Health Management of Feedlot Cattle

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Introduction

Controlling the health of their cattle is becoming one of the most pressing problems faced by the feedlot industry. Combined with increasing competition for feeder cattle, rising costs and erratic markets, losses due to disease problems are frequently a major concern for the manager. Respiratory disease in feedlots has been estimated to cost $10 to $20 per head derived from shrink, poor feed utilization, inefficiency of gain, 1 to 2% death loss and treatment costs of sick animals (4). A recent survey of 24 feedlots in Alberta found that 12.9% of all cattle received were treated and 1.2% died during the period July 1, 1977 to June 30, 1978. It was estimated that respiratory diseases accounted for approximately 60% of the sickness and death loss. The estimated average animal health cost including veterinary fees, drugs and vaccines, handling costs, death losses and reduced gain, using 1977-78 values, was $12.85 per head received. Based on 1.25 million head fed, the Alberta feedlot industry alone is losing an estimated $16 million annually due to disease occurrence (1).

An organized and systematic approach is necessary for the effective control and management of disease in feedlot cattle. Typically feedlots receive cattle of various types, under many different conditions from a variety of sources. The design and operation of typical feedlots is frequently conducive to the mixing of cattle from several sources, exposure of new arrivals to resident populations, and the influence of many stressors often combine to result in major outbreaks of disease. Many diseases, such as respiratory diseases, are highly complex and difficult to control by vaccination or therapeutics alone. Veterinarians should develop methods to monitor disease occurrence and evaluate management procedures in feedlots as part of their normal routine.

Managing Feedlot Diseases

Many feedlot operators state that their goal is to get the maximum production from the cattle handled. In order to realize maximum production, a well-planned and well-run disease prevention program is necessary. A preventive health management system should be developed by the veterinarian in each feedlot which includes four key elements: accurate diagnosis of sick cattle and all cattle which die; written treatment protocol for various diseases; record of diseases and activities; and program for prevention of diseases.

An effective health program for feedlot cattle depends on the people working in the feedlot and teamwork and cooperation between them. The critical people in any feedlot can be broken down into eight areas. These eight areas may be combined into three or four people or they may be spread over 20 or 30 people depending upon the size and structure of the feedlot. The performance and health of feedlot cattle depend upon: the buyer, trucker, processing crew, pen checkers, feeders, treatment crew, veterinarian and manager. Each member in any one of these critical areas has an important role to play and depends heavily on someone else doing his job properly for their own success.

Feedlot health management systems should be based on the assumption that the knowledge and technology currently exists to prevent most of the diseases in feedlots. Therefore, when an animal dies, someone on the team in one of the critical areas has likely made a mistake. The veterinarian, as the animal health specialist, should attempt to recognize and quantify these errors and include them in his reports to management. The manager is then able to recognize where the weaknesses are on his team and where improvements are needed. The veterinarian must be careful that these are not used to threaten people, but are a positive means of demonstrating where improvements are required in the operation.

Experience and personal observation has shown that this type of approach will result in the control of feedlot disease problems much more effectively than a hit-or-miss approach. In addition, a good management plan will anticipate or detect problems beginning to develop when they are easier to deal with rather than when they are full-blown outbreaks.

Diagnosis

There are usually one or more diseases occurring simultaneously in cattle populations in feedlots. A doagnosis is necessary because it provides the starting point for controlling feedlot diseases. A diagnosis can be made from the clinical signs or by post-mortem examination.

Most cattlemen are able to use the signs shown by sick animals to make a working diagnosis. This type of diagnosis will usually identify the body system involved and is usually adequate to begin the treatment program. However, a veterinarian should examine sick cattle from time to time to ensure that correct assumptions are being made.

Post-mortem examinations are the most important aspect

of making a diagnosis in feedlots. The manager should arrange for a post-mortem examination on all dead cattle from the feedlot. In addition to establishing the diagnosis, the veterinarian should decide if the death was preventable, given the previous assumption. If the death was preventable, the reasons for death should be classified into one of the eight critical areas. Using the following questions will illustrate this point: Was the animal sick on arrival? Is the disease preventable by vaccination? Was it treated soon enough? Were specified treatments used? Were digestive problems involved? By adopting this approach, the veterinarian is going beyond only providing a diagnosis by detecting any errors or deficiencies in the operation.

There are several very important advantages which result from a program of regular post-mortem examinations: identifies diseases which are occurring in the feedlot; confirms or improves the clinical diagnosis; evaluates the performance of various people in the critical areas; evaluates the efficacy of the treatment protocol; and assesses the effectiveness of and determines adjustments necessary to the preventive program.

