Pre-Lambing Nutrition of the Ewe

Beef & Sheep Outlook for 2017 Meeting

1st February 2017

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Ewe Energy Requirements

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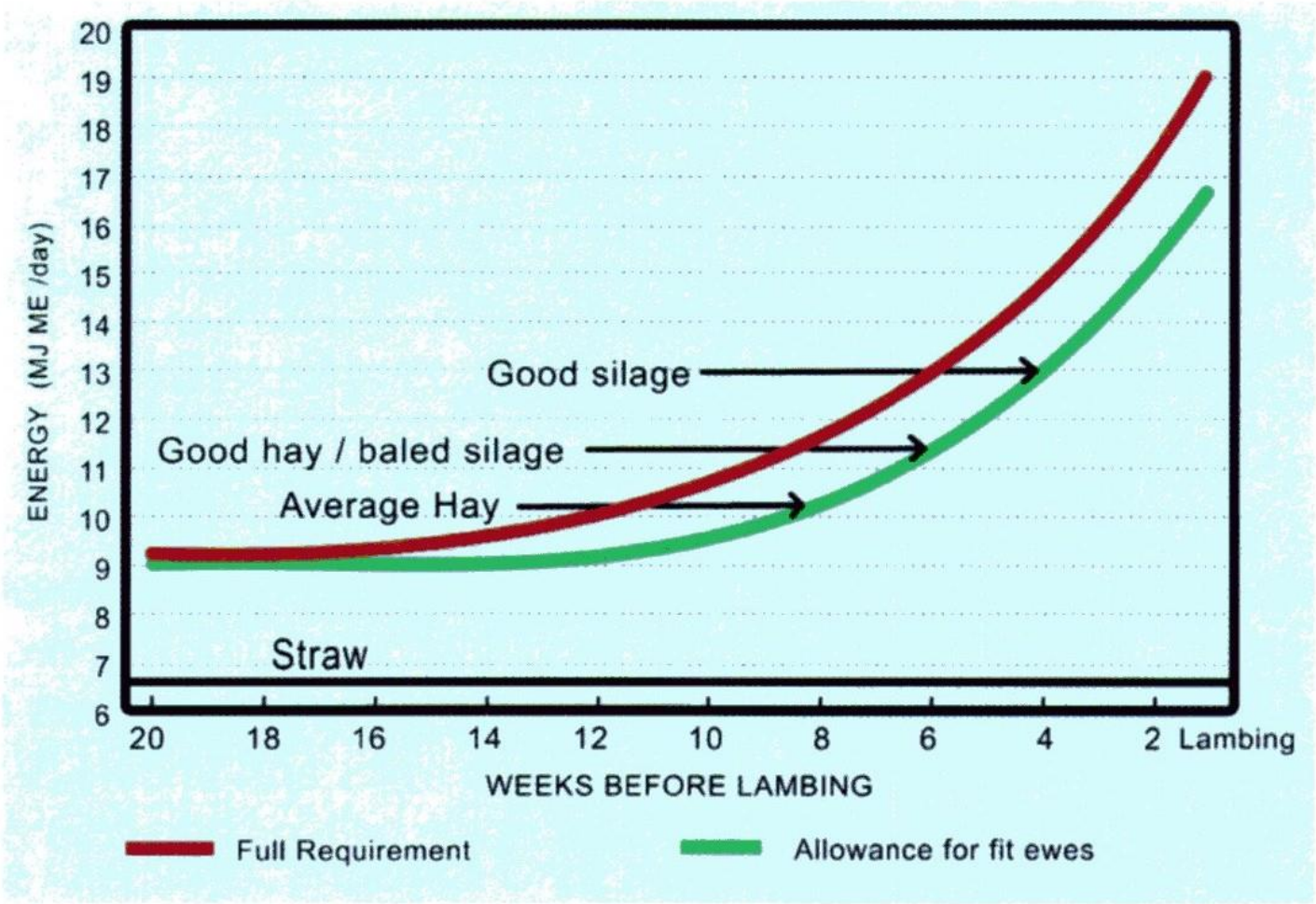
Energy requirements of pregnant 75 kg twin bearing ewes



