sheep connect
Connecting people in the sheep business
tasmania
spring 2012

Progress underway on footrot eradication

Attendees at recent footrot information sessions at Bothwell and Campbell Town were given an update on the latest thinking on footrot control.

More than 100 people attended the sessions, which saw guest speakers cover the features of the infectious disease, current management approaches and the potential of specific vaccines to form part of toolbox for eradication in Tasmania under a state-wide minor use permit.

In light of recent developments, Sheep Connect Tasmania is working closely with the TFGA and DPIPWE to support the effective use of vaccines if they become available.

The process for successful footrot eradication using specific footrot vaccines

1. Collect scrapings from up to 20 sheep, representing different age groups and mobs.
2. Culture (grow) the footrot bacteria from the scrapings in a laboratory and use 10 isolates (samples) to determine virulence and strain type.
3. Produces a tailor-made vaccine (one or two strains per batch) and set up efficacy and safety trials on a small number of sheep.
4. If trials are successful, obtain enough vaccine to treat the whole flock — apart from prime lambs and culls, which can be identified and kept separate. This vaccination course is best completed before the spring disease spread (transmission) period or held over until weaning.
5. Four weeks after the initial vaccination, treat with a booster shot. The time between vaccinations must not exceed six weeks (time the first vaccination so the booster can be given within the six-week time frame).
6. Vaccinated ewes will give some 'passive' immunity to their lambs, but this will only last eight weeks. Vaccinate lambs at marking, or footbathe to keep the prevalence low until weaning.
7. If there are more than two strains present in the flock, the process must be repeated, starting eight weeks after the booster shot of vaccine containing the first two strains.
8. Four weeks or more after the last vaccination, start inspecting feet. Only pare feet back enough to diagnose whether the foot is still infected with footrot or not.
9. If more than 5% of sheep are still infected (or whatever % can afford to be culled) more scrapings may needed to determine whether another strain of footrot has become apparent after the first strains were removed.
10. If less than 5% of sheep are infected (or whatever % can afford to culled), identify and isolate these sheep until they can be removed from the property.
11. Repeat inspections every 4–6 weeks until all infected sheep have been culled (at least one 'clean' inspection).
12. The specific footrot vaccines give 6–9 months protection and create their own non-transmission period. This means inspections can continue even if there is an early autumn break.
13. After eradication, monitor for a breakdown for as long as footrot is assumed to have been eradicated.

Rigourous biosecurity measures are critical in preventing new footrot introductions and outbreaks.

Promising future

The use of specific footrot vaccines is still in the trial stage in Tasmania, but the technique does show great promise.

There are some expenses producers must be prepared for, and results are not guaranteed. Post vaccination inspections are critical and must be carried out thoroughly if the eradication attempt is to be successful.

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Inspect and isolate: *The key to remaining footrot-free post initial eradication is regular inspection and removal of infected sheep, combined with strict on-farm biosecurity measures to prevent reintroduction of the disease.*

this issue

Ewe condition drives lamb survival

key points

- Attention to ewe nutrition during late pregnancy can boost lamb survival rates by up to 15%.
- Condition scores of between 2.8 to 3 for single-bearing ewes and 3 to 3.3 for twin-bearing ewes will maximise lamb survival.
- Lamb birth weight is the greatest indicator of survival, and is closely correlated with ewe condition during late pregnancy.

Recent participants in the Bred Well Fed Well workshops across northern Tasmanian heard first hand about an enormous opportunity for producers who are willing to focus on ewe nutrition and enterprise-appropriate ram selection from industry expert Dr Jason Trompf, JT Agri-source.

"Whereas 20 years ago the sheep industry relied heavily on wool production for a profitable enterprise, as sheep producers we now have an exciting opportunity where we have a single animal that, managed well, can yield us two highly profitable products — wool and meat," Jason said.

"To benefit from the potential on offer, producers need to determine what their enterprise objectives are, choose appropriate genetics to support that objective and manage the genetic potential to yield on-the-ground results."

