



Calf Management Practices on Jersey Farms in New York and Vermont

By: Kimberley Morrill, PhD—Regional Dairy Specialist

Introduction:

Calves, calf health, colostrum...SICK CALVES! I don't like sick calves, and most of the time the reason for sick calves can be traced back to lack of quality colostrum or poor cleanliness.

Colostrum management and subsequent IgG absorption in newborn calves is tied to mortality, morbidity, growth rates, future milk production and culling rates. The cost to raise a heifer calf from birth to entry into the lactating herd is a large investment for dairy operations, averaging \$2,232/heifer and ranging from \$1,860 to \$2,263 per heifer per farm in New York. There are many components of the heifer raising system that impact farm economics. Improving calf health through colostrum management one way to reduce the risk of illness, improve calf health, increase calf growth, and in-turn improve herd efficiency.

Due to variation in Colostrum IgG concentration, it is important to evaluate the quality prior to feeding or storage, unfortunately only 13% of US dairy producers routinely evaluate colostrum quality. Understanding current colostrum management strategies in New York & Vermont will allow the Cooperative Extension teams to develop targeted educational programs for area farmers and improve calf health.

Objectives of Study:

- Determine current colostrum management practices on New York & Vermont Jersey farms.
- Utilize the results to develop future education & research programs in New York & Vermont.

Highlights of the results:

50.66% of farms responded to the management survey that was mailed in June, 2013.

The majority of farms that responded to the survey classified themselves as conventional, or a combination of conventional and grazing and milked <100 cows.

The majority of farms milked fresh cows 2x/day, 1 to 6 hours after calving and fed calves their first feeding of colostrum in this same time frame.

A large portion of farms fed ≤ 3 quarts of colostrum within the first 24 hours, which is not enough colostrum, even for a Jersey calf.

Table 1. Survey responses regarding colostrum quality by herd

	Herdsize						Total n=38
	>50 n=14	50 - 99 n=12	100 - 199 n=5	200 - 500 n=4	501 - 1000 n=2	>1,000 n=1	
Hours after birth calf receives first feeding of colostrum.							
<1 hour	7	0	0	2	0	0	9
1 to 2 hours	2	5	2	1	1	1	12
2 to 6 hours	4	7	2	0	0	0	13
6 to 12 hours	1	0	0	1	1	0	3
> 12 hours	0	0	0	0	0	0	0
Allow calves to nurse?							
Yes	5	3	1	1	0	0	10
No	9	9	4	3	2	1	28
Amount of colostrum fed in first 24 hours?							
1 quart	0	0	0	1	0	0	1
2 quarts	8	5	1	0	0	1	15
3 quarts	1	2	0	0	1	0	4
4 quarts	4	5	2	2	0	0	13
> 4 quarts	1	0	2	1	1	0	5
Source(s) of colostrum on farm ¹							
Colostrum Replacer	1	5	1	2	2	0	11
Colostrum from Dam	12	12	3	3	2	0	32
Colostrum from another cow	3	4	3	1	2	1	14
Pooled Colostrum	0	0	1	0	0	1	2
Frozen Colostrum	4	5	2	2	2	0	15
Feedings of colostrum calves normally receive?							
1 feeding	1	1	0	0	1	1	4
2 feedings	2	6	2	1	1	0	12
3 feedings	4	1	0	2	0	0	7
4 feedings	4	4	1	1	0	0	10
5 feedings	3	0	2	0	0	0	5

¹Producers could select multiple answers.

These fact sheets are made possible through the collaborative efforts of the CCE County Associations of Clinton, Essex, Franklin, Jefferson, Lewis & St. Lawrence. To contact any of the NNY CCE offices directly: Clinton: 518-561-7450; Essex: 518-962-4810, Franklin: 518-483-7403; Jefferson: 315-788-8450; Lewis: 315-376-5270; St. Lawrence: 315-379-9192.



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Table 2. Survey response to colostrum quality questions by herd size

	Herd size						Total
	>50	50 - 99	100 - 199	200 - 500	501 - 1000	>1,000	
	n=14	n=12	n=5	n=4	n=2	n=1	38
Is colostrum quality a concern?							
yes	4	8	3	4	1	1	21
no	10	4	2	0	1	0	17
How is colostrum quality assessed? ¹							
Not assessed	9	1	3	0	0	1	14
Color	6	7	2	1	2	0	18
Consistency	4	7	3	2	2	0	18
Colostrometer	2	2	0	0	1	0	5
Volume produced	2	0	1	1	0	0	4
Refractometer	0	0	0	2	0	0	2
Other	0	0	1	0	0	0	1
When do you discard colostrum? ¹							
Mastitis	5	8	4	4	2	1	24
Cow is sick	5	6	2	4	1	1	19
Johne's or Leukosis positive cow	6	9	2	3	2	1	23
watery appearance	4	6	4	4	1	1	20
Bloody appearance	4	10	3	4	2	1	24
Low IgG concentration	1	1	0	3	1	0	6
1st lactation animal	0	0	1	2	0	0	3
Colostrum is never discarded	6	0	1	0	0	0	7

¹Producers could select multiple answers.

Results continued...

While the majority of farms said colostrum quality was a concern, 14 farms did not assess colostrum quality. Primary methods for assessing colostrum quality included color and consistency, both of which are very subjective and not very accurate.

The majority of farms participating in the study were willing to discard visibly altered (bloody, watery...) colostrum or colostrum from a sick cow. Few farm discarded colostrum because of low IgG concentration or because the animal was in her first lactation.

Only one farm monitored the colostrum management program by routinely measuring passive transfer in calves.

Conclusions:

While some farms were doing a great job, colostrum management practices on Jersey farms in New York and Vermont have room for improvement, primarily in timing of feeding, amount of quality colostrum fed within 24 hours and assessment of passive transfer.

Jersey calves, as well as Holstein calves should receive a minimum of 3.8L or 4 quarts of high quality colostrum within the first hour of life. While it is simple to think about a volume of liquid being fed, we need to become more focused on the volume of calories going into the calf.

Colostrum quality can easily be measured using a refractometer (>22%Brix) or a colostrometer (>50 mg/mL or Green). These tools allow for a farmer to determine if the colostrum on hand, or if a colostrum replacement product, or high quality frozen colostrum should be fed to the calf.

Routinely monitoring calves for passive transfer (serum IgG concentration > 10 mg/ml at 24 to 48 hours of age) is a great way to evaluate your colostrum management program. A refractometer can be purchased that measure both colostrum IgG concentration and serum IgG concentration.

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