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Dairy Lines

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KANSAS DAIRY EXTENSION NEWS

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Upcoming Events

March 21
Kansas Foraged Grassland Council Annual Meeting
Arkansas City

April 27
Kansas Holstein Show
Hutchinson
Kansas State Fairgrounds

Using Prostaglandins to Improve Reproductive Efficiency

by John Smith and Jeff Stevenson

In a previous Dairy Lines' article, the use of prostaglandins (PG's) in reproductive programs was discussed. This article will concentrate on using prostaglandins to decrease the days in milk to first breeding and to increase the number of opportunities you have to breed a cow.

Dairy producers may first want to consider using PG's to decrease the days in milk to first breeding. If a 50-day voluntary waiting period is used, it would be ideal if a large number of cows would come into heat at 50 to 55 days in milk. This can be accomplished by giving a PG injection

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Dick Dunham Named Oustanding Fieldman

The Kansas Dairy Fieldman's Association at their annual meeting in February honored Extension Specialist, Kansas State University, Dick Dunham, with the Outstanding Fieldman's Award. The award was presented by Ed Call who did a thorough job of roasting. Congratulations Dick!

Dr. Jim Morrill (R) received the Kansas Dairy Leader Award at the Kansas Dairy Association Banquet March 2, 1996. Keith Burgess, President, Kansas Interbreed Dairy Cattle Council, is shown presenting Dr. Morrill's portrait to Jim's wife, Nell. The portrait will be hung in Call Hall. Jim was recognized for his 34 years of leadership in dairying, particularly dairy calf nutrition, throughout the world.

Harvey and Vada Whitehill were presented the traveling milk can trophy for be recognized as the 1996 Kansas Distinguished Dairy at the Kansas Dairy Association Banquet, March 2, 1996. Harvey and Vada began dairying in 1958 and since that time have developed, with sons Wayne and David, Whitehill's La-Par Dairy of 170 outstanding cows.

Heart of America Dairy Herd Improvement Summary (February)

	Quartiles				Your Herd
	1	2	3	4	
Guernsey					
Rolling Herd Average	15,869	13,894	12,573	10,677	
Summit Milk Yield 1st	55.6	50.6	46.0	42.1	
Summit Milk Yield 2nd	65.4	59.6	55.9	48.5	
Summit Milk Yield 3rd	67.4	61.1	59.5	49.9	
Summit Milk Yield Avg.	62.1	57.0	53.2	47.2	
Income/Feed Cost	1,351	1,155	840	654	
SCC 1st LACT	129	297	316	339	
SCC 2nd LACT	177	294	416	415	
SCC 3rd+ LACT	206	401	539	805	
SCC Average	166	336	432	537	
Days to 1st Service	84	89	92	102	
Days Open	134	142	153	158	
Projected Calving Interval	419	428	439	444	
Milking Shorthorn					
Rolling Herd Average	15,406	13,922	12,654	10,389	
Summit Milk Yield 1st	54.0	45.3	45.5	42.1	
Summit Milk Yield 2nd	71.8	58.8	53.8	61.1	
Summit Milk Yield 3rd	71.7	67.6	63.1	55.6	
Summit Milk Yield Avg.	64.5	58.5	53.3	47.8	
Income/Feed Cost	1,126	1,073	952	622	
SCC 1st LACT	101	148	338	221	
SCC 2nd LACT	224	687	584	373	
SCC 3rd+ LACT	403	491	587	715	
SCC Average	259	457	464	411	
Days to 1st Service	92	92	81	89	
Days Open	149	115	109	107	
Projected Calving Interval	428	396	391	389	
Holstein					
Rolling Herd Average	21,590	18,828	16,898	14,131	
Summit Milk Yield 1st	69.3	62.8	57.6	50.1	
Summit Milk Yield 2nd	87.5	78.5	70.8	60.6	
Summit Milk Yield 3rd	92.4	82.8	75.7	64.7	
Summit Milk Yield Avg.	81.8	74.3	68.2	59.2	
Income/Feed Cost	1,587	1,323	1,224	911	
SCC 1st LACT	234	282	328	361	
SCC 2nd LACT	257	318	348	445	
SCC 3rd+ LACT	400	461	527	641	
SCC Average	301	363	417	511	
Days to 1st Service	92	93	94	97	
Days Open	143	140	137	138	
Projected Calving Interval	422	420	416	417	
Jersey					
Rolling Herd Average	15,488	13,324	11,895	10,330	
Summit Milk Yield 1st	50.2	45.7	39.5	36.3	
Summit Milk Yield 2nd	60.9	54.4	48.6	42.9	
Summit Milk Yield 3rd	65.5	58.3	52.5	45.4	
Summit Milk Yield Avg.	59.1	53.4	47.8	42.1	
Income/Feed Cost	1,373	1,070	881	776	
SCC 1st LACT	241	317	269	295	
SCC 2nd LACT	238	312	293	360	
SCC 3rd+ LACT	386	476	468	559	
SCC Average	307	387	365	436	
Days to 1st Service	88	87	90	90	
Days Open	126	117	120	129	
Projected Calving Interval	405	396	398	408	

Using prostaglandins, continued from page 1

at 35 days in milk followed by a second injection at 49 days in milk. Using prostaglandins to synchronize cows for the first breeding facilitate earlier detection of heat and, reduces days to first breeding.

