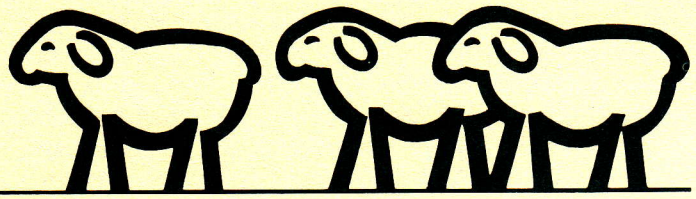
sheep management



fact sheet no. 17

Reducing Baby Lamb Mortality

Lamb death loss from birth to weaning is a major factor affecting profitability of any sheep operation. Estimates of such death loss range from 5 to 25 percent. In 1985, the sheep enterprise record book summary verified this to be an accurate range, with the average death loss from birth to weaning at 14 percent for Iowa flocks.

There are five major categories of death loss: still births, starvation, respiratory disease, weak lambs, and intestinal disorders. The objective of this fact sheet is to present management and health procedures to reduce this death loss.

Late Gestation

Many very important management inputs need to be accomplished in late gestation (last 6 weeks). This period of gestation is a time of rapid fetal growth. Ewes need to receive extra energy to provide adequate nutrients for this fetal growth. Additional energy is usually provided by feeding more concentrate. Specific rations and nutrient requirements for ewes in late gestation are provided in Pm-419, *Applied Sheep Nutrition.*

Shearing the ewe flock prior to lambing is a good management practice except for some very extreme situations such as an operation without any shelter. Ewes with short fleeces are easier to observe for condition or lambing status, lambs can nurse easier, thus reducing starvation losses, and facilities will be drier with fewer pneumonia or scours problems. Furthermore, ewes in short fleece are less likely to lamb outdoors or lay on their offspring, and they require less feed bunk and building space.

Ideally, ewes should be sheared 4 to 6 weeks before lambing. If facilities are not adequate to protect winter-shorn ewes, then shearing in late fall would be advised to minimize the wool length on ewes at lambing time.

Ewes should receive a booster immunization against Clostridium perfringens Type C and D toxoid. This will help protect the ewes from high levels of grain feeding and will also increase baby lamb protection because colostrum (first milk) will have a higher concentration of antibody.

Ewes should receive an injection of selenium/Vitamin E solution along with their overeating booster 2 to 3 weeks before lambing. Many firms offer a selenium/Vitamin E product; however, the dosages vary drastically due to the concentration of selenium (mg/ml). Label directions must be understood and carefully followed because selenium can be toxic.

To further ensure that ewes have adequate selenium and Vitamin E, ewes should have access to a trace mineral mixture that contains selenium. Mineral mixes formulated for other livestock species, especially swine, should not be fed to sheep because they may contain excess copper.

Proper ewe condition is critical for lamb survival. Ewes should receive extra energy to get them into above average condition at lambing. This will increase milk production, which results in faster lamb gain. Furthermore, ewes in correct condition will give birth to strong, vigorous lambs of moderate size. Over- or under-feeding at this critical stage of production will result in lambs that can be too large or too small for maximum survival.

Reducing the feed provided to fat ewes to reduce their condition is not recommended for late gestation since it increases the risks of pregnancy toxemia (twin lamb disease). For specific information on condition scoring, refer to Pm-989-14, *Condition Scoring Ewes.*

Antibiotics for Ewes

Research at the University of Wyoming and South Dakota State University demonstrates that feeding ewes 60 to 65 mg aureomycin per day prior to lambing will significantly reduce lamb mortality. Wyoming researchers re-

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duced death losses by 73 percent, whereas South Dakota research reduced lamb death loss by 65 percent.

Ohio State University researchers successfully used sulfa medicated water to reduce lamb death losses caused by respiratory infections. The treatment utilizes 1 gallon of sulfamethiazine in 120 gallons of water. This treatment is initiated 14 days prior to the start of the lambing season. Ewes receive medicated water for 5 consecutive days. After the first 5 days, ewes are given unmedicated water for 2 days, followed by medicated water for 2 days, again followed by unmedicated water for 2 days and finally, medicated for the last 2 days.

