided)
Mayes Co. Ag. Center (Fairgrounds),
Hwy 20 East, Pryor, OK

Feb. 23, 2000—10am to 2pm
(Lunch provided)
Grady Co. Extension Office,
828 Choctaw, Chickasha, OK

(HOA DHIA District Meetings to be held during noon meal at the Pryor and Chickasha locations—All workshop participants are welcome to attend)

Effects of bST and evaporative cooling plus shade on lactation performance

M. Tarazon-Herrera, J.P. Huber, J. Santos, H. Mena, L. Nusso and C. Nusson. Dept. of Animal Sciences, Univ. of AZ, Tucson. 1999. J. Dairy Sci. 82:2352.

Thirty-two Holstein cows averaging 195 days in milk were assigned to 70 days of treatment on the basis of production during a 14-day pretreatment period. Treatments were shade or shade plus evaporative cooling with pressurized spray, and with or without bST injections per label directions. All cows were fed the same total mixed ration twice daily with free access to water. Milk yield was increased by bST and tended to be greater for cooled cows. Fat percentages were increased by bST, and yields of fat, protein, and 3.5 percent fat-corrected milk, and the efficiency of conversion of dry matter to milk, whereas evaporative cooling increased body weights and protein yields, but decreased solids non-fat and milk protein percentages. Rectal temperatures and respiration rates also were lower for cooled cows. Blood serum nonesterified fatty acids were increased in cows receiving bST, suggesting part of the energy for increased milk production came from mobilization of body fat. Administration of bST effectively improved performance of cows under hot summer conditions whether evaporatively cooled or not.

Brown midrib sorghum in diets for lactating dairy cows. G. Aydin, R.J. Grant and J. O'Rear. Dept. of Animal Science, Univ. of NE, Lincoln. 1999. J. Dairy Sci. 82:2127.

In Experiment 1, 16 Holstein cows were assigned to one of four diets in a replicated 4x4 Latin square with 4 week periods to measure dietary effect on short-term lactation performance. Additionally, 3 fistulated cows were assigned to the same diets in a 3x4 Youden square design with 4 week periods to measure ruminal rate and extent of fiber digestion, fractional passage rate of fiber, ruminal pH and concentration of volatile fatty acids. Diets comprised 65 percent of brown midrib (BMR) forage sorghum, standard forage sorghum, alfalfa or corn silages and 35 percent concentrate. Experiment 2 was conducted with 30 Holstein cows in early lactation to evaluate the same BMR sorghum hybrid in a 10 week study with 35.5 percent standard sorghum, BMR sorghum, or corn silages as dietary treatments. Milk production was significantly higher for BMR than for standard sorghum in Experiment 1. Ruminal pH and acetate to propionate ratio did not differ among diets. The fractional passage rate of silage was not significantly different among the forages. Extent of ruminal fiber digestion was significantly higher for BMR than for standard sorghum, but rate of fiber digestion was not different. Similarly, in Experiment 2, extent of fiber digestion was significantly higher for BMR sorghum than for standard sorghum. Dry matter intake and body condition score was not significantly different between cows fed BMR and standard sorghum, but cows fed BMR sorghum resulted in long-term milk production greater than cows fed standard sorghum and similar to cows fed corn silage.

