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## Colostrum: Liquid Gold for Kid Goats and Lambs

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Colostrum 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 and kid goats, as management of newborns can play a significant role in a flock or herd's long-term productivity potential.

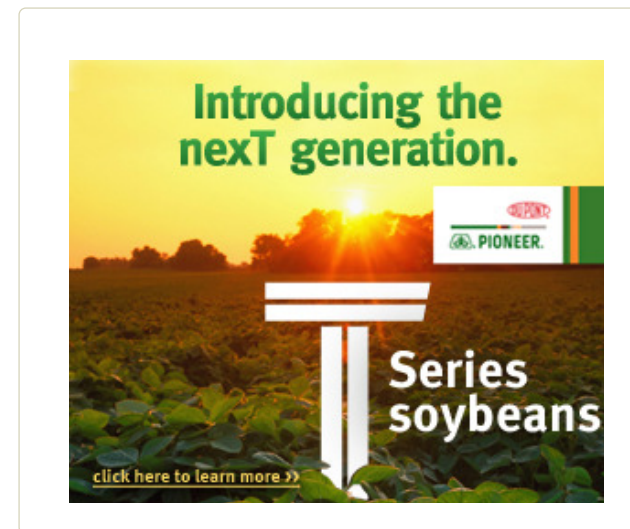
Colostrum, or the first milk of the ewe or doe, is the first protection that lambs and kids receive against environmental pathogens and bacteria. Newborns must be protected following birth because antibodies in the ewe's or doe's bloodstream do not cross the placenta. The antibodies can only be received by consuming colostrum.

Following birth, the lamb or kid 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. Research on kid pre-weaning mortality rates shows similar trends. Realistically, pre-weaning mortality rates in sheep flocks and goat herds should be under 5 percent. 2

### The Power of Colostrum

Colostrum is key in keeping death loss numbers in check. The ewe or doe supplies protection as antibodies that are concentrated in colostrum as immunoglobulins (IgGs). These antibodies help the

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newborn to fend off intestinal, respiratory and other diseases. High energy levels found in colostrum also help newborns 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.

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

#### **Are your ewes and does producing the colostrum your newborns require?**

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

Without this protection, newborns are at risk for long-term issues. 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.

Though colostrum provides necessary protection, colostrum produced by ewes infected with Ovine Progressive Pneumonia (OPP) or does infected with Caprine Arthritis Encephalitis can transmit the disease to their young through the milk. These diseases do not appear until the animals reach maturity and can be devastating to health and production. To prevent the transmission of these diseases, offspring should not be allowed to nurse from ewes that test positive for OPP or does that test positive for CAE.



#### **About Growing Michigan**

Growing Michigan is the only publication that focuses exclusively on agricultural issues in Michigan. Growing Michigan reaches agribusiness owners, community leaders, policy makers and growers from all over the state.

One way to ensure that all newborns 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 or kid-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).*

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