Treatment Protocol

Although there are many different methods of handling sick cattle, the most effective are based on hospital pens and written treatment protocols. The veterinarian should provide a written treatment regimen specifically designed for each feedlot. The treatment regimen should specify: the drugs and medications to be used for specific disease syndromes likely to occur in the feedlot; the dosages of drugs to be used; treatment intervals; routes of administration; necessary withdrawal times; and alternatives to be used if medications do not appear to be helping the animal. A detailed example of a treatment regimen has been published (3).

All sick cattle should be identified at the beginning of treatment, and a daily record maintained. This record, completed by the treatment crew, should record: temperature; degree of illness; weight; treatment given; disease syndrome; and the outcome (home, dead or culled). The information on the treatment cards becomes very valuable in the following ways: deciding if the animal should be culled; in deciding if alternate treatments should be used; explaining the reasons for death of animal; and in evaluating the effectiveness of the treatments outlined.

Health Records

Health and production records are absolutely necessary to monitor actual results and compare them with planned results. In the past, most feedlots have maintained only minimal health records, but the development of microcomputers and appropriate soft-ware (2) has made it possible for most feedlots to keep records adequate for effective health-related management decisions. The main benefits to be gained from keeping health records are identification of problems or potential problems and assistance in choosing actions to correct these problems.

The records which should be developed and regularly scrutinized by the veterinarian are morbidity and treatment analysis, mortality analysis and performance summaries. An analysis of the treatment cards should be done at regular intervals for all sick cattle and should list: diseases treated; treatments used, outcome of treatments; average days treated; and response rates. From this information, changes can be made in the treatment regimen if the response rates are not adequate. When this information is coupled with culture and antibiotic sensitivity testing, a very powerful means of evaluating the treatment program is obtained.

A mortality analysis summary should be provided at regular intervals by the veterinarian. It should list: the total number of deaths; percentage of preventable deaths; the critical areas which contributed to the deaths; and the overall mortality rate. This summary will allow the manager to monitor the deaths in the feedlot and quickly realize where improvements are needed.

In addition to the usual items such as average daily gain, feed consumption, feed conversion ratios and cost of gain, close-out summaries should also record the mortality rate, morbidity rate, culling rate, and preventive and treatment costs per head. If these items are recorded, a valuable data bank can be built up which can be used to correlate disease occurrence with type of cattle, time of year, origin, market sources, etc., and can be used for more accurate budgeting when future purchases are considered.

Preventive Program

A specific preventive program should be worked out by the veterinarian for each feedlot. The preventive program selected will depend upon: area, type and origin of cattle, and management of the feedlot. The components which should be considered in preventive programs are:

1. Health status of incoming cattle, including source, preconditioning, length of haul and season.
2. Processing items after arrival, such as vaccinations, implants, parasiticides, identification, and timing after arrival at the feedlot.
3. Husbandry level employed for new arrivals. This should include nutrition and feeding program, handling and moving, group sizes, pen design, shelter, mixing and sorting, and environmental conditions.

The preventive program should be regularly evaluated using the information gained from the mortality and morbidity analyses and the economic factors contained in the performance summaries.

Conclusion

Controlling feedlot diseases is not an easy task. The veterinarians and feedlot managers face a very complex problem with continually changing conditions. A management plan should be developed by the veterinarian in consultation with the manager, nutritionist and other advisors. A management system based on accurate

diagnosis, written treatment regimen and preventive plans, with adequate health records will greatly assist in reducing disease losses in feedlots.

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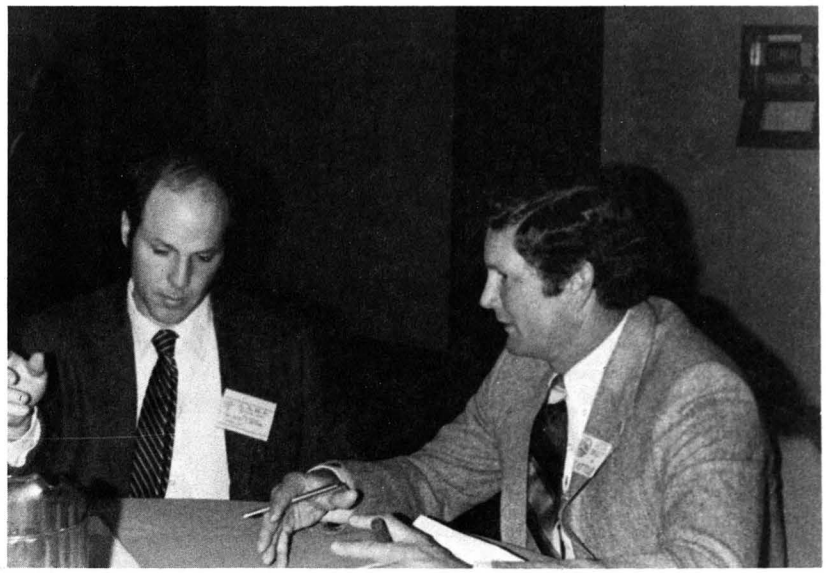

