Water for Calves

Pete Erickson, UNH Professor of Dairy Management and Extension Dairy Specialist

It is well accepted that calves need milk or milk replacer in their diet to grow them to weaning age. There are a lot of misconceptions about offering water free-choice during this period. There are claims of bloat, water bellies, overconsumption, etc., but these are unfounded if the water is fed correctly. Water can promote calf starter consumption and an increased rate of gain.

Why do calves need water?

1. Water is essential for the functioning of cells of the body.
2. The total body water content of cattle ranges from 56-81 percent.
3. Essential for rumen microbial growth and therefore rumen development.
4. Water can promote calf starter consumption and an increased rate of gain.

Where do calves get water?

1. Free water- water from milk, reconstituted milk replacer, water provided free-choice
2. Water from feed- just about all feeds contain water- such as lush pastures (high water content) or: hays and grains (low water content).
3. Metabolic water- derived from chemical reactions within the body- is insignificant.

Why do calves need free-choice water?

1. Milk or reconstituted milk replacer should maintain hydration.
2. Rumen development occurs primarily from ruminal fermentation which requires rumen microbes to be present and growing, and these grow better in an aqueous (water-based) environment.

Photo: John C. Porter

3. Milk or milk replacer bypasses the rumen whereas; free-choice water flows into the rumen and provides a great environment for the bacteria to flourish.

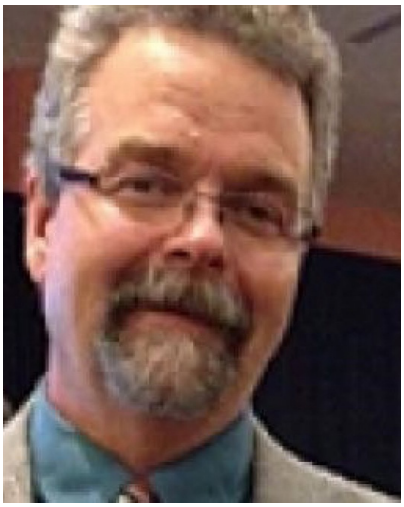
How should water be offered?

To avoid overconsumption and establish a routine of feeding water, it should be offered immediately when the calf being housed in its stall or hutch. To avoid confusion with milk or milk replacer, the water should be cold and replenished fresh daily. This is most commonly done in a bucket in the front of the stall and often beside the calf starter bucket. Water should be in its pail, not the same bucket that the milk or milk replacer was fed in. This will reduce the chance of bacterial growth from dirty milk or milk replacer buckets.

Here are the data:

Water		
	Free-choice	**None[a]**
Weight gain, lb/4 wk	18.6	11.60
Starter intake, lb/4 wk	25.8	17.8
Feed efficiency gain/feed	0.72	0.65
[a]All calves were provided with reconstituted milk replacer.		
Adapted from Kertz et al., 1984. J. Dairy Sci. 67: 2964-2969		

Results indicate that calves fed free-choice water gain faster, consume more calf starter, and are more efficient. Calves provided with free choice water could be weaned earlier, resulting in more saleable milk or reduced need for purchased milk replacer and thus more profits.



About the Author

Dr. Pete Erickson is Professor of Dairy Management and Extension Dairy Specialist at the University of New Hampshire. His primary research area is in the area of optimal colostrum production and management through feeding of the prepartum cow and the newborn calf. He also works in the area of calf and heifer nutrition along with the feeding of alternative feedstuffs.

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