



Vet Call

► by **Bob Larson**, Kansas State University

Dead cattle have value, too

No matter how well you take care of your cattle, some calves, yearling animals and even adults will die. Although a financial loss, these animals can be very valuable to your farm or ranch to help evaluate the strengths and weaknesses of your health program and to provide information to your veterinarian to minimize future disease risk.

Value in necropsy

The term used to describe the thorough examination of a dead animal is *necropsy*. A veterinarian often uses a necropsy to determine the cause of death in the animal that died and, more importantly, to determine if the rest of the herd is at risk and if management changes need to be made to protect the herd.

It is important that the veterinarian start the necropsy with an open mind and avoid having a preconceived diagnosis. There are also important tools that are needed for a proper necropsy, including sharp knives and other cutting instruments, bags to store samples, and appropriate cleansers and disinfectants to make sure that disease-causing germs cannot be spread to other animals.

A veterinarian starts the necropsy by getting a good history of the group or herd, including the age, sex and weight of the affected animals; how long the animal had been sick before death; where the animal died; and its position at death. In addition, the veterinarian will determine what the herd or group has been eating and where it has been housed, and if there is excessive mud, dust or crowding.

It is important to observe and possibly collect blood or other samples from healthy animals in the group, or from sick animals that show the same symptoms as the animals that died. Only after getting a good history and evaluating the environment will the veterinarian start to examine the dead animal by getting a general assessment of whether the animal appeared unthrifty prior to death and if there is evidence of swelling, fractures,

wounds or discharges from any body opening.

Internal exam

The veterinarian will then use a large knife to open the animal and begin a methodical examination of the body's organs, starting in the throat and chest by looking closely at the trachea and lungs and then the heart.

Because pneumonia is a common threat to cattle, the location and type of any lung damage is noted. Joints such as the shoulder, hip, stifle and hock are examined for evidence of abnormalities.

The abdomen is then opened and the rumen, intestine and other organs are examined carefully. If the animal had symptoms indicating nervous system involvement, the brain and possibly the spinal cord would be removed and examined.

Many times necropsies will include taking tissue

and fluid samples and sending them to a diagnostic laboratory to be examined under a microscope or to be cultured to identify viruses or bacteria that may have contributed to the disease and death. Only samples taken from freshly dead animals and animals that died early in the disease process (preferably before being treated) are good candidates for sample submission for viral or bacterial culture. This is because in cases of pneumonia and other diseases, important viral populations can be cleared before death. Bacterial populations can also change so that later invaders can overgrow the initial disease-causing bacteria, which can give misleading information about the

type of virus or bacteria that were involved with the disease in its early stages.

Necropsies are not always successful at identifying the exact cause of death, but they are almost always helpful in identifying which possible diseases were not involved and for identifying which organs are healthy and which are diseased. Even if a diagnosis is not made, an important purpose of necropsies is to make sure that rare but dangerous diseases are not present on the farm or that common and easily diagnosed diseases are not a factor in the current problem.

To capture the most value for necropsies on your animals, you and your veterinarian should keep records so that trends or changes can be identified. The value of a single necropsy is not merely whether or not a diagnosis for that animal is made, but the value is based on the accumulation of evidence used to determine the level of health of the herd and if that level of health is changing.

Necropsies are used extensively in evaluating the health status of all types of livestock herds and to aid in the diagnosis and control of disease. From a health standpoint, the most valuable animal on your farm or ranch may be the one that just died.

Cleanup

Finally, once the necropsy is completed, all the equipment used must be cleaned and disinfected. Coveralls, boots and gloves worn by the veterinarian must be cleaned and disinfected or thrown away.

In addition, the carcass of an animal that is necropsied must be disposed of properly. Each state has published rules about the disposal of dead livestock. Rendering, burial, composting or burning are the most common means of disposal. If you are responsible for disposing of the body, be sure that you are in compliance with the law and that the dead animal is not a continued source of infection to other animals.

EMAIL: rlarson@vet.k-state.edu

Editor's Note: Bob Larson is professor of production medicine at Kansas State University.