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Newborn Lamb Management

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At no other time during the year are the investment of time and sound management practices more important for a sheep producer than during lambing. The financial success of a sheep operation largely depends upon maximizing the pounds of lamb weaned per ewe exposed while minimizing costs of production. In turn, pounds of lamb weaned per ewe depend on saving the lambs that are born. The largest percentage of lamb deaths occurs at or shortly after birth.

The three primary causes of death of lambs around lambing time are:

- Difficulty during the birthing process
- Starvation
- Hypothermia

Therefore, solid management practices at lambing time are essential for the economic viability of the sheep operation.

Lambing Time Procedures

1) Frequent visits to the lambing barn

Dystocia (lambing problems) can be a significant cause of lamb mortality. Losses due to stillbirths and dystocia can be reduced by frequent visits to the lambing barn and timely assistance to ewes. Pregnant ewes should be checked every three to four hours. If ewes are checked at 11:00 p.m. or midnight it is not necessary to check again before 5:00 or 6:00 a.m. Ewes that will lamb between these times usually show signs at the late-night observation.

Ewes close to lambing will be restless and may try to claim other newborn lambs. Ewes in labor will normally separate themselves and frequently choose a corner or area along a wall or feedbunk to nest and deliver. The lambing area should be dry, well-bedded, and free of cold drafts that will chill newborn lambs. A heated lambing barn is not necessary; a dry, draft-free area is more important.

The lambing process can vary considerably between ewes. Ewes in labor should be left undisturbed. However, once the ewe begins forceful straining and the water bags are passed, delivery should normally take place within 45 to 60 minutes. Once the front legs are visible, lambs should be born within 30 to 45 minutes. After the first lamb is born, subsequent lambs are normally delivered within 30 minutes.

Prolonged delivery beyond these times may indicate lambing difficulty, and the ewe should be examined and assisted if necessary. Prior to assisting the ewe, the examiner should wash the ewe's vulva with mild soap and water. Likewise, the shepherd should thoroughly wash his or her hands and arms and wear an OB sleeve when assisting or examining a ewe. When assistance is required to deliver one lamb, the uterus should be examined for additional lambs. For lambs that are pulled, a piece of straw may be gently inserted into the nostril as an irritant to help stimulate breathing. Lambs that are delivered rear legs first should be gently shaken upside-down by holding the rear legs to allow fluid to drain from the lungs.

2) Move ewes to a jug after lambing

When possible, allow ewes to give birth where they initially bed down. Moving ewes to individual pens when they start lambing may prolong the birthing process and cause other complications. Additionally, allowing ewes to complete the lambing process before moving them to jugs helps keep the jugs drier and prevent injury to lambs in multiple-birth situations.

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Lambing jugs should measure at least 5 feet x 5 feet, with a maximum slat spacing of 3 inches. Large breeds and multiple births may require larger jugs. The environment of the jug is critical to newborn lamb health and survival. The jugs should be kept well-bedded, dry, and free of drafts. Facilities with concrete floors should have a base of lime or sawdust/shavings under the straw. Concrete floors can be cold and damp, causing chilling and pneumonia in newborn lambs. When feasible, clean the lambing jugs between ewes. Feed troughs and water buckets should be suspended out of the reach of newborn lambs.

The first 24 to 48 hours after birth are a critical time for the ewe and her lambs. During this time, bonding occurs and the ewe as well as her lambs learn to identify each other. The jugs also assist the shepherd in keeping a close eye on the ewe and lambs.

When moving the ewe into the jug, clip the lambs' navels and immerse in a 7% iodine solution. Many navels (less than 2 inches) will not need to be clipped. Iodine helps prevent infection and promotes drying of the navel.

3) Ensure lambs receive adequate colostrum intake

Colostrum is the milk produced by the ewe for up to 18 hours after birth. It has important nutritional value for the newborn lamb. Colostrum contains essential antibodies that provide protection against certain diseases for the newborn lamb and provides energy to keep the lamb warm. Newborn lambs are susceptible to hypothermia due to their relatively low energy reserves and their large body surface area relative to body weight.

Lambs should receive adequate colostrum within 30 to 60 minutes after birth. To help ensure this, strip the ewe's teats to remove the wax plugs that frequently obstruct the teats. In some cases, lambs that appear to be nursing may not be getting milk due to these plugs. Stripping the teats will also confirm the ewe has milk. Lambs should be monitored closely to make sure they nurse. Lambs that have nursed will have a full stomach upon palpation. Crotching ewes prior to lambing will enhance the lambs' ability to access the udders, particularly with long-fleeced ewes. Lambs that have not nursed should be assisted. Most lambs have a strong suckling reflex shortly after birth, and will nurse when presented a teat. It may be necessary to close the lamb's mouth on the teat and/or squirt milk in the lamb's mouth to initiate suckling. An effort should be made to help the lamb nurse the ewe before other methods are used to get colostrum into the lamb.