"Scanning rates tell us we already have plenty of ewes conceiving singles and twins year-in year-out; it's keeping those foetuses alive to lambing and well beyond that is proving a challenge."

Sheep producers who regularly top the charts in terms of lamb survival to marking have a few things in common.

"Across the industry we are seeing a group of savvy producers who regularly achieve marking percentages in excess of 30% above the industry average," Jason said.

Sadly this group is not the norm and most of the sheep industry literally seems stuck in the 70s where reproductive rates sat at about 77% — not much has changed (see Table 1).

"While New Zealand sheep producers have increased their marking percentages by 1–1.5% every year during the past

Photo: Catriona Nicholls

Feed for success: *Matching animal requirements with adequate nutrition, through pregnancy scanning and appropriate paddock and feed allocation will give ewes and lambs the best chance of survival.*

20 years to achieve a reproductive rate of more than 100%, most Australian producers just seem to have taken their eyes of the ball," Jason said.

Interestingly, the steps required to achieving lambing rates in excessive 100% are no big secret.

The fundamental management tools that drive increased conceptions rates, followed by higher-than-average marking percentages all centre around:

- Pasture assessment for quantity and quality
- Condition scoring ewes
- Joining length of five weeks or less
- Scanning and managing for multiples and singles
- Regularly calculating metabolisable energy balance of ewes throughout pregnancy and lactation.

Next year's success starts NOW

While for many producers it is too late to influence this year's lambing results, it is the ideal time to start preparing ewes for next year's joining and pregnancy.

Table 1 Trends in average marking rates

Enterprise sector	Average marking rate (%) 1990–1999	Average marking rate (%) 2000–2009	Average marking rate (%) LTEM* graduates (6 million ewes)
Prime lamb specialists	84	85	125
Sheep specialists	73	71	83
Mixed sheep enterprises	75	74	94
Sheep industry total	77	77	101

* Lifetime Ewe Management

Source: ABARE survey data for all sheep regions across Australia

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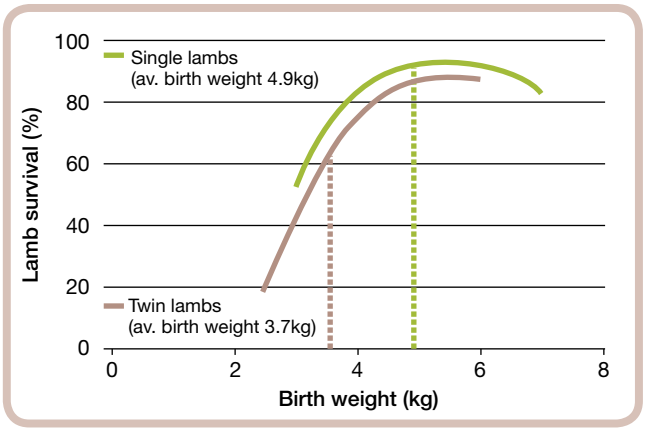

Figure 1 Lamb birthweight drives survival

Source: Lifetime ewe management www.lifetimewool.com.au

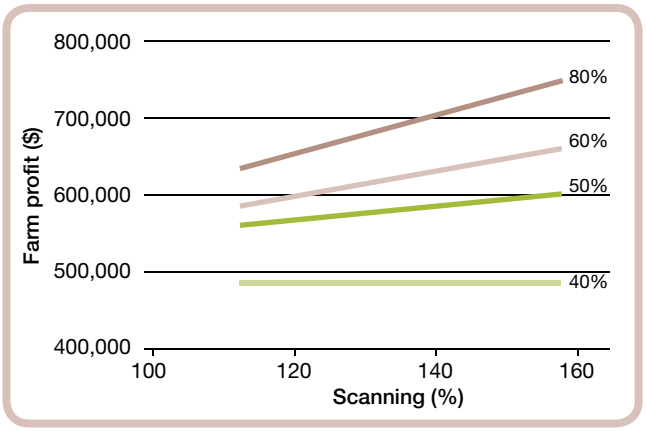

Figure 2 Impact of twin survival on profit

As Jason explains, it is easier and more cost-effective to get ewes in ideal condition when spring feed is on offer and maintain that condition right through the year, as opposed to letting condition drop and try to rebuild through supplementary feeding later on.

