



Spring 2017

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If you do not think this newsletter is applicable to you, then you are one of the lucky few this year! The majority of WA has had a very poor season; rainfall has fallen, but late in the season, and over a very short time period. The Sheep's Back has been running a series of workshops over most of the State on managing sheep in a dry season. The presentations are available on our website, however this newsletter covers most of what was presented in the workshops.

The reality of this season is even if you received late rainfall, it will not be a produc-

tive year for your sheep enterprise, but it can still be profitable. Early season rainfall to a large degree drives pasture production, without which we cannot hope to run an easy to manage sheep system. All is not lost though, wool prices are at a record high and sheep prices are also very strong meaning your sheep enterprise can still be profitable, albeit not to the levels it would've been in a 'normal' year.

The burning question should be for all businesses with a sheep enterprise is 'Where do you want to be in April 2018?'

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The answer to this question will be slightly different for every business out there, but the fundamentals remain - sheep in good condition will produce more wool and lambs. This is irrespective of the mix between wool and meat, ewes in better condition do cut more wool and have more lambs.

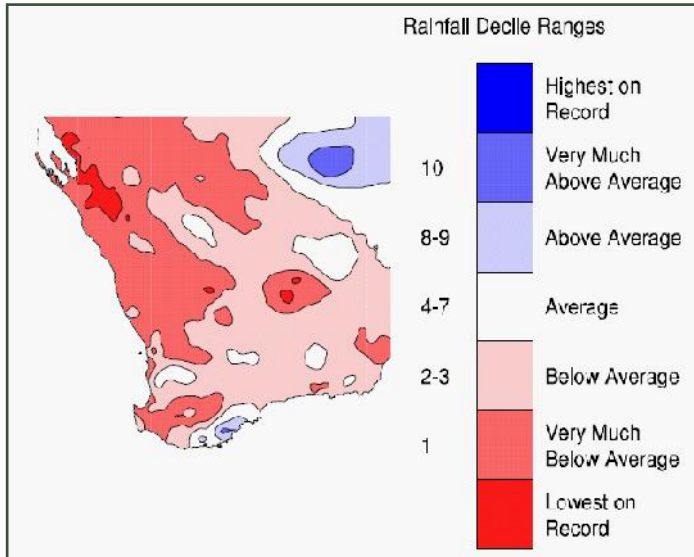


Figure 1: WA rainfall deciles from 1st April – 30th September 2017.

What is good condition? A Condition Score (CS) measurement is the amount of tissue and fat covering the backbone and the short ribs of each sheep. CS along with pasture production drives your sheep enterprise, it is a way of measuring what is happening at ground level. If you are unfamiliar with this term then we suggest you get involved in a Lifetime Ewe group. If you need a refresher, complete a Lifetime Ewe Management course or get in contact with The Sheep's Back and we can point you in the right direction.

Condition Score Drives Everything

The ewe's condition score at joining determines how many lambs she will conceive. The average response to an increase in 1 CS

is 20% extra lambs (Figure 2). Many of you saw this effect in 2017, ewes were in exceptional condition and scanned a very high proportion of twins.

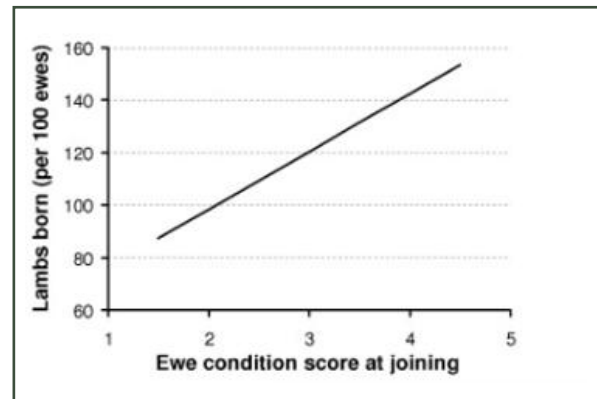


Figure 2: Ewe condition score at joining and number of lambs born. Source: LTEM

CS at joining sets up the potential lambing rate. The CS at lambing determines how many of the conceived lambs survive. This is especially the case with twin lambs. A 1 CS change means roughly a 15% change in twin lamb survival (Figure 3).