In some cases, the lamb is unable to nurse the ewe even with assistance. These lambs may be small, weak, chilled, rejected by the ewe, or injured. In these cases, stomach tube feeding is necessary to get colostrum into the lamb. Lamb stomach tubes that attach to syringes are available commercially and should be on hand for all shepherds. With the lamb's head in a natural position, insert the tube in the side of the lamb's mouth, following the roof of the mouth down into the throat. Don't force the tube down; rather allow the lamb to swallow as the tube goes down the esophagus. The tube can be felt on the outside of the neck as it is inserted down into the stomach, and will go in about 12 inches. Although it is difficult to get the tube down the trachea (windpipe), the tube can be checked to see if air is being expelled (listen or moisten end of tube to see if bubble forms). After inserting of the tube, give the colostrum slowly. Lambs should receive 20 cc colostrum per pound of body weight. As a reference, 30 cc equals approximately 1 ounce. Therefore, a 10-pound lamb should receive 200 cc or about 7 ounces of colostrum in the first 30 minutes after birth. After the initial tube feeding, many lambs will respond and begin to nurse on their own. If not, the lamb may need to be tube fed every two to three hours after the initial feeding.

The source of colostrum for these cases is another important consideration. The first choice would be from the lamb's mother. If colostrum is not available from the ewe, another ewe that has just lambed may be a source. It is a good idea to freeze colostrum for future use from ewes that lose their lambs or ewes with singles that are heavy milkers. Colostrum should be pre-measured and frozen using ice cube trays or freezer bags. Frozen colostrum should be thawed with indirect heat (water bath), and not a microwave or direct heat as these can produce enough heat to destroy the antibodies. In an emergency, goat or cow colostrum may be used. There are also commercially available artificial colostrum substitutes.

Post-Lambing Management

The ewe and her lambs need to be monitored closely for the first fw› days after birth. Healthy lambs are content, and will stretch when getting up and wag their tails when nursing. A gaunt and weak appearance may be indicative of starvation. Check the ewe to be sure she has milk. In the case of multiple births, the smallest lamb may not be able to compete for the milk supply. Constipation can be a problem in newborn lambs if feces dry and mat down on the tail. Cleaning the area with a damp rag will alleviate this problem.

Time spent in the jug will depend largely on the number of jugs available and rate at which ewes are lambing. Strong, healthy singles may be removed from the jugs in 24 to 36 hours after birth and twins after 48 hours. Triplets and ewes with weak lambs may need to stay in the jug for three or more days. Remove ewes and lambs from the jug as quickly as possible, as the longer they are confined, the greater the chances of them contracting pneumonia and diarrhea. Labor requirements are also much greater when ewes are confined to the jugs.

Before turning ewes and lambs out of the jugs, record pertinent information on the ewes and lambs. Appropriately identify the lambs (ear tags, paint brands, ear notches, etc.) at this time as well. The ability to match a ewe with her lambs can be a very helpful management tool. Thin, poor-doing lambs may indicate a health problem in the ewe (mastitis) or inferior milking ability.

Most of Virginia is deficient in selenium. Selenium and/or vitamin E deficiency causes white muscle disease in lambs. To prevent this disease and for all-around flock health and performance, provide the ewe flock with a high-selenium complete mineral mix specifically formulated for sheep during gestation (fed free-choice). Additionally, lambs should receive 0.5 cc Bo-Se a day or two after birth. Bo-Se is a combination of vitamin E and selenium.

For systems in which ewes and lambs will be going to pasture immediately after lambing, ewes should be dewormed either two to three weeks prior to lambing or upon leaving the jug. Ewes shed an increased number of worm eggs during the last weeks of gestation and continue through just after lambing.

Upon removal from the jugs, ewes and lambs should be put into a mixing pen with three or four other ewes and their lambs. This will help acclimate them, and they should be closely observed to identify abandoned and rejected lambs. After a day or two, the ewes can then be put into larger groups.

Lambing jugs should be cleaned and rebedded after each ewe and her lambs are removed. Even though the area may look clean, urine and manure in the pen will release ammonia, which is harmful to the newborn lamb's lungs and can lead to pneumonia.