"Single and twin-bearing ewes should be in condition score 2.8 to 3 and 3 to 3.3 at lambing to maximise lamb survival, especially in environments susceptible to poor lambing conditions."

Realistic targets

Jason suggests that realistic survival rates in the realms of 90% for singles and 75% for twins are achievable for Merinos.

Target survival rates from cross-bred ewes are 95% for singles and 80% for twins (see Table 1).

"Ewe condition translates to lamb birth weights," Jason explained. "And lamb birth weight directly correlates with lamb survival (see Figure 1)."

Perhaps the most exciting thing is that this all translates to increased profits.

And while there are those that would argue the benchmarking data doesn't support the notion of reproductive rates as a profit driver, Jason would encourage producers to look at little deeper at the numbers.

"Most benchmarking data is based on a range of factors that may not reflect todays' circumstance — historical meat prices, wool-dominant flocks, fully stocked farms and poor twin survival," Jason stressed.

"At prices in the order of $3–$5/kg of lamb you can expect this to yield in the order of $26–52/extra lamb in a self-replacing Merino enterprise and $43–72/extra lamb in a self-replacing cross-bred enterprise."

"These values of an extra lamb are based on farms that are already optimally stocked."

"But I would estimate that few sheep operations are stocked to capacity and the additional returns from an extra lamb can be in the order of $89/lamb in a self-replacing Merino enterprise and $92/lambs in a self-replacing cross-bred enterprise."

Where twin survival rates can be increased, profits can really start to surge (see Figure 2).

"The industry has changed — the focus used to be wool 20 years ago, but now is about 50/50 wool/meat."

"We currently have two great commodities and need to optimise total income."

"When selecting Merino rams what are producers thinking about — very often it's wool and wool only."

"When culling ewe hoggets what are producers thinking about — often it's wool and then size."

"Twins are the smallest and are often culled. These attitudes are quite antagonistic to improving reproduction rates."

Lifetime Ewe Management

Producers looking to hone their condition scoring and feed budgeting skills need look no further than the Lifetime Ewe Management course according to Jason.

Using a small group approach with local producers the Lifetime Ewe Management program runs over the 12 month weaning-to-weaning cycle.

The timing of each meeting is linked to critical stages in the management of the ewe's reproductive cycle.

All sessions involve a visit to each participants farm and focus on condition scoring, pasture assessing and feed budgeting activities that are practical and applicable to the farm business. The program also focuses on improving producer understanding of the influences ewe nutrition has on the performance of the ewe and her progeny.

The Lifetime Ewe Management workshop provides a pathway for producers to develop a successful and productive animal production system.

To find out more and to hear from producers who have been through the program, visit:
www.rist.com.au/lifetime_ewe_management

Or for more information contact:

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Clean slate offers perennial opportunity

Photo: Catriona Nicholls

Sustainable balance: *Philip (pictured) and Lucy Headlam have developed their property with the aim of achieving a sustainable balance of productive pastures and native shelter belts.*

Farmers' names: Philip and Lucy Headlam

Location: Pipers Brook, northern Tasmania

Annual rainfall: 750mm

Farm size: 184ha

Soil types: Loams and sandy loams with a clay hard pan — fairly shallow soils

Enterprises: Self-replacing Coopworth and Coopworth x Corriedale ewes, store lamb production

key points

- Purchasing a bush block has allowed Philip and Lucy Headlam to develop the ideal grazing property, with a sustainable mix of productive pastures with native shelter belts.
- When looking for a suitable perennial pasture option, the Headlams look for pastures that are productive, persistent and maintain a high feed value throughout the growing season.
- On-farm pasture trials allow the Headlams to identify pastures that will perform under their soil and climatic conditions and existing management practices.

Philip and Lucy Headlam were excited about the opportunity to start with a clean slate on their 184ha grazing property at Pipers Brook. And a strategic approach has seen them investigate all the options when it comes to establishing productive and persistent perennial pastures.

