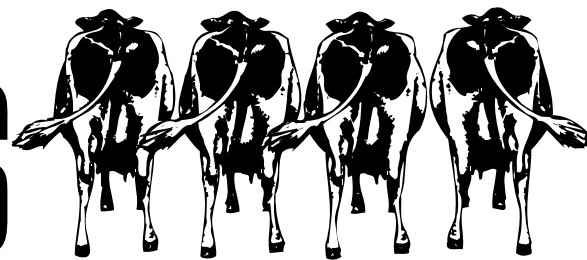


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Dairy Lines



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Upcoming Events

Garden City Dairy Seminar
and Western Kansas
Dairyman's Golf Tournament
July 12, Garden City, Kan.

Sooner State Dairy Cattle
Judging Contest and Quiz Bowl
July 27, Payne Co. Fairgrounds
Stillwater, Okla.



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DAIRY RESEARCH & EXTENSION NEWS

<http://www.oznet.ksu.edu/ansi/nletter/dairylin.htm>

Tips for Special Needs Facilities

*J.F. Smith, J.P. Harner III, M.J. Brouk,
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Often dairy producers planning to build new facilities spend a lot of time selecting and sizing the milking parlor and cow housing, but not enough effort designing, selecting, and sizing special needs facilities. From a cow health and milk production standpoint, there are an overwhelming number of reasons to have a well-designed special needs facility that will not be a barrier to management. The transition from pregnancy to lactation represents the period of greatest challenge to the health and productivity of the dairy cow. Most of the metabolic and infectious disease the cow will experience will occur in the first weeks of lactation. In early lactation, the sudden onset of milk production outpaces the animal's ability to increase intake of nutrients, placing the animal in negative balance for vital nutrients such as energy, protein, and calcium. Cows failing this metabolic challenge can develop milk fever, ketosis and displaced abomasum. The hormonal changes associated with the act of calving suppress the immune system of the animal and increase susceptibility to infectious diseases

such as mastitis and Salmonellosis. Negative energy balance and environmental stresses can have an additive effect on immune cells and further suppress the animal's resistance to infection. To reduce disease and improve productivity, strategies must be designed to maximize feed intake and reduce "stress" on the transition cow. Stress can take many forms, but generally results in increased cortisol released by the cow, which tends to reduce immune cell function.

Grouping Strategies and Building Requirements

The size and number of cow groups on a dairy are critical planning factors. Factors affecting the number and types of groups are largely associated with parlor size, maximizing cow comfort, feeding strategies, reproduction and increasing labor efficiency. Lactating cows fit one of seven classifications:

1. Healthy lactating heifers
2. Healthy lactating cows
3. Fresh cows and heifers with non-sellable milk (0 to 2 days postpartum)
4. Fresh cows with sellable milk (3 to 16 days postpartum)

continued on page 2

Employee Management Conference August 2-3

The Employee Management for Production Agriculture conference will take place August 2-3 at the Embassy Suites, Airport, in Kansas City. This has become one of the leading conferences of this kind in the nation. If you are concerned about labor management, don't miss this opportunity to learn from

speakers such as Bernie Erven, Ohio State; Bob Milligan, Cornell; Sarah Fogleman, K-State; Ron Hanson, University of Nebraska; and other leading experts in this field.

For more information, visit www.oznet.ksu.edu/employee or call 620-431-1530.

Continued from page 1

5. Fresh heifers with sellable milk (3 to 16 days postpartum)
6. Sick cows with non-sellable milk
7. High risk cows with sellable milk

The cows in classifications 3 to 7 are typically housed in the special needs area along with close-up cows and heifers.

Table 2 provides recommended groups, group sizes and typical housing requirements for cows, heifers and calves. It is important to realize these group sizes have been increased to account for fluctuations in calvings and cow and heifer numbers. If pens are only sized for static or average numbers, there will be a considerable amount of time where the special needs facilities are over stocked.

