

# sheep connect

Connecting people in the sheep business

tasmania

autumn 2013

## Tasmanian sheep industry — the big issues

Through our recent member survey, *Sheep Connect Tasmania* gained valuable insight into the areas you identified as important to your sheep business.

In collaboration with our Producer Advisory Panel (PAP) and other stakeholders we've put together a short 'follow-up' survey, which looks at the top five areas of focus; being **infectious diseases** (for example, footrot, ovine Johne's disease), **animal health**, **animal nutrition**, **pasture management**, and **farm business management**.

So far, we've had an outstanding response rate of more than 32 per cent (which is fantastic considering the industry average is 10–12 per cent), with the highest-ranking issues highlighted below. For example, 71 per cent of respondents place importance on receiving updates and reminders about infectious diseases, including footrot and ovine Johne's disease (OJD).

### Tasmanian sheep industry — the big issues

**Infectious diseases** (e.g. footrot, ovine Johne's disease) — ongoing updates and reminders

**Animal health** — worms (including drench resistance and choosing drench groups)

**Animal nutrition** — mineral supplements and stock feed additives

**Pasture management** — new and upcoming species/cultivars

**Farm business management** — managing cost of production

Your responses provide important feedback on the key areas of priority for *Sheep Connect Tasmania* and the Tasmanian sheep industry. Responding to the survey will ensure we continue to provide you with valuable, relevant and timely information.

Please take a few minutes to complete our short, six-question survey at [www.surveymonkey.com/s/R7J557W](http://www.surveymonkey.com/s/R7J557W)

To go into the draw to win the book *Woolsheds*, by one of Australia's finest photographers, Andrew Chapman, simply enter your contact details when prompted at the end of the survey.

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### New website!

**S**heep Connect Tasmania has a brand-new website! You'll find our latest e-newsletters (via our Twitter feed), quarterly hardcopy newsletters, producer case studies, disease factsheets, and upcoming events.

To make it easy we've kept the same address: [www.sheepconnecttas.com.au](http://www.sheepconnecttas.com.au)

Access useful resources including presentations from workshops and other industry events, AWI's Wool Market Weekly Report, sheep and wool industry-related videos from ABC TV's Landline, ovine Johne's disease information, cost of production calculators, a succession planning guide, pasture trial information from Tasmanian Institute of Agriculture (TIA), YouTube videos about Lifetime Ewe Management (LTEM) and EverGraze, and much more.

Stay up-to-date with the latest information relevant to the Tasmanian sheep and wool industry by checking back to the website frequently, and subscribe to our e-newsletters at <http://eepurl.com/ss-ar>



### Mobile phone number error

There was an error in our Summer 2012–13 newsletter; Sheep Connect Tasmania coordinator James Tyson's correct mobile phone number is 0409 006 774.

# Cats create havoc with carcass contamination

## key points

- Cats play primary host to two key sheep diseases — sarcocystis ('sarco') and toxoplasmosis ('toxo').
- The incidence of sarco is on the rise and having significant impacts on carcass value at the point of processing.
- Breaking the disease life cycle is the only option currently available to sheep producers looking to minimise impacts.
- Effective disposal of carcasses (through immediate burning and burial), stopping cats from accessing feedstuffs such as hay and grain and consistent feral cat control are key management tools.

It's no secret cats come under attack for a litany of crimes when it comes to their impact on other creatures. But when it comes to sheep they create havoc on two key fronts: reproduction rates and carcass damage.

And it is the latter (due to sarcocystis or 'sarco') that is causing Chris Cocker, Quality assurance manager at Tasmanian Quality Meats the most concern.

"We are seeing a huge increase in the number of carcasses coming through with sarco. The worse-case scenario year-to-date has been a line of about 350 mutton where we had to condemn 140 carcasses due to heavy infestation of cysts in the muscle tissue," Chris said.

## Clear culprit

When it comes to identifying the source of the problem, the culprit is clear — cats are a key host in the life cycle of both sarco and toxoplasmosis ('toxo').