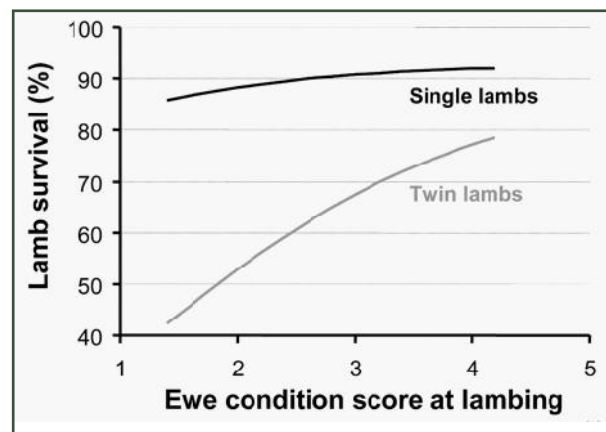


Figure 3: Ewe condition scoring at lambing and survival rates of twins and singles. Source: LTEM

Ewes scanning at a low rate because they are in poor condition effects the profitability of your business into 2018. If your ewes are in low CS going into lambing in 2018 and have a subsequent low lamb survival

this will also effect the profitability of your business. Don't let you ewes have a lower performance in 2018 because of what has happened in 2017. Put simply, get your ewes to CS 3 by joining.

Economics to Increasing CS

Nearly all sheep businesses will have some portion of wool in their system, and why wouldn't you at \$10.50/kg? Sheep with a higher CS for longer will cut more wool. A ewe that puts on an additional 1 CS will cut 0.8 kg more clean wool. This 0.8 kg of clean wool in most systems is worth \$13 (1.25 kg greasy wool at \$10.50/kg). \$13 worth of extra wool if a ewe can put on 1 CS, how much feed will this require?

The timeframe for this example is 90 days. To put on 1 CS over 90 days, ewes will need an additional 4.5 MJ/day (Lifetime Ewe Management). To supply this 4.5 MJ/day using grain it will cost about 2.5c/MJ or 11c/day (Lupin/Oat mix ~ 2.5c/MJ). This works out at \$10/hd of extra grain above maintenance. Feeding roughly \$10 of grain to a ewe in 90 days will put on 1 CS meaning the ewe will cut \$13 more wool than they would've done at maintenance.

If the extra wool was the only benefit of having ewes in better condition it would be a very marginal call. All that work and some additional risk for \$3. However, as discussed earlier, this increased CS means 20% extra conception and 15% higher survival. If ewes maintain this CS 3 throughout, it will be roughly 16 extra lambs at weaning per 100 ewes (weaning 95% of marking number). This means:

- \$13 more wool (1.25 kg/hd greasy wool)

- \$10.40 extra lamb (16% more lambs at weaning)

The future lambs will also cut more wool (LTEM Principle 3.6 & 4.9). The ewes will be more resilient to a range of issues such as mineral deficiencies and worms, meaning they are much easier care. It is important to note that benefits reduce once the ewes reach the target of CS 3. There is significantly increased risk to spending money to increase CS above 3.

Weaning

Weaning is always a tradeoff between the lambs and ewes, the most important thing for the ewes is not to let the lambs drag there CS down too far. To avoid this it requires weaning at the correct time, which is 12-14 weeks after the first lamb was born. This is also a reason to have a shorter mating period. Weaning at this time also has benefits to the lamb, especially in a poor season. If pasture availability is low the ewes will have low milk supplies, so the lambs will have to eat pasture to make up the rest of their diet. FOO levels across the state are not much higher than 1000kg/ha so milk production will be very low. Lambs at this stage will be getting most of their required energy from eating pasture not milk. After 12-14 weeks, in a poor season, the ewes are nothing more than companions to the lambs. The ewes are experienced pasture selectors so they eat the best pasture and contaminate it with worm eggs for the lambs to pick up. The lambs will have better growth rates when they are drenched and weaned.

Weaning at this age requires some extra attention. The following steps will ensure weaning is successful for both the ewe and lamb.

