

ASHEEP NEWS



Case Study: Shalimah Farming Enterprises with Michael & Trudi Ietto

ASHEEP interviews Michael Ietto

Michael and Trudi Ietto run Shalimah Farming Enterprises with their daughter Shiane and son-in-law Matthew; a mixed enterprise livestock and cereal crop farm located in Grass Patch. ASHEEP managed to drag Michael away from the Horizontal Falls for a few moments to answer our questions. Thanks for your time Michael and enjoy the trip!

System overview

The Ietto's farming system incorporates a mixture of sheep and cereals - wheat, barley and lupins. According to Michael, "The main focus for us is to keep our operation as simple as possible without getting caught up in all the technology. Focusing on the production for our land without excess fertiliser, chemicals, etc." They maintain a mixed farming enterprise for the added financial security as well as better weed management to maintain chemical resistance.

A critical priority they are working on is to drought-proof the farm as much as possible. Key to their strategy is the use of solar pumps, tanks, troughs and the maintenance and cleaning of existing dams. They are also working to inject wetting agent at seeding into non-wetting sand in paddocks that have been mapped out. This has already shown an improvement in the soil and seed germination, which appears to be carrying over to the following year into their pastures.

As far as pastures go, they are predominantly medic-based and work is
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Image: View inside the Ietto's new shearing shed.

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underway to reseed existing medics to newer varieties, plus seeding vetch for livestock grazing.

Can you tell us a bit about your new shearing shed?

The exterior shed was bought and constructed by Wheat Belt Steel. The size is 40m x 21m x 6m height. The interior was fitted out by Kynan Little (Port Lincoln, SA).

There were two main options when we decided to go for the new shed:

1. Build a new one (existing shed was over 40 years old, passed its used-by date and needed too much work)
2. Get out of sheep altogether

We opted for new shed as the value in sheep was rising. We went for a 5-stand raised horseshoe shaped board, with front fill sloping catching pens. It has capacity to hold up to 700 sheep in the holding yards of the main shed.

Farm Snapshot

Location: Grass Patch

Av. Annual Rainfall: 350 mm

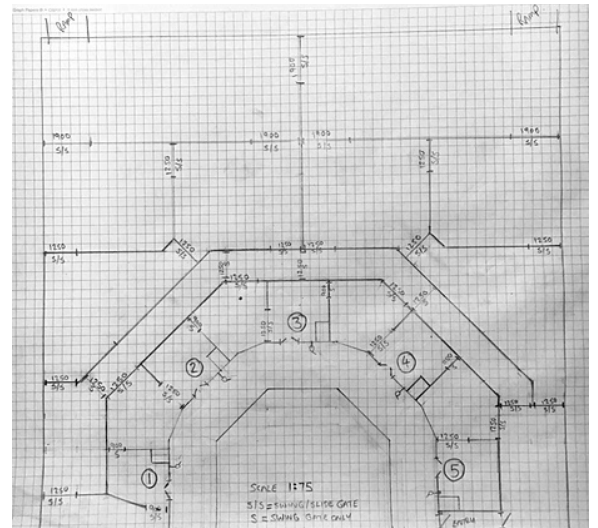
Enterprise Mix: Sheep, wheat, barley, lupins

Feedbase: Medic based pastures

Stock: Merino flock ~3800

Team: Michael and Trudi letto, daughter Shiane, son-in-law Matthew and full time employee Dave

Feedback so far from the shearers is all positive in regard to the layout. If we were to make changes, the only ones would be to have individual shearer let out pens as opposed to one for all the shearers. Also, we'd go for two sheep ramps to fill and let out sheep into and out of the main shed. And add an extra 8m to the length to allow for plant machinery storage when the shed is not being used for shearing.



How do you prepare for a successful lambing?

The starting point for us is sire selection (Kolindale, Luke Ledwith & Family), we are looking for good body, large frame, good posture and aim for 19 - 20 micron wool. We aim to match sires with full body well-maintained breeding ewes. The hoggets are classed annually to main standard (Russel McKay). We preg test annually and separate out multiples from singles. Multiples are kept in smaller mobs and put on feeders to maintain score condition 3 and above. The singles are put in larger mobs on medic pasture.

We shear every 6 months, and at the August shearing all sheep are given a multimin copper injection. In February, ewes mated and bearing lambs are given a drench capsule as well as Eryvac, Glanvac & Mulimin Copper injections.

