

OJD revision reduces red tape

A review of the national ovine Johne's disease (OJD) management plan will see most Tasmanian sheep producers utter a sigh of relief.

Under the proposed new plan the current multi-zone system of prevalence areas and ABC points system will be abolished and properties across the country will fall into one of two categories:

- Protected area, or
- Control area

In all likelihood, Tasmania (including Flinders and Bruny islands) will fall into the 'control area' category.

All areas will default to control areas unless local and regional groups successfully apply for protected area status via a regional biosecurity plan.

A control area is one where the disease is well established OR where there is no regional approach to preventing OJD.

Disease control

The existing management tools to control and prevent OJD will still be available under the revised program. These tools will enable producers to monitor their disease status and help prevent the disease becoming established or control it if it does infect their flock. These tools include:

- Vaccination
- Abattoir monitoring
- Individual flock testing
- SheepMAP
- Sheep Health Statement
- Biosecurity planning

When will the plan come into action?

The revised plan will come into action from 1 January 2013, with a transition starting 1 July 2012, as regions are invited to submit regional biosecurity plans to achieve protected status. 🗨️

For more information, visit:

www.ojd.com.au for further information.

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Burlington grazing trial update

Producers will have a unique opportunity to see first hand the results coming to light from the Burlington Road grazing trial at an upcoming MLA pasture update. Project leader Brian Field is thrilled at the results to date and even more excited about the next phase of the project.

"We have seen some dramatic differences between species in terms of per head animal production and seasonal production," Brian said.

"To date we have focussed on total feed production and individual animal performance, the next step is to push the system harder to convert the results to kilograms of meat per hectare and look at how the plants stand up to the grazing pressure over time (persistence)."

"As such, the next phase of the project will move to a system that manages for animal production per hectare through increased stocking rates and strategic seasonal grazing to reflect pasture growth patterns."

Autumn will see the trial enter the final grazing cycle of the two-year trial and researchers are currently planning the structure of the next trial phase.

Big picture aim

Brian explains that the big picture is to be able to develop persistent perennial pasture species and grazing systems for Tasmanian producers that match animal requirements across the year for optimal production and health.

"Essentially we expect to see a mosaic of pasture species across the landscape either as paddocks of monocultures in some instances, or compatible combinations of species in others," Brian said.

"The Burlington Road project compares species for their animal production merits across season and year. Adding to this is how producers can use the features of these species more effectively in a combination or monoculture."

In this way, the project ties in well with the work being carried out by Eric Hall and his team who are investigating the establishment, production and persistence of various pasture grass-legume combinations.

"As results come on board from these concurrent projects we will develop a clear picture of what the potential is for each species across the landscape and the optimal way to establish it within a single farming system," Brian said.

The Burlington Road grazing trial is a DPIPW supported and TIA managed project.

The MLA pasture update will be held at the site on 27 April 2012. 🗨️

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An objective approach makes for faster gains

Incorporating objective measurements (Australian sheep breeding values — ASBVs) when selecting rams will increase the rate of genetic gain and profitability across the sheep enterprise.

According to Lu Hogan, Sheep CRC, it is important to remove the environmental noise that masks the genetic potential of rams during the selection process.

“As way of explanation — the productive performance of a fine wool flock is determined by a combination of its genetics and the environment in which it is run,” Lu said.

“Selecting rams, classing and making breeding decisions based on physical inspection and raw performance data only runs the risk of selecting animals based on environmental influences rather than the true genetics they will pass on to their offspring.”

A sheep's physical appearance and raw performance data is affected by:

- The quantity and quality of feed on offer
- The animal's age
- Whether the animal was born as a single or twin
- The age of the mother (dam) when the animal was born
- Its disease and parasite status.

Table 1 shows the effect of dam and birth type on lamb weaning weight in pure Merinos.

Table 1 Weight of lamb at weaning		
	Born as single	Born as twin
Maiden dam	29kg	25kg
Adult dam	32kg	27kg

The single lamb born to an adult ewe is 7kg heavier at weaning than a twin lamb born to a maiden ewe.

“This difference is environmental and will not breed on to subsequent generations. It is important to remove these environmental distractions when selecting rams and focus on the true genetic potential,” Lu said.

“For commercial producers this is important when selecting rams and for ram breeders, removing this environmental noise from breeding and selection decisions is the way to ramp up the rate of genetic gain in your stud flock.”

Using ASBVs is the best way for commercial producers and stud breeders to remove the noise and uncover the true genetic potential of an animal.