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Forage Quality for Pregnant Ewes

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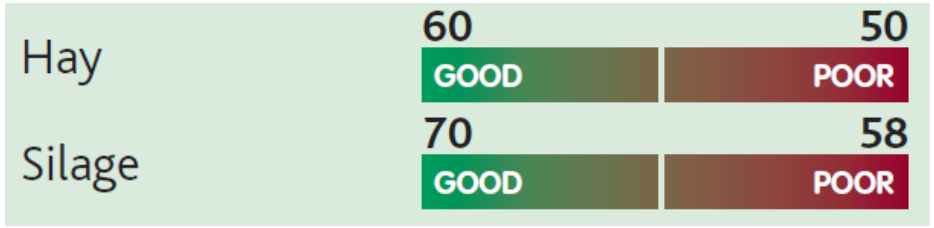
Dry Matter

If lower → risk of moulding

If too wet, ewes will not eat enough to meet needs

D Value



Measure of digestibility: the higher the better!

pH & Fermentation

Low pH, high acid & restricted intakes

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Forage Quality for Pregnant Ewes

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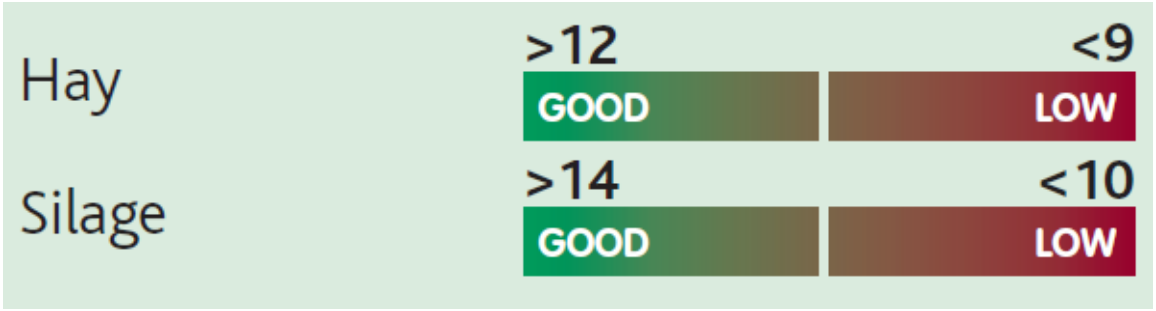
Metabolisable Energy (ME MJ/kgDM)

Crude Protein (%)



Linked to D value

Target 12-14%

Ash >10% → soil contamination and high risk of listeriosis → abortion

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Chop Length and Feed Requirements

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Twin-bearing ewe diets (last 6 weeks)		
Ad-lib Silage	Meal feeding requirements	
DMD	Precision chopped	Baled silage
64-65%	26kg	35kg
69-70%	18-20kg	24kg
79-80%	10kg	12kg

Source: Teagasc

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Step Feeding Regime (Silage)

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Silage (64 D value, 10.4ME, 14% protein, 35% DM and 18% protein compound)

Kg/ewe/ day		8 weeks pre-lambing	6	4	2	1
Singles	Silage	3.0	<	Ad lib	>	2.8
	Compound	-	-	0.25	0.45	0.5
Twins	Silage	3.0	<	Ad lib	>	2.7
	Compound	-	0.25	0.45	0.6	0.7
Triplets	Silage	3.0	<	Ad lib	>	2.5
	Compound	0.25	0.45	0.6	0.7	0.9

Flat Rate Feeding

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Regime

- Feeding flock @ 1lb/head per day from 8-10 weeks pre-lambing
- Uses similar amount of feed compared to step rate feeding