"When we bought the property about five years ago, everything was bush and our first step was to do a whole-farm plan through NRM North," Philip explained.

"While we intended to clear the property from the outset, we always aimed to strive for a balance of native vegetation and livestock production.

Almost immediately after we took over, the Bellingham fire burnt the lot. I knew it would recover and it has been really rewarding to watch this happen.

Even though the fire impacted enormously on the property, the whole-farm plan allowed a strategic approach to developing a productive and sustainable operation from scratch. Some farms are over-cleared, however we have been able to establish a farm with laneways, shelter belts and paddocks to create a balance of native vegetation and livestock production.

Pasture trial and error

When it came to establishing pastures, we went with what had worked for us in the past on our other properties — a perennial ryegrass (Matrix), legume and plantain mix.

Perennial ryegrass grows well, it's high-quality feed and it persists under our seasonal conditions.

We sowed everything at once and about 80% of the paddocks have been a success, but 20% of the property didn't establish well and I have been looking for a grass option to go into these paddocks, which I suspect have a fairly low pH compared with the more successful paddocks.

A TIA pasture trial on the property has allowed me to see what suits our environment and investigate pasture options I wouldn't necessarily have looked at. The trial is now two years old and has a variety of grass-legume mixes. Eric Hall, TIA, is looking at the ability of the mixes to persist and produce under our conditions and grazing management.

At this stage I think the Megatas cocksfoot has been the best performer. It established well, responded to summer rain more than any of the other grasses, seems to have the best winter production and has recovered quickly from grazing.

I thought the ryegrass may have outperformed the cocksfoot. But the cocksfoot had greater plant vigour and number of established plants.

I've was really impressed by the cocksfoot's establishment — it outperformed anything else under the same conditions. You would expect ryegrass, with a bigger seed, would get the jump, but there were simply more cocksfoot plants there.

I am surprised the Megtas is so productive and palatable to the stock — Porto cocksfoot had such a poor reputation for being rank, clumpy and unpalatable. Megatas is a less clumpy variety and more leafy.

Putting Megatas to the test

Although Megtas performed well visually, it still needed to convince me in terms of feed value. But a recent feed test has shown me that it can compete favourably with the ryegrass at this time of year in terms of nutrition (see Table 1).

We'll go back again and do another feed test during mid-spring to see how the pastures compare at that time of the season to do the whole comparison — but at this stage the cocksfoot is performing well.

Eric's trial is looking not only at individual species performance, but how they work together in a mix in terms of pasture composition over time. This is important to us as we run with a pasture mix that includes legumes and plantain.

I like the idea of the plantain as it has a deep root system and it can find nutrients below the grasses. It seems to have gone quite well where we have included it — across about half of the farm.

We've also included a fair bit of white clover and sub-clover in our mix. For the first couple of years the white clover dominated and we were really worried about the grass content. Colleagues said, and they were right, the clovers will supply the nitrogen to feed the grasses and the grasses will come through. Now it is heading towards a grass dominant pasture and this spring will be a nice mix.

Hopefully the pastures will produce a greater bulk of spring and summer feed as they are more grass dominant.

Preparation for sowing

We start preparing a paddock in autumn for sowing pasture during spring. Low pH is one of our biggest concerns. We've worked the paddock and applied a 50/50 mix of powder lime and agricultural lime to address the soil pH issues.

By applying and working in 4.5t/ha of 50% powder lime and 50% agricultural lime we are targeting soil pH levels above 6.

By doing this we are improving nutrient availability, but we need to aware of releasing molybdenum and potentially locking up copper.

While the powder lime is more expensive than agricultural lime, we hope it will give us a quicker response. It's tricky to spread because it is so fine, hence the mix with the coarser agricultural lime.

The next step will be to test the soil again in early spring to see if the liming has worked. Because the property is fairly new and coming out of native vegetation we have done a fair bit of soil testing.

