

Fluorescent Lighting as a Calf Enteritis Control

By

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When evaluated on an economic scale, calf enteritis (diarrhea) ranks as one of the major economic problems facing producers of beef cattle. Calf diarrhea takes its toll in several ways: cost of treatment, death loss and irreparable damage to the intestinal lining that results in reduced performance (“poor doers”). Research across this country has put great emphasis on studying calf enteritis with some degree of success. In some cases, however, success has been mixed because organisms have a tremendous ability to develop resistance to drugs used for treatment. Vaccines that have been introduced in recent years have been highly promoted and studied at this Station and all of the combined herds in the North Dakota State University system, with little or no success. The best results have been obtained when calving areas are rotated by years and no cattle are allowed in the special calving areas during other times of the year. Most recently, fluorescent lighting has been suggested as being yet another method to control enteritis in young calves.

An evaluation of fluorescent lighting has been underway during the past two calving seasons using Hereford and Angus X Hereford cows and their newborn calves. Cows were housed and wintered in large gestation pastures with shelter belt and slotted board fence wind protection. Each morning during the early part of the calving season cows and their newly born calves were moved in to feedlot pens equipped with wind protection and portable calf shelters. One half of the lots had shelters equipped with six fluorescent light fixtures that were kept lighted 24 hours a day. Unconfined cows were also monitored that nursed their newborn calves on clean ground. A detailed record of scours treatment and frequency of treatment was kept. Initially a scouring calf was treated with one Sulkamycin-S[®] bolus per 50 lbs. of body weight. When the enteritis condition was more advanced, but dehydration was not apparent, a 5 cc intramuscular injection of Tylan 200[®] was also administered.

A summary of scours treatments, frequency and effectiveness of fluorescent lighting is shown in Table 1.

A summary of weather conditions during the 1983 and 1984 calving season is shown in Table 2.

Summary:

Fluorescent lighting reduced the incidence of scours by 11.1% among confined calves.

Calves and their mothers that were not confined but were housed on clean ground had significantly less scours cases and of the few cases encountered only a very small number required a second treatment. Cost for treatment in this group amounted to \$5.12. Costs for treatment in the confined control groups and confined group with fluorescent lights were \$24.81 and \$18.87 respectively.

These data concur with other researchers and stockmen that have known for years that housing cows and calves in confined muddy lots results in a much higher incidence of calf scours.

Table 1. Incidence, Treatments, and Treatment Costs among Calves Compared in Fluorescent Light Study

	Confined Control	Unconfined Control	Confined with Fluorescent Lights
1983:			
No. Head	21	93	21
No. Scouring	14	12	6
No. Treatments Required	10	11	5
1	3	1	1
2	1	1	1
3			
% Scouring	66.6%	12.9%	28.5%
1984:			
No. Head	24	85	24
No. Scouring	11	4	14
No. Treatments Required	6	4	9
1	5	0	3
2	0	0	1
3			
% Scouring	45.8%	4.7%	58.3%
Combined % Scouring	55.5%	8.9%	44.4%
Combined Treatment, Cost -			
1983	\$13.57	\$3.84	\$ 4.25
1984	\$11.24	\$1.28	\$14.62
Total, \$	\$24.81	\$5.12	\$18.87

**Table 2. Weather Conditions during March, April and May at
Ranch Headquarters in 1983 and 1984**

1983	March	April	May
Average Maximum Temperature, °F	35.7	50.4	62.2
Range	20-59	28-69	86-32
Average Minimum Temperature, °F	20.7	25.4	35.3
Range	-2-33	13-46	22-49
Precipitation, Inches	1.12	.21	1.53
Snow	17	2.5	5.75
Rain	0	0	.72
Sky conditions <u>1/</u> Not enough days recorded			
1984			
Average Maximum Temperature, °F	35.4	54.4	66.0
Range	11-63	69-24	92-47
Average Minimum Temperature, °F	15.1	28.3	36.2
Range	-16-35	12-41	19-55
Precipitation, Inches	.38	2.87	T
Snow	6.45	14.0	0
Rain	.01	.65	T
Sky conditions <u>1/</u> Days Cloudy	17	21	16
Days Clear	9	6	11

1/ Sky conditions not available on some days.