Advantages

- Simpler, once a day feeding
- Less acidosis
- Less prolapses
- Less mis-mothering

Disadvantages

- Need to supplement Vitamin E intake etc
- Not suited to ewes in poor or fat condition

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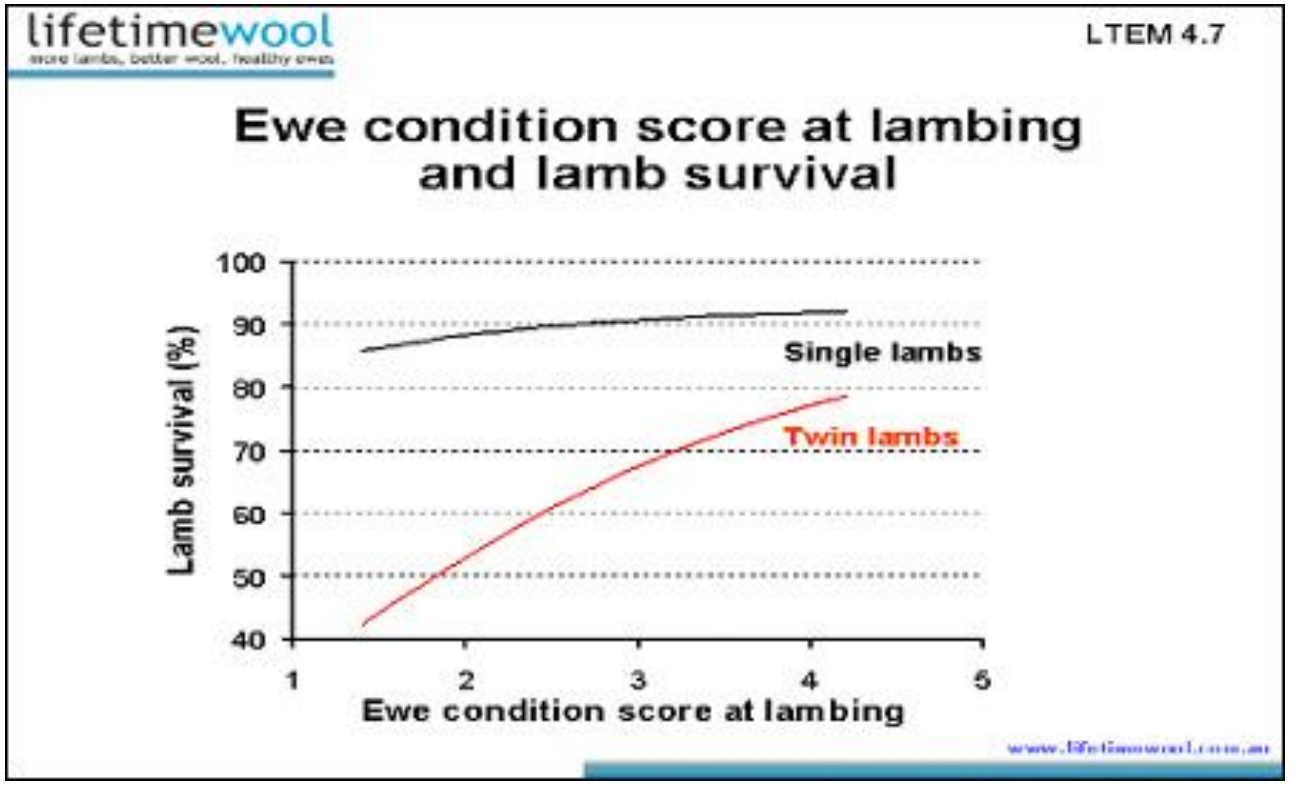
Ewe Condition and Lamb Survival



- One CS loss in pregnancy can reduce birthweight by 0.4kg in singles and 0.5kg in twins
- Survival drops sharply with birthweight < 4kg
- For each 0.5 kg increase in birthweight, weaning weight increases by 1.7 kg

