

## Ewe Nutrition BWBL Telephone seminar April 29<sup>th</sup> 2013

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For more details on ewe nutrition or health join a RIST LifeTimeEweManagement (LTEM) and/ or Sheep Health course only need 4-5 participants in your area. Contact Darren Gordon or Priscila Cuming at RIST 03 -55730943

### Currently pasture varies across the state from:

Very dry since mid Oct in the Wimmera and south west where pasture is running out and need to consider use of containment or sacrifice paddocks, and in central Vic lush green pastures in some areas sufficient to finish weaners but looking for more rain.

Please find attached copy of Dr Steve Cotton's (senior partner in charge of Feed Logic lab at Livestock Logic), article on pasture digestibility in our April Ag Impetus newsletter.

### Tonight I will discuss following ewe feed budgets examples

- Merino ewe (55kg mature weight ave condition)
- Cross bred ewe ( 70kg mature weight ave condition)

The following tables have been derived from GrazFeed™, a supplementary feeding program developed by CSIRO. All figures are on per day basis.

#### Eg 1 Dry non pregnant ewes

- grazing 1100 kg DryMatter/Ha of dry pasture at 42% digestibility (ave for april )
- being fed varying amounts of barley at \$270/Tonne

Weight of supplement (kg/day)	Supplement cost (\$/head)	Intake of DM			Weight gain (g/day)	
		Pasture (kg)		Supplement (kg)	Mer	1 <sup>st</sup> X
		Mer	1 <sup>st</sup> X			
0.20	0.05	0.48	0.63	0.18	-125	-164
0.30	0.08	0.45	0.60	0.27	-88	-127
0.40	0.10	0.41	0.57	0.36	-50	-90
0.50	0.13	0.37	0.53	0.44	-14	-53
0.60	0.16	0.33	0.49	0.53	12	-16
0.70	0.18	0.28	0.44	0.62	33	11

#### Eg 2 As above except pasture 1800 kg DM/ha

Weight of supplement (kg/day)	Supplement cost (\$/head)	Intake of DM			Weight gain (g/day)	
		Pasture (kg)		Supplement (kg)	Mer	1 <sup>st</sup> X
		Mer	1 <sup>st</sup> X			
0.20	0.05	0.64	0.84	0.18	-83	-110
0.30	0.08	0.60	0.80	0.27	-49	-76
0.40	0.10	0.56	0.76	0.36	-14	-41
0.50	0.13	0.51	0.72	0.44	10	-6
0.60	0.16	0.44	0.66	0.53	27	14
0.70	0.18	0.38	0.60	0.62	46	31

**Summary of Examples 1 and 2 of the kilograms of barley required per week to maintain ewe weight that is neither pregnant nor lactating**

				Kg of barley to maintain wt Dry/Non preg	
Pasture digestibility		Pasture FOO kg DM/ha		Merino 55kg	1 <sup>st</sup> cross 70kg
Dry	Green	Dry	Green		
42%	-	1100	0	3.7 kg	4.5 kg
42%	-	1800	0	3 kg	3.7 kg
48%	-	1800	0	2 kg	2.5 kg
42%	70%	1500	300	0.7 kg	1kg
As above		130 day preg twins			
		Ewe total wt maintain		1.5kg	1.5kg
		Ewe minus foetus		5 kg	5kg

Late pregnancy with twins eat 20% less dry pasture or hay, early lactation with twins eat 70% more

**Eg 3 As above on the point of lambing with twins**

Weight of supplement (kg/day)	Supplement cost (\$/head)	Intake of DM			Ewe & Foetus Wt gain (g/day)		Ewe only Weight gain (g/day)	
		Pasture (kg) Mer	1 <sup>st</sup> X	Supplement (kg)	Mer	1 <sup>st</sup>	Mer	1 <sup>st</sup> X
0.20	0.05	0.90	1.18	0.18	-1	-1	-160	-203
0.30	0.08	0.84	1.12	0.27	27	27	-132	-176
0.40	0.10	0.79	1.06	0.36	56	55	-104	-148
0.50	0.13	0.73	1.01	0.44	84	84	-74	-119
0.60	0.16	0.68	0.95	0.53	114	113	-45	-89
0.70	0.18	0.62	0.90	0.62	144	143	-15	-59

Why important to monitor condition score of ewe in late pregnancy not the weight

**Eg 4 as above but have twin lambs 3 wks old**

Weight of supplement (kg/day)	Supplement cost (\$/head)	Intake of DM			Weight gain (g/day)			
		Pasture (kg) Mer	1 <sup>st</sup> X	Supplement (kg)	Mer	Ewe 1 <sup>st</sup> X	Lamb Mer	1 <sup>st</sup> X
0.20	0.05	1.62	2.11	0.18	-268	-366	202	198
0.30	0.08	1.57	2.06	0.27	-255	-354	205	208
0.40	0.10	1.52	2.00	0.36	-241	-340	210	214
0.50	0.13	1.47	1.95	0.44	-228	-326	215	219
0.60	0.16	1.42	1.90	0.53	-215	-312	221	224
0.70	0.18	1.37	1.85	0.62	-201	-297	226	229

This shows can maintain lamb growth rates post lambing more easily than can maintain condition on the ewe.