According to Chris, the greatest impacts are coming from properties that border rural townships, where the incidence of feral cats is greatest. While this is no surprise to affected producers, a better understanding of the disease life cycle reveals key management options.

## Sarco life cycle

Sarco is a single-celled organism and a two-host parasite. This means it requires two different hosts (a prey intermediate host and a predator primary host) to complete its life cycle.

There are many species of sarco (and many different hosts), but the sarco that damages the sheep carcass has the cat as the predator host.

The lifecycle of sarco is a bit like the chicken and the egg scenario — it's a bit difficult to see which comes first (see Figure 1). The important thing is to try and break the cycle.

The forms of sarco found in sheep do not infect humans.

## Impacts and options

According to Rowena Bell, Veterinary officer with DPIPW, while sarco rarely leads directly to livestock death, and there are no outward signs of infection, heavy infestations of cysts can lead to carcass damage, picked up at the point of processing (abattoir).

"In moderate to light infestations contaminated muscle tissue is trimmed. In heavy infestations, an entire carcass may be contaminated and condemned," Rowena explained.

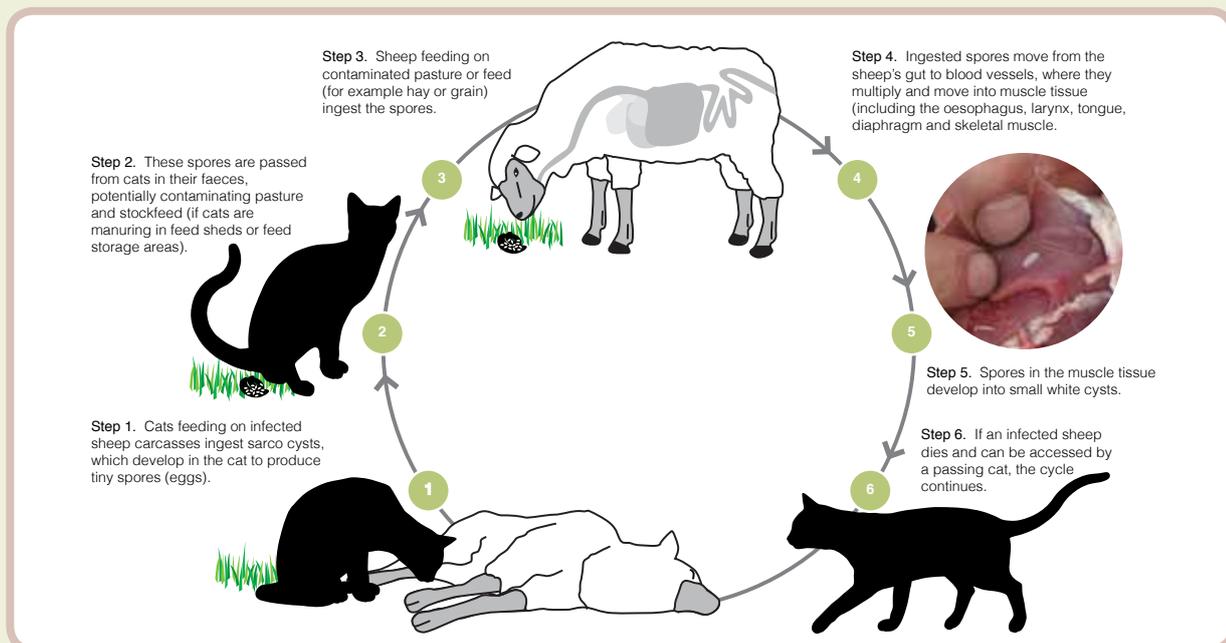


Figure 1 The sarco life cycle

"There are no preventative treatments (drenches or vaccinations) available for sarco. Disposing of livestock carcasses by immediate burial, placing in a secure offal pit, or burning, and controlling cat populations around feed sources are the best management options currently available. Where possible, keep livestock feed secure from access by cats."

