



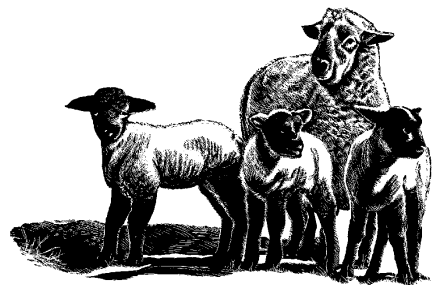
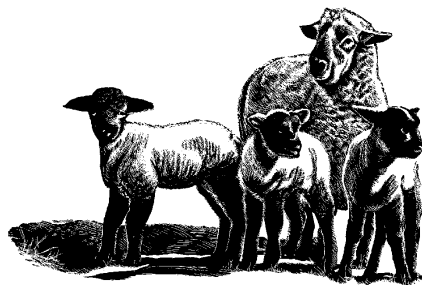
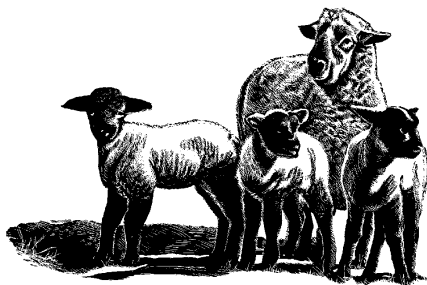
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Feeding and Managing the Ewe Flock



Brian Tarr
Ruminant Nutritionist

FEEDING AND MANAGING THE EWE FLOCK

Brian Tarr, Ruminant Nutritionist
Shur-Gain, Member of Maple Leaf Foods Inc.

Introduction

The number of lambs sold per ewe mated in the breeding flock has a considerable impact on sheep operation profitability. This depends primarily on fertility, prolificacy (# of lambs), lamb survival, mothering ability, milk production of the ewe and lamb growth rate. Optimal reproduction does vary by environment and management system – some sheep operations don't want a lambing rate over 200%. Breed type plays an important part in the prolificacy as well as their tendency to an extended breeding season. Nevertheless, the pounds of lamb produced per ewe mated in the flock affects profitability.

Since most producers finish their own lambs to a desired market weight, weaning weight is only of passing interest in many commercial operations. But it does serve to illustrate the importance of both a high weaning percent and weaning weight (Table 1).

Table 1. Effect of the weaning weight and percent on the pounds of lamb produced at weaning.

<u>Weaning</u>	<u>Weaning Weight (lbs)</u>				
<u>Percent</u>	40	45	50	55	60
150	60.0	67.5	75.0	82.5	90.0
160	64.0	72.0	80.0	88.0	96.0
170	68.0	76.5	85.0	93.5	102.0
180	72.0	81.0	90.0	99.0	108.0
190	76.0	85.5	95.0	104.5	114.0
200	80.0	90.0	100.0	110.0	120.0

The main factors affecting profitability in an operation are:

- The cost of the lamb
- The cost of keeping the ewe flock and feeding the lambs (feed to gain on lambs)
- Pounds of lamb produced per ewe mated
- Selling price of the lambs

Feed costs are an important component of the total cost of keeping a ewe. This means that feed sources must be used as efficiently as possible on a sheep farm. Most ewe breeds are short day breeders which allows for a concentrated breeding period in the fall and consequently an equally short lambing season 5 months later. The benefits of this are that most ewes in the flock will be at the same stage of production at any given time. This makes it easier to feed a group of ewes more accurately and cost effectively. Feeding more accurately, will not only optimize feed use, but will also help ensure good reproduction and production.

The pounds of lamb for sale per ewe mated is initially influenced by conception rate. High conception rates including high prolificacy are essential if productivity and profitability are to be maximized. Considering all the possible losses between conception and when lambs are weaned, accentuates the importance of the breeding period.

A high conception rate is key to a successful lambing season. Reproductive wastage is a major concern in flocks. Despite high conception rates, early embryonic deaths and abortions can markedly reduce the potential lambing percentage. Lambing percent is further reduced by dystocia, pregnancy toxemia and lamb deaths immediately before or after birth. Lamb mortality through to weaning reduces the weaning percent and ultimately the number of market lambs for sale.

