

TUSKEGEE UNIVERSITY

Cooperative Extension Program

Assisting *Small Scale* Farmers

***Goat Production:*
Colostrum for Newborn Kids**



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IMPORTANCE OF COLOSTRUM

Colostrum is the very first mammary secretion from does after kidding. This secretion or fluid changes gradually to normal milk within a few days of kidding. It is rich in fat and proteins, most of which are immunoglobulins. Immunoglobulins have the ability to fight against diseases. Colostrum feeding soon after birth is extremely important for survival and growth of newborn kids for three reasons. First, colostrum is the only source of essential nutrients and water required for the newborns to maintain their body temperature and water balance. Second, kids that have timely access to and are able to ingest enough colostrum remain active and bleat to catch their mothers' attention. Early bleating and suckling activities are crucial for the development of maternal bond, relationship between newborns and their mothers. If a newborn is unable to stand up, suckle, and bleat soon after birth, there is a slim chance of developing maternal bond, especially in the case of maiden does, does that have kidded for the first time. When no maternal bond develops between the doe and her kids soon after birth, the doe may desert her kids. If this happens, there is a high chance that the kids may die unless they are taken care of by the producer. Third, colostrum is a source of passive immunity (immunity passed from mother to offspring), which gives protection to newborns against diseases for the first few months before they develop their own immunity.

It is important that kids ingest enough colostrum within 24 to 48 hours of birth, during when intestinal epithelium of kids is permeable to whole molecules of immunoglobulins. Absorption of whole molecule is essential to provide immunity to kids. After 48 hours of birth, openings on the intestinal epithelium close and intact immunoglobulin molecules cannot be absorbed. Therefore, feeding colostrum after 48 hours of birth is of little use to kids for providing immunity. Normally, a doe will take care of her kids, and kids will stand up and suckle within half an hour of birth. However, if things go wrong and colostrum intake is hindered, kids should be bottle fed with the colostrum from their mothers or other nursing does with excess production of colostrum. The feeding bottle should be cleaned properly and colostrum should be warmed to body temperature, that is 100-102°F (38-39°C), for feeding. Excess colostrum can be refrigerated and fed later. The quantity of colostrum to be fed at any given time depends on the appetite of the kid. Kids will get enough immunoglobulins if 2.3-2.7 ounces per lb. (140-175g per kg) of live weight is fed within 24 hours of birth.



PRECAUTIONS IN HANDLING COLOSTRUM

Producers need to be aware that many diseases can be transmitted through colostrum if contaminated with pathogens while milking and handling, or if does are infected with certain diseases. Therefore, the following precautions need to be taken to prevent disease transmission to newborns through colostrum.

1. Minimize contamination while milking, handling, and feeding colostrum. All utensils and feeding bottles must be cleaned thoroughly. Udders and nipples should be washed well and dried before milking. If colostrum is contaminated, microbes will grow rapidly since colostrum is full of nutrients that enhance microbial growth. Colostrum can be kept refrigerated for seven days, but it must be frozen if needs to be stored for a longer time.
2. Certain diseases, such as Brucellosis, Johne's disease, Caprine Arthritis Encephalitis, and Caseous Lyphadenitis can be transmitted to kids through colostrum and milk. The first two diseases can also be transmitted to kids from their does even before they are born. Producers need to make sure that their does are not suffering from these diseases before feeding colostrum to kids. Heat treatment of suspected colostrum before feeding can avoid the risk of disease transmission. Washington Animal Disease Diagnostic Laboratory (1996) has suggested that Caprine Arthritis Encephalitis organisms can be inactivated if colostrum is heated to 133 –138°F (56-59°C) for one hour. However, recommendation for heat treatment time and temperature combination specifically for goat colostrum to destroy organisms causing Brucellosis, Johne's disease, and Caseous Lyphadenitis without much damage to immunoglobulins and altering consistency is still lacking.

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