"Because cats are territorial, it is safer to have a stable population of mature, desexed, immune cats around the house and farm sheds rather than a succession of young, possibly 'infectious' (excreting the sarco and toxo spores) group of young ferals that are periodically 'cleaned out' of the area."

Rowena also reminds producers to avoid feeding domestic cats (and dogs) uncooked sheep meat or offal.

### Cat control options

From 1 July 2012, under the *Cat Management Act 2009*, land owners and managers can take action to protect wildlife and livestock on their land. Under the *Act*, cats found in a prohibited, rural or remote area may be trapped and humanely destroyed or returned to their owners.

Primary producers and people working on their behalf may carry out these measures on rural land where livestock graze. On other private land that is more than 1km from a place of residence, a person can trap, seize or humanely destroy a cat.

"If you are going to depopulate cats, be aware that cats from neighbouring territories will invade (nature hates a vacuum). So it is important to maintain the control pressure and ideally coordinate with neighbours to keep cat populations low across as large an area as possible," Rowena explained.

For more information, download the *Feral Cats in Tasmania* factsheet from the DPIPWE invasive species web page: [www.dpipwe.tas.gov.au/invasivespecies](http://www.dpipwe.tas.gov.au/invasivespecies) 📄

To join one of the regular producer tours of the TQM processing facilities to see first-hand the carcass impacts of a range of such diseases and conditions, contact:

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## Tasmanian worms prove tough to tackle

**I**n Sheep Connect Tasmania's latest survey (see page 1 for more information) 63.5 per cent (47 out of 74) of respondents to date have identified they would like more information on worm management.

According to local veterinary consultant and WormBoss facilitator Paul Nilon, it's no wonder Tasmanian producers struggle to stay on top of worms.

"Unlike sheep producers in most other areas of Australia, Tasmanian producers can't rely on dry summers to provide environmental decontamination in terms of worm burdens. They are forced to rely more heavily on a chemical control program to keep worms at bay," Paul explained.

### Testing proves crucial

This heavy reliance on chemicals brings with it the need for a strong drench-resistance testing program to ensure maximum efficacy is being achieved with every dose of drench given and quickly identify resistance as it develops.

"The uptake of anthelmintic (drench) testing locally is extremely poor," Paul said. "So in many situations producers are repeatedly using drenches that are failing, with no monitoring."

That's money down the drain in terms of drench and little to no protection for the livestock being drenched.

### Enterprise diversity

To top it off, Paul sees a third issue arising in Tasmania with increased enterprise diversity.

"Most Tasmanian sheep producers now run varying levels of cropping programs and because late winter-early spring is busy across both sheep and cropping enterprises, more and more producers are turning to long-acting products for worm control." Paul said.

While there is a role for these products in a strategic worm control program, an over-reliance on long-acting products has the potential to shorten their useful life.

"There is a body of research that suggests the over-reliance on long-acting products in the medium to longer-term could increase the rate of resistance to these drenches. By all means these products have value within a strategic program, but the key is to use them judiciously," Paul said.

Overall, Paul recommends that in lieu of predictable dry summer conditions, producers aim for a balanced approach to winter-spring drenching options, which incorporates regular faecal egg counts and drench-resistance testing to support strategic, and effective, drenching decisions.

