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Feeding/Managing Early Weaned Lambs

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Early weaning of lambs has only recently been viewed as an acceptable management practice by the American sheep industry. Historically, however, early weaning has been followed worldwide by specialized segments of the sheep industry.

Why Wean Lambs Early?

One reason for early weaning range lambs is to avoid the high death losses that frequently occur on the range. Lamb losses may result from:

- **Predators**. Obviously, you can more easily protect lambs against predators in a feedlot than on open range.
- **Incompetent herding**. This often results in strays and lightweight lambs.
- **Storms**. Lambs may drift, pile up and die during heavy storms.
- **Poisonous range plants**. These are not a hazard in a feedlot..
- **Starvation**, caused by infection from plants such as needle and spear grasses. Again, this hazard is minimized in a feedlot.

Early weaning of lambs will also reduce your dependence on range as a total feed resource. You benefit because:

- You will need less range feed with lambs in feedlot. Lambs on range will eat more than one-half as much grass as ewes while they grow to market weight.
- You can use ranges of poorer quality and lower elevations for dry ewes. Their nutritive requirements are much lower than those of ewes nursing lambs.
- You can save labor costs. Dry ewes can be combined into much larger bands than ewes with lambs.

Early-weaned lambs will gain as fast as or faster than unweaned range lambs. Research has shown that lambs weaned at 45 to 60 days and provided with high quality pasture had gains similar to lambs remaining with their dams. In an Idaho study, early-weaned range lambs raised in drylot gained about 50% faster than lambs allowed to run on the range with their mothers.

Early-weaned lambs finished properly in drylot will be ready for market from 1 to 3 months earlier than lambs on the range. Most market years, the lambs marketed early will bring higher prices than those marketed later.

Finally, early-weaned lambs are more efficient in converting feed to body gain. Research results show that for each pound of gain, pre-weaned lambs require 2 to 2.5 pounds of feed, early-weaned lambs require 2.5 to 4 pounds and late-weaned lambs require 6 to 8 pounds of feed.

Lamb Management Before Weaning

Lambs can be weaned successfully as early as 40 days of age under research conditions. However, if weaning occurs at about 60 days, the lamb should have less difficulty functioning as a ruminant.

The suckling lamb passes through two stages in becoming a functional ruminant. The first phase, from birth to 21 days, is the non-ruminant phase when the lamb requires either mother's milk or artificial rearing on highly specialized diets. The second phase, from 21 days to 56 days of age, is the transitional phase. During this phase, the suckling lamb with access to feed, either the same feed the ewe is eating or a specialized creep ration, develops the physical, histological and metabolic characteristics of a functional ruminant.

Normal development of the stomach is related both to age and to feed. If lambs are to be weaned early, they must be given a source of palatable feed as early in life and as long before weaning as possible. Thus, creep feeding is essential for early weaning.

Creep Feeding

Lambs will begin to nibble at grain and hay when they are about a week old, so you should provide access to creep feeders in mixing pens 7 to 10 days after birth. Although lambs will eat only small amounts for the first 3 or 4 weeks, that early creep feeding will establish both rumen function and the habit of eating.

Feed a simple grain mixture with quality alfalfa hay for roughage. For rumen development, the daily creep ration should contain at least 30% alfalfa hay; 50% is better. Soybean oil meal (SOM) in a starter ration increases palatability and adds protein. Oats and loose, dried molasses beet pulp (DMBP) are both palatable. However, young lambs may scour if they eat too much DMBP.

Pre-weaned lambs will do well on creep rations containing 12% crude protein since they are also feeding on their mother's milk. However, you should increase crude protein to 15 to 17% before weaning, then continue the same ration after weaning.

Suggested mixtures for creep feeding are: (1) 50% barley, 25% DMBP, 25% oats; (2) 70% barley, 30% DMBP or oats; or (3) 80% shelled corn, 10% oats, 10% SOM.

Self-feed a whole, rolled or completely pelleted ration. Avoid finely ground, dusty feeds. And, since lambs will sort and chew, replace the creep feed daily with fresh, palatable feed and give the left-over feed to the ewes. Lambs should eat about 0.5 pound of creep ration per day at 20 to 30 days of age and from 1 to 1.5 pounds per day at 40 to 50 days.

