Diagnosis of Respiratory Disease in Feedlot Cattle Occurring After Being in Feedlot for 45 Days

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Introduction

During 1985 eleven feedlots located in Kansas and Nebraska under direct health care programs instituted by the author, received a total of 372,175 cattle. There was a 7% morbidity rate in these cattle and a .65% mortality. Respiratory diseases accounted for 65% of the morbidity and the mortality during this period.

Of the 26,674 cattle treated in these feedlots, 33% of them had been on feed for more than 45 days and of the 2,420 animals that died, 46% of these had been in the feedlot for more than 45 days.

Materials and Methods

A record system has been developed that classified feedlot diseases into six system categories: respiratory, digestive, skeletal, urogenital, central nervous, and miscellaneous. Code numbers have been assigned to specific diseases that have proved to be the major diseases in feedlot cattle in the central plains area of the U.S., and simplify the record keeping when dealing with large number of cattle.

TABLE 1: Feedlot Disease List and Codes

System	Number	Diagnosis
Respiratory	1	Respiratory (pneumonia)
	2	Respiratory chronic
	3	Diphtheria
	4	Allergic Pneumonia
	5	Honker
Digestive	6	Bloat
	7	Noneater
	8	Scours
	9	Overeating
	10	Coccidiosis
Skeletal	11	Foot Rot
	12	Lameness
	13	Injury
	14	Downer
Urogenital	15	OB (calving)
	16	Prolapse
	17	Uterine infection
	18	Waterbelly
CNS	19	Brainer
Misc.	20	Buller injury
	21	Heat Stroke
	22	Unknown
	23	Misc

The cattle are observed in the pens on a daily basis by people trained to detect early signs of sickness. Any animal that shows signs of sickness is removed from the pen and taken to a hospital area for treatment and recovery. A diagnosis is made from the symptoms observed and the code number is then recorded. Training sessions for all cattle crew members are held regularly in an attempt to upgrade their performance and thus reduce losses due to disease. Necropsies are performed on most of the animals that die to more accurately categorize the mortalities and the same code numbers are used for recording mortalities.

Classification of Respiratory Diseases

Bronchopneumonia (pneumonia) is the most common respiratory disease of feedlot cattle. The disease is also called shipping fever and the etiology appears to be an interaction of viruses, bacteria and environmental stressing agents. Early clinical signs include slight depression, nasal discharge, gaunt and dehydrated from anorexia and an elevated body temperature. As the disease progresses, the clinical signs become more pronounced and may include a rough hair coat, mucopurulent nasal discharge and the muzzle becoming encrusted with dehydrated exudate. Infected calves continue to become more depressed, weak, exhibit rapid respirations and sometimes oral breathing. At necropsy, the respiratory system is severely affected. The trachea commonly contains mucopurulent exudate and the mucus membranes are hemorrhagic. The anteroventral portions of both lungs are distended and firm and fibrinous pleuritis is commonly present.

Allergic pneumonia (Atypical Interstitial Pneumonia) is an acute noncontagious respiratory syndrome of cattle

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characterized by sudden onset, dyspnea, tachypnea, respiratory grunt and being very refractory to treatment. At necropsy, both lungs are usually involved and appear to be uncollapsed, enlarged and firm. It is caused by unknown agents, but intoxication with 3-methylendole and hypersensitivity to fungi are suspected factors. In the feedlot this is considered one of the major respiratory diseases in that it causes losses in cattle that have been on feed for some time and are nearly ready for slaughter.

Diphtheria is an acute or chronic infection characterized by bilateral necrosis of the mucous membranes of the larynx and caused at least in part by *Fusiformis necrophorous,* a soil organism also associated with foot rot in cattle. The primary symptoms include difficult, noisy breathing especially during inspiration.

Laryngeal edema or honkers have been recognized for several years in feedlot cattle as a clinical syndrome of fat cattle characterized by sudden onset and loud harsh respiratory sounds at inspiration and expiration. Extensive edema develops in the laryngeal and tracheal mucosa-submucosa. It occurs sporadically and is more common in summer months and in heavy cattle in the latter part of the feeding period.

Results

Respiratory disease accounted for 65% of the morbidity and 65% of the mortality during 1985. Disease of the skeletal system were second in morbidity with 19%, but fourth in mortality with 2%, followed by digestive diseases which accounted for 11% of the death losses.

The number of animals that died after they had been in the feedlot for over 45 days was quite significant, with over 46% of the deaths occurring during this last two-thirds of the feeding period.

Respiratory diseases occurred throughout the feeding period as evidenced by the data which shows that 27% of the morbidity occurred in cattle with more than 45 days in the feedlot but over 44% of the mortalities occurred during the same period.

Brochopneumonia (pneumonia) showed the highest incidence in both morbidity and mortality with 68% and 34% respectively in cattle under 45 days. In cattle over 45 days, it was highest in morbidity 23%, but second to chronic pneumonia in mortality with 16% vs 19%.

The incidence of diphtheria was twice as high in longer fed cattle but the mortality was the same for both groups. Both allergic pneumonia and Honker's disease followed similar patterns with considerable higher mortality in cattle that had been on feed for over 45 days.

Nearly three-fourths of the cattle removed from their pens due to respiratory diseases were from cattle on feed less than 45 days but nearly half of the mortality was in the longer fed cattle.

TABLE 2: Morbidity/Mortality of Respiratory Diseases as Percent of Total Respiratories for 1985.

	<45 days		>45 days	
	Morb	Mortal	Morb	Mortal
Respiratory (pneumonia)	68.1	34.2	23.2	16.0
Resp Chronic	3.3	17.2	1.7	19.0
Diphtheria	0.5	0.1	1.0	0.1
Allergic Pn	0.2	2.4	0.3	6.9
Honker	0.4	0.3	1.3	2.8
TOTALS	72.5	54.2	27.5	44.8

Total number received 372,175
Total hospital pulls 26,674 (7% of received)
Total respiratory pulls 17,458 (65% of hospital pulls)

Discussion

Respiratory diseases are the major problems both in morbidity and mortality in feedlot cattle. The shipping fever syndrome is responsible for considerable economic losses to the cattle feeder in treatment cost, loss of production and death loss. While it is generally concluded that most losses occur during the first 21 days in the feedlot, this data shows that 51% of the death loss due to both acute and chronic pneumonia did occur in cattle that had been on feed for less than 45 days but also that 35% of the deaths from these two diseases was in cattle with over 45 days in the feedlot.

Diphtheria, allergic pneumonia, and Honkers are all diseases with a low morbidity but the three did contribute nearly 10% of the death loss in cattle that had been on feed for at least 45 days.

Conclusion

Respiratory diseases are the major diseases of feedlot cattle. Acute pneumonia or shipping fever is the main disease. One of the main objectives of any feedlot health program should be aimed at reducing losses, both from treatment costs and from mortality. A record system that includes classification and identification of the major diseases, and also the period that these diseases occur in the feedlot is important.

To decrease the losses due to shipping fever, special attention should be directed at procuring healthy cattle, reducing the stress from shipping as much as possible, and reducing the exposure of the cattle by limiting the co-mingling of cattle from different sources. Chronic respiratory disease is usually a result of a severe outbreak of pneumonia followed by a poor response to treatment and thus a chronic condition developing. Proper attention should be given to detecting symptoms of disease early, and a proper diagnosis needs to be made so that the most effective treatment regimen can be followed.

Recognizing that disease can and does occur throughout the feeding period is a major step in reducing losses due to feedlot diseases.