

## Ewe Lamb Nutrition

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The use of imperial units of measure in this factsheet represents the standards used by the industry.

### INTRODUCTION

Once a flock is established, most producers choose to generate their own replacement females by retaining ewe lambs. In many cases, this results in replacement females and market lambs (male and female) being reared in the same feeding system, which may have some unfavourable consequences. This factsheet describes challenges associated with feedlot rearing of ewe lambs and reviews principles of ewe lamb nutrition to assist in developing a nutritional program for replacement ewe lambs.

### REARING SYSTEMS AND NUTRITION

With the continued popularity of all-grain rations for market lambs from weaning (50 days) on, many replacement females are in a feedlot situation before they are selected as replacements. The major benefit of this system is that all young stock can be raised on a common program, regardless of their future as replacement or market animals. This common rearing allows for fewer management groups, fewer rations and more time to identify potential replacements.

The significant negative aspects of feedlot rearing of replacements are threefold:

- Feeding of grain only at heavier body weights (90 lb and over) may result in damage to the rumen due to acidosis and would affect the future performance of the organ.
- Finish is not required on the replacement ewe lamb, as frame development is preferred to achieve timely first breeding and increased ovulation rates, fertility and lambing percentages. Because of this, grain may be less economical when compared to forages to produce lean growth.[\[1\]](#), [\[2\]](#)
- Fast growth and unnecessary fat deposition may be permanently detrimental to the mammary development of replacement ewes raised on such programs, reducing milking ability of mature ewes over multiple lactations.[\[3\]](#), [\[4\]](#) Milk production of ewes is a critical factor in lamb performance, especially in prolific breeds.

As a result, it may be important to re-evaluate this popular strategy of feedlot rearing replacement females due to the potential effects on the ewe's lifetime productivity. Alternative rearing strategies of ewe lambs, including feeding diets higher in forage, are recommended to realize the full genetic potential for milk production in both commercial and purebred ewes.

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## SPECIFIC RECOMMENDATIONS

Sort replacement ewe lambs from market lambs before market weight, and preferably at 27 kg (60 lb) of actual weight.

Do not remove replacement ewe lambs from creep/grain supplementation or access to very high-quality pasture or milk until 27 kg (60 lb) body weight is reached, or growth will suffer due to insufficient rumen development to utilize lower quality feeds.

Replacement ewe lambs should be grown at no faster than half of their maximal rate from 2–4 months (60–120 days) of age. Assuming feedlot lambs in this age range gain 300–450 g (0.75–1.0 lb) per day, the growth rate for the replacement ewe lambs should be in the 125–250 g (0.25–0.50 lb) per day range, with a target of 151 g (0.33 lb) per day. This can typically be achieved with good forage and no more than 0.45 kg (1 lb) of grain per head per day.

Frame growth can be achieved from 120 days of age to breeding, targeting a minimum of 60% of mature body weight at breeding, with 70% being preferred where no slippage due to open ewe lambs to later breeding groups can be tolerated (e.g., annual grass lambing). For example, for a Rideau ewe lamb entering an accelerated production system, the breeding weight should be 40.5–49.5 kg (90–110 lb), assuming a mature body weight of 67.6–81.1 kg (150–180 lb). This animal reaches the 60% minimum, but the slippage might be tolerated due to the accelerated program where she may be re-exposed in a few weeks.

Ewe lambs at 12 months should have a minimum target bodyweight of 75% of mature bodyweight. Using the same example of a 67.6–81.1-kg (150–180-lb) mature ewe, this is 56.3–60.8 kg (125–135 lb) shortly post-lambing.

These management benchmarks require actual in-flock mature ewe weights! These should be taken on 3- to 4-year-old ewes, and not estimated. The actual weight of a ewe might be surprising; more importantly it has management and feeding implications.

## SAMPLE RATIONS FOR EWE LAMBS

The following ration suggestions for ewe lambs from flushing onward in Tables 1 to 4 are for guidance only and should not replace the recommendations from your feed provider or flock nutritionist. Several assumptions have been made in formulating the following rations. These include:

- **Corn is the energy source standard.**

Where that is not the case, the amount of grain fed may be altered to meet wheat, barley or mixed grain feeding systems. Use the following rules of thumb to adjust the grain amount given in the tables to account for the use of alternative grains:

- where wheat is used, reduce grain by 10% of corn amount
- where barley is used, increase grain by 10% of corn amount
- where mixed grain is used, increase grain by 15% of corn amount

For example, if the table calls for 0.23 kg (0.5 lb) of corn to be fed per head/day, and barley is in fact used, then the amount of barley should be:  $0.5 + (0.5 \times 0.10) = 0.55$  lb per head/day.