Complications with Newborn Lambs

Hypothermia and Starvation

Hypothermia is defined as low body temperature. This condition may result from a variety of factors including exposure, weakness, trauma, and starvation. Lambs with hypothermia appear weak, gaunt, and hunched up. In severe cases, the lamb may be unable to hold its head up and may even be unconscious. The ears and mouth may feel cold, and the lamb may lack a suckling response. The normal body temperature for lambs is 102˚ to 103˚F. Lambs with temperatures below 100˚ are considered hypothermic. Use a rectal thermometer to measure body temperature.

In newborn lambs, true hypothermia may result from exposure. In these cases, it is necessary to get warm colostrum into the lamb immediately to bring its body temperature up. Tube feeding is an effective means to administer this colostrum. It may also be necessary to move the lamb into a warmer environment to elevate its body temperature. If wet, the lamb should be dried off and wrapped in a towel. A cardboard box can be used to confine the lamb, with jugs of warm water used as a heat source. This method is similar to the heating boxes that are sold commercially. Heat lamps may also be effective. However, heat lamps should not be used routinely in the lambing barn. They are expensive to operate, and do not supply enough heat to prevent hypothermia. They also are a fire risk. Healthy lambs are adaptable to very cold temperatures, provided the environment is dry and free of cold drafts. As the lamb warms up, monitor its body temperature. Water baths have also been used to warm lambs, although care should be exercised not to use very hot water (>105˚F), which will warm the lamb too quickly and cause shock.

For lambs that are older than 24 hours, hypothermia usually is a result of starvation. Without energy from milk, lambs become hypoglycemic, then hypothermic and may die. Treatment for these situations is similar to that used for the newborn, with the exception that older lambs need not receive colostrum. Milk replacer can be fed with a bottle or feeding tube. The milk should be warm, but not hot when a drop is placed on the inside of your wrist. As a guideline, these older lambs should receive 6 to 8 ounces of milk per feeding.

Orphan Lambs

Orphan lambs may result from abandonment, rejection, or the death of the ewe. Options to consider are grafting the lambs on another ewe, artificial rearing with milk replacer, or selling the lambs if an outlet is available.

Many methods are used to graft orphan lambs to other ewes. The largest, most aggressive lamb is usually the best candidate to graft. Grafting works best when the lambs to be grafted are similar in age to the ewes' own lambs. Grafting a triplet lamb to a ewe with a single is the usual case. The grafting process should be initiated as soon after birth as possible. The longer the ewe and her lambs are together, the stronger the bond to each other becomes. Older lambs are difficult to graft not only due to rejection by the adopting ewe, but also rejection of the ewe by the orphan lamb. In all cases, as described previously, colostrum intake by the orphan lamb in the first 24 hours is important.

To get a ewe to accept an orphan lamb, the ewe must think the lamb is her own. Some ewes are easier to fool than others. If grafting to a ewe that has just given birth to her own lamb, rub the orphan lamb in the birthing fluids and afterbirth to give the orphan lamb the smell of her own lamb. Another method involves a stocking that is worn by the adoptive ewe's own lamb for a day or two, and then placed on the orphan lamb. In all cases, place the ewe's head in a stanchion so she can eat and drink but not turn to smell and fight the lambs. This forces the ewe to allow the orphan lamb to nurse. The length of time required for successful grafting varies. Over a period of three to seven days, most ewes will accept the new lamb. Ewes with grafted lambs should be monitored closely once they are turned out.

Lambs may also be raised artificially on milk replacer. The milk replacer should be specifically formulated and labeled for lambs. Again, lambs require colostrum within the first 24 hours after birth and then may be placed on milk replacer. The best candidate for artificial rearing in a multiple birth situation is the smallest, weakest lamb. The sooner the lamb is taken off the ewe, the easier it is to train to the bottle. It frequently takes several feedings to train the lamb to the bottle. Starting with a hungry lamb (five to six hours since last feeding) will assist in training. It may be necessary to force-feed the bottle. Lambs will consume around 20 percent of their body weight in milk per day. This would equate to about 38 ounces per day for a 12-pound lamb (12 pounds x 16 ounces per pound x .20 = 38 ounces). This amount should be divided according to how many times the lamb will be fed per day. One- to two-day-old lambs should be fed a minimum of four times a day, while older lambs can be fed only twice. Initially, the milk should be fed warm to stimulate intake. Once lambs are acclimated to the bottle, time and labor are saved if the lambs are fed cold milk in a bucket feeder. It is important to thoroughly clean the nipple bucket at least twice daily and to keep the milk fresh to avoid spoiling. When putting lambs on the self-feeding bucket, group them by age and size to avoid competition. A warm, dry pen is important for the health of artificially reared lambs. Another important aspect of bottle feeding is to get the lambs started on dry feed and water as soon as possible. Have fresh lamb creep feed (20 percent protein) available to these lambs at one week of age. Artificially reared lambs can be weaned as early as three weeks of age (minimum weight of 20 pounds). Research at Virginia Tech has indicated lambs can be artificially reared for around $25 per head. For more information on this subject, refer to *Profitable Artificial Rearing of Lambs*, Virginia Cooperative Extension publication 410-023.