ASBVs explained

MERINOSELECT is a tool available to all sheep producers, which provides practical information on the genetic potential of their sheep. Sheep are ranked for various production characteristics using ASBVs.

“Producers can use MERINOSELECT to identify the animals that will match their breeding objectives across a range of commercial production, quality and health traits,” Lu explained.

Lu is quick to impress on producers that they should not throw out their visual assessment tools and focus on ASBVs alone.

“Producers can use the genetic information provided by MERINOSELECT in conjunction with visual classing to deliver an improved level of control over animal selection,” Lu said.

“They can compare animals within flocks or across flocks — simplifying identification of the most appropriate animals to meet their breeding objective.”

To identify potential animals, producers can search the MERINOSELECT database by: wool type, breeder, location, sire and year of drop.

What traits can I search for?

The MERINOSELECT database provides ASBVs on traits relating to growth rates, fleece weights and quality, carcass characteristics and general animal health.

For superfine Merino breeders the traits of most interest in the database will be:

- Weight at a particular age (WT)
- Greasy (GFW) and clean fleece weight (CFW)
- Fibre Diameter (FD)
- Staple Strength (SS)
- Staple Length (SL)
- CV of fibre diameter (CV)
- Resistance to worms (WEC)
- Breech wrinkle (BWR)
- Dag score (DAG)

Lu explains that ram breeders involved in MERINOSELECT collect data on these traits at various stages during the growth of a drop of lambs.

“Typically breeders collect data at weaning (W), post-weaning (P), yearling (Y), hogget (H) and adult (A) stages,” Lu said.

“The data is then combined with pedigree (family tree), a range of environmental data and data collected on the animals' relatives to calculate ASBVs for a particular age status.”

“For example a WWT ASBV is a breeding value calculated for liveweight at weaning and a HGFW ASBV is a breeding value calculated for greasy fleece weight as a hogget.”

Benchmarking allows for comparison

Genetic linkage between flocks is created by benchmarking sires in different commercial and research flocks and in different environments. It is this linkage allows for the comparison of animals across flocks.

“ASBVs are expressed in a range of units (for example, kilograms, micron, percentages) as the difference from the average (mean) of the MERINOSELECT database in 1990,” Lu explained.

“For example a GFW ASBV of 20% means the animal will cut 20% more greasy wool than the average of the animals in the database in 1990.”

Figure 1 provides an example of data in the MERINOSELECT database for ultrafine and superfine sires. The boxes highlighted in blue indicate that these sires are in the top 10% of the database for fibre diameter, with the top sire being 5.4 micron finer than the average of the database in 1990.

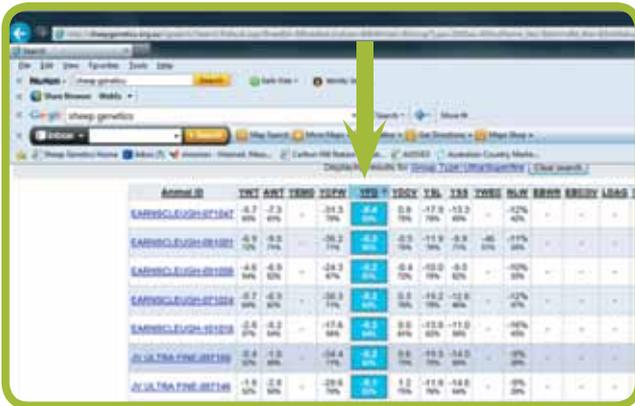


Figure 1. An example of a MERINOSELECT search for ultrafine and superfine sires born in any year

“Producers can also use the percentile band reports to determine how the animal is placed relative to all other animals in the database for a particular trait,” Lu said.

“For fibre diameter, animals with a value less than -3.7 micron are in the top 1% of the MERINOSELECT database — animals with a fibre diameter less than -2.8 are in the top 5% of the MERINOSELECT database.”

Indexes explained

A range of indexes is also available, which makes ram selection to meet breeding objectives even easier.

“These indexes combine a range of ASBVs into a single figure for ranking an animal for its overall economic merit,” Lu explained.

“The index most relevant to superfine woolgrowers is the Merino 10% + Staple Strength (10%+SS) index.”

The 10%+SS index also is applicable to ram breeders supplying self-replacing Merinos producing adult fleece less than 19 micron.

