

Getting the best out of your ewe lambs

The team of Professor Paul Kenyon at Massey University in NZ has done a tremendous amount of work around ewe lamb reproduction. Their work provided enlightening information on the effects of feeding ewe lambs and their performance at lambing and the subsequent performance of the ewe flock.

The Highlander is a breed that is outstanding for ewe lamb fertility and reproduction and as many of our client's mate ewe lambs, we thought we would share some of Paul's knowledge with you.

Paul's main message is to ensure that the ewe lambs gain weight throughout their entire pregnancy, this is to ensure that:

- she will give birth to and wean a good-sized lamb(s)
- she keeps growing her own body to ensure her future performance as a 2-th is not compromised

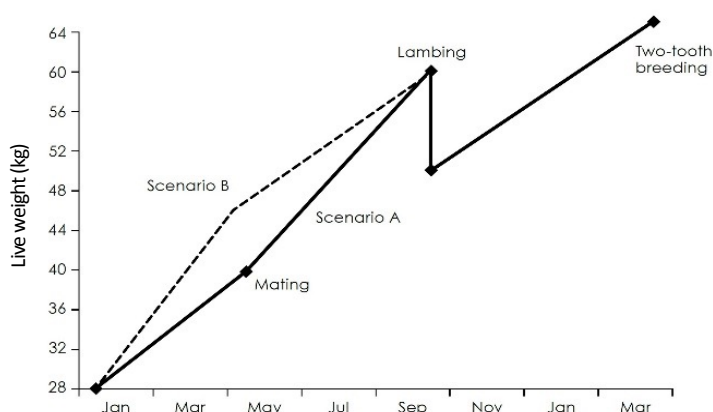
Growing the ewe lamb, so she can reach a target liveweight of 60kg at lambing, can be done by one of two scenarios (shown in Figure 1):

Scenario A - by ensuring growth rates of at least 130g/day **after** mating based on a minimum live weight of 40kg at mating

Scenario B - by ensuring growth rates of at least 130g/day **before** mating to reach a heavier liveweight at mating (e.g. 45kg). Therefore lesser growth rates after mating are needed to reach the same target live weight at lambing.

FIGURE 1

Possible live weight profiles of ewe lamb

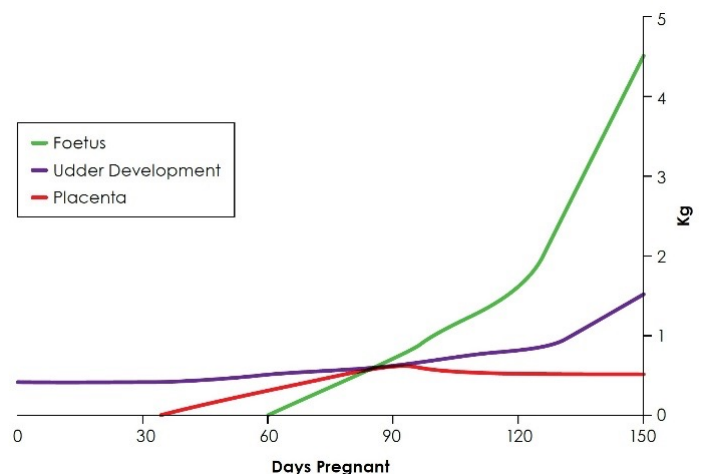


It is important to bear in mind that during the last trimester of pregnancy it is very difficult for a ewe, let alone a ewe lamb, to gain weight herself due to the increased demand of the foetus during this period (see Figure 2) and her ability to physically eat enough to meet these demands.

Therefore, the first 100 days of pregnancy have the biggest impact on the success of ewe lamb breeding and future 2-th live weight and performance.