There are three important stages in the production cycle where nutrition and management have a marked effect on production and reproduction. These include:

1. Pre-breeding / breeding.
2. Late gestation.
3. Lactation.

Gearing up for the breeding season

The breeding season is one of the most important periods in the production cycle of the ewe flock. It is important to manage ewes (and rams) well to ensure high conception rates and minimal subsequent losses.

Taking care of the ewes.

Get ewes into 3 – 3.5 body condition well before the breeding season. Ewes in low body condition (<2.5) at breeding show:

- Delayed onset of estrus activity
- Lower conception rates to first breeding
- Fewer eggs (ova) shed at ovulation, resulting in fewer lambs born per ewe mated.

Group ewes by body condition and feed to achieve a uniform body condition of 3 – 3.5 in the flock well before they are flushed for breeding.

- Ewes are most likely to spend the summer on pasture. Make sure to deworm them prior to the breeding season.
- Check feet for footrot. Trim all feet at least 30 days prior to the start of the breeding season.
- Check the flock – make sure they are healthy and ready for the breeding season.

Taking care of the ewe lambs.

If replacement ewe lambs are to be bred early, then they will need to be on a good nutritional program to ensure adequate growth. Ewe lambs must be at least 65% of their mature weight at the beginning of the breeding season. Ewe lambs must be 100 lbs at breeding if the mature weight is 154 lbs.

Taking care of rams.

All the rams required should be on the farm 2 months prior to the start of the breeding season. This will allow for several important steps to be taken prior to the breeding season.

- Most rams will likely have been on pasture. Make sure to deworm them prior to the breeding season.
- Bring rams in and provide them with a cool shady environment at least 50 days prior to breeding.
- Shear the rams if necessary to help regulate body temperature.
- Trim all hooves at least 30 days prior to the start of the breeding season.
- Condition the rams – feed to achieve 3.5 body condition score by the start of the breeding season.
- Have rams checked for breeding soundness, including semen quality checks.

Rams must be in excellent body condition but not over fat prior to the breeding season. Feed rams a good quality pasture or hay. Rams might need an additional 1 – 2 lbs of grain ration to ensure they are in good condition prior to and during the breeding season. Some special feeding considerations for rams:

- Feed a grain ration properly balanced for protein, energy and minerals.
- Feed a grain ration containing a urine acidifier to help prevent urinary calculi.
- Provide additional salt blocks for the rams
- Provide ample clean water at all times! This is particularly important with rams.

The number of ewes that can be mated per ram varies with season / ambient temperature, age, libido and physical condition of the ram. The following guidelines are helpful in making sure that adequate “ram power” is available for the breeding season.

- Well matured ram lamb – 15 to 30 ewes / ram
- Mature rams – 25 to 50 ewes / ram
- MGA (melengesterol acetate) or sponges to synchronize the ewes – 8 to 10 ewes / ram

Put inexperienced ram lambs in with mature ewes and experienced mature rams with maiden ewes whenever possible. This can help ensure breeding success. Table 2 lists some of the important reproductive parameters to bear in mind.

Table 2. Important reproductive parameters for the ewe flock

Item	Average	Range
Estrus cycle (days)	17	14 – 19
Length of estrus (hours)	35	20 – 42
Gestation length (days)	150	140 – 160
No. ova shed at ovulation		1 – 4
Age at puberty (months)	5	4 – 7

Managing fertility

The ewes.

Many sheep breeds are seasonal breeders with highest breeding activity coinciding with the shortest day. The number of ewes in estrus and ewes ovulating increases very rapidly in the fall and remains high for several months. There is a modest increase in the ovulation rate from the beginning of the breeding season in fall through to winter. There is a tendency for more multiple births later in the breeding season.

Ewes in body condition 3 – 3.5 typically produce more lambs than ewes that are thin (2.5 or less) or ewes that are too fat (> 4.0 BCS).

Two methods are also used to improve fertility early in the season (or out of season breeding) and /or help synchronize the ewe flock for breeding. These include:

1. The use of hormonal sponges
2. Feeding MGA (melengesterol acetate) to ewes for a limited period of time.

The rams.