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Birth Weight and Mortality

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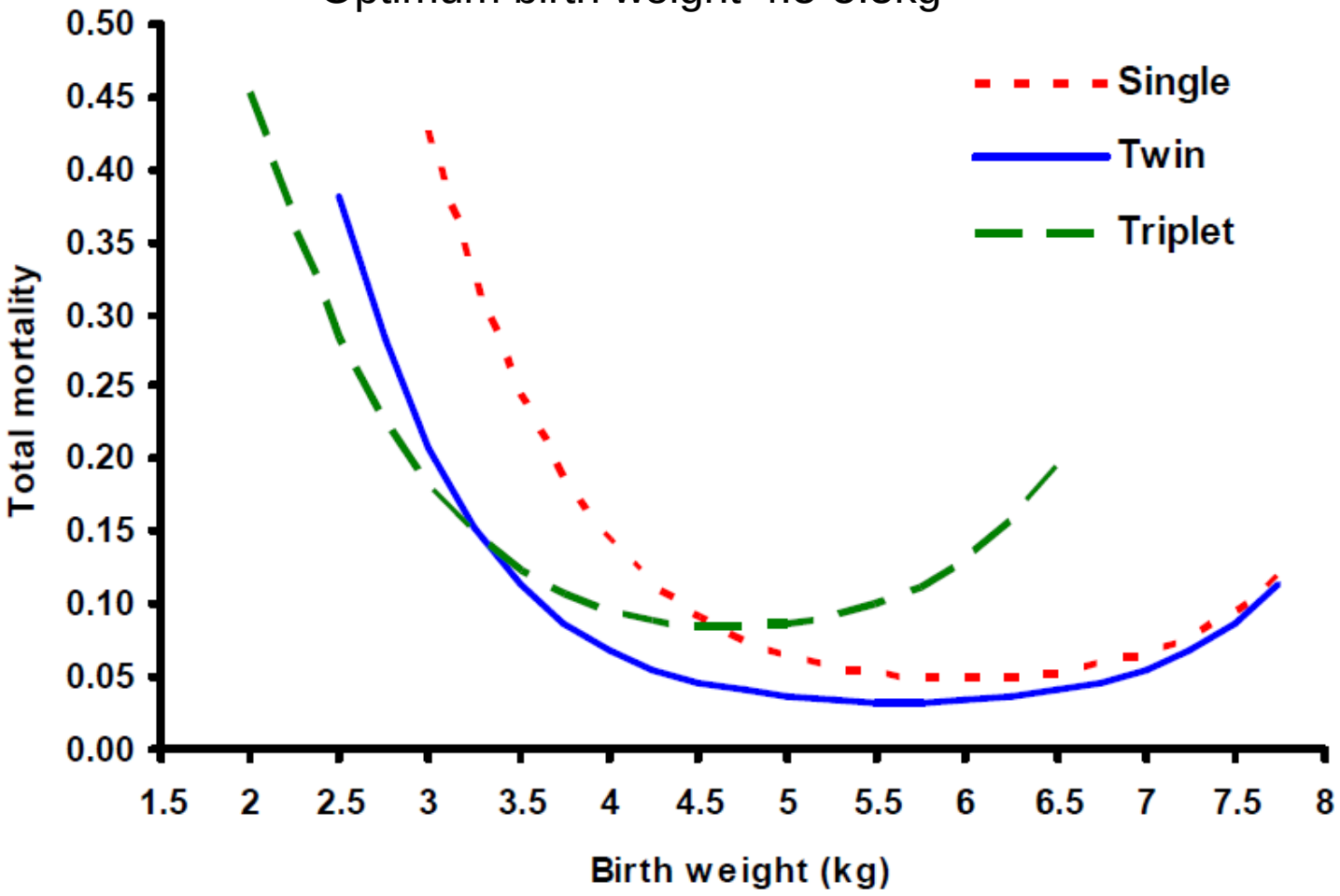
Optimum birth weight 4.5-5.5kg