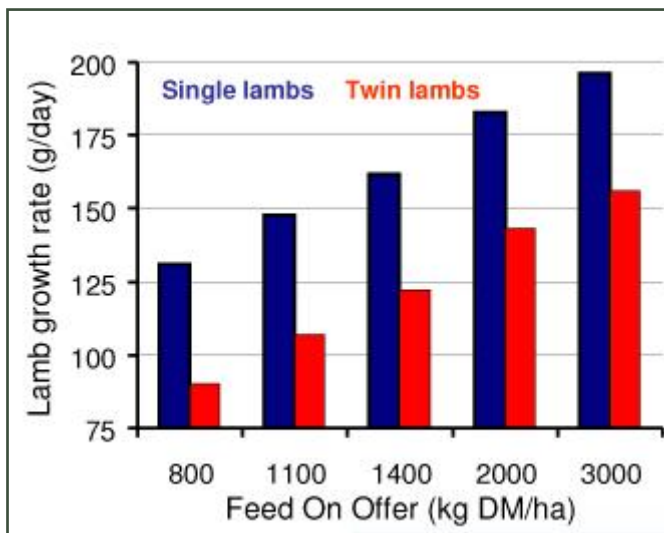


Figure 4: Feed on offer and growth rate of Merino lambs to weaning.

1. Prior To Weaning

Imprint feeding is very important. Make sure your lambs know what a trail feeder is and what is likely to come out of it. This means trail feeding the lambs 2-3 times while they are still with their mothers. The choice of feed should be lupins or whatever the lambs are going to be fed once they are weaned.

2. At Weaning

It is important to segregate weaners based on their size, or drafting off the tail. The lighter weaners (under 20kg) are extremely vulnerable animals if not growing at 2kg/month. Ideally they would be split into three weight categories but the bare minimum is two categories, those above 20kg and those below. The reason for the 20kg cutoff, is lambs below this weight have little or no fat storage meaning they are not resilient to adverse events. They die at a far greater rate (Figure 5).

The minimum target growth weights for the lambs below 20kg is 2kg/month and for lambs above 20kg is 1kg/month.

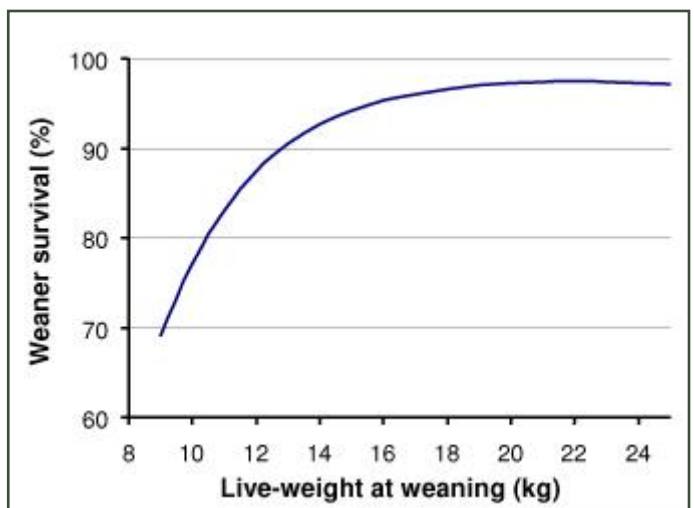


Figure 5: Liveweight at weaning and survival to 12 months of age. Source: LTEM

Lambs should also be vaccinated, drenched for worms and given any supplements that they may need for your particular area. Vaccination is either a 3 in 1 or 6 in 1, but is very important if a large quantity of grain is to be fed or lambs are going to be kept until adults. Most lambs at 12-14 weeks will have worms so they will require an effective drench. Worms are easy to control so make sure this happens. Lastly, depending on your area, lambs may need selenium. If this is the case, it is especially important this year as the lambs are poorer than they normally would be.

3. Post Weaning

Post weaning it is very important to keep the lambs growing. The same rule applies, if they are below 20kg then they need to grow 2kg/month and if they are above 20kg, then 1kg/month.

Remember these are minimum targets. In many cases, the extra wool cut or lambs conceived as maidens will outstrip the cost of the extra feed to get them to this point.

While the lambs must continue to grow, they can be redrafted once some of the tail

are above 20kg and they can be then fed enough to grow at 1kg/month. This also works in reverse, if some of the 'heavier' lambs have fallen backwards, they should be drafted off and put with the smaller (under 20kg) lambs.

Vitamin E is a very important part of a lamb's diet. Lambs will be smaller and have grazed green feed for a shorter time period meaning their Vitamin E stores will be low. Weaned lambs will need access to Vitamin E every 6-8 weeks over summer. This can be through putting it on the grain, drenching it or having access to green feed. Green feed can be perennial pastures or shrubs or annuals that germinate on summer rain. Vitamin E on grain is a very labour-friendly way of dosing a large number of lambs.

