



Small Ruminant Fact Sheet Series

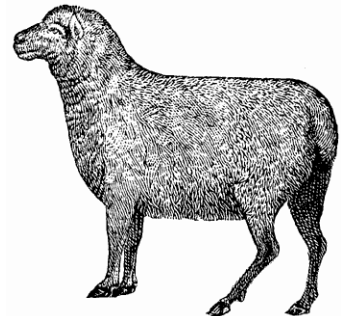
Getting ready for lambing and kidding

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What's happening during the last 4 to 6 weeks of pregnancy?

Seventy (70) percent of fetal growth occurs during the last 4 to 6 weeks of pregnancy. Most of the female's mammary (udder) growth is occurring during this period. At the same time, rumen capacity is decreasing. The result is the need for increased nutrition, usually a more nutrient-dense diet.

Extra nutrition is needed to support fetal growth, especially if the female is carrying multiple fetuses. Extra feed is needed to support mammary development and ensure a plentiful milk supply. Proper nutrition will help to prevent the occurrence of pregnancy toxemia (ketosis) and milk fever. It will ensure the birth of strong, healthy offspring of moderate birth weight. Birth weight is highly correlated to lamb and kid survival, with low and high birth weight offspring usually experiencing the highest mortality.



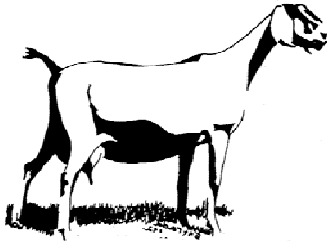
Nutrition during late gestation

During late gestation, energy is the nutrient most likely to be deficient in the diet of ewes and does. The level of nutrients required will depend upon the age and weight of the female and her expected level of production: singles, twins, or triplets. Environmental conditions may also affect nutritional requirements during late gestation. Pastured animals tend to have higher nutritional needs than barn-fed animals. Cold weather can also substantially increase nutritional requirements, as more feed is needed to maintain body temperature.

To meet the increased energy needs during this crucial period, it is usually necessary to feed concentrates (grain). If forage quality is low, it may also be necessary to provide a supplemental source of protein and calcium.

Feeding during late gestation

It is important not to over or underfeed pregnant females. Inadequate nutrition may result in pregnancy toxemia (low blood sugar), small and weak lambs/kids, higher lamb/kid mortality, reduced colostrum quality and quantity, poor milk yield, and reduced wool production (in the offspring) via fewer secondary follicles.



Fat females are more prone to pregnancy toxemia and prolapses. They experience more dystocia (birthing difficulties). Overfeeding can result in oversized fetuses that make it difficult for the female to deliver on her own. Feeding ewes and does more than what is nutritionally required is an unnecessary expense to the producer.

Here are some examples of some late gestation feed rations for ewes and does:

- ✓ Feed 3.5 to 4 lbs. of medium to good quality hay + 1.25 to 1.5 lbs. of concentrate
- ✓ Feed 4 to 5 lbs. of medium quality hay or pasture equivalent + 0.5 to 1 lb. of concentrate
- ✓ Limit the roughage intake of high producing females and feed them 1 lb. of grain for each fetus they are carrying.

Feed bunk management

In addition to feeding the proper amount of nutrients, you must also practice good feed bunk management. All ewes and does should be able to eat at once. If there is inadequate feeder space, some animals, especially the small, young, old, and timid ones, may not get enough to eat.

Pregnant ewe lambs and doe kids should be fed separately from mature females. Their nutritional requirements are higher, because in addition to being pregnant, they are still growing. They may also have trouble competing for feeder space. If ewe lambs and doelings cannot be managed and fed separately from mature females, breeding should be delayed until the yearling stage.

You should never feed pregnant ewes or does on the ground. This is how abortions are spread. It can also result in considerable feed wastage.

Selenium and Vitamin E

Selenium and Vitamin E are critical nutrients during late gestation. Low levels of selenium (Se) and/or Vitamin E have been associated with poor reproductive performance and retained placentas. Selenium is passed from the placenta to the fetuses during late gestation. Selenium supplementation will aid in the prevention of white muscle disease (nutritional muscular dystrophy) in lambs and kids.

Free choice mineral mixes usually provide adequate selenium to pregnant ewes and does. Be sure to feed mineral mixes that have been specifically formulated for the species you have. If you have sheep and goats, you should feed a sheep mineral, due to sheep's low tolerance for excess copper in their diets.

Flocks with a history of selenium deficiency may wish to add selenium to the grain mix as free choice minerals do not always ensure adequate intake. Selenium may be provided via injections, but supplementation is cheaper and safer. There is a narrow range between selenium requirements and toxic levels.

Monitor calcium intake

You also need to be concerned about calcium intake during late gestation. The female's requirements for calcium virtually double during late gestation. Milk fever (hypocalcemia) is caused by a low blood calcium level, which can be the result of an inadequate intake of calcium or failure to immobilize calcium reserves. Excessive intake of calcium can also be a contributing factor.

It is important to know the calcium content of the feeds you are feeding. While cereal grains (corn, barley, wheat, and oats) are good sources of phosphorus, they are poor sources of calcium. Some by-product feeds (e.g. soy hulls) contain higher levels of calcium than grains. Forages are usually higher in calcium than grains, especially legume forages (alfalfa, clovers, and lespedeza). It is generally recommended that you save your "best" hay for lactation, and feed a mixed (legume-grass) hay during late gestation.