- **A generic supplement in the range of 30%–35% crude protein (CP) was assumed.**

Like the correction for alternative grains, a CP correction can be made to reflect protein sources such as soybean meal, or other pelleted supplements that are higher or lower than 30%–35% CP.

It is assumed that mineral is provided in the supplement where one is used, or as free choice, loose mineral. Regardless of what supplement is used, ensure that its usage rate (pounds per head per day) provides enough mineral, or that free choice mineral is consumed at the recommended rate.

- **Forage CP represents forage maturity, and thus energy, in the grass/legume hay.**

However, legume-to-grass ratio can affect CP content more dramatically than maturity. Less mature forage is generally more digestible, higher in energy and more desirable and may not be fully reflected in CP because of the legume effect, as legumes tend to be higher in CP at the same digestibility.

Forage quality (maturity, energy, CP) varies widely from year to year and field to field and should be determined by forage analysis on an annual basis.

The range in supplementation recommendations for pasture reflects variable management and season effects.

Not recommended (NR) indicates the forage is not recommended for that stage of production, either because it is too low or excessive in nutrients.

**Table 1.** Sample rations (in metric units) for 50-kg ewe lambs with a body condition score of 3. Formulated on a forage, corn and supplement basis.

**LEGEND:** NR = Not recommended

Stage of Production	Grain and Supplement Choice	Grain and Supplement (kg/head/day) Depending on Forage CP — Assuming Free Choice Forage					
		8.0%–10.9%	11.0%–13.5%	13.6%–15.9%	16.0%–17.9%	18%+	Pasture
Flushing ewe lambs	corn	NR	0.32	0.23	NR	NR	0–0.23
	30%–35% CP supplement	NR	0.11	0	NR	NR	0
Early gestation ewe lambs	corn	NR	0.23	0.18	NR	NR	0–0.18
Late gestation ewe lambs with 100%–120% lambing rate	corn	NR	0.32	0.32	NR	NR	0.32
	30%–35% CP supplement	NR	0.11	0	NR	NR	0
Late gestation ewe lambs with 130%–175% lambing rate	corn	NR	0.45	0.45	0.45	NR	0.45
	30%–35% CP supplement	NR	0.18	0	0	NR	0
Lactating ewe lambs with singles	corn	NR	0.68	0.68	0.63	0.54	0–0.68
	30%–35% CP supplement	NR	0.09	0.07	0	0	0–0.11
Lactating ewe lambs with twins	corn	NR	0.81	0.81	0.81	0.81	0–0.81
	30%–35% CP supplement	NR	0.36	0.27	0.14	0	0–0.36

**Table 2.** Sample rations (in imperial units) for 110-lb ewe lambs with a body condition score of 3. Formulated on a forage, corn and supplement basis.

**LEGEND:** NR = Not recommended

Stage of Production	Grain and Supplement Choice	Grain and Supplement (lb/head/day) Depending on Forage CP — Assuming Free Choice Forage					
		8.0%–10.9%	11.0%–13.5%	13.6%–15.9%	16.0%–17.9%	18%+	Pasture
flushing ewe lambs	corn	NR	0.7	0.5	NR	NR	0–0.5
	30%–35% CP supplement	NR	0.25	0	NR	NR	0
early gestation ewe lambs	corn	NR	0.5	0.4	NR	NR	0–0.4
late gestation ewe lambs with 100%–120% lambing rate	corn	NR	0.7	0.7	NR	NR	0.7
	30%–35% CP supplement	NR	0.25	0	NR	NR	0
late gestation ewe lambs with 130%–175% lambing rate	corn	NR	1.0	1.0	1.0	NR	1.0
	30%–35% CP supplement	NR	0.4	0	0	NR	0
lactating ewe lambs with singles	corn	NR	1.5	1.5	1.4	1.2	0–1.5
	30%–35% CP supplement	NR	0.2	0.15	0	0	0–0.25
lactating ewe lambs with twins	corn	NR	1.8	1.8	1.8	0	0–1.8
	30%–35% CP supplement	NR	0.8	0.6	0.3	0	0–0.8

**Table 3.** Sample rations (in metric units) for 60-kg ewe lambs with a body condition score of 3. Formulated on a forage, corn and supplement basis.