(Hanrahan and Keady, 2013)

Ewe Feed Label (good)

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Analysis

Oil 3.8%

Protein 18%

Fibre 7.4%

Ash 7.1%

Magnesium 0.5%

Selenium 0.5mg/kg

Vit A 8000iu/kg

Vit D 2000iu/kg

Vit E 150iu/kg

Raw Materials

Barley, Wheat Distillers Dark Grains, Wheatfeed, Molassed Sugar Beet Pulp, Wheat, Hipro Soyabean, **Molasses**, Soya Hulls, Extracted Rapemeal, Sopralin, Calcium Carbonate, Megalac a calcium salt of palm fatty acids, Sodium Chloride, Trace Elements, Vitamins, Calcined Magnesite

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Ewe Feed Label (not so good!)

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Analysis

Oil 3.9%

Protein 18%

Fibre 10.2%

Ash 8.9%

Magnesium 0.5%

Selenium 0.3mg/kg

Vit A 7000iu/kg

Vit D 1500iu/kg

Vit E 100iu/kg

Raw Materials

Barley, Distillers Dark Grains (Wheat), Wheatfeed, Sunflowers, Palm Kernal Expeller, Double Low Rapemeal (Extracted), Sugar Beet Pulp, Oatfeed, **Molasses**, Calcium Carbonate, Sodium Chloride, Trace Elements, Vitamins, Calcined Magnesite

Good Ingredients

- Cereals (barley, wheat, maize)
- Distillers DDGNS
- Soyabean meal
- Digestible fibre (SBP, soya hulls)

Avoid

- Palm Kernal, Sunflowers, Oatfeed, Oat-Byproduct, Urea

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Why DUP?

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- Genetic selection
  - Heavier and faster growing lambs
  - More prolific ewes
- Ewe MP requirements have steadily increased
  - (Existing AFRC feed standards underestimated MP requirements by 30%!- J Robinson review for BSAS)
  - Additional MP requirements unlikely to be met by more microbial protein-energy limits
  - Greater emphasis now on DUP supply for performance
  - Recognition that loss of immunity in late pregnancy is due to insufficient protein

Source of MP req (min)	Single	Twin	Triplet
Microbial protein %	95	75	60
DUP % Typical diet	5 OK	25 Borderline	40 Deficient

Benefits of Soya

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Fed with High Quality Silage

- Soya is high energy so will **increase ME** of ration
- **Reduced worm** infection onto pastures
- **Wool growth** on lamb in last week of gestation
- **Colostrum** quality and quantity. Better Ig uptake
- More **vigorous** lambs, good lamb birth weights
- Improved lamb **weight gain** due to higher milk yields

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Soya Supplementation

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- **Silage 9-10.5ME**
  - Conventional compounds
  - Also add 100g/day soya /lamb carried for multiples (thin ewes)

- **Silage 10.5-11ME or thin ewes**
  - Feed 50:50 mix of soya and whole grain (oats) @ 0.4kg/day for last 4 weeks to twins

- **Silage 11ME+ (with over 11%CP)**
  - Feed only soya/sopralin +min/vit
  - 100 grams soya/day/ewe/lamb carried
    (50g Sopralin/Soypass)
  - 3-4 weeks pre-lambing
  - Singles – silage only