The index assumes:

- a small gain in fleece weight
- a modest reduction in micron
- a moderate gain in staple strength
- a small gain in body weight
- maintenance of reproductive performance.

Figure 2 gives an example of a search to identify ultrafine and superfine animals ranked above 100 in the 10% + SS index.

“The top ranked animal from Figure 2 has an index value of 202 and the boxes highlighted blue indicate those animals that are in the top 10% of the database for the index and/or trait.”

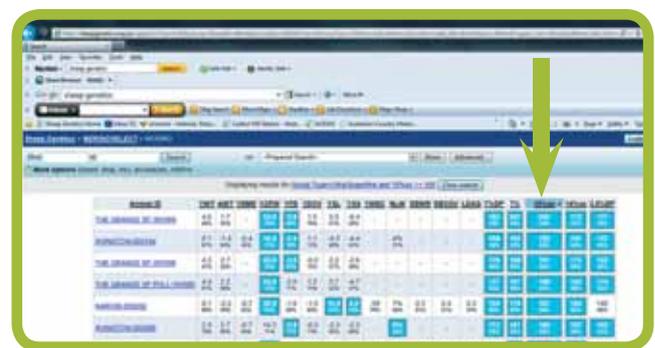


Figure 2. An example of a MERINOSELECT search for animals based on the 10% + SS index

For more information on strategic breeding using genetics, see *Making More from Sheep* Module 9 — Gain from Genetics.

Trait gains are strong for ultrafine and superfine types in MERINOSELECT

The following graphs provide information on the improving trends for ultrafine and superfine types in the MERINOSELECT database since 2000.

Figure 1 shows the improvement in Yearling Clean Fleece Weight (YCFW) for ultrafine and superfine sheep in the MERINOSELECT database.

Since 2000, the average breeding value for the type has improved by approximately 6% and is now closer to the average of the database for all types.

Figure 2 shows the change in Yearling Fibre Diameter (YFD) breeding value for ultrafine and superfine sheep.

The average breeding value for fibre diameter has declined by 0.3 micron over 10 years. These two graphs indicate that ultrafine and superfine breeders have been able to increase fleece weight and reduce micron simultaneously, using breeding values as a selection tool.

These genetic trends provide evidence of strong genetic gain when using breeding values as a tool for selection and breeding decisions.

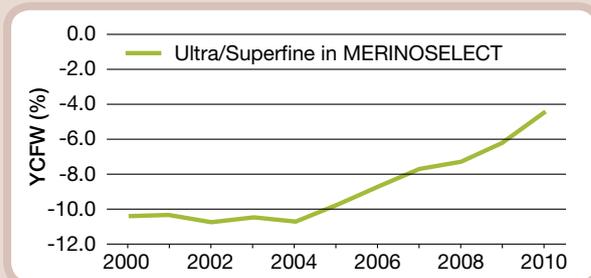


Figure 1. Change in YCFW for ultrafine and superfine Merinos in MERINOSELECT

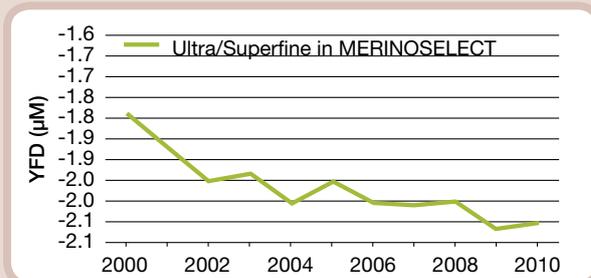


Figure 2. Change in YFD for ultrafine and superfine Merinos in MERINOSELECT

Objective measurement — it simply makes cents



Photo: Catriona Nicholls

Worth their weight: *The argument that breeding values don't stack up doesn't cut it with Will and Nina Bennett, Ashby Holdings, who have been able to increase both the quality and value of their wool through a more objective approach.*

Will and Nina Bennett, *Ashby Holdings* are convinced that adopting objective measurement as part of their ram selection process has turned their wool enterprise around.

"In the period after I first came home about 12 years ago, our wool enterprise was really struggling with long-term low wool and sheepmeat prices and a fairly severe drought," Will said.

"My reaction was to really analyse what we were doing to see if we could turn the business around — the alternative was to get out of wool."

"Merinos are actually a great fit with our run country and cropping enterprise, so this wasn't my preferred option."

With the help of farm business advisor Phil Holmes, Will and Nina ran the numbers on their sheep to determine which ones were performing and which weren't.