To ensure adequate intake of the medicated water, it should be the ewe flocks only source of water on the treatment days. Ewes that have not lambed within 30 days of the completion of the sulfa treatment should again be treated as described above. Generally, sulfa treatment is preferred when pneumonia is the major cause of death loss.

Facilities and Equipment

When the ewe flock is ready to lamb, facilities need to be adequately prepared. The goal of good sheep housing is to provide ewes with a dry, correctly ventilated environment. Facilities should also be constructed to allow flexibility for subdividing the ewe flock into various production groups, for example, lactating and pregnant ewes.

Problems with pnuemonia and scours are increased when lambs are exposed to wet bedding and ammonia gases. Ammonia is heavier than air; so, if odors are detected at eye level, facility modifications are necessary to improve air quality.

Heated housing is not a necessary requirement for sheep facilities. Wool's insulation value provides adequate protection against cold stress except in extreme conditions (−20° F wind chill). Even baby lambs, once their wool is dry and they have consumed colostrum, are quite resistant to cold. The ideal temperature for heated facilities is slightly above freezing (33 to 35° F). This temperature will minimize fuel bills and moisture content in the building. Mechanical ventilation to maintain air quality is mandatory in heated facilities.

Heating facilities that are not properly constructed for that purpose will result in increased lamb health problems. Producers can monitor the accumulation of frost or condensation on roofs and side walls as an indication of adequate ventilation. If facilities need modifications, such as exhaust fans or ridge vents, further information can be obtained through MWPS-3, *Sheep Housing and Equipment* (1982 edition), or an agricultural engineer.

When adverse weather conditions exist, using supplemental heat from heat bulbs may be necessary. Use should be discontinued as soon as newborn lambs are dry. Extreme safety precautions must be taken to prevent fires.

Other equipment needed for a successful lambing season might include: lambing pens (jugs), stomach tube, water and feeding devices, creep gates, and identification materials. Lambing pens (at least 24 square feet per pen) are used to contain the ewe and her offspring for the first 1 to 3 days after lambing. During this period, ewes and lambs should be closely monitored for bonding and their overall health and welfare. Generally, it is preferred to allow ewes to lamb in the drop area and then confine them to the jug. At least one lambing pen should be available per 10 ewes. How long they are kept in these pens depends primarily on how well mother and offspring are getting along.

A required piece of equipment of all sheep operations is a lamb reviver (stomach tube). This apparatus is very useful in force feeding lambs that are too weak to nurse. Lambs should be fed 1 ounce of colostrum per 4 pounds of body weight. Lambs that exhibit signs of hypothermia (cold) should receive special attention. See SH 85-5, *Caring for Chilled Lambs* (Wisconsin) for more information.

All sheep operations need some form of identification system that can be used to pair up ewes with their lambs. This is necessary when lambs need special attention, such as rejugging.

Lambing cubicles are open front pens that take advantage of a ewe's tendency to isolate herself from the ewe flock when she lambs. Placing a 1-inch by 8-inch board along the bottom of the open side allows ewes to move in and out at their discretion. Approximately half of the ewe flock will lamb in these pens if they are located in the drop area, where most ewes lamb.

Cubicles are beneficial in preventing mismothering and lamb stealing by aggressive ewes with strong maternal instincts. As lambing percentage increases, the likelihood of mismothering also increases. Therefore, in flocks with a high percentage of twins and triplets or part-time shepherds, cubicles would be beneficial. Cubicles can be used as lambing jugs by simply closing the open front portion to prevent ewes from leaving.

Lambing Season Length

Lamb mortality generally increases as the lambing season progresses. This probably results from two factors. The first and probably most important is facility contamination, which builds up throughout the lambing period. The lambing environment becomes increasingly contaminated with infectious organisms that result in scours, pneumonia, and various other health problems. Shepherd fatigue also contributes to lamb losses. As the lambing season progresses, the workload increases because producers are not only lambing ewes but caring for lambs that are already born. Less labor is available to care for newborns and they have to make it on their own.