At the moment our lambing percentage is around 95%, we are focusing extra attention on ewes bearing multiple lambs.

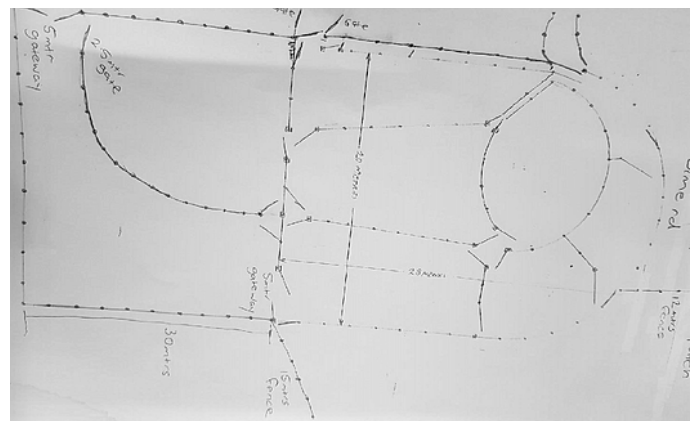
What on-farm improvements are you currently working on?

Replacing and maintaining fences, building drains to prevent salt creeping, and looking at different technology including records management and tank water level sensors with phone app. We're putting new sheep yards on the shearing shed and one new set of yards in paddock (with two more sets planned).

What are your future goals for the business?

To improve and maintain a viable business to allow succession to the next generation over the next 10 years. This includes more involvement and teaching of all aspects of the business, to enable a smooth transition.

Thanks to Michael & Trudi letto for sharing this insight into their operations.





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From the ASHEEP desk

Sarah Brown, Executive Officer, ASHEEP

It has been great to see COVID-19 restrictions continuing to lift in WA and with them, the return of field days, as crops grow and pastures green. I for one was glad to put the feed trailer aside and see some puddles on the ground in recent weeks, although the reprieve has not been felt for all those in the district.

Water management continues to be a concern and ASHEEP has been seeking to engage with the Department of Water and Environmental Regulation (DWER) to ensure that farmers have good access to information, including through the Farm Water Supply Planning Scheme (article on this further on). We were also fortunate to hear from John Simons, Water Scientist at DPIRD at our recent Winter Walk & AGM.

Speaking of which, great to have a chance to catch up with those of you who came along to that event. If you have any feedback on what you'd like to see in future field days please feel free to get in touch. The Shearing School was also recently held with big thanks to Basil Parker for his work organising it, Epasco for hosting, and to Australian Wool Innovation and Regional Development Australia Goldfields Esperance for funding it.

As far as projects go, ASHEEP currently has the Pasture Variety Trials ticking along, as well as ongoing involvement in Murdoch University's Dryland Legume Pasture Trials. We are also working with the Cattle Committee and Swans Veterinary Services as the Fixed Time AI Project wraps up to try and get another beef project on the ground. As for sheep, the MerinoLink Project is going well with some great recent workshops, plus, we are working on drench resistance testing through David Howey at Elanco, and a Non-Mulese Project through AgPro Management. The FMD Ready project is ongoing.

We have range of upcoming events and workshops coming up, flick through to the end of the newsletter for an update there. Big one is the annual Spring Field Day set for 24th September, and the South West Farm Tour for those of you who have registered.

On the home front, I am rapidly learning more about the joys of sheep farming with our flock of 300-ish merino ewes going through their first lambing. There has been more than one meeting where I've been quietly wiping off birth fluids as I smile at the camera on Zoom! Now that we aren't chasing our tails feeding out grain, fencing and installing troughs we might have to turn our hand to pasture management. Time to learn Angelo's Golden Rules! Thanks to all of you who have been giving me tips along the way.

ASHEEP Committee: Welcome Ryan Willing and thank you Karl Witt

The recent ASHEEP AGM saw Ryan Willing voted into a spot on the ASHEEP Committee and we'd like to take this opportunity to welcome him to the team. Ryan farms with wife Elisha on a 1050ha property past Condingup called Carnigup. They run 350 breeder Angus cows and crop 250ha of canola and cereals. Ryan is already a member of the Cattle Committee and is keen to continue to grow ASHEEP's work in the beef space, as well as pursuing opportunities for members to learn about options around mixed pasture systems. Ryan's contact details are listed with the rest of the Committee at the end of this newsletter.

