

CALVING EASE

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Does Water Make a Difference?

Scours

We all know that the biggest danger from scours is dehydration of the calf. Thus, we ask, “Will a scouring calf drink water?” That sounds like a cost effective way to keep sick calves hydrated. Give them all the water they want and they will manage their hydration levels by themselves.

As calf care persons we know that every generalization like the one above has conditions. When is it true? When is it false? So, when will calves effectively manage their own hydration needs by drinking water?

1. They are familiar with the source of water; bottle, pail or waterer.
2. Water is provided regularly and often enough so calves expect to find water. This what we call ad lib or free choice.
3. Calves are not so ill that they are still active, alert and drinking their milk eagerly.

I always had the best experience with this strategy feeding water to young calves that was close to body temperature (that is, close to 90 to 100°F). Many of my calves 5 to 15 days old when they had diarrhea would drink 3 to 4 times the small amount they normally drank. Just to be on the safe side I usually gave them a feeding of an electrolyte solution as well.

Calf starter grain consumption

Water and calf starter grain intakes go together. Research done in the US showed a 45 percent difference in calf starter consumption in the first 4 weeks between calves with and without free choice water. These calves were all fed the same milk replacer ration.

Similar work in England traced water availability and calf starter grain intakes. In addition this work compared two different milk replacer feeding rates. I had to estimate these milk replacer powder feeding rates from the data – about 0.8 pounds per day for the lower rate and 50 percent more, 1.2 pounds per day for the higher rate.

For each feeding rate one-half of the calves either had free choice water or no water. For both rations the difference in calf starter grain consumed to weaning was slightly over 1.5

times – that is, about 150 percent increase (22 pounds without water, 57 pounds with water).

Conclusion? Availability of free choice water and higher levels of calf starter grain consumption go together.

Weight gains

The US research feeding free choice calf starter grain and water compared to calf starter grain without water had live weight gains in the first 4 weeks of 18.6 and 11.6 pounds respectively. Compare. Calves with free choice water ate more grain and gained 60 percent more compared to the calves with the same milk replacer ration but no water. This was in the first four weeks.

The UK research had two milk replacer feeding levels where the “water” and “no water” treatments were compared (average daily gain in pounds):

- Low milk replacer: no water = 0.7, water = 1.2 for a 67 percent increase with water.
- High milk replacer: no water = 0.9, water = 1.4 for a 51 percent increase with water.

Conclusion? Availability of water and higher average daily weight gains go together.

An additional benefit of the higher rates of gain may very well be stronger immunity and better overall health. Generally, when I find calf programs with growth rates below 1 pound a day when measured at 7 to 8 weeks of age I also find programs with significant health issues as well. Regardless of whether or not the low growth rates by themselves actually cause the undesirably high treatment rates for scours and pneumonia, the calves have low body condition and do not appear thrifty.

Summer water feeding needs

Compared to wintertime water consumption (often only 1 to 2 quarts daily) we anticipate summer intakes to be higher. Average summertime drinking rates are around 2 to 3 quarts daily for large breed calves around 4 weeks old. Close to weaning around 6 or 7 weeks summer intakes bump up to double that amount and more. Once calves are weaned expect average consumption to double again. However, all the research seems to show that we should expect very wide differences among calves. Do not be alarmed by rates as low as 2 quarts a day and as high as 12 quarts daily.

References: United Kingdom Volac research, accessed May 20, 2011: <http://www.volac.com/news/agriculture-news/news189/water-is-essential-for-all-forms-of-life>. Kurtz, A.F., L.F. Reutzel, and J.H. Mahoney, “Ad libitum water intake by neonatal calves and its relationship to calf starter intake, weight gain, feces scores and season,” American Journal of Dairy Science 67:2964-2969. James Quigley, “Methods of feeding water” Calf Note #77 accessed May 20, 2011 <http://www.calfnotes.com/pdffiles/CN077.pdf>.

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