**eg 5 Dry pasture only with twin lambs**

Weight of supplement (kg/day)	Supplement cost (\$/head)	Intake of DM			Weight gain (g/day)			
		Pasture (kg)		Supplement (kg)	Mer	Ewe 1 <sup>st</sup> X	Lamb Mer	1 <sup>st</sup> X
0.20	0.05	1.16	1.52	0.16	-324	-366	11	47
0.30	0.08	1.13	1.48	0.24	-310	-354	21	57
0.40	0.10	1.08	1.44	0.32	-295	-340	34	67
0.50	0.13	1.01	1.37	0.41	-284	-326	44	80
0.60	0.16	0.95	1.30	0.49	-273	-312	55	89
0.70	0.18	0.88	1.22	0.57	-261	-297	65	97

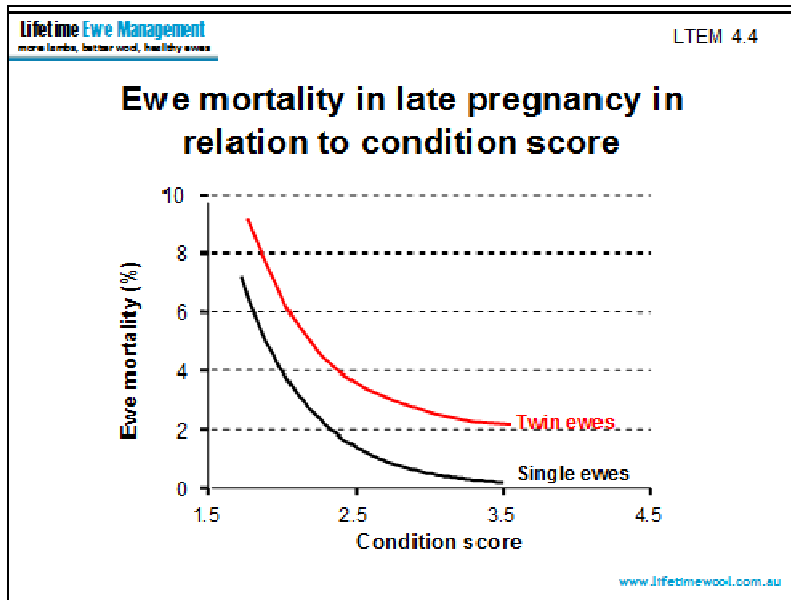
**Optimum Condition of ewes**

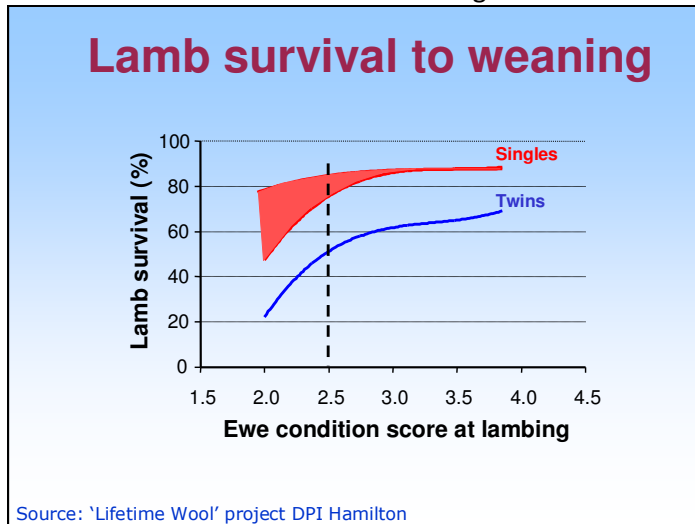
This is a big subject for full details join a LTEM.

Too light and not only will you affect wool and lamb growth but you will effect ewe and lamb survival

LTEM graphs below dramatically show the effect of light ewe condition on ewe and lamb survival

The graphs don't show the effect of having ewes greater than 3.5 as there were very small numbers of ewes above condition score 3.5 in original LTEM trial. Too fat unlikely to be an issue this autumn but can cause increased losses from prolapses, foot abscess and lambing difficulties particularly in singles.