Image: Ryan Willing took us through their multi-species "cover crop" pasture, grazing canola & tillage radish at the recent ASHEEP Cattle Field Day. Pictured here (left) with Simon Fowler (right).

The AGM also saw Karl Witt end his term on the ASHEEP Committee with the decision not to renominate. Karl moves from his current role at Hargate Park. Karl has made a great contribution to ASHEEP over the last two years and the Committee extended their thanks to him for his time and work. In addition to his role on the ASHEEP Committee driving projects, field days and providing organisational direction, Karl also sat on the Cattle Committee and contributed to those events.



How do you like your carcasse trimmed? Correct vaccination techniques for good looking lambs

This article is produced by ASHEEP with thanks to Zoetis and V&V Walsh (Gold Sponsors).



Putting good thought into where and how you vaccinate can have big ramifications for animal health and for how your product presents on the hook. Inoculation scars or abscesses can downgrade carcasses and result in heavy trimming and wastage - like those pictured above.

After all the work we put into raising great stock, it seems a shame that one little prick could undo so much effort. It is well worth taking a minute to get the right technique and to make sure that everyone in your team is on the same page.

ASHEEP would like to thank Rhys Devitt at V&V Walsh and Ben Fletcher at Zoetis for providing the background to generate this article.



The following information has been produced by Zoetis, outlining the correct vaccination site on sheep for all vaccines other than Scabigard (which is administered under the foreleg, as this is the only spot the animal cannot get to - Scabigard is a live vaccine).

Zoetis references [Gudair](#), but the same applies with [Glanvac](#) and [Eryvac](#). When using all three, you can apply the Gudair on one side of the neck and the Glanvac and Eryvac on the other.

Technical Information Update - Gudair®: Best Practice Vaccination Technique

Gudair is a critical tool in the management of Ovine Johne's disease (OJD). In accordance with the registered product label, the vaccine should only be administered **under the skin (subcutaneously)**.

However, a recent study conducted by Zoetis[1] has revealed that even experienced sheep producers may be unintentionally administering Gudair into muscle, or hitting other structures such as bone, on a regular basis. This increases the risk of carcass trimming, abscesses – and the subsequent risk of fly strike – and, in rare cases, neurological dysfunction (“OJD staggers”).

Reference: 1. Robertson, N. Study of OJD vaccination techniques: Revelations after dissecting sheep administered dyed Gudair® vaccine. Proceedings of the Australian Sheep Veterinarian's Conference, Dubbo, 2016.

Continued.

What can producers do to achieve correct, subcutaneous vaccination – maximising vaccine efficacy and minimising the risk of adverse reactions?

The Zoetis study indicated that the following measures will assist in achieving correct vaccine placement:

- Vaccinating under the skin, on the side of the neck (Image 1).
- Only using ¼ inch (6mm) needles.
- Using an angle of vaccination suitable for the class of stock (Table 1). In adults with significant wool growth, use the vaccinator to help part the wool.
- Taking care to avoid critical structures near the base of the ear (Image 1).



Class of Stock	Needle Gauge	Needle Length	Needle Angle to Skin
Lambs	18G	¼ inch	45°
Adults off-shears/short wool/low body condition score	18G	¼ inch	45°
Adults with wool growth	18G	¼ inch	90°

Table 1. Correct vaccination technique by class of stock.

The Zoetis study involved an assessment of 64 injection sites in mixed ages and breeds of sheep. Due to Animal Ethics requirements, the study was performed in sheep that had been humanely euthanised.

Following euthanasia, animals were vaccinated with Gudair using a Sekurus safety vaccinator. ¼ inch and ½ inch needles were compared, at 45° and 90° angles to the skin. The placement of vaccine (under the skin, into muscle, or into the wool) was then assessed.

In addition, it is recommended to:

- Use clean 18 gauge needles, and change them regularly (every 50-100 sheep, or if dropped or blunted).
- Ensure animals are adequately restrained – lambs in cradles, sheep packed tightly in a race.

What should producers avoid when vaccinating?

The Zoetis study indicated that ½ inch (12mm) needles are likely to deliver the vaccine too deep, into muscle, and should be avoided.

