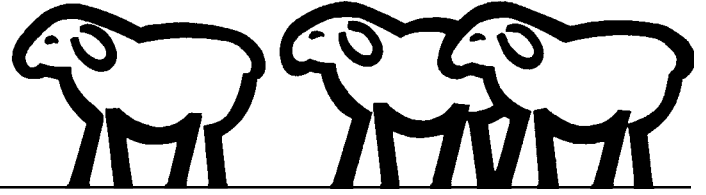


sheep management



fact sheet no. 12

Colostrum and Health of Newborn Lambs

Keeping newborn lambs alive and healthy is the greatest management challenge facing sheep producers. An important strategy for meeting this challenge is making sure that lambs receive adequate colostrum during the first two to three hours of life. The effect of colostrum on the health, survival, and performance of newborn lambs cannot be overrated.

The Importance of Colostrum

Colostrum is the “first milk” that ewes produce after lambing. Colostrum has a high level of several nutrients that are important for lamb health and performance. Colostrum also contains a high concentration of antibodies against a variety of infectious agents. Immediately after birth, the lamb is exposed to a variety of infectious agents present in the environment, the dam, and other ewes and lambs. Without any protection from these infectious organisms, the lamb may become diseased or die.

At birth, the lamb does not carry any antibodies against these organisms because antibodies in the ewe’s bloodstream do not cross the placenta. However, these antibodies are concentrated in the colostrum and provide a natural and efficient source of protection against many intestinal, respiratory, and other diseases. Vaccinating ewes for diseases such as enterotoxemia and tetanus prior to lambing is important, since antibodies against

these diseases will then be contained in the colostrum. Additionally, colostrum provides needed energy to help lambs stay warm and acts as a laxative to ensure excretion of meconium.

Recent research from Great Britain has found that ewes vary greatly in the quantity and quality of colostrum they produce. Younger ewes generally will produce less colostrum because they also produce less milk. At lambing, check ewes (by stripping the teats) for the quantity and quality of colostrum. Ewes with excessively thick colostrum should be milked out and their lambs supplemented with frozen colostrum. Ewes that have small udders and slow colostrum flow at stripping may not have adequate colostrum, especially for multiple lambs. Lambs from these ewes should be closely monitored to make sure they are acquiring adequate colostrum to keep going.

Which Lambs Need Colostrum?

All newborn lambs need colostrum. It is possible for lambs to survive without colostrum in a reasonably disease-free environment, but the likelihood of disease and death is higher in lambs that do not receive colostrum. This increased susceptibility to infection continues until at least 6 or 8 weeks of age. Thus, ensuring adequate colostrum intake is important for all lambs. Lambs should be allowed to nurse the

ewe as soon as possible, because lambs have an extremely strong suckling reflex immediately after birth. Many times lambs can be helped to nurse even before the ewe gets up. This practice is a more efficient use of shepherd labor than thawing colostrum and tube feeding.

It is critical that lambs receive colostrum during the first 24 hours of life in order to ensure adequate absorption of colostrum antibodies. Antibodies are large protein molecules that can cross the intestinal wall and enter the bloodstream of the lamb only during the first 24 to 36 hours of life. Absorption of these antibodies is most efficient the first few hours after birth. It is recommended that lambs receive 10 percent of their weight in colostrum by 24 hours after birth. This means that a 10 pound lamb should receive one pound (16 ounces) of colostrum by 24 hours of age. Ideally, they should receive half of this within 4 to 8 hours of birth.

Colostrum should be fed with a nipple bottle if lambs are capable of nursing. They should be given 2 to 4 ounces of colostrum at 3- to 4-hour intervals. Weakened or chilled lambs, if handled properly, will require only one supplemental feeding in most cases. Lambs that have lost their mothers or are born to ewes that have inadequate colostrum should be fed the entire 16 ounces of colostrum within the first 24 hours.

Weak lambs that will not nurse should be fed colostrum through a stomach tube. A small catheter, obtainable from a veterinarian, attached to a 60 cc syringe makes an ideal stomach tube. Colostrum is allowed to free-flow into the lamb's stomach after the catheter has been passed down the esophagus. Lubricate the catheter with colostrum prior to its passage and gently push it to the back of the lamb's mouth. Most lambs will readily swallow the catheter. Insert the catheter so that the tip would be at the rear of the lamb's rib cage. This is slightly more than half the length of the lamb. It is a good idea to mark the catheter prior to passage so that you know how far you have inserted it into the lamb. A 60 cc syringe will hold two ounces of colostrum.

Colostrum Sources

The ideal colostrum source for supplemental feeding of lambs is from a healthy ewe in one's own flock. Older ewes have had greater exposure to infectious agents and usually have a higher concentration of antibodies against a wider variety of diseases than young ewes. Colostrum can be harvested from early lambing ewes, frozen, and stored until it is needed during the lambing season. Colostrum must be thawed carefully so that the

antibodies are not destroyed. Rapid thawing with excess heat will reduce antibody activity and effectiveness. It is best to let colostrum thaw at room temperature. If using a microwave oven, set the microwave on a low (defrost) setting and stir frequently. Colostrum can be stored in small milk cartons, closable plastic bags, or in ice cube trays. Keep in mind that small amounts thaw much more quickly at room temperature than do large amounts.

Colostrum from dairy cows or dairy goats may be used if ewe's colostrum is not available. The colored breeds of dairy cattle produce milk with a higher fat content, which is desirable for lambs. Commercially-available colostrum substitute products (of bovine origin) have not been adequately tested for efficacy in lambs. In emergencies, these products may be used to supplement natural colostrum, but should not be relied upon to entirely replace natural colostrum.

Precautions

Producers who are attempting to develop an Ovine Progressive Pneumonia (OPP) free flock must be concerned with the source of colostrum used, since OPP can be transmitted

from infected ewes to their offspring via colostrum. The surest way to prevent this transmission is by isolating all newborn lambs at birth and not allowing them to consume any ewe's milk. They should be fed lamb milk replacer. These lambs must have colostrum, however. Cow colostrum is the best, least risky source to ensure that efforts to eradicate OPP are not being wasted by contaminated colostrum.

Summary

Colostrum is vital for lamb viability and survival. Passive immunity against several infectious diseases is transmitted from the ewe to the lamb via colostrum. Producers should monitor the number of lambs that require colostrum supplementation. If more than 10 percent of lambs require supplementation, producers should evaluate their genetic, nutritional, and health management programs. Lambs that require colostrum supplementation or help in nursing should not be retained as breeding stock. Unless producers carefully evaluate records, they may increase the percentage of lambs that require labor-intensive tube feeding during the lambing season. This is not an economically sound trend for sheep producers or for the sheep industry.