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Protein and Immunity

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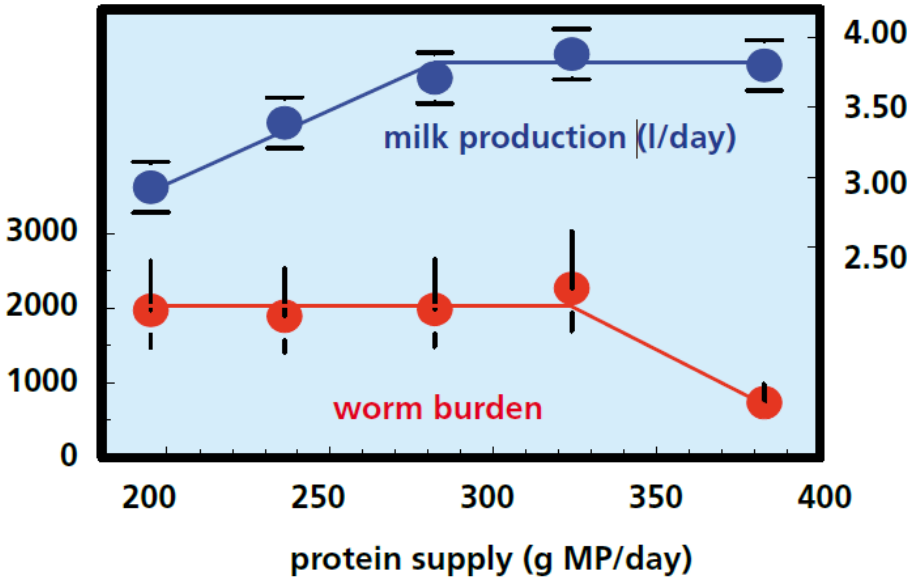
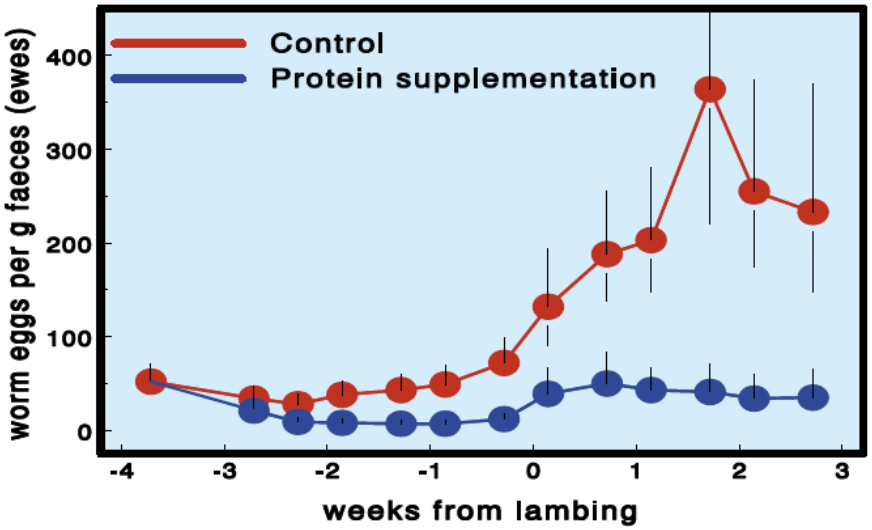
Supplementary DUP from soya:

- 10% heavier lambs at birth
- 30% increased milk production
- 60% reduction in worm burden
- 90% reduction in worm egg output





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Minerals/Vitamins for Ewes

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- **Calcium** and **magnesium** are the 2 main minerals affecting ewe production
- **Selenium and Vitamin E** – Boosts ewe immunity, health and colostrum quality. It also aids lamb vigour by helping mobilise brown fat at birth and reducing risk of hypothermia
- **Cobalt** – An important constituent of vitamin B12. Helps lambs to stand and suckle earlier
- **Iodine** – foetal development and control of ewes' metabolic rate. Excess iodine to ewes can affect antibody absorption from colostrum in lambs
- **Zinc** – Helps limits mastitis and ensures good hoof health

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Take Home Messages

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- Condition score target 3.0-3.5 at lambing
- Assess silage quality and get advice on feeding
- Silage > 11ME, can feed soya only
- Ensure mineral/vitamin supplementation
- Post-lambing, if less than 4cm grass, continue for pre-lambing concentrate levels for at least 2-4 weeks

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