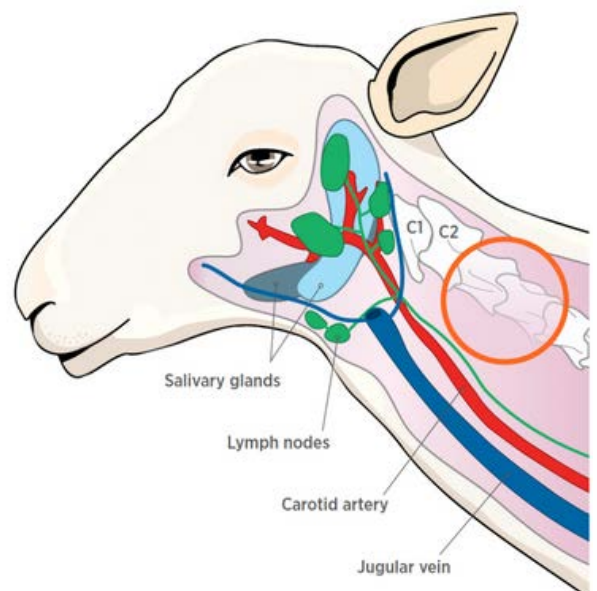
The following points should also be considered:

- Where possible, avoid vaccinating animals in wet or dusty conditions.
- Don't vaccinate at sites other than the neck. For example, if you vaccinate into the cheek or under a leg, and the animal develops an injection site reaction, this could cause the animal to go off feed/become lame and lose condition.
- Be careful to avoid vaccinating into important structures in the head/neck region (Image 1). These include salivary glands, lymph nodes and blood vessels located directly below the base of the ear.
- In particular, take care to avoid deep, intra-muscular injection near the junction of the head and neck, or the joints of the spine (Image 1). In rare cases, this has been linked with the development of a neurological condition known as 'OJD staggers'. OJD staggers has not been known to occur when the vaccine is correctly administered under the skin.

Other tips

- Store and handle vaccines correctly – keep refrigerated (do not freeze) when not in use. During use, keep cool and protect from sunlight.
- Use the correct vaccinator. Only use the Sekurus safety vaccinator when vaccinating with Gudair – its unique safety features minimise the risk of human exposure.

Image 1: The orange circle indicates the correct site to vaccinate, under the skin, on the side of the neck, avoiding critical structures near the base of the ear, and the joints of the spine (C1 & C2).



For more information call the Zoetis Technical Helpline on 1800 814 883 or contact your local Zoetis Professional Sales Representative.

2020 ASHEEP Shearing Training School - It's a wrap

Tools down after a successful ASHEEP Shearing Training School ran its course between 6th - 17th July 2020. This is the second year the school has run, and whilst it was almost de-railed by COVID-19, organiser Basil Parker did a brilliant job to amend the plans and get it back on track.

This year Australian Wool Innovation (AWI) and Regional Development Australia Goldfields Esperance (RDAGE) partnered to fund the school. Our thanks goes to both organisations for their contribution in assisting ASHEEP to increase the number of young people taking on roles in the shearing industry.

At ASHEEP's recent AGM, Basil Parker emphasised the importance of encouraging and training young people into the industry, and the responsibility farmers have to make sure they offer a learner stand if they can. Without intervention, Esperance faces an ageing demographic of shearers and is likely to encounter future staff shortages.



This year 12 students lined up to take part in the training, with 8 carrying through to the end. The numbers of students was down on the previous year, possibly due to the reduced time to recruit participants with the shortened planning time caused by COVID-19. However, whilst numbers were down the AWI trainers (Kevin Gellatly, Todd Wegner, Amanda Davis) were very impressed with the keenness of those taking part and their level of motivation to join the industry.

A big thanks is due to Nick Ruddenklau and the team at Epasco for hosting the school again this year. They overcame a number of challenges, including working around a pandemic, and we are extremely grateful to them for accommodating the school.

Immediate employment outcomes were that 4 participants had jobs straight up walking out of the school and another had work lined up to commence in the near future. The remaining 3 participants were at the Esperance Senior High School Farm Training Centre and all three expressed that they were keen to enter the industry on completion of their schooling.