Photo: Catriona Nicholls

Trial and error: When it comes to investing in new pasture species, Philip looks to a combination of local knowledge, information gathered from seed companies, journal articles and pasture trial and feed test results.

The mineral and trace element levels in the pasture feed tests carried out to date are all in the acceptable range. We monitor our copper levels closely and will carry out more mineral and trace element feed tests later during spring.

We're now waiting for the weeds to germinate so we can clean them up before direct drilling during early September. Weed germination is critical before a pre-sowing spray. We plan to sow the new pasture during early September.

The mix will include Megatas cocksfoot, plantain and whichever clover is performing best in Eric's trial. Rubytas is performing well so far but there may be a better option we have not yet evaluated.

On-farm trial decision support

Having pasture trials on our property is a real bonus. We see exactly what species will perform in our situation. The trial is included in the general paddock grazing rotation and so provides a realistic indication of the included species overall performance in a farm environment.

When it comes to making a final decision regarding a new pasture mix, a combination of local knowledge, information gathered from seed companies, journal articles and the TIA trial results come into play.

Ultimately we need a productive pasture that is easily established, will be there for a long time and provides high feed value throughout the year. Finally, it forms part of a landscape along with native shelter belts, healthy riparian zones, laneways and smaller paddocks in an attempt to create the ultimate grazing enterprise.

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Table 1 Comparison of feed test results for Matrix perennial ryegrass and Megatas cocksfoot

Species (variety)	Sample date	Dry matter (%)	Estimated energy (ME MJ/kg DM)	Crude protein (% of DM)	Neutral detergent fibre (% DM)	Digestibility of organic DM (%)
Ryegrass (Matrix)/clover	5/07/12	16.7	10.4	24.5	38.5	66.2
Cocksfoot (Megatas)/clover	5/07/12	21.2	10.2	23.4	43.1	65.0

Source: Taken from feed test results Production Nutrition, July 2012

Collaborative approach tackles sheep disease impacts

key points

- A collaborative project is quantifying the costs of a range of sheep diseases at the point of slaughter.
- Data collected through the project highlights disease hot spots and allows targeted support through tailored information sessions.
- Producers are invited to see first-hand the carcase impacts by visiting the TQM processing floor.

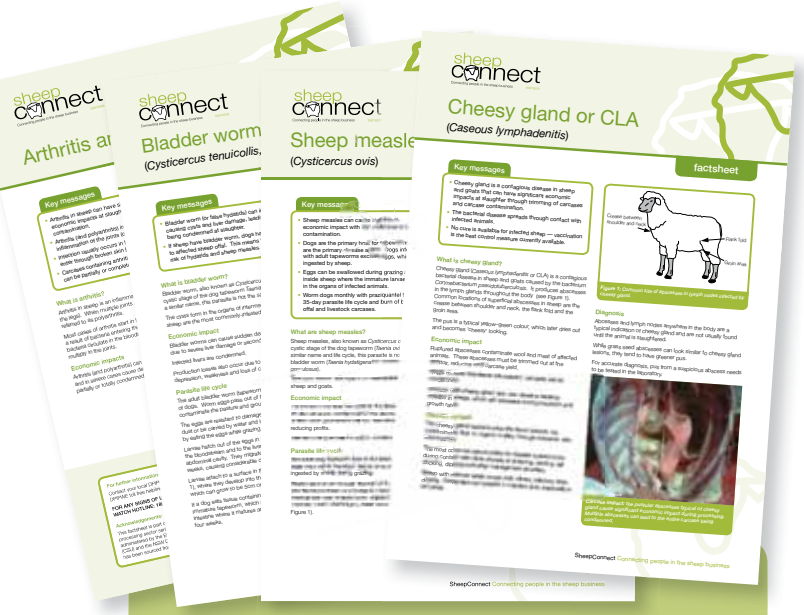
Tasmania is taking the lead on innovative approaches to sheep disease management. A unique collaboration between government, industry and animal heath service providers is seeing groups of sheep producers experience first hand the impacts of ovine Johne's disease (OJD) at the point of slaughter.