*Sheep Connect Tasmania will work closely with WormBoss facilitators Paul Nilon and Graham Lean to deliver a practical one-day WormBoss workshop in early winter. The workshop will allow producers to review their current worm control strategies and current drench products, develop a stronger understanding of the role of strategic drench testing and faecal egg counts and develop a tailored worm management strategy for their sheep enterprise.*

*In the meantime, the WormBoss website has a range of practical worm control tools developed in consultation with Paul Nilon for Tasmanian conditions.*

*(Go to [www.wormboss.com.au](http://www.wormboss.com.au) and click on 'Tasmania' under the 'Your Program' tab at the top of the page.) 📄*

**If you are keen to attend a WormBoss workshop please contact:**

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**Case study:** Rob and Eliza Tole  
**Location:** Cressy, northern Midlands  
**Property size:** 545ha  
**Average annual rainfall:** 680mm plus irrigation  
**Soils:** Heavy black cracking clay with banks running up to a light loam  
**Enterprises:** Sheepmeat (lamb production and trading), summer and winter irrigated cropping

## Mineral supplements — filling the gaps

Photo: Catriona Nicholls

**Lucerne losses:** Mineral supplementation has reduced lamb losses on lucerne by 80% for Rob Tole (pictured with daughter Georgie and Nell the Labrador).

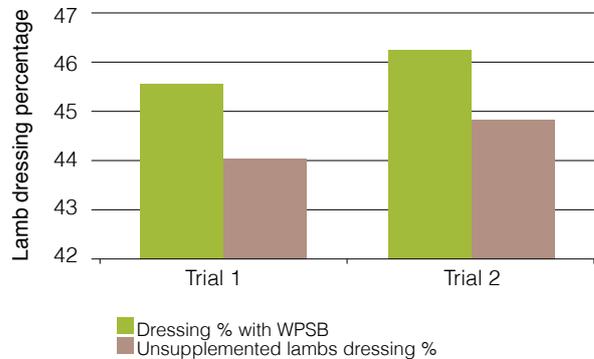
### key points

- Identifying the factors limiting production is the first step to increasing productivity.
- Solutions to limitations need to be both labour efficient and cost effective.
- Mineral supplementation can boost lamb growth rates and reduce livestock losses during transport.

Weather-resistant mineral supplements are providing an economical and labour-efficient boost to Rob and Eliza Tole's lamb trading enterprise — both on farm, and during transport and yarding in the lead-up to slaughter.

With more than 11,000 head of lambs moving through their business during the past 12 months, Rob and Eliza have had the ideal opportunity to evaluate the factors limiting their lamb trading enterprise. And upon close inspection it seems addressing mineral deficiencies in their pastures, through ad-lib feed supplements, could be the answer.

With lamb losses on lucerne dropping by 80% and increases in dressing percentages, which equate to more than \$3/hd (see Figure 1), Rob and Eliza are convinced of the beneficial impacts on their business.



	Trial 1		Trial 2	
	Control	WPSB	Control	WPSB
Lambs	202	232	226	197
Dress %	44.05	45.63	44.88	46.26
% diff	-	+1.58	-	+1.39
\$ diff*	-	+3.63	-	+3.46

\* These values include the cost of supplementation

The program returned \$1,523.78 extra gross profit (GP) after supplementation. If all lambs were supplemented, the extra GP would have been \$3039 or \$3.55/lamb.

Figure 1 Impact of mineral supplement on dressing percentage  
 Note: Results are taken from two trials comparing lambs supplemented with WeatherPro Strait Booster (WPSB) before transport and immediately prior to slaughter with lambs receiving no supplement. There were about 200 lambs in each trial group.

### Mind the gap

The Tole family has a strong history of enterprise monitoring to manage limiting production factors according to Rob.

"When I first came home more than 14 years ago, we used to tissue test our pastures to try and address any nutrient limitations with feed supplements," Rob said.

"We know our country is low on magnesium, which affects nutrient absorption and growth rates."

"For years we used to make our own supplements with crushed dolomite, molasses, copper, cobalt and zinc and had a rough idea of the percentage of each one to include."

"Over time as the enterprise mix has changed to include more cropping, the labour-intensive and expensive supplementation program fell by the wayside. But as market conditions have swung back around to favour wool and sheepmeat the conditions have supported revisiting supplementation."

### The limiting factor

Rob and Eliza have a rule of thumb across all their enterprises when looking to boost productivity and profitability.