Thanks to West Coast Wools, Elders, Nutrien Ag Solutions, Bay of Isles Shearing, Noel Smith Shearing, New Era Shearing, WA Shearing Industry Association and TV Financial Services for taking time to visit the school and speak to the students. Thanks also to ASHEEP Sponsor Elanco for donating a couple of eskies as prizes for friendly competition.



Market Report: Wool

Danny Burkett, Auctioneer/Key Account Manager, Westcoast Wools

Since the last report, we have seen Grower stocks in Australia grow to approximately 340,000 bales. This position is growing rapidly through Grower resistance to one of the markets biggest falls in history. The composition of the Grower stocks is important for its understanding will help add value into your marketing thinking.

Approximately 240,000 bales in the above figure is Merino Fleece Wool, 20 micron and finer. It's important to gauge this figure as in the last 5 months straight the micron profile of the Australian wool clip being received is increasing due to the season in the East. This will continue to rise as the season continues. In general, not always, it's the finer wools that lead the market out of low levels however due to the held stocks there is plenty of these types to supply the demand if this is the case. It's also been in my experience that wool growers will hold more wool on farm in hard times, so this figure could be higher.

Demand at present is still subdued within China and in the other major wool consuming countries in Asia and Europe as well as the USA. I have also seen in my experience money hard to come by after major stimulus packages pushed into economies, the world has just seen the largest of all released over the previous months.

On a more positive tone for demand, if you look at the price of wool in USD\$ terms it represents great value, as this is the currency China trades in at some stage I hope it becomes to good a price not that take up.

What will make a difference in the market will be yield. For over two years offerings of high yielding wool have been limited due to the growing conditions across the country. It is logical to assume the Grower held position will contain lower yielding wools than the norm. As these higher yielding wools are more economical to ship, in general will be better style and fit the Chinese orders, in my opinion yield will be king! I feel they will command a premium, make the most of it.

Contact:

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Image: Danny Burkett, Darell Shaddick and Mike Smithson from Westcoast Wool & Livestock chat to students at the ASHEEP Shearing School.

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Vet Spot: 2020 – A Year for Better Disease Control, Spotlight on Annual Ryegrass Toxicity

Dr. Katie Kreutz BSc BVMS, Swans Veterinary Service

Autumn 2019 saw an unexpected increase in the incidence of ARGV or Annual Ryegrass Toxicity in grazing livestock in the Great Southern Region. This caused an unfortunate loss of stock for multiple producers and a decrease in productivity. Historically ARGV has caused mortality ranging from 10-100% in sheep and cattle herds. Therefore farms should have preventative plans and outbreak control plans in place.

ARGV is caused by a bacteria (*Rathayibacter toxicus*) which produces a neurotoxin. The bacteria is carried into the seed head by a nematode (worm). These nematodes can persist in the soil, laying dormant in galls that have fallen off from the previous years crop. Following the autumn break in the rain, nematodes can travel from the soil into new seedlings, depositing the neurotoxic bacterium into the new seed heads.

Animals that ingest enough of the infected seed heads will begin to show symptoms of ARGV. Symptoms can develop anywhere from a few days to a few weeks of being on an infected paddock. Signs may include tremors, incoordination, staggering, falling over, convulsions and death. Some animals may die quickly after ingesting the toxin and show very limited clinical signs. Symptoms are usually exacerbated during periods of stress such as moving or yarding. If any stock begin to demonstrate neurologic symptoms please contact your veterinarian to assess the problem. Remember the Department of Primary Industries and Regional Development subsidize disease outbreak investigations and the travel associated with it. More information about neurologic symptoms associated with ARGV and the disease surveillance subsidy program can be found here: <https://www.agric.wa.gov.au/livestock-biosecurity/annual-ryegrass-toxicity-livestock>

Due to the higher incidence of ARGV seen in 2019 we are encouraging producers to be proactive about grazing paddocks or feeding hay containing annual ryegrass. This is especially true if farms have had problems with ARGV in previous years. It is worth noting that silage, pelleting or water treatments will not eliminate the neurotoxic bacteria from the pasture. Early spray topping will be the most effective way to prevent ARGV amongst stock. If the ryegrass is allowed to go to head or if spray topping is conducted too late and therefore ineffective at controlling seed heads, the paddock can be tested for ARGV. The samples can be sent directly to the WA Dept of Ag using the submission form below, or producers can bring samples into Swans Veterinary Service, or samples can be collected as part of a disease investigation including post mortem of stock conducted by one of our livestock veterinarians. The latter is strongly recommended if there is already stock exhibiting symptoms as various tests can be carried out to differentiate ARGV from other diseases and promptly institute the correct control method.