### Scanning

Allows for more efficient allocation of expensive supplement, to be accurate must be done less than 100 days from start of joining.

Lamb twins down in better shelter and pasture both improve twin survival.

### Drafting ewes on condition

Give the grain to the ewes that need it the most.

Get your hands out of your pockets and if not sure join a LTEM group.

### Do you worry about Protein % in ewes?

In adult ewes dietary protein is not normally limiting, unlike young light weaners or in feedlots where trying to finish prime lambs.

Exceptions would include heavily pregnant or lactating ewes on dry pastures devoid of green feed, being fed lower protein grain or lower quality hay. Ewes with twins have a higher protein requirement.

### Mineral supplementation

At this time of year is a low priority due to high soil ingestion generally providing plenty of minerals, exceptions would be copper supplementation on soils high in moly or iron, and cobalt on alkaline limestone soils.

### Lick-blocks

Most lick-blocks are designed to provide a source of urea and minerals for animals grazing low-protein pastures to maintain adequate rumen ammonia concentrations for microbial activity.

In Western Australia, the gains in liveweight of animals grazing cereal stubbles and supplemented with lick-blocks have been extremely variable. In a review of 13 trials in this State, Department of Agriculture sheep and wool research officer H. E. Fels (unpublished) found positive responses to lick-blocks in only three instances. These three were at Wongan Hills Research Station that showed in average years where there is some summer rain, sheep feeding from blocks on stubble lost weight less rapidly than those without supplement, whereas sheep given lupins actually gained weight.

Lick-blocks are convenient to use, easy to handle and only need to be fed out every two to three weeks, but the relatively high price for the actual nutrients contained in the blocks makes them an expensive form of supplementary feed. Also very inefficient due to extreme variation in intake between individuals

### **Limestone supplementation**

This is often recommended when feeding substantial grain supplement for prolonged periods given the low calcium levels of most grains.

It is contraindicated in pregnant ewes as it increases risk of calcium deficiency problems during and after lambing. These include ewe losses from grass or lactation tetany and increased lambing problems caused by lazy uterus. Lack of calcium affects uterine muscle contractions.

If feeding grain to lactating ewes must add 1-1.5% limestone, add gradually to ration as can effect grain intake until get used to it.

### **Fibre supplementation**

An issue when grazing short lush green pasture devoid of any carry over dry feed.

Clinical signs include dark tarry faeces, less than 30% of mob chewing their cud when at rest, increases calcium deficiency risk i.e. ewe losses and increased lambing difficulties

Only need small amounts of hay (0.7kg) per ewe but if grazing lush pasture will need hay provided in multiple locations in lambing paddock, to ensure they will access it

### **Vitamin E deficiency**

Spring drop weaners that have not had access to green pasture for longer than 8 – 10 weeks are vulnerable, were as it takes much longer (5-6 mths) for ewes to become deficient.

Vit E deficiency is therefore rare in ewes but in weaners it has, this summer, been quite a problem not only with ill-thrift and poor growth of weaners, but also it has caused substantial mortalities.

First signs are unexplained deaths, mob not doing well, reluctant and sluggish to muster and tail of mobs are very easy to catch. Some show leg stiffness in front and or back legs.

We have been selling record amounts of Vitamin E drench. Cost around 30c per head and provides protection for 6 – 8 weeks. Vitamin ADE injection only has 50 iu per ml so recommended dose would only last 2 or 3 days.

Little to be gained by Vitamin E treatment now it has rained. Most paddocks now have some green leaf for weaners to graze and Vitamin E levels will be restored rapidly.

### **Vitamin B1 (Thiamine) responsive condition.**

(Excerpt from D Rendell/RIST Sheep Health Course notes)

**Note this condition is completely unrelated to vitamin B12**

#### **Clinical signs**

- Sporadic cases from mid-summer to early autumn usually cease after the autumn break
- Very rarely outbreaks of high % of mob affected occur, thought to be associated with fungal toxins in lush feed or silage.
- Blindness is an early sign, so you often see affected sheep out by themselves looking quite lost and walking in circles.
- Muscle spasm of neck often leads to head pointing upwards, hence the common name of "star gazer".
- After 1-4 days of aimless wandering the animal deteriorates to the point where it cannot stand. Muscle spasm leads to head pulled back and regular paddling motions of limbs.
- Die with 1-2 days of going down.
- At post-mortem ultra-violet light on affected brain shows diagnostic fluorescence of the grey matter areas in the brain.