"We evaluate our enterprises and look for the key limiting factor," Rob explains. "When we identify what that factor is, we ask whether it is something we can manage. If it is, we then need to determine whether it is cost-efficient to make the changes required."

"We investigated a prescriptive supplementation program in our cattle for yard weaning and it certainly made a difference in terms of behaviour, reducing stress during handling and transport, but was still labour-intensive.

"We tried the whole process again on our lambs and followed them through to slaughter."

"While we did get better dressing percentages and a few other advantages, I still couldn't make it work from a dollar perspective when you included the labour component required for the tailored feeding program."

"In our situation we saw no economic advantage — it was labour-intensive to train lambs onto pellets and rain spoilt the supplement leaving a fair amount trampled into wet ground uneaten."

### Refining the options

Although the cost was prohibitive in terms of product and labour, Rob and Eliza were still keen to investigate more options. They were losing a significant number of lambs on their lucerne to red gut and knew if they could find the right system the benefits would be there.

"We investigated a water-delivered system, where lambs access the nutrient supplements through the watering system."

"With unseasonal weather conditions and flooding of lucerne paddocks many times throughout the season lambs were on and off the lucerne. So it probably wasn't a fair trial."

"Although at least with this method we knew every sheep was getting a dose when drinking water from a water trough and there was no wastage."

"Shortly after this, we came across WeatherPro — a solid supplement, which trickled out in containers in the paddock and our losses on lucerne went to 1%."

"To be honest it nearly sent us broke in the beginning as the lambs just ate as much as they could get and the advice was to keep feeding, their intake will level out."

"But as deficiencies were addressed the consumption rates reduced significantly and now their consumption is around 20 grams per head per day."

One of the success factors of this system is the simplicity and low labour required.

"We found a few surplus grain feeders, so we can tip a dozen bags in each feeder and that will last two weeks — making it a low intensity job," Rob explained.

"We can put large quantities out and it doesn't go to slush or set like a brick after rain or irrigation."

Rob has calculated that the supplements are costing about \$1/hd average across his total lamb enterprise over a 12-month period. Not only are the lambs gaining weight faster and reaching target weight earlier, according to Rob, with the reduction in losses on lucerne and increased dressing % this alone is enough to pay for the supplementation.

### The right mix

The system Rob and Eliza are currently using has been tailor made to meet nutrient deficiencies identified through plant tissue testing.

"We tested all our lucerne, ryegrass and clover pastures and found the standard blend had all we required."

"Currently every lamb on the place has ad-lib access to the supplement, except when they are grazing fodder brassica crops (which don't show as many mineral deficiencies)."

"On top of the reduction in our losses on lucerne the stock are visibly calmer and less stressed during handling and transport. And with lambs going over the scale regularly I am confident their growth rates have improved."

While Rob admits he is not basing these estimations on scientific trials, he believes that weighing significant numbers of lambs regularly, and knowing what feed is on offer, provides a good feel for growth rates.

While Rob and Eliza are seeing profitable results from the supplement, Rob encourages other producers to identify the factors in their own system before jumping on board.

"The mix we are using is developed and suits our system and there is no guarantee that the mix will produce the same results across the board," he said. 🌱

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# Mineral supplements — proceed with caution

## key points

- Before investing in the latest 'silver bullet' it is important to recognize there is much 'old' technology that still works well and is cost-effective.
- Some 'new' technology is cleverly repackaged and rebadged 'old' technology.
- Always evaluate testimonials of other producers against rigorous research-based evidence.

There is no doubt mineral supplements can boost animal health and growth rates, but choosing a supplement that benefits both the animals and the back pocket can be a challenge.

The following information provides a handy tool for assessing the usefulness and economic benefit of stock feed additives and supplements.

### Livestock requirements

Ruminants such as sheep and cattle, require as many as 14 different minerals to maintain sound health and production levels.

Some minerals are required in relatively large amounts (macro-minerals) and others in much smaller amounts (micro-minerals or trace elements). Macro-minerals make up a significant proportion of the body and trace elements generally support healthy chemical reactions in the body.