Selection of Cow Housing

In a freestall dairy, cows and heifers in the special needs facilities are housed in either freestalls or loose housing. There are advantages and disadvantages to the two different housing systems. Loose housing maximizes cow comfort but requires additional space, bedding material, and labor to maintain a sanitary environment. This is particularly true when organic bedding is used. Freestalls reduce the labor cost of maintaining the resting area. Stalls may intimidate certain groups of cows and, therefore, should not be used. Some of the housing options that can be used for different groups of cows are listed in Table 2.

Table 2. Housing requirements for special needs animals

Group	Average Time in Facility	% of Lactating Herd	Housing Systems
Close-up cows	21 days	6%	Freestalls or loose housing
Close-up heifers	21 days	3%	Freestalls or loose housing
Maternity cows	3 days	.33%	Loose housing
Maternity heifers	3 days	.33%	Loose housing
Maternity overflow	3 days	.33%	Loose housing
Fresh cows & heifers non-sellable milk	2 days	1%	Freestalls or loose housing
Fresh cows	14 days	3.5%	Freestalls
Fresh heifers	14 days	1.5%	Freestalls
Mastitis & sick cows non-sellable milk	N/A	2%	Freestalls or loose housing
High risk sellable milk	N/A	2-6%	Freestalls or loose housing
Cull and dry cows	N/A	1.5%	Loose housing
Calf housing	24 hours		Hutches or small pens

Dairy Layout

One of the issues with special needs facilities is where these facilities will be located on the dairy. They will either be placed near the milking parlor or at the back of the dairy. Locating facilities near the milking parlor reduces walking distance to and from the milking parlor. It also allows employees who work near the parlor to observe close-up cows. The advantage of putting these facilities at the back of the dairy is to allow far off dry cows, beef cows and cows that have been dried off to move easily to and from the special needs facilities. Locating these facilities away from the main parlor may create the need for a hospital parlor. If the dairy has two main parlors in a head-to-head configuration, special needs facilities can be split into two barns directly behind the parlors.

Risk Management and Biosecurity

The special needs area helps a dairy manage risk by controlling disease. Manageable risks include both animal and human disease, financial loss, marketability of milk and animals, and potential liability. Animals housed in these facilities are particularly vulnerable to contracting new infections. This is especially true for fresh cows, which have suppressed immunity around the time of calving. The newborn calf is at risk to contract Johne's disease, *Mycobacterium paratuberculosis*. Cleanliness and daily maintenance of the calving area and the special needs facilities are critical. This area also reduces the risk of antibiotic contamination of milk because treated animals can be effectively isolated from the lactating herd.

It is important to identify potential risks and develop priorities and appropriate control measures. The manager needs to gather information and advice from the herd veterinarian and others to properly assess disease exposure and develop a plan. Pathogens generally regarded as high risk for dairy herds include *Staphylococcus aureus*, *Mycobacterium paratuberculosis* (Johne's disease), bovine viral diarrhea (BVD) and *Salmonella* species. Diseases such as mycoplasma, foot warts, *Chlamydia*, and other pathogens for which there is not an effective vaccine could also jeopardize individual cows and herd health. The highest risk for introduction of new disease into the herd comes from purchased cattle. So an effective program of pre-screening and isolating new arrivals is a key element of an effective biosecurity program. A place for accepting, processing and quarantining new arrivals should be located at least one-half mile from the closest animal facility. An additional risk exists with movement of animals in multiple site operations. Consideration should also be given to cattle movement, people movement, vehicles and equipment, feedstuffs, birds, rodents and wild ruminants, water and manure management.

An effective biosecurity program should be written and clearly communicated to employees, consultants and visitors. Dairies should display signs to remind people of the dairy's policies. The biosecurity plan should include a drawing showing the traffic flow plan for all activities on the dairy. Access to the special needs facilities should be limited to personnel who are necessary to carry out the daily activities. This minimizes the transfer in or out of organic material or contaminated equipment that could spread infectious disease. Veterinarians, hoof trimmers, service persons, sales people and other visitors need easy access and a defined area where they provide services to minimize unnecessary traffic. The capability to disinfect equipment should be provided near working areas. Professional, delivery and service activities and sales personnel should be aware of policy on disease containment. Equipment and vehicles should be clean and/or disinfected. Clothing should also be clean, and footwear of the type that can easily be disinfected. In some cases, on-site disposable coveralls and shoe covers may be provided.