Summer Feeding Ewes

You want your ewes at CS 3. How can this be done, considering we are about to enter summer? Feeding sheep over summer in WA consists of utilising stubbles with the aid of lupins.

1. Utilising Dry Feed

If you have any dry pastures these should be used first. The quality of dry matter diminishes over summer and any summer rainfall diminishes the quality further. The first stubbles to be grazed are those that are higher quality, for the same reasons we graze dry pasture first. By grazing the best dry feed first you have a higher chance of turning this energy into condition.

Once the feed has dried out it will be low in protein and if you want animals to put weight on, some amount of supplementary feeding will be required. A 50kg sheep needs approximately 8MJ of energy per day and 6% protein in their diet to

maintain body weight. Given the correct amount of protein (6% adult, 15% weaners) sheep can eat 3% of their body weight. Without the correct amount of protein the sheep's intake is limited, as without adequate protein the rumen bugs cannot process the 3% of body weight, thus the animals intake will reduce. An example of a 50kg animal this would equate to:

$$50\text{kg} \times 3\% = 1.5\text{kg intake}$$

$$50\text{kg} \times 1.5\% = 0.75\text{kg intake}$$

If the protein levels are not adequate the sheep cannot physically eat the whole 3% of their bodyweight. This can have serious implications as 0.75kg of intake would not supply enough energy to maintain weight.

This is where supplementary feeding of high protein lupins is important. Lupins are 32% protein. Peas and Faber beans are approximately 20%. So feeding a low rate of lupins, significantly increases the overall protein of the sheep's diet. Feeding a low rate of lupins over summer ensures your sheep are able to utilise the dry pastures and stubbles they have access to. A good place to start would be 0.5kg/hd/wk increasing this as the stubble quality declines. It is important that feeding lupins starts earlier rather than later as it is much more energy efficient to maintain weight than try and put it back on.

2. How Much Feed Will You Require?

Doing a rough feed budgeting prior to this summer is a very worthwhile exercise. The information you will need before working this out is:

- Number and class of sheep
- How many days do you expect to

- feed? (starting earlier is better)
- Areas of each stubble available
- What the average grain yields were
- Feed on hand

Once you have collected this information then enter this into Table 1 (on the next page or on The Sheep's Back website). The number and class are very simple, how many of each type of sheep will you have over the summer months. The number is then multiplied by the energy requirement. For example a non-pregnant ewe requires 8.3 MJ/energy/day. Multiply this number by how many days summer is. This would be around 150-200 days depending on where in the State you are located. Once you have multiplied the number of sheep by their energy requirements by days you will end up with the required energy over summer. You can add up each class of stock to get an idea how much total energy your flock will consume over summer.

The next part is, what's available in the paddock? This requires the total area of each land use type and how much dry matter is still left in the paddock.

As we are starting at the beginning of summer you can use harvest indexes to estimate stubble loads (below). If they have been grazed you can look at www.feedonofferlibrary.com or contemplate joining a LTEM group to brush up on these skills.

Harvest Indexes

- Barley 0.56
- Wheat 0.54
- Canola 0.25
- Lupins 0.33

(Source: November 2010 Kondinin Report)

To use the harvest index numbers, it is the grain yield divided by harvest index which gives a stubble yield.

Eg. $3t \text{ barley/ha} / 0.56 = 5.35t/\text{ha} \text{ straw}$

It is important to note that the lower the yield, the lower the harvest index will be. Frost also effects the harvest index, so if you have frosted crops the index will be much lower as some of the grain is missing. In this case it would be better to use the yield potential.

Other Factors

Start feeding earlier than you think you should. It is three times more expensive in terms of energy, to increase CS than to maintain CS.

The other factor that you need to be aware of is time of lambing. As ewes get closer to lambing their energy requirements increase. Energy requirements increase exponentially once the lamb is born (Figure 6). If you are an early lamber this will happen during summer months.

