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*Taking service to another level!*

## Cold Weather & Dairy Cows!

Environmental conditions have an effect on the health and productivity of livestock. A few months ago we were concerned about heat stress. Now, we turn our attention to possible stress from cold and dampness. Cows have a thermoneutral zone (comfort level) between -2 - 20°C. Temperatures above or below this level may affect dairy animals, depending on [other] factors such as humidity, housing, ventilation, etc. While a decline in production may occur as temperatures fall, it is usually at a much slower rate than with heat stress. However, any decline in milk production becomes a loss when it can be prevented. Here are some considerations for care and feeding of dairy animals this winter.

- ⇒ Don't cut back on the amount of feed given to cows in cold weather. Feed intake is critical in helping to maintain a positive energy balance. Rations may need to be adjusted in order to accommodate particular nutrient and energy requirements during cold weather. An increase in feed intake is desirable. Cows need plenty of feed to help combat cold weather and maintain body temperature and milk production.
- ⇒ Make sure your cows have access to fresh, clean water at all times! Adequate water intake maintains feed intake and rumen function. A lack of water may depress feed intakes and compound weather-related stress.
- ⇒ Provide cows with clean, dry bedding. Bedding that is damp, soiled, or lacking sufficient depth can contribute to health concerns. Regardless of climatic conditions, cows need to be comfortable if they are expected to produce.
- ⇒ Ensure adequate ventilation even in cold weather, without the risk of cold drafts. Good air exchange is critical to cow (and producer) health.
- ⇒ Protect cows from wind and moisture! Many lactating cows are housed with sufficient protection. Take time to consider the rest of your herd... the calves, heifers and dry cows! While their needs may vary from the lactating herd, it is important to overall herd health to ensure comfort and adequate nutrition during periods of cold weather.
- ⇒ Check out facility lighting during shorter winter days. Extensive research indicates that longer lighting may improve milk production for lactating cows (see December 2014 issue). Dry cows, however, may actually benefit from a shorter day length during gestation (Dahl, 2000), followed by exposure to a longer photoperiod post-calving.

Environmental factors – physical and climatic – have an impact on your cows. I can help you evaluate cow comfort, ration quality and feed intake issues this winter, in order to minimize the effects of cold stress on your entire herd. Keeping cows healthy, comfortable, and productive will improve your bottom line!

## Feeding Calves in Cold, Wet Weather...

On a visit to a well run calf farm, it was noted that the producer purchased about 300 calves per week and rarely lost a calf. It was a cold and wet day, with many of the new calves attired in blankets to keep them warm and dry. Although it was wet, drizzly weather the calves were quite warm when you slid your hand up under the blankets. The hutches were also well bedded and dry. This successful calf raiser checks the temperature each morning and then adjusts the amount of milk replacer fed to each calf, depending on how cold it is. Why go to such lengths?

Calves are born with limited body energy reserves and only modest insulation in the form of hair coat and body fat. The Nutrient Requirements of Dairy Cattle, 2001 estimates that a newborn calf has enough body energy, in the form of fat and glycogen, to last approximately one day under very cold conditions. A calf's thermo-neutral zone shifts, depending on many important factors, such as the age of the calf, amount of feed intake, amount of subcutaneous fat, as well as the length and thickness of their hair coat. In very young calves, the thermoneutral zone ranges from 15-25°C.<sup>1</sup> So when the environmental temperature dips below 15°C the calf must expend additional energy to maintain its body temperature. Under these circumstances a producer must either feed more to meet these additional needs or accept a reduced gain. Additionally, if a calf gets wet (rain, snow or bedding) its maintenance requirements increase and the calf's gains significantly decrease.<sup>2</sup>

In recent years, raising calves in hutches has become quite common and with success in reducing death losses. However, in cold weather it is necessary to feed more energy in order to meet the higher energy needs of the calf for maintenance. Once the environmental temperature drops below 15°C, a calf has to increase its metabolism in order to maintain a body temperature of 39°C. Research demonstrates that a calf housed at an environmental temperature of -4°C requires roughly 30% more energy for maintenance than one housed at 10°C. In extremely cold weather (below -17°C), sick calves are at high risk because of potentially reduced feed and energy intake, coupled with limited body reserves of energy.<sup>3</sup>

To maximize the growth rate of young calves we need to supplement nutrient intake during cold weather, thereby increasing the animal's ability to generate and maintain its body heat. Adding calf blankets and supplying the calf with lots of clean, dry bedding will help reduce heat loss. To ensure calves are getting enough milk replacer on these cold winter days or to review your entire calf raising program, contact your W-S consultant.

*(Edited from an article by Ian Shivas, Renaissance Nutrition)*

<sup>1</sup> Nutrient Requirements of Dairy Cattle: Seventh Revised Edition, 2001

<sup>2</sup> CPM-Dairy version 3.02

<sup>3</sup> Energy Needs of the Young Calf During Cold Weather, Carl L. Davis

*Interested in discussing topics in this newsletter, or want to do a better job feeding and managing your cows? Call us! Our goal is to help you.  
That's the W-S Feed commitment!*

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**W-S FEED... the team for Results!**

# Happy New Year!

*Wishing you & yours the best throughout the coming New Year - 2015!*

*I look forward to working with you this year... and being a part of your team!*

## ***Is there a problem with the feed?***

Everything looks fine with the ration on paper, in the bunk, etc., but still there are cows in the herd that have very loose, bad looking diarrhea. It doesn't look like acidosis. So, what is making cows sick? More often than not, the cause seems to be feeding spoiled feed, rotten silage or moldy grain. It seems that this usually does not hit all cows evenly across the herd, possibly due to the spoilage not mixing evenly in the ration. One explanation is that some of the toxins produced by spoilage organisms may act on bacteria in the gut, perhaps killing off the more beneficial microbes and leaving less favorable ones, much like antibiotics. If the wrong bacteria become the main occupants of the gut ~ the cow has problems! This can adversely impact cow health and production.

If you see this problem with your cows, take time to walk the feedbunk. Are there chunks or balls of moldy or spoiled feed? If you break open the chunks, they usually smell rotten! Take time to look at the feeds. Check that feeds stored against concrete walls have not taken on moisture and started to mold, or that dry feed has not, somehow, become damp and started to heat.

How can you solve this problem? Simply – don't feed bad feed! Throw spoiled feed away, not feeding it to any livestock. This also means managing the bunk silo so that you minimize spoilage on the feeding face. Ensure that feeds are kept dry and rotate feeds so that you feed the oldest load first. I can help you review your feed management program and recommend products that can help if mycotoxins and/or mold may be a concern.

*(Edited from an article by Dr. Mary Beth Hall)*



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# **JANUARY 2015**

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## ***CHECK IT OUT!***