High temperatures affect sperm production in rams. Ambient temperatures above 30 to 32° for a prolonged period of time will interfere with semen production and may lead to sterility in rams. Although this low fertility / sterility is not permanent, it can take up to 50 days of cool weather / environment for normal fertility to return. Rams should be kept in an environment less than 24° to ensure good fertility. Shearing rams can help keep them cool during the summer prior to the fall breeding season.

The teaser ram.

Anestrus ewes that have had no visual or sensory contact with rams can be stimulated to start cycling by the sudden introduction of rams (teaser rams). Introducing a teaser ram 10 to 14 days prior to the start of the breeding season will speed up the change from anestrus to normal estrus cycles. Ewes will normally ovulate within 3 to 6 days after the introduction of the teaser ram. The benefits of the teaser ram are:

- The first cycle is most often silent and less fertile
- Since most ewes cycle within a week, subsequent estrus activity will be synchronized to some extent.
- Ewes tend to conceive earlier in the breeding season.

However, using teaser rams does not necessarily increase lambing percent.

Flushing ewes

Increase the plane of nutrition prior to and during the breeding season. This is typically done by feeding ½ to 1 lb of corn / head /day starting 2 – 3 weeks prior to the start of the breeding season. The objective of flushing ewes is to increase the number of ova shed and consequently increase the lamb crop. The responses to flushing have been variable. Some of the observations have been;

- Ewes in medium (and poorer) body condition respond well producing a bigger lamb crop
- Flushing has a greater effect early or late in the breeding season.

Ewes must be grazed or fed grassy type forages. Forages high in legumes, such as alfalfa, clover and red clover contain higher levels of estrogen, which will delay breeding, reduce conception and consequently lower the lamb crop. Avoid feeding moldy feed that may have an estrogenic effect on ewes.

Ewes on high protein pasture (but low legume) are best flushed with grain only to avoid excess protein, particularly soluble protein that could interfere with fertility / conception. Whole corn is the most practical feed for these animals. *Always reduce grain gradually over a number of weeks at the end of the breeding season. This is important ensure the survival of as many embryos as possible.*

Lamb losses

Embryonic losses

Embryo implantation occurs at 21 – 25 days after fertilization. This is a critical stage in determining embryonic survival or death. Keys to improving embryonic survival are:

- Keep stress to a minimum.
- Avoid working ewes with dogs during the breeding season.
- Reduce grain feeding gradually at the end of the breeding season.

Ewes that fail to recognize the pregnancy will also lose the embryo and cycle again.

Fetal losses

Abortions and still births can be induced by many factors. Any time that this occurs, extreme caution must be taken. Here are some important steps to take.

- Get your veterinarian involved immediately.
- Remove the fetus, placenta and any contaminated bedding immediately. Wear protective gloves.
- These must be sent off for diagnosis (veterinary assistance is very important) or destroyed completely.
- Remove the ewes that have aborted, or that have a vaginal discharge, from the rest of the flock.
- Do not allow any contact of remaining ewes with any of the aborted material or aborted ewes.
- Never feed ewes, especially pregnant ones, on the ground where feed can be contaminated by urine and faeces – these are major routes of disease transmission.
- Prevent feed and water contamination from rodent, bird and cat faeces.
- Implement an effective vaccination program – consult with your veterinarian.

Some of the reasons for fetal losses include the following:

- Vibrionic abortion. This is caused by *Campylobacter*. Usually abort in the last 6 – 8 weeks of pregnancy. Rates of 30% are common but can also include abortion storms with up to 90% aborting.
- Enzootic abortion. This is caused by *Chlamydia*. Usually abort in late gestation. Often also evident as still births and weak lambs that die shortly after birth.
- Toxoplasmosis. Spread by cat faeces in water or feed. Abortions at any stage of pregnancy.
- Mycotic abortions. Feeding forages or grains contaminated with molds and mycotoxins.
- Listeriosis. Caused by *Listeria*. Feeding poorly fermented silages or through contaminated feed and water.