"Phil also advised us to go north (to the New England Tablelands in New South Wales) and look at what father and son team Grant and Jock Nivison were doing at *Yalgoo*."

"*Yalgoo* is a stud and commercial wool enterprise that seemed to be going ahead in leaps and bounds in spite of the poor market conditions."

What they found at *Yalgoo* was a passion for an objective approach to wool production, based on 41 years of hard data — and a highly profitable commercial wool enterprise.

Will and Nina have now incorporated *Yalgoo* genetics into their operation and continue to work closely with Jock and Grant to make further breeding improvements in their flock.

The *Yalgoo* experience

As Jock Nivison is proud to tell you, the focus on objective measurement is nothing new at *Yalgoo*.

"During the late 1970s my grandfather used to go to all the shows and buy top-priced rams and when dad (Grant) came home he wasn't convinced they were performing," Jock said.

"Dad started testing rams and their progeny for micron and fleece weight — the profit drivers."

"It was really about trying to get an idea about the spread of dollars individual sheep were making — there were sheep that were making \$100 dollars per head and sheep making \$20, under the same environmental conditions."

"During the 1980s we started ranking our sheep on performance. We took all their data and ranked them on a combined measurement (fleece weight, body weight, CV and fibre diameter)."

"We went from 21 to 19 micron and wool cuts stayed around 4–5kg/hd in our ewes."

Aiming for the sky

During the 1990s *Yalgoo* joined a group of breeders in a CSIRO project that aimed to reduce fibre micron to 13 in 10 years.

"This was a real test case for putting pressure on micron while holding other traits," Grant said.

"From 1997 to 2005 we went from 19 to 16.3 micron and fleece weights stayed the same, as did body weights."

"The perception was that when you put pressure on micron everything else would fall apart — it didn't."

"And while we didn't get to 13 micron, we are now down to 15.8 micron and current day fleece values have increased by 75% — that just makes good sense (and cents) to me."

"During the past five years we have renewed our focus on fleece weight. We are achieving the same genetic progress for fleece weight as what we did when we were aggressively chasing micron reduction. We are throwing up 15 micron rams that are in the top 1% of the breed for fleece weight."

According to Jock and Grant, the focus for the next 10 years is for the *Yalgoo* commercial flock to become a 15 micron flock cutting 7kg wool/hd.

“We currently use the 14% index, but we will move to a customised flock index that will focus more on fleece weight and less on micron reduction,” Jock said.

Back at Ashby Holdings

After looking at the *Yalgoo* model and crunching the numbers, it was clear to Will and Nina that micron is the key to profit and there was significant room for improvement in the *Ashby* flock.

“Like Grant and Jock, we use the 14% + SS index, which puts significant pressure on fibre diameter, moderate pressure on increased staple strength and body weight, increased fleece weight and reproductive rates.”

“In our commercial flock we have reduced average micron from 19.8 to 17.5 during the past seven years, without compromising fleece weights and growth rates.”

Will and Nina test their hoggets for micron and fleece weight and now have their flock size back to where they want it. They will now rank their hoggets against the 14% + SS index and apply more selection pressure to their commercial flock.

“The wool price is good, our results are good and our wool enterprise now stacks up well against our other enterprises — cropping, prime lambs and cattle.”

For Will and Nina, the move to a more objective approach has been a common sense decision and they will continue to benchmark their flock and develop a breeding strategy that makes good cents.

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Breaking down the barriers

It is no secret that the adoption of objective measurements in the wool industry has been slow to catch on.

When talking to Will and Jock about why this is the case, the answers are complex.

“It beats me — take a look at the red meat industry,” Will said. “Industry estimates suggest that 80% of beef producers use breeding values to select their bulls — ASBVs are no different.”

It's no secret the Australian wool industry is a highly traditional industry that, until the reserve price scheme capitulated, faced little pressure to make real productivity gains.

“With what has happened at *Yalgoo* and with our clients' flocks, it is obvious that objective measurement is the quickest and most efficient way to make genetic progress. If there is another way to achieve the same gains (other than objective measurement), then I would love to see the data.”

“Objective measurement is just about benchmarking — it's about finding out where you are and you'll get the truth — they're not worm resistant, they're not cutting enough and so forth.”

“At the end of the day, it allows you to identify the gaps and do something about it — there's total transparency.”

“Indexes are best viewed as putting dollar figures on sheep, thus allowing you to breed from the profitable ones.”