Vaccination Programs

Overeating disease (enterotoxemia) — Vaccinate the ewe during pregnancy with *Clostridium perfringens* type D, toxoid to prevent losses in young lambs (up to 6 weeks old). If the ewes have not been vaccinated previously, vaccinate them 6 weeks before lambing and again 3 weeks before lambing. If your ewes have been on a vaccination program, give them an annual booster 3 weeks before lambing. Then vaccinate the lambs at 4 weeks of age with *Clostridium perfringens* type D, toxoid.

If ewes have not been vaccinated for enterotoxemia, you will gain some protection against the disease by vaccinating newborn lambs with *Clostridium perfringens* types B, C and D antitoxin and vaccinating again at 4 weeks of age with *Clostridium perfringens* type D, toxoid.

White muscle (stiff lamb) disease — When white muscle is an annual problem, inject ewes with selenium torophoral 1 to 4 weeks before lambing. When white muscle disease is diagnosed in a flock, treat all lambs at birth with a selenium and vitamin E injection. Administer according to manufacturer's directions printed on the label.

Soremouth (contagious ecthyma) — Vaccinate lambs at docking time if the herd or premises are infected with this contagious virus disease. (This disease also affects man.)

Growth promotants can be used to an advantage with early-weaned lambs. However, some research indicates there may be an association between the use of growth promotants and the incidence of rectal and vaginal prolapse and urinary calculi.

Lamb Management at Weaning

The less you disturb lambs during the weaning period, the less loss they will have from digestive or other "off-feed" problems. After sorting, keep the lambs in the original corrals where they are accustomed to surroundings. Move the ewes to a new area away from sight and sound of the lambs.

Provide clean, fresh running water for the lambs, preferably supplied by a constant drip. The lambs will be encouraged to nurse that drip and thus will drink water during the critical weaning stage.

Wean lambs on the same ration that you fed during the pre-weaning period. The best way to combat "weaning shrink" is to be sure the lambs continue eating, so avoid any abrupt changes in feed formulation. Once the lambs have adjusted to weaning — in 14 to 21 days — you can change the rations and management to fit the desired feeding program.

Post-Weaning Management

In the post-weaning period, be careful to maintain the health and thriftiness of the lambs. Provide shade and shear if necessary. Drench them for internal parasites if necessary. Take measures to prevent urinary calculi and feed an economic concentrate-to-roughage ration.

Growing and Finishing Rations

Growing rations are high in fiber which is supplied principally by roughage. Growing rations should have 20 to 50% concentrate and 80 to 50% roughage. From the standpoint of lamb performance, research shows that little benefit is derived from using more than 50% concentrate in the diet, with the remainder being high-quality alfalfa hay.

Protein — Lambs weaned from 42 to 70 days of age perform well on rations with 15 to 17% crude protein. Older lambs should have at least 15% protein in the ration.

Urinary calculi — The ration of calcium to phosphorus should be 2:1, especially where herd history indicates a urinary calculi problem. Other factors that may help reduce the occurrence would be: (1) reduce urine pH by adding ammonium chloride (0.5% of diet); (2) increase urine volume to flush the tract and dilute the phosphates (salt at 3 to 5% of diet); and (3) maintain a clean water supply.

Finishing rations (when fed in loose mixed form) are usually high in concentrate principally from grain energy sources and may be fed during the entire post-weaning phase or the final half of the finishing phase for rapid gains and desirable finish. The concentrate-to-roughage ratios are essentially reversed from the growing rations with 50 to 80% concentrate and 50 to 20% roughage. A small amount of roughage (20 to 30%) in a high-concentrate diet seems to improve feed intake and lamb performance.

In most feeding research where both quality alfalfa hay and feed grain are fed as a complete ration, a ratio of 50 or 60% grain concentrate to 40 or 50% alfalfa hay has produced the most economical gains with least digestive disturbance. Generally, the concentrate-to-roughage ratio you select will be based on costs of the energy ingredients. Pelleting of rations containing over 50% concentrates frequently results in reduced feed consumption and gain.

Feeds for Lambs

Grains

Grains are the major source of energy and usually are the most costly feeds. In developing "least cost" rations, you need to consider all alternative energy sources and keep in mind the optimum level or limit for lamb feeding that may apply to a specific ingredient.

Corn or barley can be used to supply the total grain portion of the ration for lambs, but wheat appears to give the most consistent results when it makes up 50% or less of the grain. Dried molasses beet pulp and oats may be fed to lambs. Both add bulk to grain rations and this may be beneficial in certain feeding programs. Peas, beans, rye, and other energy sources may also be incorporated in lamb rations, in limited amounts, if costs warrant their use.