Vehicles delivering new arrivals should bypass most of the dairy and have easy access the isolation/quarantine area. Vehicles arriving to remove dead or cull animals should load in a designated location away from the special needs area. This area could also be used by the herd veterinarian to perform post mortem examinations on dead animals.

Heart of America Dairy Herd Improvement Summary

	Quartiles				Your Herd
	1	2	3	4	
Ayrshire					
Rolling Herd Average	18,324	16,166.5	15,501.5	14,120	
Summit Milk Yield 1st	60.50	57.0	57.50	34.0	
Summit Milk Yield 2nd	78.0	73.5	30.50	63.67	
Summit Milk Yield 3rd	81.5	81.50	35.5	46.0	
Summit Milk Yield Avg.	75.0	70.0	63.0	64.0	
Income/Feed Cost	1320.5	958.0	836	752.5	
SCC Average	369.50	469.5	104	437.33	
Days to 1st Service	93.5	108.0	33.0	63.67	
Days Open	141.5	183.5	177.5	150.0	
Projected Calving Interval	13.85	15.25	15.05	14.17	
Brown Swiss					
Rolling Herd Average	20,112.7	17,212.4	15,500.	14,060.7	
Summit Milk Yield 1st	62.0	58.43	50.86	50.29	
Summit Milk Yield 2nd	76.57	67.29	66.71	63.43	
Summit Milk Yield 3rd	91.57	74.86	60.14	66.71	
Summit Milk Yield Avg.	75.86	66.71	61.71	60.86	
Income/Feed Cost	1609.0	1,445.7	1,064.0	849.33	
SCC Average	504.14	359.71	435.0	392.43	
Days to 1st Service	72.0	95.71	66.43	65.57	
Days Open	165.00	165.86	182.0	222.0	
Projected Calving Interval	14.64	14.67	15.19	16.50	
Guernsey					
Rolling Herd Average	16,331.	13,951	13,162	12,067.5	
Summit Milk Yield 1st	29.50	49.50	46.0	43.0	
Summit Milk Yield 2nd	68.0	57.50	59.5	67.0	
Summit Milk Yield 3rd	35.0	61.50	62.0	64.0	
Summit Milk Yield Avg.	67.50	56.50	55.50	60.0	
Income/Feed Cost	1375.0	1178.5	833.50	1149.0	
SCC Average	281.50	303.5	117.50	322.50	
Days to 1st Service	54.0	95.0	102.50	52.50	
Days Open	148.50	170.0	156.50	298.50	
Projected Calving Interval	14.10	14.80	14.35	19.05	
Holstein					
Rolling Herd Average	23,160.1	20,142.8	18,011.7	14,592.2	
Summit Milk Yield 1st	73.53	66.22	60.93	53.07	
Summit Milk Yield 2nd	94.14	84.06	75.33	63.4	
Summit Milk Yield 3rd	99.01	90.18	81.41	68.62	
Summit Milk Yield Avg.	87.70	79.88	72.78	62.81	
Income/Feed Cost	1659.71	1412.86	1191.27	890.95	
SCC Average	379.33	410.09	440.96	605.82	
Days to 1st Service	94.60	94.65	96.81	96.96	
Days Open	166.99	171.26	179.97	208.63	
Projected Calving Interval	14.70	14.85	15.13	16.07	
Jersey					
Rolling Herd Average	16,581.3	14,585.8	13,582.3	11,473.4	
Summit Milk Yield 1st	53.89	46.56	45.11	42.11	
Summit Milk Yield 2nd	64.0	62.78	50.11	54.56	
Summit Milk Yield 3rd	70.89	65.0	51.78	53.89	
Summit Milk Yield Avg.	63.11	58.33	53.44	50.56	
Income/Feed Cost	1,590.88	1,360.5	1,056.7	872.67	
SCC Average	278.67	319.67	475.78	530.78	
Days to 1st Service	88.33	79.33	53.33	88.22	
Days Open	136.89	143.11	189.33	154.56	
Projected Calving Interval	13.70	13.92	15.44	14.28	
Milking Shorthorn					
Rolling Herd Average	16,136	14,844	13,940	11,430.5	
Summit Milk Yield 1st	50.0	54.0	56.5	47.5	
Summit Milk Yield 2nd	66.0	68.5	67.0	28.0	
Summit Milk Yield 3rd	74.0	76.5	73.50	62.0	
Summit Milk Yield Avg.	69.0	64.50	67.50	56.0	
Income/Feed Cost	—	1122.0	987.0	965.0	
SCC Average	234	286.0	187.5	255.5	
Days to 1st Service	0	68.50	52.50	44.5	
Days Open	256	135	234.5	145.50	
Projected Calving Interval	17.6	13.65	16.90	13.95	