Docking and Castration

There are several tools available for docking and castration, including:

1) Knife
2) Emasculator
3) Elastrator
4) All-in-one Castrator
5) Burdizzo Emasculatome

Your choice of instrument depends on your management practices and the lamb's age at docking and castration. All of these tools, when used correctly with proper sanitation, are effective.

Lambs that are docked stay cleaner and are less likely to have fly strike. Mature sheep with intact tails may have problems at breeding and lambing time. Intact males are frequently discounted at marketing. Feeding ram lambs and ewe lambs together may result in decreased weight gains and unwanted pregnancies.

Docking and castration are best when performed at the same time, usually two to five days after birth. At a young age, there will be less stress on the lambs. Additionally, these practices are faster and simpler to perform for the producer when the lambs are young. Lambs should be docked before they reach two weeks of age, and castrated by six weeks of age.

Vaccination of ewes with Clostridium perfringens type C and D with tetanus approximately three weeks before lambing will provide protection for lambs against tetanus (via colostrum), provided docking and castration are done a few days after birth. If ewes have not been vaccinated with tetanus prior to lambing, lambs should receive 300 IU of tetanus antitoxin as well as tetanus toxoid. Do not mix the antitoxin and toxoid in the same syringe or give in the same location (use opposite sides of neck). The toxoid produces an immune response in the lamb, while the antitoxin provides antibodies. For lambs that are three to four weeks old at docking and/or castration, vaccinate with tetanus toxoid. The antitoxin may be used in high-risk situations.

As a guideline, the tail should be docked at the point in which the caudal skin folds join into the tail. These skin folds are found on the underneath side of the tail, just above the anus, and terminate about 1 inch down the tail. Exercise care to avoid docking tails extremely short. Excessively short tail docks, in combination with other factors, contribute to an increased incidence of rectal prolapses.

An emasculator is frequently used for docking. The emasculator has both a crushing and cutting mechanism. The crushing mechanism seals the blood vessels on the tail remaining on the lamb, while the cutting edge effectively removes the tail. The burdizzo works in a similar fashion to crush the tissue on the end of the tail. A knife is used to cut off the long end of the tail (inside the burdizzo). With the emasculator and burdizzo, each device should be left on the tail for approximately 30 seconds to help prevent bleeding. Application of elastrator bands is also quite common, especially for producers with sheep that will be exhibited at shows. Since tail removal with the elastrator bands is a two- to three-week process, fly strike can be a problem. The tail can be cut off below the band after two or three days to speed the removal process.

Before castration, it is important to confirm both testicles are descended. The most popular choice for castration is the knife. With the lamb held in a sitting position, cut the bottom third of the scrotum off with a knife or the scissors portion of the all-in-one tool. Push the cut end of the scrotum towards the body to expose one testicle. Use your fingers, or all-in-one tool to grab the testicle firmly. With your free hand use your thumb and index finger to grab the neck of the scrotum and hold it firmly against the lamb's body. Between your fingers you should feel the cord of the testicle. Slowly and gently pull the testicle out until the cord breaks, allowing the cord to slip between your thumb and index finger while maintaining pressure on the scrotum against the body wall. This procedure will help prevent hernias. Repeat the procedure for the second testicle. Cutting or severing the testicle cord with a knife will cause bleeding and should be avoided.

An elastrator band may also be used for castration. The band is placed around the neck of the scrotum, just below the teats. Be sure to have both testicles in the scrotum when the band is released. In two to three weeks the scrotum will fall off. As with the tail, the scrotum may be removed below the elastrator band after a few days, which will leave a small cut that will heal quickly.

After docking and castration, wounds should be treated with iodine or wound dressing. Docking and castration should be delayed for lambs that are small, weak, thin, or unhealthy. These lambs should be allowed to regain strength before processing.

Checklist of Supplies and Equipment for Lambing Time

- OB sleeves
- OB lube
- thermometer
- ear tags and tagger
- vaginal retainer
- lamb warming box
- heat lamps
- scissors
- docking and castration tools
- stomach tube with 60 cc syringe
- bottle with lamb nipples
- frozen colostrum
- lamb milk replacer
- 18 and 20 gauge needles (1 inch)
- 3, 6, and 12 cc syringes
- 7% iodine solution
- injectable selenium/vitamin E
- tetanus antitoxin
- fly spray
- propylene glycol
- antibiotics
- electrolytes

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