**LEGEND:** NR = Not recommended

Stage of Production	Grain and Supplement Choice	Grain and Supplement (kg/head/day) Depending on Forage CP — Assuming Free Choice Forage					
		8.0%–10.9%	11.0%–13.5%	13.6%–15.9%	16.0%–17.9%	18%+	Pasture
Flushing ewe lambs	corn	NR	0.32	0.23	NR	NR	0–0.23
Early gestation ewe lambs	corn	NR	0.23	0.14	NR	NR	0–0.14
Late gestation ewe lambs with 100%–120% lambing rate	corn	NR	0.45	0.36	NR	NR	0–0.36
Late gestation ewe lambs with 130%–175% lambing rate	corn	NR	0.54	0.54	NR	NR	0–0.54
	30%–35% CP supplement	NR	0.14	0	NR	NR	0
Lactating ewe lambs with singles	corn	NR	0.68	0.68	0.63	0.54	0–0.68
	30%–35% CP supplement	NR	0.18	0.11	1.8	0	0–0.11
Lactating ewe lambs with twins	corn	NR	0.86	0.86	0.86	0.81	0–0.86
	30%–35% CP supplement	NR	0.36	0.27	0.18	0	0–0.27

**Table 4.** Sample rations (in imperial units) for 130-lb ewe lambs with a body condition score of 3.

**LEGEND:** NR = Not recommended

Stage of Production	Grain and Supplement Choice	Grain and Supplement (lb/head/day) Depending on Forage CP — Assuming Free Choice Forage					
		8.0%–10.9%	11.0%–13.5%	13.6%–15.9%	16.0%–17.9%	18%+	Pasture
Flushing ewe lambs	corn	NR	0.7	0.5	NR	NR	0–0.5
Early gestation ewe lambs	corn	NR	0.5	0.3	NR	NR	0–0.3
Late gestation ewe lambs with 100%–120% lambing rate	corn	NR	1.0	0.8	NR	NR	0–0.8
Late gestation ewe lambs with 130%–175% lambing rate	corn	NR	1.2	1.2	NR	NR	0–1.2
	30%–35% CP supplement	NR	0.3	0	NR	NR	0
Lactating ewe lambs with singles	corn	NR	1.5	1.5	1.4	1.2	0–1.5
	30%–35% CP supplement	NR	0.4	0.25	4	0	0–0.25
Lactating ewe lambs with twins	corn	NR	1.9	1.9	1.9	1.8	0–1.9
	30%–35% CP supplement	NR	0.8	0.6	0.4	0	0–0.6

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## CONCLUSION

Replacement ewe lambs are often raised in the same feedlot rearing systems as market lambs. Although this strategy is simple to manage, it is not ideal. Separating potential replacement ewe lambs and feeding them to optimize frame growth as well as rumen and mammary development may lower feed costs and increase the productivity of the ewe flock.

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## REFERENCES

1. Haslin, E., R.A. Corner-Thomas, P.R. Kenyon, S.T. Morris and H.T. Blair. 2020. Effects of heavier live weight of ewe lambs at mating on fertility, lambing percentage, subsequent live weight and the performance of their progeny. *New Zealand Journal of Agricultural Research*. 1–15. <https://doi.org/10.1080/00288233.2020.1840399>
2. Piaggio, L., H. Deschenaux, F. Baldi, S. Fierro, G. Quintans and G. Banchemo. 2015. Plane of nutrition of Corriedale ewe lambs from foetal life to the onset of breeding affects weight at service and reproductive outcome. *Animal Production Science*, 55(8): 1011–1017. <https://doi.org/10.1071/AN13260>
3. Villeneuve, L., D. Cinq-Mars and P. Lacasse. 2010a. Effects of restricted feeding on prepubertal ewe lambs on growth performance and mammary gland development. *Animal*. 4(6): 944–950. <https://doi.org/10.1017/S1751731110000170>.
4. Villeneuve, L., D. Cinq-Mars and P. Lacasse. 2010b. Effects of restricted feeding of prepubertal ewe lambs on reproduction and lactation performances over two breeding seasons. *Animal*. 4(12): 1997–2003. <https://doi.org/10.1017/S1751731110001278>.