As the toxin is concentrated in the seed heads a minimum of 100g of ryegrass seed heads will be needed from each paddock, or 1kg of ryegrass pasture that has gone to seed. To get a representative sample of the whole of the feed on offer and accurate toxin levels it is recommended to collect samples in a V or W pattern from throughout the paddock. Each paddock should be collected and bagged separately. We would also like to remind producers who are buying in hay that ARGV is still a risk. Getting a vendor declaration is recommended.

Links:

- Hay sampling: <https://www.agric.wa.gov.au/livestock-biosecurity/testing-hay-annual-ryegrass-toxicity-argv-risk>
- Sample Submission Form: https://www.agric.wa.gov.au/sites/gateway/files/DDLS%20animal%20disease%20investigation%20submission%20form_compatible%20format.pdf
- Vendor Declaration Form: https://www.afia.org.au/files/2017Vendor_Declaration_Form.pdf

Contact:

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ASHEEP MLA Pasture Variety Trials Update

India Warren-Hicks, South East Agronomy Research

The ASHEEP Pasture Variety Trial MLA Producer Demonstration Site project is progressing well, with three sites in the Esperance Region demonstrating nine to eleven varieties of pastures each. The trial sites are being managed by South East Agronomy Research (SEAR) in conjunction with ASHEEP and a core group of producers. If you are interested in joining this core group and being better connected and updated with the project, please contact ASHEEP to discuss. Following is an article from SEAR with an update of the year so far, with more to come in the next newsletter on which varieties have been demonstrated as most successful.

Grass Patch (11 varieties x 4 replications):

- Illabo Wheat 80 kg/ha
- Planet Barley 80 kg/ha
- RM4 Vetch 25 kg/ha
- Tetila Ryegrass 12 kg/ha
- Mawson Subclover 6 kg/ha
- SARDI Grazer Lucerne 5kg/ha
- Casbah Biserrula 5kg/ha
- Cobra Balansa Clover 5kg/ha
- Snail Medic 5 kg/ha
- Leafmore Grazing Brassica 5 kg/ha
- Paradana Balansa Clover 5kg/ha

The Grass Patch trial site has been the standout of the three pasture variety trials in the Esperance Port Zone. Prior to sowing, soil cores were taken across the trial site and the subsequent soil test results highlighted both good nutrition and soil structure. There are high levels of N, P, K and S to 30cm and pH(CaCl) steadily increases from 6.8 at the surface to 8.6 at depth. The trial was sown dry on the 3rd of April into a clay/loam soil type. At sowing there had been an annual rainfall of 97.4mm. April was dry with only 10.5mm of rainfall.



Leafmore Grazing Brassica 17WAS, Grass Patch



Planet Barley 17WAS, Grass Patch

Leafmore Brassica, Barley, Wheat and Ryegrass had 75L/ha Flexi-N + 100kg Agstar Extra at sowing. The Legumes were sown with 60 kg/ha Big Phos + 10k g/ha Alosca. Considering the dry start and some soil variability throughout the site, the trial emerged well. By mid July 90% of the trial was emerged. The Brassica, Cereals and Ryegrass were standouts for early establishment and growth. The Clovers, Biserrula and Lucerne were slow to establish and struggled to outcompete the medic, which has now taken over some plots.

On the 12th of June, 10 weeks after sowing (WAS), pasture cuts were taken of each species. The Clovers, Biserrula and Lucerne were just emerging. The cuts were dried at 60°C for two days to compare dry weights (Fig.1). On the 4th of August the second cut was taken (17 WAS) and Barley, Ryegrass and Brassica continued as the standouts. These were closely followed by the Wheat. Vetch and Biserrula had put on some good biomass and subsequent dry matter since the previous cut.

Continued.