Table 1 Mineral requirements for sheep

Macro minerals (g/kg DM)	
Calcium (Ca)	1.4–7.0
Phosphorus (P)	0.9–3.0
Chlorine (Cl)	0.3–1.0
Magnesium (Mg)	0.9–1.2
Potassium (K)	5.0
Sodium (Na)	0.7–1.0
Sulphur (S)	2.0
Micro-minerals (trace elements) (mg/kg DM or ppm*)	
Cobalt (Co)	0.11–0.15
Copper (Cu)	4–14
Iodine (I)	0.5
Iron (Fe)	40
Manganese (Mn)	20–25
Selenium (Se)	0.05
Zinc (Zn)	9–20

\*ppm=parts per million

Lower values given are maintenance values. Higher values are for growing, pregnant or lactating animals.

Source: Freer, M (2007) Nutrient requirement of domesticated ruminants

**In the balance:** In most situations, sheep will meet their nutritional needs through grazing actively growing pastures.



Photo: Catriona Nicholls

The interactions between vitamins and minerals differ significantly and availability can be unpredictable — hence the difficulty in making broad-based recommendations for supplementation.

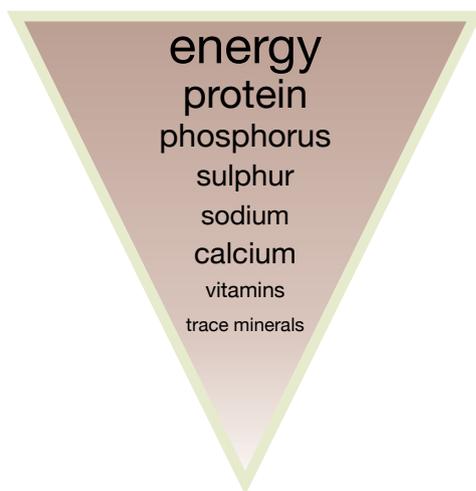
In most circumstances, sheep will obtain most of their requirements from grazing an actively-growing pasture. The concentration and availability of minerals and vitamins depend on pasture composition, soil type, climatic conditions and stage of plant maturity, as well as the selectivity of the livestock.

Table 1 provides a guide to the range of minerals considered necessary for maintenance through to rapidly growing, pregnant or lactating stock (higher requirements).

While it is useful to know a feed's mineral and vitamin content and availability it is also important to consider requirements and differences due to foraging behaviour, age, genetic availability and stage of production effects. For example Merinos can be more susceptible to iodine and selenium deficiencies but less susceptible to copper deficiency or toxicity than some British breeds.

With respect to age-related issues, adult or mature animals may have sufficient reserves of many vitamins and minerals, allowing them to tolerate periods of deficiency. Young stock in the same situation may have inadequate reserves and may require supplementation.

As a base guideline, look after livestock feed nutrients in the following order:



### Assessing your own situation

As pointed out by Rob Tole on pages 4–5 of this newsletter, the supplement program they have settled on will not necessarily deliver the same results for other producers.

Consider the following points when undertaking an on-farm analysis of any additive or supplement:

- Carry out an objective assessment of pasture or crop quality (MJ ME) and quantity (kg DM/ha) throughout any on-farm trial.
- Ensure the trial is replicated in a 'paired' paddock trial under the same conditions.
- Record stocking rate, stock descriptions, liveweight, condition scores before, during and at the end of any trial.

- Ensure adequate numbers of stock in any trial — at least 60 sheep for each treatment and replication.
- Standardise any data recording (for example, weigh at the same time of day for each data collection event to minimize gut fill differences).

Before implementing a mineral supplement program, identify whether:

- a definite deficiency exists
- whether the deficiency is the prime production-limiting factor (or is there a more important limiting factor, such as energy, protein or fibre)
- there is a known (diagnosed) mineral imbalance that is causing production losses.