“Our ram buyers are all using ASBVs in their decision making process and are prepared to pay for the figures — at our recent sale we averaged nearly \$2700/hd across 93 rams at 15 months”

“But it is always a combination of visual assessment and hard data and our results and our sheep speak for themselves.”

“At their first shearing we go through our wethers and ewes using a visual assessment for structure — it's all visual, no figures.”

“We're just looking at the sheep and then the measurements are done but we cull on visual first.”

Jock explains that with a six-week gap from oldest to youngest there is a bit of variation at shearing.

“At the second shearing, with the ones we keep, we measure again and this is a better comparison (for fleece weight). The more data we can collect from an animal the greater the accuracy of the animal and it's relatives' performance.”

“After that culling we get the flock assessed by an independent vet for structural traits, including testicles, feet, face cover etc.”

“We've been doing it for so long and we have been rewarded by objective measurement. Subjective measurement is an integral part of the selection process for each individual animal, BUT objective measurement drives the overall profitability of the business. It means genetic progress is both measurable and assured.” 🐏



Photo: Catriona Nicholls

Pretty as a picture: Objective measurement helps producers to focus on the traits that matter, without being distracted by those visual aspects that do not drive performance.

Tasmania joins sheep measles investigation

Tasmania is set to take part in a national sheep measles project that will clarify the industry costs, on-farm risks and management approaches towards this widespread disease.

Anecdotal data shows sheep measles causes significant financial losses to the Tasmanian (and national) sheep meat industry, but accurate data on the exact financial loss is not available and is urgently needed.

A team of researchers led by Dr David Jenkins and Dr Jan Lievaart from the EH Graham Centre for Agricultural Innovation has secured \$429,000 in funding from Meat and Livestock Australia (MLA) to answer this question.

“Sheep measles is caused by infection with the larval stage of a dog tapeworm (*Taenia ovis*),” said David.

“The parasitic infection occurs mainly in the heart muscle of sheep but in heavy infestations, muscles throughout the body can be infected (pictured right and below).”

“While there are no public health issues related to the disease, it has potentially important economic impacts for both producers and meat processors.”

The two-year project will see Dr Jenkins and his team work closely with local producers, DPIPWE and Tasmanian Quality Meats (TQM) to determine risk factors and local incidence levels of sheep measles.

“We will work with 30 Tasmanian producers whose flocks have never been identified as being infected and we have another 60 farms where at least one line of sheep has been identified as being infected during the past,” David said.

“In addition to the farmer collaboration, we will work with TQM to undertake abattoir monitoring across a two-week period, four times a year (seasonally).”

“This approach will help us identify the risk factors associated with infection on farm and establish realistic economic costs to the local industry (through abattoir losses).”

Don't drag the chain

Agricultural officer, Colin Jessup, DPIPWE reminds producers that the sheep measles life cycle is already well understood and they don't need to wait for research outcomes to protect their flocks.

“We know sheep measles is transmitted by dogs eating infected meat and offal and transmitting tapeworm eggs in their faeces to pasture, and in turn infecting sheep grazing that pasture.”



Photo: Catriona Nicholls

Viable cyst in muscle tissue.



Photo: Catriona Nicholls

Calcified cyst in heart muscle.

“Producers can reduce the spread of the disease by worming their dogs for tapeworm and hydatids every six weeks and freezing sheep carcass meat for a minimum of two weeks to kill the parasite before it is fed to dogs.”

Colin also warns producers it is an offense under the *Animal Health Act* to feed sheep, cattle, pig and goat offal to dogs to stop the spread of hydatid disease (which *can* infect humans).

“In particular producers need to know they must not feed offal to dogs, under any circumstances, the liver heart or lungs — even if it has been frozen,” Colin said.

“Dogs scavenging on infected carcasses proffers a risk — burn or bury livestock carcasses so dogs cannot get to the offal and keep dogs contained to prevent them roaming.”

Colin is quick to remind producers the risk is not only from their own dogs, but any dog that enters the property.

“Ensuring all dogs that enter the property, whether with staff, contractors, visitors or hunter, are wormed will reduce the risk of sheep becoming infected.”

The good news is that this simple and practical approach will also stop livestock contracting hydatid disease (*Echinococcus granulosus*) and bladder worm or false hydatids (*Taenia hydatigena*).

“The life cycle of each of these parasites is similar — so one convenient control measure will take care of all three parasites,” Colin said.