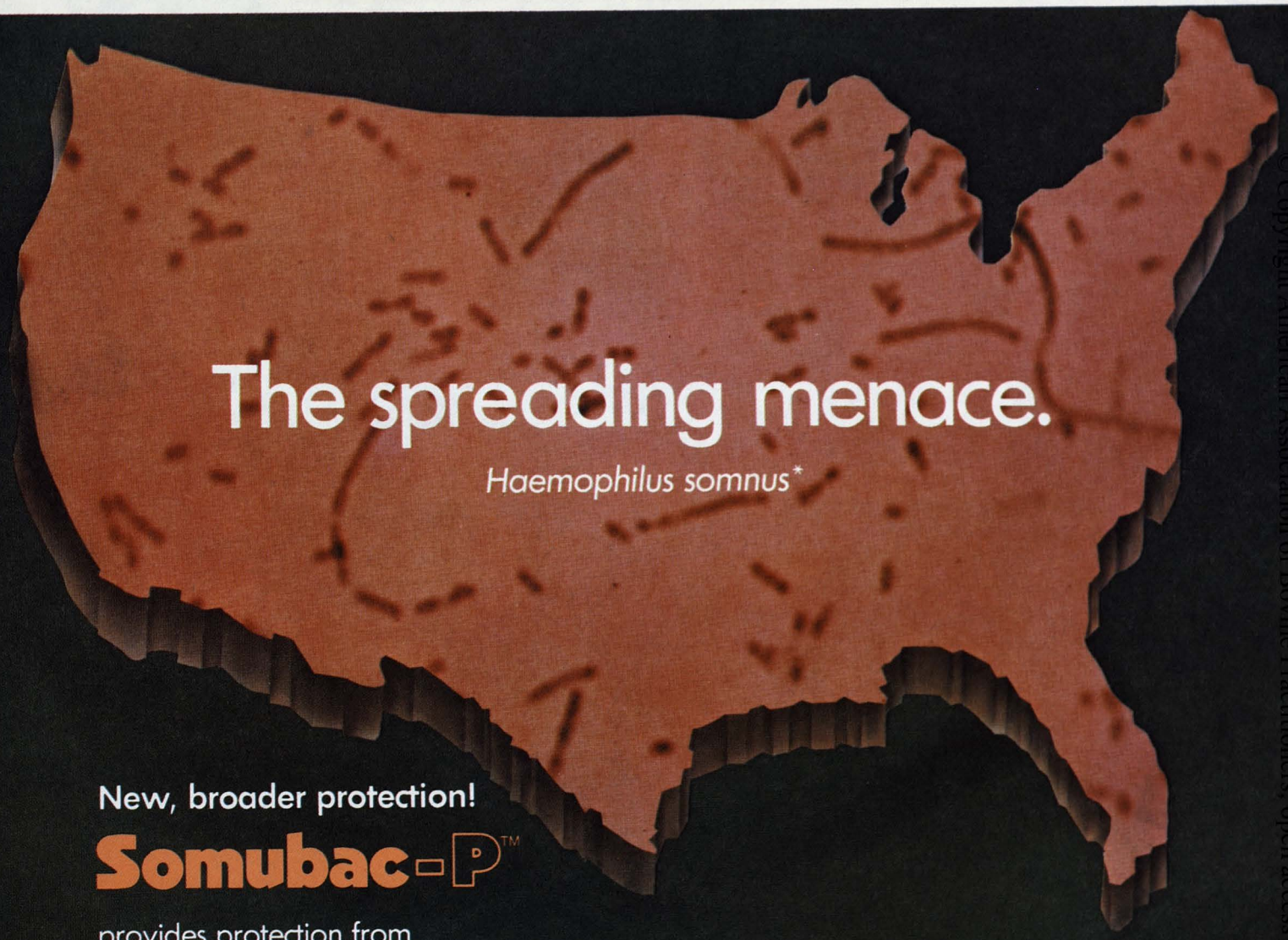

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