CALVING EASE

May 2014

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Hot Weather and Calves

- **Hot weather for calves is experienced as a combination of temperature and humidity.**
- **Calves subject to even moderate heat stress change behaviors – decrease feed intake, increase water intake, increase time standing and increase both respiratory rate and panting.**
- **Calf health may be affected by heat stress: (1) vaccines work less well or not at all, (2) high heat stress calves may experience rapid dehydration, (3) immune system defenses against infection are weakened.**
- **Management strategies to lessen the negative effects of heat stress include: (1) increase air movement around calves, (2) feed water, if needed, more than once a day to be sure it is available 24/7, (3) minimize handling heat-stressed calves between 10:00 AM and 10:00 PM**

"It's not the heat, it's the humidity." We've all heard this one. The reality is that heat stress for calves is both – high temperatures and high humidity. In many areas of US when the temperature gets over 80°F the humidity is high enough to create at least moderate heat stress for calves.

Changes in calf behavior caused by heat stress

As long as clean water is available the first response to heat stress is to drink more water. With the change in temperature from 70° to 80°F it has been estimated water intake goes up 33 percent. In contrast, a 100 percent increase in water consumption is predicted with an increase in environmental temperature from 70° to 90°F.

High environmental temperatures encourage calves to stand rather than lie down. Also, their respiration rates are higher than during more moderate temperatures.

Heat-stressed calves are less interested in eating than calves in moderate-temperature environments. This disinterest is especially evident with the consumption of calf starter grains.

Health consequences of heat stress

Most important to remember, calves with diarrhea may suffer from severe dehydration very rapidly in hot weather. We need to be extra vigilant in diagnosing these cases early. And, re-hydrating calves has to be a high-priority job.

My experience suggests that these calves are more susceptible to respiratory illness, especially after a sours event. That agrees with an assessment by Dr. Woolums that heat-stressed calves are slower to respond to an infection and the response of the white blood cells may be weaker as well. An associated consequence of heat-stress is that vaccines are less likely to create a strong immunity to future infections.

Management tips for heat-stressed calves

Move as much air as you can. With hutches be sure vents are open and the rear of the hutch is elevated to allow air entry at the base. With barns use as much natural ventilation as practical and run fans. Leave the fans on all night – that is when the elevated body temperatures of the day will fall back into the normal range.

Keep water clean. Many farms keep an extra supply of water pails. A number equal to twenty percent of the calves on milk makes sense. Then, each day of the week, one-fifth of the pails can be replaced with clean ones. And, the dirty ones can be scrubbed for the next day. In five days all the pails have been cleaned. Summer-time algae and mold problems are controlled.

Some farms use large pails (for example, 5-gallons) clipped to hutches or pens for the calves that are being weaned or are weaned. These pails allow once-a-day water feeding for high-water consumption calves.

Plan to handle calves during their low heat-stress times. The ideal time is very early in the morning. Procedures such as vaccinating or dehorning calves are always somewhat stressful. Doing these procedures any time after about 10 AM is not recommended on hot humid days with earlier being better. Remember that a peak body temperature on these days occurs when we perceive the day as cooling off – 4 to 7 PM.

The use of intranasal vaccines should be timed so that high intranasal temperatures do no inactivate the product; that is, greater than 102°F. During summer it is a best management practice to choose the coolest part of the day to give these products. I usually postponed intra-muscular vaccine administration during exceptionally hot and humid weeks in order to make my immunization program more cost effective.

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