This problem is easy to solve. Producers should breed their ewes over a 35-day period. Ewes that do not settle during this short breeding season should be culled or re-exposed for later lambs. If producers have ewe flocks that will not flow through their lambing facility in this short time period, they should consider breaking the lambing season into several short lambing periods. This will allow time to recover from the highly labor intensive lambing period. Furthermore, it allows the facilities

to rest and be thoroughly cleaned between lambing sessions. Restricted, distinct lambing intervals also result in lambs that are more uniform in size and age, therefore being much easier to manage. Also, lambs can be marketed when they are finished in larger, more uniform groups.

Docking and Castration

Lambs should have their tails docked and be castrated at an early age (less than a week) to minimize stress. The preferred method of docking is the one that works well in your operation. The main concern is that docking be completed with maximum cleanliness to avoid infection.

Docking is a necessary management practice to prevent wool strike. Extremely short docking may increase the incidence of rectal prolapses and should be avoided. When docking, the stub should be at least ½ inch; on older lambs the length should be 1 inch. Failure to dock or castrate lambs will result in marketing discounts and increased health problems for undocked lambs.

Creep Feed

Providing a creep area for the lambs is beneficial to improve their performance. The feed offered in the creep should be kept clean and fresh. Bunks should be constructed in such a way to prevent lambs from getting into them and fouling the feed. Locating the creep in a well lighted area will encourage lambs to use it. Water should be available in the creep at all times. Lambs will begin to consume a small amount of creep at 1 week of age, but should have access to it earlier because it provides a sanctuary for them from the ewe flock. The creep feed should be composed of quality feedstuffs that are palatible to the lambs. Specific rations are provided in Pm-419, *Applied Sheep Nutrition.*

The main disease problem of lambs once they reach 3 weeks of age is overeating. To aid in reducing this problem, lambs should be vaccinated with Clostridium perfringens Type C and D toxoid at 30 days of age. For maximum protection, lambs should receive a booster vaccination 14 to 21 days later.

Grafting and Orphan Lambs

Lambing time would be much easier if all ewes delivered strong, healthy twins and had an adequate milk supply for them. Although ideal, this does not necessarily occur. Lambs that are not receiving adequate milk should be grafted onto other ewes with adequate milk or raised artifically.

Many methods are available for grafting lambs. The preferred method is the wet or slime graft where the lamb to be grafted is covered with amniotic fluid and rubbed with the ewe's own lamb. This works best when completed before the ewe has gotten up after delivering her lamb. For ewes that have lost their lambs, fastening the ewe in a stanchion can be used to coerce acceptance of other lambs.

Smell is the primary sense by which ewes identify their lambs. This knowledge has been used in developing a relatively new method of grafting lambs with stockings or blankets. The lamb's odor impregnates the stocking or jacket and when removed and placed on the foster lamb, gives it the same odor. All attempts should be made for ewes to raise the majority of the lamb crop rather than raising them artifically.

Some lambs cannot be grafted and should be raised artificially. Lamb milk replacers have been developed that provide adequate nutrition and desirable performance of artifically reared lambs. Close observation and strict sanitation are necessary for successful rearing of these lambs. Producers should provide these lambs with a clean, dry environment. Ad libitum feeding of cold milk replacer is the preferred method since it is less labor intensive and results in the fewest digestive disturbances.

Artifically rearing lambs is economical if lambs are weaned early (3 weeks of age) and morbidity is minimized. Lambs weaned at this early age suffer a temporary growth check for 3 to 4 days. The savings in milk replacer not fed, however, is worth this temporary growth check. To ensure successful weaning at 3 weeks of age, lambs should have access to high protein (24%) creep feed and clean water from day one. After weaning, lambs should continue on the same creep ration for at least 3 weeks, at which time the crude protein level can be reduced. For more information on orphan rearing, see SH 85-4, *Raising Those Orphan Lambs* (Wisconsin).

