

3X Calf Feeding

Bigger calves result from one more feeding per day

BY JIM DICKRELL

Feeding calves one additional time per day can lead to bigger, stronger calves and more heifers entering the milking string two years later.

And the strange thing is, if you're already feeding a high plane of nutrition (2.5 lb. of milk dry matter), you don't have to feed more milk replacer to get these gains. You simply divvy up the amount of milk replacer you normally feed over three feedings rather than two.

Conversely, if you're feeding the traditional level of 2 qt. and 2 lb. of milk dry matter twice daily, there will likely be little benefit to feeding 3X. Calves on this low level of nutrition are limited by the low nutrient intake and not by feeding frequency, says Tom Earleywine, director of nutritional services for Land O'Lakes Animal Milk Products.

Several feeding trials have confirmed these results, Earleywine says. Don Sockett, a veterinarian and epidemiologist with the University of Wisconsin, agrees.

In the first study at the U.S. Dairy Forage Research Center near Prairie du Sac, Wis., 70 Holstein calves were randomly assigned to either 2X or 3X feeding. Both groups were fed at 8 a.m. and 9 p.m. The 3X calves were fed a third time at 2:30 p.m.

Calves were fed 1.8 lb. per day of 28% protein, 20% fat milk replacer for the first week, spread over two or three feedings. From week two through six, they were fed 2.5 lb. per day. They were fed 1.25 lb. per

COMPARISON OF 2X AND 3X FEEDING

	2X	3X	P Value
Number of calves	35	34	1.000
Calf starter intake (DM, 1-42 days, lb.)	7.3	8.6	0.3448
Body weight gain (1-42 days, lb.)	55	65	0.0001*
Hip height gain (1-42 days, in.)	3.4	4.2	0.0027*
Feed efficiency	0.52	0.61	0.0001*
Number weaned	32	34	0.3070
Number lactating	28	34	0.0250*
ME 305, milk production	28,717	29,850	0.2265

*=statistically significant

SOURCE: UNIVERSITY OF WISCONSIN

Feeding calves one additional time per day can lead to bigger, stronger calves.



PHOTO BY THE AUTHOR

day once a day during the final week when they were weaned.

The 3X fed calves gained 10 lb. more body weight through six weeks of age and had a 17% higher rate of gain than the 2X calves.

The calves were followed all the way through to their first calving as an adult. While 34 of the 35 calves fed 3X entered lactation, only 28 of the 35 calves fed 2X entered the milking string.

“For every six calves fed 3X, one additional heifer entered lactation,” Sockett says. “Milk or milk replacer is the most expensive feed you’ll ever feed. So why not get the most efficient use out of it and feed 3X?”

A similar trial was conducted at Land O’Lakes’ calf research facility in Webster City, Iowa. There, 38 bull calves (Holstein) were fed either 2X or 3X. But the goal was to see if

3X-fed calves could be weaned at six weeks of age compared to weaning 2X-fed calves at seven weeks.

The 3X/6-week calves were fed 1 lb. of 28% protein, 20% fat milk replacer per feeding, totaling 3 lb. per day. The 2X/7-week calves were fed 1.25 lb. per feeding or 2.5 lb. per day. But the total amount fed over the feeding trial was identical—about 106 lb. per calf.

At the end of 12 weeks, the 3X-fed calves gained 20 lb. more body weight, were taller, had more heart girth and had more body volume gain.

In comparison, beef calves left with their dams nurse many times during the day, Earleywine notes, and drink smaller meals each time. “Compared to beef calves at weaning, dairy calves are woefully behind,” he says.

Feeding milk replacer more frequently during the first six weeks shows dairy calves have the capacity for greater gains. Weaning at six weeks rather than seven with greater body size also suggests they’re ready to eat more dry feed. **D**

CALF VACCINE HANDLING TIPS

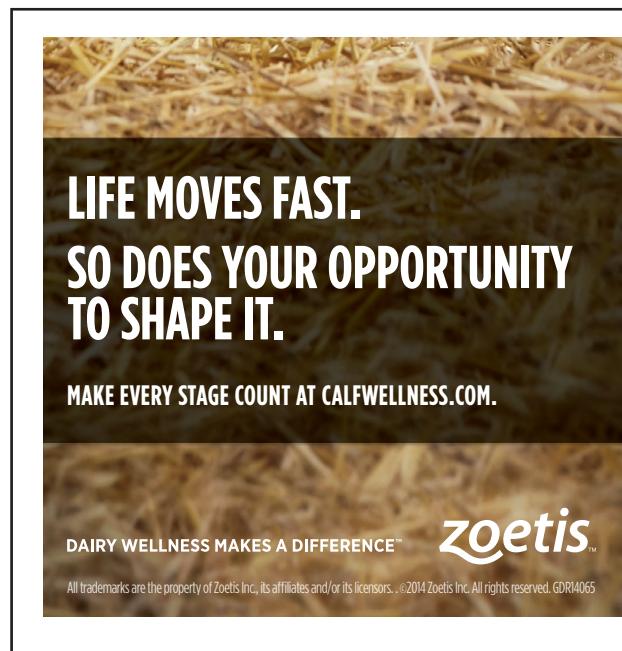
Healthy calves are the result of a conscious, planned effort that includes a comprehensive health program developed with your veterinarian. This plan should stress preventive care through proper management, sanitation, observation and vaccination.

The checkoff-funded Beef Quality Assurance (BQA) program has developed standard practices for providing care to your animals in order to meet consumers’ expectations for a safe, wholesome food supply. Here are some tips for handling vaccines:

- Buy bottle sizes that will be used up quickly.
- Keep vaccines refrigerated at proper temperature (less than 45°F) until use.
- To work cattle, use an insulated cooler and multiple ice packs for transporting vaccines.
- Avoid direct sunlight because ultraviolet light can impair vaccines’ effectiveness, particularly modified-live virus (MLV) products.
- Keep your insulated container in the shade with the lid on to minimize sunlight and dust contamination.
- Mix only the amount that will be completely administered within one hour.
- Make sure syringes are properly labeled or marked to avoid mixing vaccines when refilling because it could

inactivate the vaccine or make it less effective.

- Use different colors of electrical tape to segregate syringes and products.
- Always read vaccine labels before use and follow directions. Look at expiration dates, injection dose, route of administration, etc.
- Give injections only in the neck region—never in the rump, top loin or back leg.
- Never exceed more than 10cc per injection site and space injections at least 4" apart (hand width).
- Keep records of each and every time an animal is treated or processed.



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feeding