Keep in mind mainland sheep and cattle run the risk of carrying hydatid cysts and as such, producers need to be vigilant in disposing of any imported animals that die or disposal of offal when killing these animals.

Funded by MLA, the project is supported by the EH Graham Centre — an alliance between Charles Sturt University (CSU) and the NSW Department of Primary Industries (NSW DPI) — Animal Health Australia, the Sheepmeat Council of Australia and Wool Producers Australia. 🐾

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Special offer — *Making More from Sheep* manual sale

The MMfS manual is being offered at a special sale price of \$50 including GST at www.makingmorefromsheep.com.au or contact Andrew Bailey on (03) 6336 5385. 📞

Worm update

Much of Tasmania is now under the impact of the most protracted dry spell since the autumn of 2009 — pastures are seriously dry and, in some cases, depleted.

But, veterinary consultant Paul Nilon says it's not all bad.

"The poor worm control during the past two, wet summers can now be reversed," he said.

"Because it was lush until December it is unlikely a single summer drench will suffice. Therefore sheep on perennial pastures need a second summer drench, almost regardless of location."

However, Paul advises producers not to drench if a worm egg count (WEC) comes in at less than 150 eggs per gram, although he would be surprised if many were this low.

Two warnings

Firstly: graziers in the lower reaches of many river valleys may have become fluke havens following two wet years. Anaemic, ill-thrifty sheep, particularly weaners, grazing marshy riparian areas are prime candidates.

"Get a fluke test with your next WEC," Paul said.

Secondly: there have been a few reports of *Haemonchus* (barber's pole) along the northeast coast.

"These are marginal *Haemonchus* areas, but the series of wet autumns have favoured them," Paul said.

"Graziers in the Tamar valley, the upper parts of the Fingal valley and perhaps even around Westbury and Deloraine should keep an eye out for this species, particularly if the summer has been extended by irrigation." 📞



Photo: Catriona Nicholls

Marshes increase fluke risk: although they may still contain green feed, wet areas provide a haven for fluke.

Survey results

We will keep persisting with our monthly online surveys to try and find out what pushes your buttons, but with only three respondents to the summer survey on information preferences, we were a little despondent.

Moving on — a BIG thank you to the respondents and congratulations to Pip Webster, *Waringah* who is the winner of a free *Making More From Sheep* manual.

If three respondents is anything to go by, we are on the right track with our case studies and flexible delivery format (a mix of hard-copy and email). Just remember — if you would like us to improve on what we are doing, you need to let us know. 📞

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Stay focussed

Although lambing is now a thing of the past for most flocks, the memory of campylobacter and toxoplasmosis should spark producers into action

While there is not much you can do about toxoplasmosis (other than attempt to control feral cats), campylobacter is a different story. To protect ewes against this insidious bacterial infection, an initial vaccination now, with a follow-up booster three weeks later, before joining, will make a significant impact in susceptible flocks come spring.

Note: To access the vaccine producers will need to contact their local vet — it is not available directly from rural suppliers.

Ewe condition

At the risk of sounding like a broken record — ewe condition going into joining is one of the key factors determining conception rates — especially for those producers looking at joining ewe lambs to build flock numbers quickly. So — just again good condition is 3.5 or above and while many of you may think the girls are on target — there is nothing like a quick bout of condition scoring to make sure things are on track.

More information on ewe preparation pre-joining can be found in Module 10 of *Making More from Sheep*.

Ram preparation

Of course it's not just the girls that need looking after at this time of year — the other side of the fertility coin is the boys. Make sure your rams are sound well before letting them loose with the girls. In particular remember to check for sound feet, healthy testicles and penises.

Check out Module 10 of *Making More from Sheep* for a handy ram checklist. 📞



useful links



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

Innovative industry approach supports local producers

Tasmanian Quality Meats (TQM) and Pfizer Animal Health have entered an innovative agreement to provide disease incidence information and training facilities to sheep producers in Tasmania.

Abattoir monitoring is showing that Tasmania has a high incidence of sheep diseases such as ovine Johne's disease (OJD), sheep measles and cheesy gland, which have a significant impact on carcase quality and yield.

The partnership will allow diseases to be identified and monitored on a regional basis with the information available to producers and allow for animal health programs and practices to be optimised in consultation with their animal health adviser.

TQM and Pfizer have also developed a training/meeting facility to host producer groups touring the TQM state-of-the-art facilities and would welcome enquiries from producers or producer groups. 🐏

For more information please contact:

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Chris Cocker (TQM) 0488 736 487

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