Baby lamb mortality

- Weak lamb syndrome. There are many possible causes for weak lambs. Some common ones include thin ewes, poor feeding in late gestation, complication of pregnancy toxemia, prolonged lambing, chilled lambs, failure to nurse and poor mothering by the ewe.
- Pregnancy toxemia. Similar to above with the potential for high mortality in affected cases.
- White muscle disease. Caused by selenium / vitamin E deficiency.
- Lambs from thin ewes. Ewes at 1.5 – 2.0 body condition had lambs 20% lighter than ewes in good condition. If the target birth weight was 9 lbs for good condition ewes, then thin ewes had lambs at 7 lbs with a substantially increased mortality.
- Low birth weights. Low birth weights are associated with higher lamb mortality. Table modified from Maund.

<u>Birth Weight Range (Lbs / Lamb)</u>	<u>% Mortality</u>
>9.0	2 – 3
8.0 – 9.0	9 – 10
7.0 – 8.0	11 – 12
6.0 – 7.0	27 – 29
5.0 – 6.0	33 – 35
4.0 – 5.0	67 – 69
< 4.0	90 - 92

Feeding and managing early and mid gestation ewes

The main objective during this period is to maintain weight and also to increase the weight on any thin ewes. Embryo survival, especially during the first 30 days, is sensitive over-conditioned ewes or ewes losing weight. This is a good time to put condition back onto thin ewes – feed grain or better quality hay as required but only to ewes that need the conditioning. Provide **Shur Gain Premium Sheep Mineral** at 15 – 30 g / head / day.

Feeding and managing late gestation ewes

The last four to six weeks of gestation is another critical stage in the ewe's production cycle. Lambs gain about two thirds of their weight in the last 6 weeks of gestation. The nutritional requirements of late gestation ewes are proportionally greater than cattle or pigs. This is because the fetus(es) represents a larger proportion of the total body weight in sheep compared to cattle. This partially explains why most of the metabolic problems occur in late gestation in sheep, compared to early lactation in dairy cows. Ewes that carry multiple fetuses have particularly high nutrient requirements.

Feeding correctly in late gestation is tremendously important! It will help:

- ensure that nutrient requirements are met despite lower feed intakes
- ensure proper fetal growth
- ensure the birth of healthy, vigorous lambs and reduce lamb mortality
- develop the udder tissue and prepare the ewe for high milk production after lambing
- reduce the incidence of pregnancy toxemia and the associated lambing complications
- prevent vaginal prolapse
- Increase colostrum quality and quantity

<u>Plane of Nutrition</u>	<u>Number of Lambs</u>	<u>Average weight / lamb (lb)</u>	<u>Colostrum at 1 hour (ml)</u>	<u>Colostrum at 10 hours (ml)</u>	<u>Colostrum at 18 hours (ml)</u>	<u>Total Colostrum (ml)</u>
Well fed	1	10.5	600	575	630	1805
Well fed	2	8.7	715	675	690	2080
Underfed*	2	7.1	160	375	455	990

*body condition score at lambing 1.5 – 2.0

Colostrum quality and quantity is affected by dietary protein, energy and vitamin E. Additionally, colostrum has high vitamin A and D. Providing adequate nutrition to meet these needs is important in ensuring that lambs are given a good start in life.

The two most common feeding and metabolic problems in late gestation ewes are vaginal prolapse and pregnancy toxemia. Both of these conditions can be prevented through correct feeding and management.

Vaginal prolapse

Several factors contribute to the incidence and severity of vaginal prolapse in the flock:

Too much roughage in the ration. In late gestation, there is less space available for the rumen. Ewes on high roughage diets will attempt to satisfy their nutrient requirements by eating as much as possible. This places pressure on the reproductive tract and results in prolapses. Ewes must be fed at least 0.5 lb of grain in late lactation to ensure they meet nutrient requirements on a lower volume of feed.

Over-conditioned (fat) ewes. Fat takes up space in the ewe, placing more pressure on the genital tract. Make sure ewes do not exceed BCS 4.

Inadequate feeder space. Ewes in late gestation must have 16"-18"/head (40-46 cm). Ewes that have to push and fight to get to the feed (grain) are more likely to prolapse. Inadequate pen space also contributes to the problem.