### Decision-making checklist

When evaluating the benefits of any supplement program, develop a list of questions that will enable you to satisfy yourself that a product is worth adopting into your system.

Be aware of 'perceptions' vs 'fact'.

Quantifying a result via an on-farm trial is quite difficult. Seek advice to assist in developing meaningful trial parameters and protocols. 📌

*\*Note: this article does not attempt to cover all mineral and vitamin requirements of sheep. Recommendations and values listed are to be used as guides only. For comprehensive advice contact an independent nutritional advisor.*

*This article has been adapted with permission from NSW DPI Primefact 656 Assessing stock feed additives and mineral supplements.*

## Definitive research-based guidelines for minerals requirements

- Incorporate between 1–5% (by grain weight) lime to grain supplements to restore the calcium:phosphorus balance.
- Livestock grazing winter wheat need a 1:1 salt:magnesium oxide (CausMag) ad-lib supplement.
- To diagnose phosphorus deficiency and implement a supplementation program, carry out soil phosphorus tests, blood phosphorus test and faecal phosphorus tests across both the growing and non-growing period of the fodder base. Work with your animal health consultant or veterinarian to diagnose a phosphorus deficiency.
- When pastures are protein deficient, mature animals can be adequately supplemented with a source of non-protein nitrogen. Seek advice to do this cost effectively.
- Monensin-based products increase weight gain and help manage bloat but may not prevent it. 📌



### useful links



- Australian Wool Innovation [www.wool.com](http://www.wool.com)
- Meat and Livestock Australia [www.mla.com.au](http://www.mla.com.au)
- Sheep CRC [www.sheepcrc.org.au](http://www.sheepcrc.org.au)
- LiceBoss [www.liceboss.com.au](http://www.liceboss.com.au)
- WormBoss [www.wormboss.com.au](http://www.wormboss.com.au)
- Making More from Sheep [www.makingmorefromsheep.com.au](http://www.makingmorefromsheep.com.au)
- Sheep Genetics Australia [www.sheepgenetics.org.au](http://www.sheepgenetics.org.au)
- Australian Merino Superior Sires [www.merinosuperiorsires.com.au](http://www.merinosuperiorsires.com.au)
- Beyond the Bale [digital.wool.com.au](http://digital.wool.com.au)
- EverGraze [www.evergraze.com.au](http://www.evergraze.com.au)
- Latest market information (beef and sheepmeat) [www.mla.com.au/Prices-and-markets](http://www.mla.com.au/Prices-and-markets)
- Latest market information (wool) [wool.landmark.com.au/daily-wool-prices-and-sales-roster/](http://wool.landmark.com.au/daily-wool-prices-and-sales-roster/)
- Latest weather [www.bom.gov.au](http://www.bom.gov.au)
- FarmPoint [www.farmpoint.tas.gov.au](http://www.farmpoint.tas.gov.au)

Photo: Catriona Nicholls



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<http://eepurl.com/ss-ar>



### Stay focussed

**M**anagement of ewe nutrition during pregnancy is the most important factor in maximising reproductive performance; having ewes in condition score 3 at lambing will minimise mortality and optimise wool and meat production of progeny.

Pregnancy scanning can be used to identify multiple pregnancies to better manage twin-bearing ewes and to identify and remove barren ewes. Careful consideration needs to be made of the costs and benefits of pregnancy scanning to achieve a management and economic gain in the enterprise. Skilled contractors can scan ewes to age the foetuses conceived either in the first or second cycle. This information can be used to better allocate feed for pregnant ewes, and limit the number of ewes in lambing paddocks at one time.

For more information on managing ewes at joining and during pregnancy, the advantages and disadvantages of pregnancy scanning, and timing of routine husbandry practices, go to <http://eepurl.com/ydJUT>

Also refer Module 10 'Wean more lambs' of the *Making More from Sheep* manual at <http://sheepconnecttas.com.au/resources/making-more-from-sheep/>



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