Flock Health

Producers should establish a sound preventive health program with the assistance of their veterinarian. The first animal that dies is the most important because accurate diagnosis may prevent further losses. Unexperienced shepherds must realize their limitations in treating sick animals and use professional assistance as needed. Health costs usually are lower for preventive health programs compared with those that try to cure animals after they are sick.

Observation

At no other time of the year is the shepherd's eye more critical for success than at lambing time. Producers must be on the alert for problems. This might be ewes in poor condition that need additional nutrient intake, lambs that are not receiving adequate milk, or ewes experiencing lambing difficulties. Early detection, with appropriate action taken, increases the chances of successful treatment.

Ewes will display behavior patterns that indicate they are getting close to lambing. The ewes udder enlarges as lambing time approaches. Within 24 hours of lambing, the teats will fill with colostrum and be distended. Because the lambs are repositioning themselves for the birth process, the ewes sides will sink in. The muscles in the rump area relax to allow the pelvic opening to enlarge and the vulva will swell.

At lambing time, ewes will be restless—they will get up and down frequently. Many times ewes will also bleat and paw the ground. The first real sign of parturition is the water bag. Once this is broken, the birthing process advances rapidly with lambs born within

the hour. Ewes that have displayed hard labor for 30 minutes without delivering a lamb require assistance. Publication Pm-829-7, *Dystocia (Lambing Problems),* contains various sketches of malpresentations and the subsequent corrective measures to take.

Since the very young lamb has a minimum amount of body reserves, early detection and treatment of problems is necessary for successful response. Half of the baby lamb losses occur before they are 7 days old. Lambs of this age should be closely monitored, probably three times per day. To evaluate their status, producers should make all lambs get up. If a lamb stretches, it probably is doing well. If, however, its ears are down and it mopes around or is doing a lot of crying, it probably has a problem.

After lambs are a week old, they should be individually evaluated two times per day. Producers should evaluate lambs after the mature ewes have been fed. During this more quiet time, it is much easier to concentrate on the lambs. The majority of lambs that have been turned out of the lambing pens will be very active at this time. Lambs that are not feeling well or are slow will be easily observed. Producers should strive to make these observations a standard management practice, because it allows for early detection and treatment of problems.

Because of expenses already incurred and the loss of potential income, the goal of all sheep producers should be to save every lamb that is born. Producers must pay close attention to details to accomplish this goal. The time commitment needed at lambing is quite large. Producers with large flocks can justify hiring part-time help during the lambing season. Management input is critical for a successful lambing season and should be carefully planned and carried out. Even though lambing is the most difficult portion of the production year, it can also be the most gratifying as you observe the fruits of your labor.

Weaning Management

Properly weaning ewes from their lambs can have a significant impact on current and future lamb crops. Protein and energy levels in lactation diets should be reduced at least 7 days before weaning. Low quality feedstuffs, such as cornstalks and straw, make excellent lactation rations for the week prior to weaning. This diet change will initiate the drying-up process prior to weaning. Ewes also should be withheld from water for 24 hours prior to weaning and until 24 hours after weaning. Ewes should be maintained on low quality diets for at least 7 days post weaning.

This weaning strategy should decrease the incidence of mastitis infections at weaning time and ensure adequate milk production for the following lactation. Lambs should be kept in familiar surroundings and ewes should be moved out of sight and hearing if possible. Ewes that are severely infected with mastitis or have chronic mastitis problems should be culled from the ewe flock.

References

Iowa Extension

Pm-419, *Applied Sheep Nutrition*
Pm-829-2, *Abortions in Sheep*
Pm-829-7, *Dystocia (Lambing Problems)*
Pm-989-14, *Condition Scoring Ewes*
MWPS-3, *Sheep Housing and Equipment*

Wisconsin Extension

SH 85-4, *Raising Those Orphan Lambs*
SH 85-5, *Caring for Chilled Lambs*

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