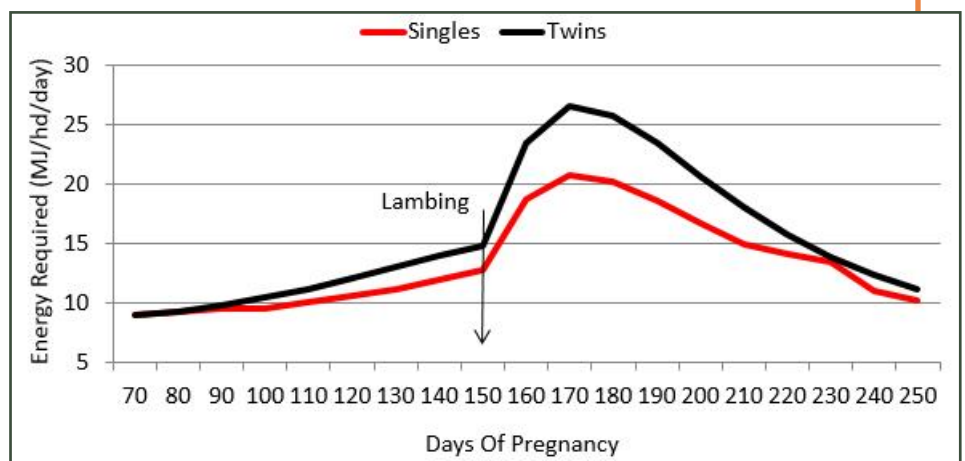


Figure 6: A ewe's energy requirement over pregnancy and lactation.

The changing energy requirements of a pregnant ewe will start to have a signifi-

cant effect on feeding rates in the last trimester of the ewe's pregnancy and then once the lamb is born. How will this affect the feeding rates? At any point in time, this will be different. Visit the Lifetime Wool website or consider joining a Lifetime Wool group to brush up on feed budgeting skills.

The Simple Solution to Feed Budgeting

At the beginning of this summer it is very important to have the right levels of feed on hand or at least ordered. A simple calculation can get you 80% of the way. This is to ensure you have 30kg/hd lupins on hand for every wet ewe and 15kg/hd for every dry sheep and weaner. Refine this using Table 1 or the feed budget tool online.

Table 1: Simple feed budget table for whole flock scenarios over the summer months.

<i>Stock Type</i>	Number	MJ/energy/day	Days	MJ Energy
Adult Ewes	x	8.3	x	=
Adult Dry Sheep	x	8.3	x	=
Lambs	x	6	x	=
Rams	x	9	x	=
Other	x		x	=
Total Required				=
<i>Paddock Feed</i>	Ha	Kg / ha	MJ/kg	
Pasture	x		2.0	=
Fodder Crop	x		6.5	=
Cereal Stubble	x		3.5	=
Canola Stubble	x		2.0	=
<i>Supplements</i>	Tonnes		MJ/Kg	
Hay			10	=
Straw			7	=
Oats			10.4	=
Barley			12.3	=
Lupins			13.1	=
Other				=
Total On Hand				=
Deficit	Total Required - Total on Hand			=
Lupins @ 13me	Divide deficit by 13		Tonnes	=

Table 1 is also available interactively on The Sheep's Back website.

2017 Australian Wool Innovation (AWI) Feedback Survey

AWI exists to invest in strategic research, development, and marketing for the benefit of Australian wool growers. These investments have included driving global wool marketing efforts to sustainably increase demand, and major long-term investments in sheep genetics, wool sheep health and welfare, wool harvesting, wild dog control, and in many other areas affecting our shareholders.

In support of this mission, AWI has established a comprehensive planning and consultation cycle across all portfolios to ensure effective two-way dialogue with all key stakeholders, especially growers, in developing and reviewing investment activities.

In 2016, AWI established a new consultation process focused on the feedbase investment portfolio – covering the land and water resources on which our production system relies. In this wider area, AWI has invested over \$50m in the past 15 years alone. An expert advisory panel process was established, involving growers, agronomists, advisors and researchers from around Australia, and 3 forums were conducted around regional Australia.

This panel process has now concluded its initial phase, and is moving into a more active research planning phase. AWI feels that it is critical you have input into this process, and would like to understand your needs and priorities in this portfolio, in relation to your wider business.

Accordingly, we would greatly appreciate if you could spend 20 minutes to complete a short online survey, which asks a series of simple questions about your farm business, your practices and priorities, and your knowledge and aspirations for the future. Your response will be treated as anonymous and strictly confidential, and aggregated with the replies from other participants to create regional, state, and national-level data.

The survey was due to close on the 10th October, 2017, but has been extended and we would value your input. To access the survey, go to <https://www.surveymonkey.com/r/VPFKR7S>

If you would like further information or require assistance to complete the survey, please call the AWI information line on 1800 070 099.

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