Molasses — and fat — may be used in limited amounts to reduce dust and bind fine feed particles together. Molasses also increases palatability of the feed. Fat is seldom added solely as a source of energy.

Roughages

Lambs are able to use roughages efficiently. The fact that lambs can be grown and finished to adequate slaughter condition with limited or no concentrates gives sheep producers a unique competitive advantage.

Alfalfa hay is an excellent roughage for lamb feeding. It is plentiful in most areas of Idaho and usually is high in protein. Corn silage is highly palatable to lambs, but should be fed in limited amounts because it is bulky and low in both energy and protein. Consequently lambs can't consume enough energy and protein to make maximum gains.

Methods of Feeding

The most efficient method of feeding weaned lambs will depend on your facilities, flock size and the cost and availability of both labor and equipment. You will not need elaborate feeding or feed-processing facilities.

Producers often "hand-feed" small groups of lambs, feeding given amounts of grain and roughage separately. Under these conditions, processing the feed ingredients is usually not justifiable.

When rations are self-fed free choice, the feed ingredients must be processed or mixed to prevent sorting by the lambs. Processing and mixing will allow the ration to "feed out" of feeders and will prevent separation of the feeds and losses from wind. Fat or molasses (even water, in rations fed daily) are often used to bind the feed ingredients together to reduce dust and feed waste. Self-feeders can be used for both storage and feeding if you purchase complete rations from mills for delivery at the ranch.

If processing equipment and labor are available on the ranch, semi-automated hand-feeding twice daily in fenceline feeders may be an economical feeding system for you.

Facilities

For feeding, watering and housing weaned lambs, you will need:

- Fence-line feeders, 12 inches per lamb.
- Self-feeders, 1 to 3 inches per lamb.
- Dirt feedlot, 20 square feet per lamb.
- Paved feedlot, 10 square feet per lamb.
- Barn area (winter), 10 to 12 square feet per lamb.
- Shade (summer), 4 to 6 square feet per lamb.
- Fresh water, 0.5 gallon per lamb per day. Allow 1 foot of open tank per 10 head of sheep, or 1 automatic bowl per 20 head.

Feed Processing

Processing to change the physical form of feed does not alter the nutrient qualities, but will increase the rate of passage through the lamb's digestive tract and improve palatability. Lambs will eat more and gain faster.

Processing grain isn't required for lambs. They generally do well when fed whole grain, although they will sort and select their preferred grains. Processing will help mix the rations to prevent sorting and will often make the feed easier to store and handle mechanically. Grinding, rolling and pelleting are the common forms of processing.

Grinding — Not recommended for lamb rations because grinding reduces palatability. Ground grain usually contains considerable "fines" so feed waste is high. Gains of lambs on ground grain are usually lowest, especially in term of feed efficiency.

Rolling — One of the least costly processing methods and usually a good one for feedlot performance. Coarsely rolled grains will produce the best results. The coarse grains have larger particle size, more bulk, fewer fines and less dust, and thus are more palatable for the lambs.

Pelleting — Although costly, improves palatability, rate of passage and feed intake. A pelleted complete ration forces the lamb to eat grain and roughage in the proportions you want. Therefore, the concentrate-to-roughage ratio is controlled and the tendency for lambs to go off feed is reduced. Research also shows that:

- Pelleting high-roughage rations (60% or more hay) will improve feed consumption, increase rate of gain and improve gain efficiencies.
- You can feed a wide range of concentrate-to-roughage ratios by pelleting, depending on relative feed costs. However, pelleting rations containing more than 50% concentrates usually does not improve lamb performance and often reduces consumption and rate of gain.
- Pelleting reduces waste and prevents sorting by the lambs.
- Pelleting improves palatability of rye, wheat and similar grains, and low-quality roughages. It does not improve palatability of high-quality hay.
- Parakeratosis of rumen from pelleted rations has been an occasional problem, but death losses from enterotoxemia and acidosis problems have been reduced when high-roughage pelleted rations were fed.
- Size or shape of pellet are not critical, within reason. The 3/16-inch pellet is popular and 1/4 inch to 1/2-inch pellets are used.
- Lambs on pelleted rations may crave roughage. Feeding small amounts of long hay will alleviate this craving but will not improve their performance.
- Pelleting is only feasible if adequate roughage is available at prices competitive with grains.

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