## Treatment

- Vitamin B1 (thiamine) injection, will normally lead to full recovery if animal is still able to stand up.
- Those cases that are down will often respond but usually relapse. None the less any response indicates PEM is the cause of the problem.
- Suggest you have some thiamine on hand in summer to treat affected cases promptly.

## Prevention

- 1gram of Vitamin B1 oral drench will protect sheep for 6- 8 weeks

## For further info on this condition see WA Agnote

Thiamine deficiency induced polioencephomalacia (PEM) of sheep and cattle

[http://www.agric.wa.gov.au/objtwr/imported\\_assets/content/pw/ah/dis/pem%20farmnote.pdf](http://www.agric.wa.gov.au/objtwr/imported_assets/content/pw/ah/dis/pem%20farmnote.pdf)

## Phalaris sudden death syndrome

Phalaris is most toxic in the first month or two after the break and more toxic if that occurs after a prolonged dry spell. I have received reports of this problem in March in central Victoria where have good season opening rains after a dry summer. Out west lack of rain in March means not a risk but it will rain and when it does need to avoid introducing hungry sheep to phalaris pastures. Spelled and well fertilised pasture appears to be more toxic. If in doubt introduce 30-50 sheep to the paddock for 24 hours before you risk the whole mob, or stock with cattle only. Cattle are far less susceptible to phalaris sudden death.

The more the sheep eat in the first hour, the higher the risk. So feed with hay immediately prior to introducing to the paddock, particularly if mob has been kept off feed for more than 12 hours. Another way to reduce intake in the first few hours is to stir them up and keep them moving when they first enter paddock.

**Do not shift off paddock if you find dead sheep from sudden death phalaris problem** as by time you see deaths it is too late to prevent further deaths.

## 2012-13 Pasture Digestibility Results (April Ag impetus newsletter)

Dr Steve Cotton

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## Key Points

- Pasture digestibility is a function of the season (rainfall, soil types and geographical location), and the pasture species present
- The results indicate that large variations in digestibility exist not only between regions but also within regions and across paddocks on your farm
- Budgeting on a estimated pasture digestibility and calculating your stock requirements across your farm could potentially be costing you money
- Consider testing 'important' paddocks (i.e. weaner or maiden paddocks) monthly as the pasture 'hays' off in November.

This has been an 'odd' year for pasture digestibility. Even now, as we approach the end of March, average pasture digestibility is still reasonably high, or higher than previous summers. This is more than likely due to lack of summer rain for the most part.

The table below shows the trend and the reduction in digestibility over time from greater than 150 pasture samples we have received (and tested) in the laboratory, excluding summer crops, lucerne or millet.

People often ask “How are the pastures testing at the moment?” The simple answer is “They are highly variable and considerably more than digestibility (ME) results for grains”.

There are many things that affect pasture digestibility:

- The type of pasture in the paddock (clover versus grass), and even the type of cultivars sown
- Soil type
- Stage of maturity and composition of the sample submitted
- The area in the paddock where the sample was collected.

Although there appears to be a steady decline in digestibility of around 5 percent per month, the large standard deviation indicates two things:

1. Variation exists between different types of grass, clovers and weeds
2. Variation exists across different geographical regions.

Therefore you can expect to see a lot of variation because we do not constantly test the same type of feed from the same area!

In fact, the area where the pastures come from appears to have an effect on DDM, for example pastures from the Dunkeld area appear to have a higher digestibility than samples from the Casterton area (this year) across all time points.

I have also tested different paddocks on the same properties and found variation in digestibility. On several occasions, I have had pastures submitted for testing and have discussed the results with the owners who have been budgeting on 45% pasture digestibility when the sample tests at 52% DDM. It is my firm belief that although you might estimate the digestibility of pasture across your farm, there is variation across different paddocks. It is important that you consider testing paddocks on your farm each month so that you can re-calculate supplementary feeding rates.

#### Example:

AT 45% digestibility and 1500kg feed on offer (FOO), intake by a 60kg ewe from pasture will be approx. 6MJ ME/day. If you have ewes scanned in lamb at 70 days, then ME requirement for a 60kg single bearing ewe will be approx. 10.5 MJ ME/day, leaving a deficit of 4.5MJ ME/day. This deficit is made up from feeding barley (average 12.3 MJ ME/kg) which equates to approx. 2.6kg/head/week.

If you tested your pasture and digestibility was 52%, then ME deficit reduces to approx. 2.7 MJ ME/day or approx. 1.5kg/head/week, saving you around 1.1kg of feed per head per week.

Running 2000 breeding ewes, the saving in supplementary feed is around two tonne per week.

Based on an average barley price of \$250/t, this equates to \$500.00, minus the cost of your test (\$66.00)

= \$430.00 net saving per week. Not a bad investment!

