

RESEARCHERS ARE DEVELOPING INNOVATIVE WAYS TO TEST FOR CALF ILLNESS

Customizing calf care

By Sarah Van Engelen

Calf handling procedures such as weaning and dehorning – combined with transportation to feedlots – all cause high levels of stress. They leave calves more susceptible to illness, especially respiratory diseases. Consequently, producers will use antibiotics and other medications to prevent illness.

However, it's traditionally been difficult to identify which animals are truly in need of medical treatment. Often, fewer than half of the calves are actually sick and need to be treated, but a producer does not want to miss treating an animal that's in need of treatment.

Dr. Al Schaefer, a stress physiologist at Agriculture and Agri-Food Canada's Lacombe Research Centre in Alberta, has been studying ways to better identify ill calves and provide an opportunity to more closely identify and target treatments to animals in need. For early detection, Schaefer has developed a camera-monitoring device that measures the temperature of an animal, using infra-red technology.

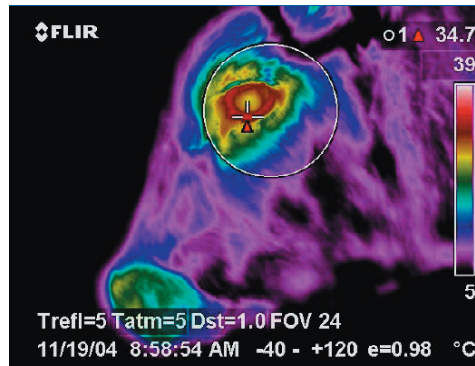
"It's apparent that transport and handling procedures greatly affect animals," says Schaefer. "These factors go on to influence food safety and the quality of meat that the animals produce."

Producers can feel compelled to provide antibiotics to calves because disease detection is difficult and often too late to allow for effective treatment.

Once a calf is infected by a virus or bacterium, it will start to show thermal changes within the first few days. However, many of the clinical changes and symptoms usually noticed by producers will often not display themselves until several days later, says Schaefer. He believes this progression is similar to humans getting a cold - they can have a hot forehead before they have the sniffles.

But waiting for a calf to get the sniffles often means it's more difficult, or even too late, to treat disease. Using calf-radiated temperature to monitor health would give farmers enough time to identify sick animals and treat them accordingly.

By installing this camera device at water stations in feedlots, which calves typically visit several times a day, the machine can take a picture, store the infra-red information, and determine if the calf is within a healthy temperature profile. By monitoring the calf throughout the day, researchers can quickly determine if there is a problem, and the calf can either be treated or further monitored.



Infra-red read out



Dr. Al Schaefer



This study, which began nearly 10 years ago, is now being tested in functional feedlots to determine its effectiveness. If implemented, the economic benefits for producers would be significant – savings of about \$30 per animal in medication costs, and another \$200 in animals who would otherwise be severely affected by bovine respiratory disease (which leads to reduced performance and slower growth rates). This means lower costs and increased efficiency for farmers.

"So far, we've collected data on hundreds of animals," says Schaefer. "If it proves itself, which it should, then the next step would be to hand off the technology to the industry."

Also involved in this research are Drs. Nigel Cook and John Basarab, Alberta Agriculture and Rural Development, Lacombe Research Centre; Shannon Scott,

Agriculture and Agri-Food Canada's Brandon Research Centre; Erasmus Okine and Clover Bench, Department of Agricultural, Life and Environmental Sciences, University of Alberta.

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