Ca:P ratio too high, low selenium levels. Excess calcium in the ration may lower selenium retention. Low selenium levels can contribute to prolapse. Calcium phosphorus ratio must be maintained in the range of 1.5 to 2.5:1.

Estrogenic compounds in the forage. Estrogenic compounds in some clovers and alfalfa may also contribute to prolapse. Feed a good quality mixed hay to the ewes.

Pregnancy toxemia (twin lambing disease, ketosis)

The most important cause of pregnancy toxemia is having ewes on a declining plane of nutrition in the last 6-8 weeks of gestation. Susceptibility to this condition increases when late gestation ewes are:

- on a decreasing plane of nutrition
- not fed adequate levels of grain
- overly fat (>4 BCS)
- carrying twins, triplets, multiples
- subject to sudden change in diet
- not given adequate exercise
- transported in late gestation
- exposed to storms or excessive heat

Affected ewes show nervous symptoms, are listless and lose their appetite, which further aggravates the condition. Ewes may die 2-5 days after symptoms are first noticed.

Feeding and management of transition ewes

To ensure that ewes maintain a BCS of 3 to 3½ and gain weight during late gestation, supplemental protein and energy must be fed. The amount of protein and energy required depends on:

- the forage (hay) quality being fed
- the lambing rate (lambing %)
- the maturity of the ewes
- the body condition of the ewes

Grain feeding.

Feeding and feeding management in late gestation is vital to the success of the sheep farming operation and contributes substantially to the overall profitability. The time to start feeding late gestation ewes additional grain and protein depends on:

- the body condition of the ewes
- the anticipated number of lambs carried
- past experience

As a general rule, flocks with lambing rates of 130% to 175%, should be fed grain starting 3-4 weeks prior to the start of lambing. Flocks with lambing rates of 180% to 225% must feed grain 4-6 weeks prior to the onset of lambing. In addition, ewes must be fed 5 – 10% more energy during cold weather, particularly if they are not well sheltered / housed. Shearing ewes at this stage can increase the energy requirement by as much as 45%.

There is always the risk of acidosis when grain is fed to animals. Transition ewes are very sensitive to ruminal upset and off feed problems. Because of the reduced dry matter intake, the grain needed to meet the ewe's nutritional requirements forms a greater proportion of the daily diet, increasing the possibility of acidosis.

Ewes that require more than 1 lb (~500 g) of grain mix per day must be started on ½ lb/ewe/day and increased to the full amount gradually over 10 to 14 days, hence the importance of starting early. The grain mix must be split into a number of feedings / day depending on the amount fed to late gestation ewes. General guidelines are:

Grain as % of dry matter intake	Amount of grain / ewe (lbs)	Times fed per day
30	1.5	2
40	2.0	3
50	2.5	4

Grains can be fed whole to ewes. This is preferable as processing grain (rolling / grinding) makes the starch more rapidly available in the rumen. This exposes ewes to greater risk of acidosis. Whole grains can be mixed with a protein supplement to make up a suitable grain ration to help meet all the nutrient requirements of close up ewes. The **Shur-Gain 34% Ewe & Lamb Supplement 200** can be mixed with grains to make the following ewe rations.

Custom Ewe Rations	16% Ewe Ration	15% Ewe Ration	14% Ewe Ration
34% Ewe & Lamb Supp 200	200	200	200
Barley	450	450	250
Corn	275	300	500
Soybean Meal	25	0	0
Molasses	50	50	50
Protein (%)	16.0	15.0	14.0
Calcium (%)	0.8	0.8	0.8
Phosphorus (%)	0.4	0.4	0.36

Grain rations between 14 and 16% crude protein will fit most of the feeding situations in practice provided hay quality is in the acceptable range. Additional formulations can be obtained from your SHUR GAIN representative or SHUR GAIN Franchise Dealer. Also consider getting a veterinary script to include an ionophore (Rumensin or Bovatec) in the ewe ration. Research in dairy cattle has demonstrated that Rumensin reduces the incidence of ketosis. This may have a similar effect on helping prevent pregnancy toxemia in ewes.

Feeding late gestation ewes to meet their nutritional requirements is critically important to the success and profitability of the operation. Shur-Gain has the feeds to meet these challenges. **Shur-Gain 15% Ewe Ration (pellet)** is another option.

