

## Water For Calves

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

### Why do calves need water?

- 1) Water is essential for the functioning of cells of the body.
- 2) Total body water content of cattle ranges from 56-81 percent.
- 3) Water is essential for rumen microbial growth and therefore rumen development.

### 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—including lush pastures (high water content) or hays and grains (low water content)
- 3) Metabolic water—derived from chemical reactions within the body—this is insignificant

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### 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.
- 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 regular routine of feeding water, it should be offered within days of the calf being housed in its stall or hutch. To avoid the 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. The concept is the same as with anyone eating—that some liquid will help in washing down dry food and increase consumption.

**Table 1. Water Intake Data<sup>b</sup>**

### Water

	Free-choice	None <sup>a</sup>
Weight gain, 1b/4 wk	18.6	11.60
Starter intake, 1b/4 wk	25.8	17.8
Feed efficiency gain/feed	0.72	0.65

<sup>a</sup>All calves were provided with reconstituted milk replacer.

<sup>b</sup>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, thus more profits.

### ABOUT THE AUTHOR



Pete Erickson is UNH Cooperative Extension dairy specialist and professor of dairy cattle management at the University of New Hampshire. In 2013, he received the Land O'Lakes/Purina Teaching Award in Dairy Production—the nation's highest award for dairy science teaching.