CALVING EASE

May 2012

Sam Leadley, Attica Veterinary Associates

How to Save a Penny and Lose a Dollar

- Not dip the umbilical cord on newborn calves. Navel dipping, as we call it, has a return on investment of approximately 10:1 (see <u>calffacts.com</u> "Dipping Navels: Dollars and Sense." See also at <u>www.atticacows.com</u> in the Calving Ease section, select "December 2011 Naval dipping: Advantages and Alternatives."
- Not milk fresh cows soon after calving. See what happens when you delay colostrum collection. Let's set colostrum quality at 100% when collected at 2 hours post calving. Then this is what we find:

Hours post calving – collection	Loss of antibodies (percentage)
6	17
10	27
14	33

If you expect to have an adequate supply of high quality colostrum collecting it soon after calving is a best management practice.

• Not check colostrum quality colostrum before feeding it to newborn calves. In a study including 919 cows from one farm, on the low side 5% of cows had antibody concentrations of less than 20grams/liter. On the high side 3% had antibody concentrations over 96. More recent data suggest from 3 herds (507 cows) that 10% of the cows had low quality (under 50g/L) colostrum. In contrast, about 45% of cows in this study had over 100g/L antibodies in their colostrum.

Bottom line? Wide variation in colostrum quality from cow to cow. Best management practice? Check quality before feeding – see <u>calffacts.com</u>, select "Colostrum testing using a Brix refractometer." See <u>www.atticacows.com</u>, select Calving Ease and click on "August 2011: Colostrum Quality and Quantity."

• Not use human health standards for colostrum cleanliness. Survey reports from both Québec and Pennsylvania herds show that nearly one-third of colostrum fed to newborn calves was contaminated with bacteria at levels high enough to predict diarrhea in the first two weeks of life. Following best management practices in the collection and handling of colostrum is essential when providing clean wholesome colostrum for newborns. For resources on keeping colostrum clean see

<u>calffacts.com</u> "Colostrum: Reducing coliform counts - a checklist" and "Washing milk containers: checklist"

- Not feeding colostrum to a newborn calf as soon as practical after birth. Studies have repeatedly shown that the capability of a calf to move colostral antibodies from the gut into her blood (technically, pinocytosis or transendothelial vescular transport) goes down rapidly after birth. At 6 hours after birth up to one half of a calf's ability to absorb antibodies may be gone.
- Not feed enough qood quality colostrum soon enough after calving. By 4 weeks one estimate is a loss of \$48/calf (See <u>calffacts.com</u> "Colostrum: Calf raising profit starts with good management").
- Not quantify the immunity levels in young calves. An inexpensive blood test is available to estimate immunity levels among calves between 1 and 7 days of age. The blood serum is used with a clinical refractometer. One study of 400 calves showed that the highest rates of treatment for both scours and respiratory illness were among calves with the lowest levels of immunity. In addition, age at breeding was 30 days higher for the low-immunity calves. For a resource on immunity testing see calffacts.com "Transfer of Immunity: How to test for."

If you know of someone that doesn't currently receive <u>Calving Ease</u> but would like to, tell them to <u>WRITE</u> to <u>Calving Ease</u>, 11047 River Road, Pavilion, NY 14525 or to <u>CALL</u> 585-591-2660 (Attica Vet Assoc. office) or <u>FAX</u> (585-591-2898) or <u>e-mail calvingease@rochester.rr.com</u> with Subscribe as the subject. Back issues may be accessed on the Internet at either <u>www.atticacows.com</u> or <u>www.calfnotes.com</u> and clicking on the link, Calving Ease.

References: "Effect of disinfecting vs. not disinfecting navels on calf mortality and health." University of Wisconsin Calf Survival Study. Feed Management Vol. 51, No. 2 pg. 22.

Moore, Malantus and Others, "Effect of delayed colostrum collection on colostral IgG concentration in dairy cows" JAVMA 226:8 1375-1377.

Fowler, Mike "What is it worth to know a calf's Ig Level?" in Proceedings of the Professional Dairy Heifer Grower Annual Conference, March 1999, pp. 31-36.

S.K. DeNise, J.D. Robison, G.H. Stottand D.V. Armstrong, "Effects of Passive Immunity on Subsequent Production in Dairy Heifers." 1989 Journal of Dairy Science 72:552-554.

Faber.S.N., N.E. Faber, T.C.McCauley and R.L. Ax, "Case Study:Effects of Colostrum Ingestion on Lactational Performance." Professional Animal Scientist 21 (2005):420-425.

Prichett, L.C. and Others "Management and production factors influencing immunoglobulin G1 concentration in colostrum from Holstein cows." J. Dairy Sci. 74:2336-2341.

Kehoe, S. I., A.J. Heinrichs, M.L. Moody, C.M. Jones, and M.R. Long, "Comparison of immunoglobulin G concentrations in primiparous and multiparous bovine colostrum." Professional Animal Scientist 27 (2011): 176-180. Kehoe SI, Jayarao BM, and Heinrichs AJ. A survey of bovine colostrum composition and colostrum management practices on Pennsylvania dairy farms. J Dairy Sci 2007;90:4108–4116.

Gilles Fecteau, Paul Baillargeon, Robert Higgins, Julie Paré, and Madeleine Fortin "Bacterial contamination of colostrum fed to newborn calves in Québec dairy herds" Can. Vet.J. 2002 43:(7):523-527.

Bush, L.J. and T.E. Stanley, "Absorption of colostral immunoglobulins in newborn calves." J. Dairy Sci. 63:672-680. Stott, G.H. and Others, "Colostral immunoglobulin transfer in calves: the rate of absorption." J. Dairy Sci. 62:1766-1773.

Furman-Fratczak, K.A. and Others, "The influence of colostral immunoglobulin concentration in heifer calves' serum on their health and growth." J. Dairy Sci. 94:5536-5543.

Our thanks to Saskatoon Colostrum for supporting Calving Ease.