The body condition and number of lambs carried are important determinants in deciding the amount of ration to feed. It is preferable to separate ewes for grain feeding so that the appropriate amount of grain is fed to all animals. This will help avoid over or under feeding ewes and the consequences of incorrect feeding. The minimum number of groups required are:

- 1) late gestation ewe lambs (first lamb)
- 2) late gestation ewes – singles
- 3) late gestation ewes – twins and triplets

If necessary, ewes can be further split to reflect differences in body condition. Over condition ewes (4 and greater) can be fed 10% less grain per body condition score than indicated here for ewes in BCS = 3.

Under condition ewes (<3) can be fed 10% more feed per body condition score than indicated in these tables. However, there are some overall guidelines for the maximum amount of grain that is appropriate to feed to late gestation ewes.

	<u>Forage % of TDMI*</u>	<u>Grain % of TDMI*</u>
Mature ewes - late gestation		
130 - 150% lambing	85	15
180 - 225% lambing	65	35
Ewe lambs - late gestation		
100 - 120% lambing	75	25
130 - 175% lambing	60	40

*TDMI = Total Dry Matter Intake

Tables 3 and 4 summarize guidelines for the Ewe Ration levels to be fed to late gestation ewes. The amounts assume that ewes are in body condition 3. Suggested levels of feeding are given based on the protein quality of forage (hay).

Table 3. Guidelines for Feeding Late Gestation Ewes (lbs Ewe Ration / ewe / day)

<u>Mature Ewes ; BCS =</u> 3.0	<u>Lambing %</u>	<u>Low Quality Forage</u> 8.0 – 10.9% CP	<u>Moderate Quality Forage</u> 11.0 – 13.5% CP
Body Weight	130 – 150	1.1	0.7
150 lbs	180 – 225	1.8	1.5
Body Weight	130 – 150	1.1	0.7
200 lbs	180 – 225	2.0	1.7

Using hay protein level as an indicator (not the best indicator) of quality, it is clear that better quality hay allows for lower grain feeding levels. This is a somewhat simplistic approach to assessing the quality of the hay, but does allow producers an easy and practical way to distinguish between different hay types on farm. It would be advantageous to feed ewes with multiples separate from those with singles. As well, allocating better quality hay to those ewes with multiples saves on grain feeding.

Always ensure that forage is fed to appetite, that ewes have free choice access to **Shur-Gain Premium Sheep Mineral** (intakes 15 - 30 g/h/d) and salt. This is important as one of the other problems encountered is white muscle disease - making sure that ewes have adequate levels of vitamin E and selenium is important in preventing this problem.

Table 4. Guidelines for Feeding Late Gestation Ewe Lambs (lbs Ewe Ration / ewe / day)

<u>Ewe Lambs ; BCS =</u> 3.0	<u>Lambing %</u>	<u>Moderate Quality Forage</u> 11 – 13.5% CP	<u>Good Quality Forage</u> 13.6 – 16% CP
Body Weight	100 – 120	1.1	1.0
110 lbs	130 – 175	1.5	1.3
Body Weight	100 – 120	1.3	1.2
130 lbs	130 – 175	1.6	1.5

Note that poorer quality hay cannot be fed to late gestation ewe lambs. The protein quality must range between 11 and 16% crude protein. If possible, feed the best quality hay available within this range. These ewes are still growing, as well as growing the fetus - this places tremendous strain on these ewes and their nutritional requirements.

Lambing considerations

The key here is to have as many lambs born alive and then to keep them alive. Lamb survival is top priority. The pens for lambing must be kept clean, dry and draft free. Prior to lambing, group the ewes according to age and body weight to reduce the stress on pregnant ewes. Provide adequate pen and feeder space to ensure that ewes can move about freely and have easy access to feed. Having ample clean fresh water available is critical to lactating ewes. For ewes to milk to their potential, they must be fed adequately and have free access to water. Some other important pointers:

- Make sure the udders are sound, teats are not blocked and that lambs get adequate colostrum
- Ensure that the lambs have bonded, are warm and sucking well. May have to use a claiming pen or raise some lambs as orphans.
- Tag, dip the navel, dock and inject as needed (check with your vet)