Heart of America Dairy Herd Improvement Summary (January)	Quartiles 1	2	3	4	Your Herd
Ayrshire					
Rolling Herd Average	17,012	14,832	13,391	10,238	
Summit Milk Yield 1st	60.5	52.0	33.0	41.3	
Summit Milk Yield 2nd	73.5	63.6	53.6	31.3	
Summit Milk Yield 3rd	78.5	67.3	43.0	53.6	
Summit Milk Yield Avg.	72.5	59.3	54.0	49.3	
Income/Feed Cost	1,529	1,181	1,033	714	
SCC Average	257	224	260	157	
Days to 1st Service	72	87	74	54	
Days Open	143.5	126	114	144	
Projected Calving Interval	13.9	13.3	12.9	13.9	
Brown Swiss					
Rolling Herd Average	18,792	15,874	14,753	12,956	
Summit Milk Yield 1st	56.1	51.1	50.8	46.7	
Summit Milk Yield 2nd	71.2	54.8	52.7	56.3	
Summit Milk Yield 3rd	82.1	69.1	65.8	54.5	
Summit Milk Yield Avg.	69.2	62.2	60.8	54.8	
Income/Feed Cost	1,780	1,493	1,379	1,131	
SCC Average	411	343	327	336	
Days to 1st Service	90	121	82	77	
Days Open	159	160	155	215	
Projected Calving Interval	14.4	14.4	14.3	16.2	
Guernsey					
Rolling Herd Average	16,055	14,361	13,597	11,479	
Summit Milk Yield 1st	57.0	51.0	49.0	44.5	
Summit Milk Yield 2nd	67.0	61.0	57.0	55.5	
Summit Milk Yield 3rd	68.0	68.0	57.0	55.5	
Summit Milk Yield Avg.	64.0	59.5	55.0	52.5	
Income/Feed Cost	1,741	1,339	1,418	1,092	
SCC Average	201	241	405	271	
Days to 1st Service	95	76	55	107	
Days Open	173	143	136	205	
Projected Calving Interval	14.9	13.9	13.7	15.9	
Holstein					
Rolling Herd Average	22,663	19,551	17,378	14,095	
Summit Milk Yield 1st	71.7	63.7	58.1	49.6	
Summit Milk Yield 2nd	91.0	81.1	71.7	59.8	
Summit Milk Yield 3rd	96.0	86.6	77.6	65.6	
Summit Milk Yield Avg.	85.2	76.6	70.1	60.3	
Income/Feed Cost	2,149	1,742	1,524	1,174	
SCC Average	341	374	385	493	
Days to 1st Service	90	93	87	85	
Days Open	165	167	176	193	
Projected Calving Interval	14.6	14.7	15.0	15.5	
Jersey					
Rolling Herd Average	16,871	13,795	12,608	10,126	
Summit Milk Yield 1st	46.8	48.9	41.3	36.9	
Summit Milk Yield 2nd	57.1	50.6	51.6	45.6	
Summit Milk Yield 3rd	71.0	63.0	56.0	50.1	
Summit Milk Yield Avg.	64.0	56.6	50.6	44.1	
Income/Feed Cost	1,778	1,505	1,251	889	
SCC Average	297	279	325	495	
Days to 1st Service	71	59	75	82	
Days Open	141	152	127	136	
Projected Calving Interval	13.8	14.2	13.4	13.6	
Milking Shorthorn					
Rolling Herd Average	16,026	13,926	12,862	12,433	
Summit Milk Yield 1st	61.0	52.0	45.0	48.0	
Summit Milk Yield 2nd	82.0	64.0	51.0	63.0	
Summit Milk Yield 3rd	83.0	74.0	63.0	65.0	
Summit Milk Yield Avg.	76.0	64.5	55.0	58.0	
Income/Feed Cost	—	1,522	1,206	1,138	
SCC Average	84	314	407	262	
Days to 1st Service	82	78	81	29	
Days Open	136	111	146	193	
Projected Calving Interval	13.7	12.9	14.0	15.5	

Vaccinating Heifers Reduced Severity of Clinical Mastitis

The efficacy of an Escherichia coli J5 bacterin for reducing the incidence of intramammary infections and clinical signs of mastitis was tested in first lactation heifers. Ten primigravid heifers were immunized with E. coli J5 bacterin. Four heifers received a placebo. The bacterin and placebo were injected subcutaneously approximately 60 days prior to calving, 28 days later, and within 48 hours after calving.

Vaccinated and placebo-injected heifers were challenged by intramammary infusion of E. coli in one mammary gland between 23 to 37 days after calving. All challenged quarters were diagnosed with an intramammary infection within 6 hours after bacteria were infused. The severity and duration of local signs of clinical mastitis were reduced in vaccinated heifers compared with placebo-injected heifers. Systemic signs of clinical mastitis were limited and did not differ between treatments.

