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ANIMAL MILK PRODUCTS CO.



# Colostrum: Liquid gold for lambs

*Colostrum replacers supply immediate protection to newborn lambs, providing proven, consistent protection from day one.*



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**C**OLOSTRUM IS OFTEN LIKENED TO LIQUID GOLD. The first feeding of antibodies has long been associated with immediate immune protection for calves, but the power of the first feeding is sometimes overlooked in small ruminants. This step is just as important in newborn lambs, as management of newborns can play a significant role in a flock's long-term productivity potential.

Colostrum, or the first milk of the ewe, is the first protection that lambs receive against environmental pathogens and bacteria. Newborn lambs must be protected following lambing because antibodies in the ewe's bloodstream do not cross the placenta<sup>1</sup>. The antibodies can only be received by the lamb by consuming colostrum.

Following birth, the lamb is exposed to bacteria and pathogens that its immune system is unfamiliar with. Without protection, the new life can be in danger – leading to an increase in pre-weaning health issues and mortality rates.

In fact, industry estimates show that nearly 20 percent of lambs die before weaning with 80 percent of these losses experienced during the first 10 days of life.<sup>2</sup> Realistically, pre-weaning mortality rates in sheep flocks should be under 5 percent.<sup>2</sup>

## The Power of Colostrum

Colostrum is key in keeping death loss numbers in check. The ewe supplies protection as antibodies that are concentrated in colostrum as immunoglobulins (IgGs). These antibodies help the newborn to fend off intestinal, respiratory and other diseases. High energy levels found in colostrum also help new lambs to stay warm while dense levels of immune factors and Vitamins A and E can promote a healthy start to the digestive and respiratory systems.<sup>3</sup>

This protection against the elements hinges on high quality colostrum fed immediately following birth. Lambs should receive



**Lambs require protection immediately after being born in order to thrive long-term. Colostrum replacers can supply this protection to newborn lambs when the ewe is unable to produce enough high-quality colostrum for her lambs.**

10 percent of their body weight in colostrum by 18 hours of age. For example, a 10 pound lamb should be fed 1 pound (or 16 ounces) of colostrum in its first day of life. At least half of this volume should be fed within 4 to 8 hours. Colostrum and colostrum replacements should be fed at about 105 degrees F.

Researchers at the University of Maryland recently stated that, when feeding the first colostrum, within “30 minutes is optimum while 18 hours is a must.”<sup>4</sup> Timing is crucial because the protective antibodies found in colostrum can only cross the intestinal wall and enter the bloodstream during this time. The intestinal wall begins to stop passive transfer of antibodies hours after birth, so immediate feeding of colostrum is desired.

To ensure proper consumption in the necessary time, colostrum can be hand-fed via bottle or stomach tube. The necessary levels can be fed in three increments throughout the first 18 hours for adequate consumption. Once in the system, the maternally-derived antibodies help fight off infections, while the lamb builds its own stable immune system.<sup>5</sup>

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**Colostrum** • continued from p. 4

**Are your ewes producing the colostrum your lambs require?**

Though colostrum is a necessary ingredient to newborn lamb success, fluctuations in colostrum quality and quantity produced by the ewe are probable on operations. Recent research shows large variability in colostrum production, with older ewes often producing higher levels of the protective first milk.<sup>6</sup> Research also indicates that ewes that produce larger litters are often unable to naturally produce adequate protection for bonus lambs – often leaving bonus lambs, especially, unprotected.<sup>7</sup>

Research by the U.S. Sheep Experiment Station in Dubois, Idaho, showed that nearly two-thirds of early lamb loss is caused by scours or starvation, with lambs that did not consume adequate colostrum being more susceptible to health problems.<sup>8</sup>

Though colostrum provides necessary protection, colostrum produced by ewes infected with Ovine Progressive Pneumonia (OPP) can transmit the disease to young lambs. This disease does not appear until the animals reach maturity and can be devastating to health and production of the flock. To prevent the transmission of this disease, offspring should not be allowed to nurse from ewes that test positive for OPP.

One way to ensure that all lambs receive high-quality colostrum, free from any disease, in adequate quantities is through a colostrum replacer. When selecting a colostrum replacement product, look for a product labeled to raise IgG concentration above 10 mg/ml. These products are typically made of dried bovine colostrum and contain at least 75 grams of IgG per liter as well as high levels of natural colostrum fat, protein, vitamins and minerals needed by the newborn lamb. In the United States, these products are regulated by the U.S. Department of Agriculture Center for Veterinary Biologics for quality control. Look for the U.S. Veterinary permit on the label.

Beyond this measure, selection of colostrum replacers should be based on research. Analyze the product for research results and determine if the supplier is a reputable source. In addition, the product should be made specifically for small ruminants (lambs and kids).

After feeding a USDA licensed small ruminant specific colostrum replacer within the first 18 hours, a lamb-specific milk replacer should be fed until weaning. ■

For more information, visit [www.lolmilkreplacer.com](http://www.lolmilkreplacer.com) or contact Dr. Tom Earleywine at (800) 618-6455 or email: [TJEarleywine@landolakes.com](mailto:TJEarleywine@landolakes.com).

**Feed lambs colostrum replacement when:**

- Quality or quantity of available colostrum is inadequate.
- Newborns are unable to suckle, such as in multiple births, first pregnancy dams and those born to sick or weak dams.
- Ewes are suspected to be infected with OPP.



PHOTO BY HAVERTON HILL



<sup>1</sup> "Sheep management: Colostrum and health of newborn lambs." *Iowa State University Extension*. June 1995. <http://www.extension.iastate.edu/Publications/PM989X12.pdf> 18 February 2013.

<sup>2</sup> "Care of newborn lambs." *Sheep 201: A beginner's guide to raising sheep*. <http://www.sheep101.info/201/newborns.html>. 18 February 2013.

<sup>3</sup> Schoenian, Susan. "Colostrum: Liquid Gold." *University of Maryland Extension*. <http://www.sheepandgoat.com/articles/colostrum.html>. 18 February 2013.

<sup>4</sup> Schoenian, Susan. "Colostrum: Liquid Gold." *University of Maryland Extension*. <http://www.sheepandgoat.com/articles/colostrum.html>. 18 February 2013.

<sup>5</sup> Nowak, R., and P. Poindron. From birth to colostrum: Early steps to lamb survival. *Reproductive Nutrition Development*. Volume 46, pp 431-446. 2006. <http://vetsci.co.uk/2012/01/23/the-importance-of-colostrum-for-new-born-lamb/>.

<sup>6</sup> "Sheep management: Colostrum and health of newborn lambs." *Iowa State University Extension*. June 1995. <http://www.extension.iastate.edu/Publications/PM989X12.pdf> 18 February 2013.

<sup>7</sup> Lindsay, D. R., R. Nowak, I. Gede Putu, and D. M. McNeill. 1990. Behavioural interactions between the ewe and her young at parturition: A vital step for the lamb. Pages 191-205 in *Reproductive Physiology of Merino Sheep. Concepts and Consequences*. C. M. Oldham, G. B. Martin, and I. W. Purvis, ed. School of Agriculture (Animal Science), The University of Western Australia, Nedlands, Perth.

<sup>8</sup> "Care of newborn lambs." *Sheep 201: A beginner's guide to Raising Sheep*. <http://www.sheep101.info/201/newborns.html>. 10 March 2014.