FIGURE 2

Diagram of increases in weight of foetus, placenta and mammary gland



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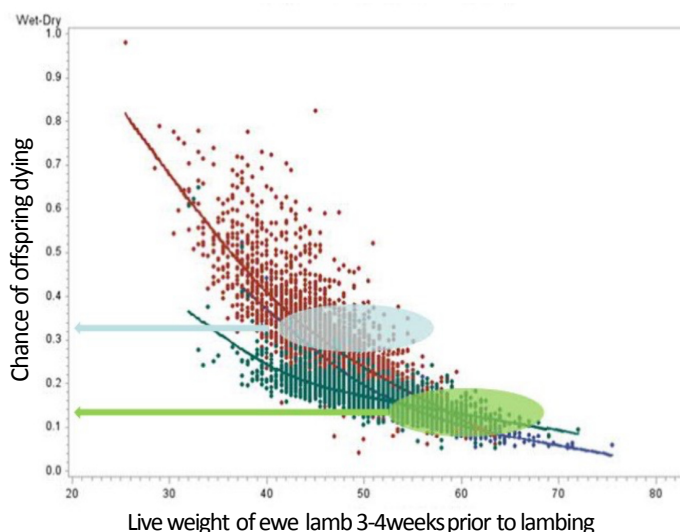
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Paul shared another interesting relationship between the live weight of the ewe lamb prior to lambing and the chance of her lambs dying (see Figure 3). This showed that if ewe lambs are around 50kg at lambing, her offspring are 32% more likely to die (blue circle Figure 3) compared to when an ewe lamb is 60kg, then this chance is reduced to 14% (green circle Figure 3).

After lambing the challenge is not over. At lambing, the ewe lamb will lose an instant approximate 9-10kg (weight of placenta, fluids, and lamb) (see Figure 1), therefore it is important that she and her lamb are still well-fed after lambing to ensure she herself can grow out and maintain adequate milk production for her lamb(s).

FIGURE 3

Scatter plot of relationship between live weight of ewe lamb 3-4 weeks prior to lambing and the chance of her offspring dying



Feeding lucerne swards to sheep is popular to maximize lamb growth on farm, especially in drier areas. So, growing out ewe lambs on lucerne prior to mating would be a good option you would think? However, lucerne produces a component called coumestrol. Coumestrol is a phyto-oestrogen, a plant-based compound that mimics oestrogen in the body, that can affect ewe reproductive performance.

Rachel Field studied lucerne and its effects on ewe reproductive performance (PhD at Lincoln University, Christchurch NZ). She reports that the amount of coumestrol present in lucerne is not constant and factors such as cultivar, development stage, insect herbivory, and fungal disease have all been reported to affect coumestrol concentrations.

For example, during wet and humid conditions when lucerne is affected by fungal disease, coumestrol content is elevated. In addition, when lucerne is flowering the content of coumestrol is higher compared to younger, non-flowering lucerne.

From a flock perspective, the mixed-age ewes are less susceptible to increased coumestrol levels than ewe lambs.

There is no quick test available to test coumestrol levels in lucerne, however, if ewe lambs develop pronounced udders and/or teat elongation after grazing lucerne, then coumestrol levels will be elevated.

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There is also some good news the negative effects of coumestrol are not permanent. Rachel also found that 10-14 days off the lucerne is sufficient to reverse any potential negative effects on ewe reproductive performance.

Therefore, growing out ewe lambs on lucerne is still an option, as long as they are taken off lucerne 10-14 days prior to ram introduction.

Lessons learned ...

So, the message we took from the work done by Paul and Rachel and their teams, is that if you decide to mate your ewe lambs, you may as well do it well and watch for phyto-estrogens, otherwise you will end up with no extra lambs, a compromised 2-th and a lot of extra work and feed wasted.



Information on ewe hogget reproduction kindly supplied by Professor Paul Kenyon and his team from the International Sheep Research Centre at Massey University.

References:

Rachel Fields et al. (2018) Recovery of ovulation rate in ewes following their removal from an oestrogenic lucerne forage. *Animal Production Science* 59 (3) 493-498.

<https://doi.org/10.1071/AN17586>

Rachel Fields PhD Thesis (2017)

https://researcharchive.lincoln.ac.nz/handle/10182/8614?fbclid=IwAROUNFn6vPGCI-Mk4kbjSfS-BAQGwrbaXvTvp6EgCjcvRTyH3_kRPI7lpcg



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A successful business will learn from its mistakes. So if our mistakes can support your success ... we are willing to share.

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