Bacteria counts in milk from challenged quarters were lower in vaccinated heifers than in control heifers at 12, 15 and 48 hours after challenge. Serum immunoglobulin G titers against whole-cell E. coli J5 antigen at calving were higher in vaccinated heifers than they were in controls.

Vaccinated heifers had higher immunoglobulin G titers than did controls in mammary secretions at calving and immediately prior to challenge. Immunizing primigravid heifers with E. coli J5 bacterin during the last trimester of gestation and at calving reduced the severity and duration of clinical signs following intramammary challenge with E. coli.

Source: NMC Udder Topics Vol. 22, No. 3.

Boisecurity Tips for Avoiding Staph aureus Problems

Preventing the introduction of Staphylococcus aureus into a herd is difficult, since there are very few truly “closed” herds. Animal movement among today’s dairy herds is very common. While purchasing cattle increases the risk of disease introduction into the herd, there are recommended strategies that may decrease that risk. Recommended practices include:

- Purchase cattle only from herds of known health status.
- Ask for SCC results and clinical mastitis disease records for the cow and herd of origin.
- Test (CMT) and culture milk from new additions.
- Identify and segregate (milk last) new additions until their udder health status has been confirmed.

Given that there are very few herds that are free from Staph aureus infection, the emphasis on controlling this disease should be directed towards with-in herd biosecurity. This means eliminating the important risk factors for spreading the infection from cow to cow. These factors are based on our understanding of the survival characteristics of this particular bacterium. Since Staph aureus is a contagious mastitis pathogen, it survives best either in the udder or on teat skin. It is most likely to be spread from cow to cow during milking, so control needs to focus on proper milking management of individual cows and the herd.

The following practices have been demonstrated to decrease the spread of Staph aureas among cows during milking:

- Use single-use towels for preparing and drying teats.
- Minimize contact between the milkers’ hands and the cows’ udder.
- Dip each teat of every cow with an effective post-milking teat disinfectant.
- Identify and milk suspected and known infected cows last or as a separate group.

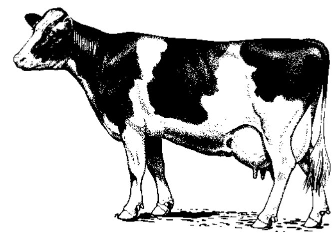
Source: *NMC Udder Topics Vol. 22, No. 5.*

KDA Annual Meeting

February 18–19

Ramada Inn, Emporia, Kansas

Contact: Kerry Ebert, 785-456-8357



Friday

7–9 p.m. Reception

Saturday

9:30 a.m. Kansas Holstein Association Meeting
Kansas Jersey Cattle Club Meeting
Kansas Ayrshire Association Meeting

12:00 p.m. Kansas Dairy Association Lunch and Awards Presentations

March 22–23, 2000
Dairy Records Analysis Workshop
Omaha, NE
Contact Dave Sukup: 785-539-0210

April 28, 2000
All Breeds Sale
Hutchinson, KS

April 29, 2000
All Breeds Show
Hutchinson, KS

Hay Prices*—Kansas

	Location	*Quality*	*Price ($/ton)*
Alfalfa	Southwestern Kansas	Supreme	95–115
Alfalfa	Southwestern Kansas	Premium	65–90
Alfalfa	Southwestern Kansas	Good	55–65
Alfalfa	South Central Kansas	Supreme	95–110
Alfalfa	South Central Kansas	Premium	75–90
Alfalfa	South Central Kansas	Good	55–75
Alfalfa	Southeastern Kansas	Supreme	60 cents / pt RFV
Alfalfa	Southeastern Kansas	Premium	80–90
Alfalfa	Southeastern Kansas	Good	60–75
Alfalfa	Northwestern Kansas	Supreme	—
Alfalfa	Northwestern Kansas	Premium	80–90
Alfalfa	Northwestern Kansas	Good	50–70
Alfalfa	North Central Kansas	Supreme	100–110
Alfalfa	North Central Kansas	Premium	75–100
Alfalfa	North Central Kansas	Good	50–70