Feeding and managing lactating ewes

Feeding and feeding management of late gestation and lactating ewes is vital to the survival and rapid growth of lambs. The goals of feeding during this period are to ensure that:

- ewes will give birth to vigorous lambs, improving lamb survival
- ewes are fed adequately to maximize milk production
- lambs are able to take advantage of the high milk production and grow rapidly
- morbidity and mortality are reduced to a minimum in young lambs
- with improved flock productivity, net income per ewe is increased

Ewes and their lambs can be moved to hardening pens in small groups where they can be sorted according to the number of lambs, body condition, and age. The minimum number of groups that should be maintained are as follows:

Group # 1	Group # 2	Group # 3
Ewes with single lambs	Ewes with twins	Ewes with triplets
Fat ewes with twins	Thin ewes with singles	Thin ewes with twins

The feeding requirements for these three groups are quite distinct. It is most efficient to feed them as separate groups. Maiden ewes with their first lambs should be fed separately to reduce competition and allow these ewes to continue to grow. If pen space is limited, groups 1 and 2 may be combined. There are some overall guidelines for the maximum amount of grain that is appropriate to feed to lactating ewes given below.

	<u>Forage % of TDMI*</u>	<u>Grain % of TDMI</u>
Mature ewes - lactation		
singles	70	30
twins	65	35
triplets	60	40
Ewe lambs - lactation		
singles	65	35
twins	60	40

* TDMI = Total Dry Matter Intake

Ewes that require more than 1 lb (~500 g) of grain mix per day must have the grain mix split into two to three feedings/day for lactating ewes. This helps ensure that all ewes get the required amount of grain for high milk production as well as avoid grain overload.

The feeding levels of **Shur-Gain 34% Ewe & Lamb Supplement 200 (0%ECP)** based grain ration given below are guidelines only. The body condition of the ewes is important in deciding how much grain to feed. Ewes suckling twins or triplets can lose body condition very rapidly. Feeding levels and good feeding management are important to help these ewes maintain weight (or minimize body weight loss) and milk well.

Tables 5 and 6 summarize guidelines for the grain levels to be fed to lactating ewes. The amounts assume that ewes are in body condition 3. Suggested levels of feeding are given based on the protein quality of forage (hay).

Lactating Mature Ewes	No. of Lambs	Moderate Quality 11.0 – 13.5% CP	Good Quality 13.6 – 15.9% CP	Excellent Quality 16.0 – 18.0% CP
150 lbs / BCS = 3	Singles	2.1	1.9	1.6
	Twins	2.7	2.6	2.3
	Triplets	N/A	3.2*	3.1
200 lbs / BCS = 3	Singles	2.2	2.0	1.7
	Twins	2.8	2.7	2.4
	Triplets	N/A	N/A	3.5

Notes on table. BCS - Body condition score. N/A - Not Applicable because protein and/or energy cannot be met. * - Requirements almost met but still deficient at this grain level, higher feeding rate exceeds grain limit guideline.

Using hay protein level as an indicator of quality, it is clear that better quality hay allows for lower grain feeding levels. It would be advantageous to feed ewes suckling multiples separate from those with singles. As well, allocating better quality hay to those ewes with multiples saves on grain feeding. Ewes with higher numbers of lambs cannot be fed poorer quality hay and be expected to milk well and maintain good body condition.

Table 6. Guidelines for Feeding Lactating Ewe Lambs (lbs Ewe Ration / ewe / day)

Lactating Ewe Lambs	No. of Lambs	Moderate Quality 11.0 – 13.5% CP	Good Quality 13.6 – 15.9% CP	Excellent Quality 16.0 – 18.0% CP
110 lbs / BCS = 3	Singles	2.0	1.9	1.7
	Twins	2.6	2.4	2.2
130 lbs / BCS = 3	Singles	2.1	1.9	1.7
	Twins	2.7	2.5	2.3

Notes on table. BCS - Body condition score. N/A - Not Applicable because protein and/or energy cannot be met. * - Requirements almost met but still deficient at this grain level, higher feeding rate exceeds grain limit guideline.