As part of a Meat and Livestock Australia (MLA)-funded initiative, DPIPWE veterinarians are working closely with local processor Tasmanian Quality Meats (TQM) to estimate the financial impact of OJD to both producers and processors at the point of slaughter.

According to Dr Rowena Bell, Veterinary Officer, DPIPWE, the project team will collect information on the prevalence of OJD and impacts at the point of slaughter. Researchers at Charles Sturt University will analyse this data to build a picture of economic impact of OJD along the value chain.

"We are working with Chris Cocker and his team at TQM to collect the data over a three-month period," Rowena said.

"To date we have tested the collection and recording process and how the information will be communicated back to CSU."



Supporting resources: A range of factsheets are available for free download from the Sheep Connect Tasmania website.

"As well as recording total prevalence of OJD, we will categorise the severity of any OJD vaccination lesions that impact on carcase quality, which will allow us to estimate total financial losses across the processing chain."

"We are thrilled with the progress so far and are looking forward to getting underway with the next stage of the research project later this year."

Complementary approach

In the meantime, TQM is working with Pfizer Animal Health and DPIPWE on a larger awareness campaign around the economic impacts of a wider range of animal health conditions at the point of slaughter.

TQM, as part of the National Sheep Health Monitoring project, funded through Animal Health Australia, collects information on sheep conditions including OJD, CLA (cheesy gland), sheep measles, sarcocystis (sarco), arthritis, fluke, pneumonia, dog bites, grass seeds and vaccine lesions. Chris Cocker, TQM QA Manager contacts producers if his team finds any of these conditions.

According to Pfizer Animal Health's Phil Jarvie, this type of data collection is providing an invaluable tool for disease extension programs.

"The process is developing clear evidence of disease prevalence of the kind we just haven't seen before," Phil said.

"We haven't really had an evidenced-based survey on a local level in the past that captures disease incidence. Certainly we haven't before quantified the economic losses off-farm, at the point of processing."

"This approach allows us to highlight the relative importance (economic impact and relative prevalence) of what are often hidden costs to producers."

Phil explains that because these diseases can often remain relatively unnoticed on-farm, the industry hasn't really been able to build a picture of how much disease is out there with any sort of confidence.

This means producers can be missing opportunities by accepting carcase losses they don't really realise are happening.

In terms of having an impact on disease management, Phil believes it is important to go back to producers with an evidenced-based discussion about what's out there.

Seeing is believing

Perhaps the most impressive and novel part of the approach is the investment in both time and money by TQM, which has invested in an on-site learning centre in partnership with Pfizer Animal Health, where producers are taken on a tour through the processing floor and cool rooms to see first-hand the impacts of these sheep conditions.

TQM's Chris Cocker believes there is nothing like seeing the impacts to bring home the messages.

"In addition to contacting our clients when we find something suspicious in their sheep during processing, we are inviting any interested producers and service providers to tour the processing floor and see the impacts for themselves," Chris said.

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"During the past few months, we have taken more than 10 groups of interested producers through out state-of-the-art processing floor to see exactly how infectious diseases such as OJD are impacting on their bottom lines."

"Visitors not only get to see the new export-standard facilities, they are shown examples of the kinds of impacts these diseases have on carcase yield, and the waste that results for both producer, processor and livestock agents."

"Many have been surprised at the prevalence and extent of carcase damage to lines of sheep that show little, if any outward signs of disease in the yards."

Following the tour, Phil runs through the basic causes and management options available for the key diseases of concern.

Data shows scale of concern

The combination of on-site visits and longer-term data is a successful approach.

"By collecting data on carcase impacts we are building a broad picture of disease prevalence across regions (see Figure 1), animal age groups and sex," Phil explained.

"The longer-term data on statewide prevalence reveals that what producers see during their visit seen is not a one-off situation."

"By quantifying exactly what is out there, this project helps identify what producers need to control."

"It allows us to give them relevant and targeted information on effective programs."

According to Phil, in addition to being unaware as to the extent of these diseases, many producers are not tackling them effectively.