Supplemental calcium can be provided through complete grain mixes or mineral supplements (dicalcium phosphate, bonemeal, and limestone). If a grass hay or other low quality forage is fed, calcium should be supplemented through the grain ration. Free choice minerals do not always ensure adequate intake of vitamins and minerals.

Vaccination for CD-T

Pregnant females should be vaccinated for clostridial diseases (usually *clostridium perfringens* type C & D and tetanus) approximately one month prior to parturition (giving birth). Vaccinated females will pass antibodies in their colostrum (first milk) to their newborns.

Ewes and does that have never been vaccinated or whose vaccination status is unknown will require two vaccinations, given at least two weeks apart. Males should be vaccinated at the same time.

There is some evidence to suggest that the CD-T vaccine is not as effective in goats as it is in other species. Some veterinarians advocate vaccinating does every six months.



Deworming

Small ruminant females experience a temporary loss of immunity to internal parasites (worms) at the time of parturition. It is the result of hormonal changes. Deworming with an effective anthelmintic will counter this "periparturient rise" in worm eggs and reduce the exposure of newborn lambs and kids to worm larvae.

All anthelmintics should be administered orally to sheep and goats. Due to a faster rate of metabolism, goats usually require higher doses of the anthelmintics. Deworming can be done at the same time as CD-T vaccinations. Valbazen[®] should not be given to ewes during the first trimester of pregnancy. All other anthelmintics, when administered properly, are not known to pose a risk to pregnancy.

Due to widespread drug resistance issues, a better strategy might be to increase the protein level of the gestation ration, as research has shown that protein supplementation during late

pregnancy can reduce fecal egg counts. Another good strategy would be to only deworm ewes and does showing evidence of internal parasitism (e.g. pale mucous membranes). Pasture-raised animals need to be more closely monitored for parasites than barn-raised animals.

Feed a Coccidiostat

It is a good idea to feed a coccidiostat (Bovatec®, Rumensin®, or Deccox®) to pregnant females during late gestation. While it is normal for sheep and goats to have coccidia in their digestive systems, if young lambs and kids are exposed to too much coccidia, they may develop clinical disease. Feeding a coccidiostat will reduce the number of coccidia being shed into the lambing and kidding environment, enabling young animals to develop immunity to coccidia without being overcome by disease. Continue feeding the coccidiostat through weaning.

There is evidence to suggest that feeding a coccidiostat (especially Rumensin®) during late gestation will aid in the prevention of abortions caused by *Toxoplasma gondii*, which is the species of coccidia that is carried by domestic cats. It is important to note that coccidiostats, especially Rumensin®, can be fatal to horses, donkeys, and mules.

Antibiotics

The use of antibiotics may aid in the prevention of abortions caused by Chlamydia (Enzootic/EAE) or Campylobacter (vibrio). Chlorotetracycline (aureomycin) is FDA-approved to feed to ewes to prevent abortions. It should be fed at a rate of 80 mg per head per day. Alternatively, injections of antibiotics (e.g. LA-200) every two weeks during late gestation may help to prevent abortions. Seek the advice of a large animal veterinarian if your flock is experiencing a high rate of abortion (more than 5%).

Shearing

It is a good idea to shear fiber-producing ewes and does approximately one month before lambing and kidding. There are numerous advantages to shearing prior to lambing and kidding. Shearing results in a cleaner, drier, healthy environment for newborn lambs/kids. Shorn ewes put less moisture into the air. Shorn ewes are less likely to lay on their lambs. They are more likely to seek shelter in inclement weather. Shorn ewes take up less space in the barn and around feeders. Shearing before parturition results in much cleaner fleeces.

Shorn females require more feed to compensate for heat loss, especially during cold weather. They require adequate shelter. An alternative to shearing is crutching. Crutching is when you remove the wool around the ewe's udder and vulva.

Getting your supplies and equipment ready

Two weeks before your first ewes and/or does are due to lamb/kid, you should organize your supplies and set up your facilities. While the general rule of thumb is to have one lambing pen per ten females, you may need more if your lambing and kidding is tightly spaced. A lambing pen, also called a "jug," is an enclosure (4 x 5 ft. or 5 by 5 ft) where you put the dam and her offspring together for 1 to 3 days to encourage bonding and for close observation. Even with pasture lambing/kidding, you will want a few pens in case you have some problems.

At least 14 days ahead of time, you should bring your ewes or does to the location where they will be lambing or kidding. This will enable them to manufacture antibodies specific to the environment in which their offspring will be born. Lambing and kidding can occur in a well-bedded barn or on a clean pasture. The area should be dry and protected from drafts.

Here are some suggested supplies to have on hand prior to lambing and kidding:

- Halter
- Propylene glycol or molasses (for treating pregnancy toxemia)
- Calcium borogluconate (for treating milk fever)
- 50% dextrose
- Syringes and needles
- Bearing retainer (spoon) or prolapse harness
- Rubber gloves, protective sleeves, or latex gloves
- OB lubrication
- Nylon rope, snare, or leg puller
- OB S-curve needle
- Towels and rags
- Heat lamp or warming box
- Antibiotics
- Thermometer
- Gentle iodine (or other disinfectant)
- Frozen colostrum (ewe, doe, or cow)
- Lamb/kid feeding tube
- Lamb/kid milk replacer
- Nipples
- Scale and sling
- Ear tags
- Pocket record keeping book
- Docking and castrating supplies

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