Note that poorer quality hay cannot be fed to lactating ewe lambs. The hay protein must range between 11 and 18% crude protein. If possible, feed the best quality hay (14 - 18% protein) available within this range. These ewes are still growing as well as suckling a lamb(s).

Feeding the ewe flock to adequately meet their nutritional requirements is critically important to the success and profitability of the operation. Shur-Gain has the feeds to meet these challenges.

Suitable grain mixes for Ewe & Lamb Creep Rations

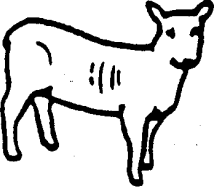
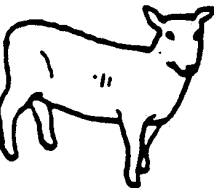
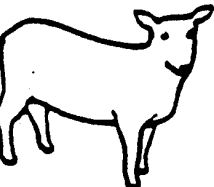
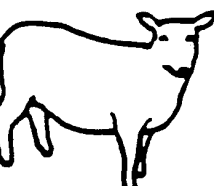
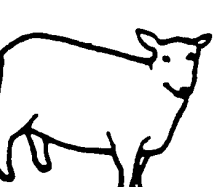
	<u>15% Ewe Ration</u>	<u>16% Lamb Creep</u>	<u>18% Lamb Creep</u>
	<u>Kg</u>	<u>Kg</u>	<u>Kg</u>
34% Ewe & Lamb Supplement	200	200	200
Corn	300	320	310
Barley	450	400	355
Soybean meal	----	30	85
Molasses	50	50	50
Protein (%)	15.0	16.0	18.0
Calcium (%)	0.80	0.81	0.82
Phosphorus (%)	0.40	0.39	0.40

SHUR GAIN Sheep Feeding Products for Ewes, Lambs and Rams

	<u>25 % Lamb Supp (200) (3.3% ECP)</u>	<u>34% Ewe & Lamb Supp (200) (0% ECP)</u>	<u>36% Sheep Supp (200) (3.3% ECP)</u>	<u>18% Lamb Creep Pellet (0% ECP)</u>	<u>16% Lamb Starter Ration (Pellet or TR) (0.66% ECP)</u>	<u>13% Lamb Finisher Ration (Pellet or TR) (0.66% ECP)</u>	<u>15% Ewe Ration (0% ECP)</u>	<u>Premium Sheep Mineral</u>
Crude Protein (%)	36	34	36	18	16	13	15	
ECP (%)	3.3**	---	3.3**	---	0.66**	0.66**	---	
ADF (%) (max)	10	10	10	10	10	10	10	
Calcium (%)	4.5	3.75	4.5	0.8	0.9	0.9	0.8	14
Phosphorus (%)	0.7	0.7	0.7	0.4	0.4	0.4	0.4	12
Sodium (%)	1.25	1	1.25	0.2	0.25	0.25	0.2	6
Manganese (mg/kg)	250	250	250	50	50	50	50	27,000
Zinc (mg/kg)	450	450	450	90	90	90	90	4,500
Iodine (mg/kg)	2	2	2	0.4	0.4	0.4	0.4	200
Cobalt (mg/kg)	0.5	0.5	0.5	0.1	0.1	0.1	0.1	46
Vitamin A (IU/kg)	50,000	50,000	50,000	10,000	10,000	10,000	10,000	600,000
Vitamin D (IU/kg)	5,000	5,000	5,000	1,000	1,000	1,000	1,000	75,000
Vitamin E (IU/kg)	100	200	100	40	20	20	40	1,000
Added Selenium (mg/kg)	1.5	1.5	1.5	0.3	0.3	0.3	0.3	36

These feeds do not contain added copper
No urea, the ECP from ammonium salts

Body Condition Guidelines for Sheep.

Score		Description	
1		Spine sharp, Back muscle shallow, No fat	Lean
2		Spine sharp, Back muscle full, No fat	
3		Spine can be felt, Back muscle full, Some fat cover	Good Condition
4		Spine barely felt, Muscle very full, Thick fat cover	Fat
5		Spine impossible to feel, Very thick fat cover, Fat deposits over tail and rump.	