Supreme = over 180 RFV (less than 27 ADF)
Premium = 150–180 RFV (27–30 ADF)
Good = 125–150 RFV (30–32 ADF)

Source: USDA Kansas Hay Market Report, *January 4, 2000*

Hay Prices—Oklahoma

	Location	*Quality*	*Price ($/ton)*
Alfalfa	Central / Western, OK	Premium	80–100
Alfalfa	Central / Western, OK	Good	75–85
Alfalfa	Panhandle, OK	Premium	85–95
Alfalfa	Panhandle, OK	Good	75–85

Source: Oklahoma Department of Agriculture, *January, 2000*

Feed Stuffs Prices

	Location	*Price ($/ton)*
Blood Meal	Texas Panhandle	383–390
Corn Gluten Feed	Kansas City	68–70
Corn Gluten Meal	Kansas City	240–245
Corn Hominy	Kansas City	65–68
Cotton Seed Meal	Kansas City	145–150
Whole Cotton Seed	Memphis	115
Distillers Grains	Central Illinois	80–85
Pork—Meat and Bone Meal	Texas Panhandle	154–155
SBM 48%	Kansas City	144–152
Wheat Middlings	Kansas City	57–60

Source: USDA Feedstuff Market Review, *January 5, 2000*

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

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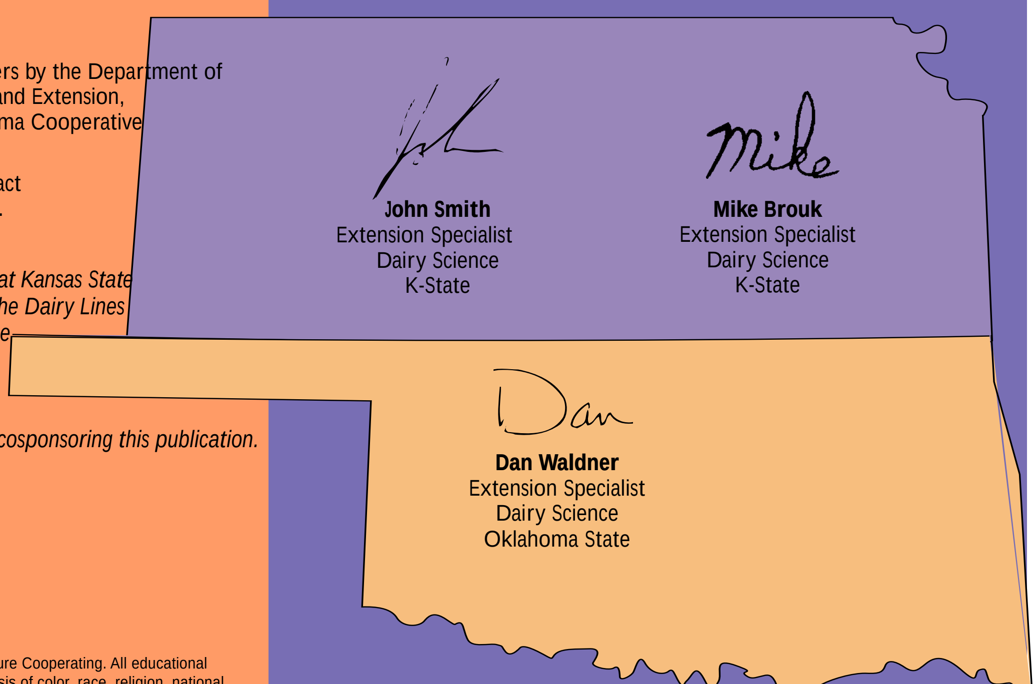
Dairy Lines is jointly published for dairy producers by the Department of Animal Sciences and Industry, K-State Research and Extension, and the Department of Animal Science, Oklahoma Cooperative Extension Service.

For more information or questions, please contact 785.532.5654 (K-State) or 405.744.6058 (OSU).



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