Hay Prices*—Kansas

	Location	Quality	Price (\$/ton)
Alfalfa	Southwestern Kansas	Supreme	100-110
Alfalfa	Southwestern Kansas	Premium	100-105
Alfalfa	Southwestern Kansas	Good	—
Alfalfa	South Central Kansas	Supreme	100-105
Alfalfa	South Central Kansas	Premium	80-100
Alfalfa	South Central Kansas	Good	—
Alfalfa	Southeastern Kansas	Supreme	—
Alfalfa	Southeastern Kansas	Premium	80-100
Alfalfa	Southeastern Kansas	Good	85
Alfalfa	Northwestern Kansas	Supreme	100-105
Alfalfa	Northwestern Kansas	Premium	90-95
Alfalfa	Northwestern Kansas	Good	—
Alfalfa	North Central/East Kansas	Supreme	110
Alfalfa	North Central/East Kansas	Premium	90-100
Alfalfa	North Central/East Kansas	Good	—

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, June 1, 2001.

Hay Prices—Oklahoma

	Location	Quality	Price (\$/ton)
Alfalfa	Central/Western, OK	Premium	85-100
Alfalfa	Central/Western, OK	Good	70-85
Alfalfa	Panhandle, OK	Premium	90-105
Alfalfa	Panhandle, OK	Good	90-105

Source: Oklahoma Department of Agriculture, May 31, 2001

Feed Stuffs Prices

	Location	Price (\$/ton)
Blood Meal	Central US	—
Canola Meal		161-167
Corn Gluten Feed	Kansas City	50-54
Corn Gluten Meal	Kansas City	230-240
Corn Hominy	Kansas City	53-59
Cotton Seed Meal	Kansas City	150-155
Whole Cotton Seed	Memphis	110
Distillers Grains	Central Illinois	80-87
Pork—Meat and Bone Meal	Texas Panhandle	138
SBM 48%	Kansas City	167-172
Sunflower Meal		75
Wheat Middlings	Kansas City	41-43

Source: USDA Feedstuff Market Review, May 30, 2001

Garden City dairy seminar set for July 12

The Garden City Dairy Seminar will take place July 12 at the Plaza Inn in Garden City, Kan.

Mark Wustenberg, DVM, technical service veterinarian, Monsanto Dairy Business will address the topic, *Managing Udder Health in Large Dairies*, beginning at 12:30 p.m. Lunch will be served at 11:30 a.m., courtesy of Monsanto. RSVP by calling Linda at 785-532-1281 by July 6.

Following the meeting, the Western Kansas Dairyman's Golf Tournament will take place at the Buffalo Dunes Golf Course with tee-time of 3 p.m. RSVP to Kyle Averhoff at 316-271-1192 by July 6.

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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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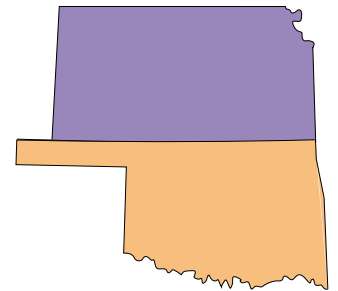
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