"There are probably a lot of lines of sheep that show no evidence of disease and the producer probably thinks they have that particular disease under control."

"But when you examine what they are doing they are either using inappropriate products or an incomplete program."

"For example some producers are using a five-in-one vaccine thinking they are doing everything they can, but five-in-one vaccines don't have a cheesy gland component."

Sheep Connect Tasmania is also a partner in the project and has worked with DPIPWE, TQM and Pfizer Animal Health to develop a range of concise fact sheets to support the workshops.

A fact sheet provides a bite-sized snapshot of the impacts of each of the key disease in question and highlights to producers the basic steps needed to tackle each disease, providing contacts for more comprehensive support."

Building relationships

Dr Rowena Bell is keen to point out that the collaborative projects have built from workshops last year, which saw the same players come together to deliver a series of highly successfully, hands-on workshops across the State.

"Hundreds of Tasmanian producers and service providers attended workshops that highlighted the key disease features, management strategies and safe vaccination techniques necessary to tackle OJD head on," Rowena said.

"We are excited that these relationships are forging longer-term opportunities to address the full breath of sheep health challenges in a really smart way."

The data generated for the National Sheep Health Monitoring Project, is funded by the Sheep Meat Council and the Wool Council of Australia. This project is administered through Animal Health Australia.

For more information on any part of the project, contact:

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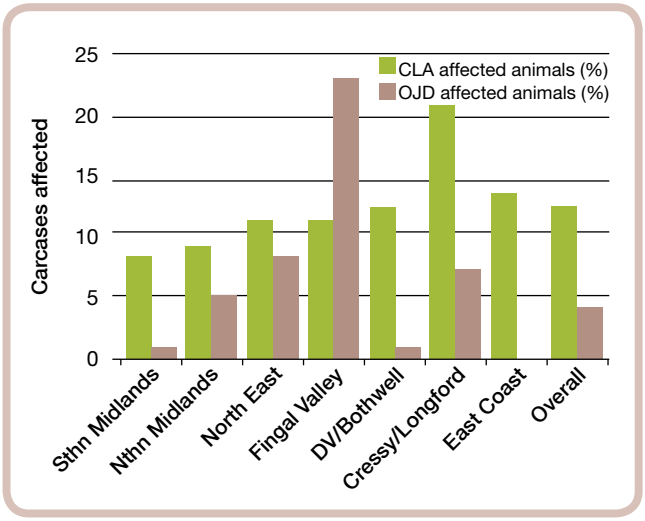

Figure 1 Disease data across Tasmanian regions*

** Data for more than 50,000 sheep killed in 12 months up to July 2012*

Latest facts on OJD

The Sheepmeat Council of Australia and WoolProducers Australia have recently developed two new information tools for the benefit of Australia's sheep industries.

The documents are available for download from the AHA website:
www.animalhealthaustralia.com.au/programs/johnes-disease/ovine-johnes-disease-in-australia/ojd-resources/

A Powerpoint presentation is available at the following Slideshare link:
www.slideshare.net/MartinBlaszczyk/aha-what-is-ojd-powerpointpresfinaljun12

For general OJD information visit: www.ojd.com.au

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Photo: Catriona Nicholls

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

Stay focussed

As spring gets well and truly underway and lambs abound, keep in mind that vaccinations for OJD are ideally given at lamb marking, when lambs are restrained and operator safety is maximised.

For a reminder on safe and effective vaccination techniques and OJD management visit the Sheep Connect Tasmania website: www.tia.tas.edu.au/extensive/sheepconnect

Ram selection

Many producers will be looking to invest in new rams in the coming months. Making a purchase with the best information at hand will ensure the future genetic gains made will be aligned with business objectives.

To support decision making, Sheep Connect Tasmania is working with the Sheep CRC to deliver three Ram Select workshops during mid September.

The one-day workshops will be held at:

Stockman stud, Melton Mowbray — Tuesday 16 October

Spring Valley, Bracknell — Wednesday 17 October

Trefusis, Campbell Town — Friday 19 October

For more information or to register your interest in attending the Ram Select workshops please contact:

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