Groups of cows can be synchronized together so that heat detection efforts can be increased at 50 to 55 days in milk. Once a cow has been AI-bred, she should be removed from the PG program until she is determined to be open. Remember PG's will abort a pregnant cow.

Prostaglandins also can be used to increase the number of heats early in the breeding period. Cows that are not inseminated after the injection of PG's at 49 days in milk can be given a subsequent injection every 14 days until they are inseminated. Cows are removed from the program after insemination until they are determined to be open.

Using PG's to decrease the number of days to first breeding and to increase the number of heats per lactation will aid producers in reducing days in milk to first breeding, days open, and calving interval. A PG program, in conjunction with early and regular pregnancy checks, to detect open cows as soon as possible, will increase the reproductive efficiency of the herd.

Monitoring Reproductive Performance

by John Smith & Jeff Stevenson

Variables such as calving interval, days in milk at first breeding, and days open can be used to evaluate reproductive performance in a dairy herd. The calving interval (CI) is the period between two consecutive calvings. Average CI is a good indicator of past reproductive performance, but, is a poor indicator of the present reproductive status. The goal is to maintain a calving interval less than 13 months. To monitor current reproductive performance, producers should evaluate days in milk to first breeding and days open. Days in milk at first breeding is a good indicator of heat detection in early lactation. The average days in milk at first service should range from 65 to 70 . Days open is good indicator of the current reproductive status of the herd. Producers should strive to maintain an average of 100 to 110 days open. Eliminating the number of open cows over 120 days in milk will improve profitability and reproductive efficiency of the herd.

Dry Matter Intake

Because today's dairy cows have a tremendous ability to produce milk, maximizing dry matter intake should be the goal of every nutrition program. Dry matter intake is increased by feeding grain mixes, but the maximum amount of grain mix that can be fed is about 60% of the total ration dry matter. Higher levels can cause digestive upsets.

Relative Feed Value (RFV) of forages, in most cases, is the most limiting factor for dry matter intake. Table 1 illustrates the influence of RFV of alfalfa hay on dry matter intake, milk production, and income over feed cost. Income over feed cost increased as the RFV of hay increased, because dry matter intake and milk production was higher. Lower prices were assigned to the lower RFV hay, which resulted in lower daily feed costs, yet income over feed cost was higher with the higher RFV hay.

Table 1. Effects of Alfalfa Quality on Dry Matter Intake.

Alfalfa RFV[1]	Alfalfa dry DMI (lb)	Estimated Milk (lb)	Feed cost (cwt milk)	Income Over Feed Cost/Cow
160	32.6	68.0	$5.73	$3.58
149	31.0	64.6	$5.78	$3.37
138	29.5	61.4	$5.84	$3.17
129	28.2	58.6	$5.90	$2.99
107	27.0	56.1	$5.96	$2.83

[1]Alfalfa Prices: RFV 160 = $120.00, RFV 149 = $115.00, RFV 138 = $110.00, RFV 129 = $105.00, RFV 107 = $100.00.

Select Hay According to Relative Feed Value

by J.R. Dunham

The feeding program for high producing cows should be built around high quality forages. Until this year, the cost of nutrients from grains were reasonably priced compared to forages, and dairy farmers tended to feed a little more grain to compensate for nutrient deficiencies in the forages. However, the price of concentrates has skyrocketed while forage prices have remained relatively constant. Thus, more than ever, high quality forage should be the basis for the feeding program.

The most widely accepted measure of quality of alfalfa today is Relative Feed Value (RFV). Alfalfa RFV is determined by the content of Acid Detergent Fiber (ADF) and Neutral Detergent Fiber (NDF). ADF is an evaluation of digestibility and NDF indicates how well the forage will be consumed. Both characteristics are important in feeding programs.

Low quality alfalfa will have a RFV of about 100 and some hay may test in excess of 200. Dairy quality hay will have a RFV of 160 to 170. Hay with a RFV less than 140 should not be considered for high producing cows. The rate of passage of hay with a RFV in the range of 200 may be too high when fed as the major forage.

The most valuable nutrient in alfalfa is protein. However, the protein content is not part of the formula for determining RFV. Fortunately, the protein content of hay is usually high in high RFV hay. Make sure, though, that the analysis for protein is high when selecting high RFV hay. Then, balance the ration to take advantage of the value of protein. You will be maximizing nutrient intake from the forage component of the ration to help control feed costs.

Hay Prices*

	Location	Quality	Price ($/ton)
Alfalfa	Southwestern Kansas	Premium	95-11-
Alfalfa	Southwestern Kansas	Good	82.50-95
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	90-105
Alfalfa	North Central Kansas	Good	80-90

Source: USDA Weekly Hay Report, *Week ending 8 March 1996*

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

Feed Stuffs Prices

	Location	Price ($/ton)
SBM 48%	Kansas City	223.90-225.90
Cotton Seed Meal	Kansas City	219-225
Whole Cottonseed	Memphis	180
Meat and Bone Meal	Central United States	218-220
Blood Meal	Central United States	480
Corn Hominy	Kansas City	130-137
Corn Gluten Feed	Kansas City	130-135
Corn Gluten Meal 60%	Kansas City	345-350
Distillers Dried Grain	Central Illinois	145-149
Brewers Dried Grain	St. Louis	125
Wheat Middlings	Kansas City	118-122

Source: USDA Weekly Feed Stuffs Report, *Week ending 8 March 1996*

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