Salmon Gums (11 varieties x 4 replications):

- Illabo Wheat 80 kg/ha
- Planet Barley 50 kg/ha
- RM4 Vetch 25 kg/ha
- Tetila Ryegrass 10 kg/ha
- SARDI grazing Lucerne 5 kg/ha
- Casbah Biserrula 5 kg/ha
- Cobra Balansa Clover 5 kg/ha
- Snail Medic 5 kg/ha
- Sultan SU Tolerant Medic 5 kg/ha
- Paradana Balansa Clover 5 kg/ha
- Cavalier Medic 5 kg/ha

The Salmon Gums soil tests taken are reflective of the heavy Mallee soils. There is good topsoil nutrition but runs into higher EC/ Sodic soil at depth.

Salmon Gums was sown dry on the 6th of April, and at that stage there had been 91.8mm of rain for the season. Barley, Wheat and Ryegrass had 75L/ha Flexi-N + 100 kg Agstar Extra at sowing. The Legumes had 50kg/ha Big Phos + 10kg/ha Alosca.

The trial sat for 10 weeks as April only had 7.8mm and low rainfall in the following months meant that the trial had just emerged in the middle of June. Due to this it was decided that pasture cuts would only be taken at 20 weeks after sowing hence no biomass cuts have been taken at this stage.

Image: 0-60cm Soil Cores from the trial sites
Top to bottom: Salmon Gums, Grass Patch, Sandplain



Neridup (9 varieties x 3 replications):

- Illabo Wheat 100 kg/ha
- Planet Barley 80 kg/ha
- RM4 Vetch 30 kg/ha
- Tetila ryegrass 15 kg/ha
- SARDI grazer Lucerne 5 kg/ha
- Dalkeith Subclover Panic 5 kg/ha
- Dynamo Turnip Grazing Brassica 5 kg/ha
- Paradana Balansa Clover 5 kg/ha
- Megamax Panic 5 kg/ha

The Sandplain site is situated 35km East of Esperance on a deep sand/ sandy loam. The soil tests are reflective of deeper sands in the high rainfall zone, where there are low levels of N,P and K in the top and to depth which is reflective of the low clay content and high leaching ability of the sand.

The trial was sown on the 11th of May after holding off and waiting for a good rain due to the non-wetting soil risk. Unfortunately, this did not help. The trial was sprayed out on the 12th of July due to multiple damaging wind events and subsequent high weed pressure. Radish, Capeweed and Silvergrass had taken over majority of the trial apart from the cereals and Ryegrass plots. Pasture cuts of the varieties that survived the wind were taken before spraying out the trial. Cuts of the silver grass were also taken to demonstrate the level of competition we were dealing with at the site (Fig.3).

At time of sowing two (6th August) the site had 242.6mm of rainfall for the season and was sown into good soil moisture. Wheat, Barley, Ryegrass and the Brassica were sown with 100 K Till Extra and 75 L/ha Flexi-N. The Legumes had 50 kg/ha Big Phos and 10 kg/ha of Alosca.

Continued.

Fig.1 Grass Patch: 10 Weeks after Sowing kg/ha Dry Weights

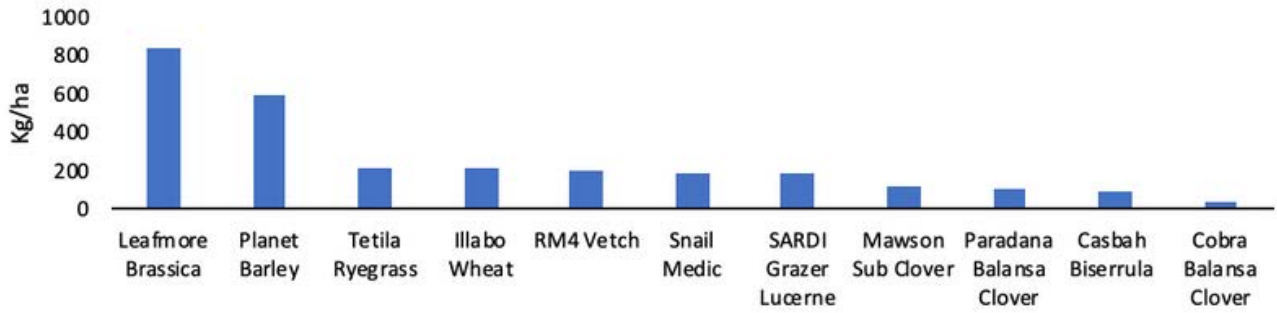


Fig.2 Grass Patch 17 Weeks after Sowing kg/ha Dry Weights

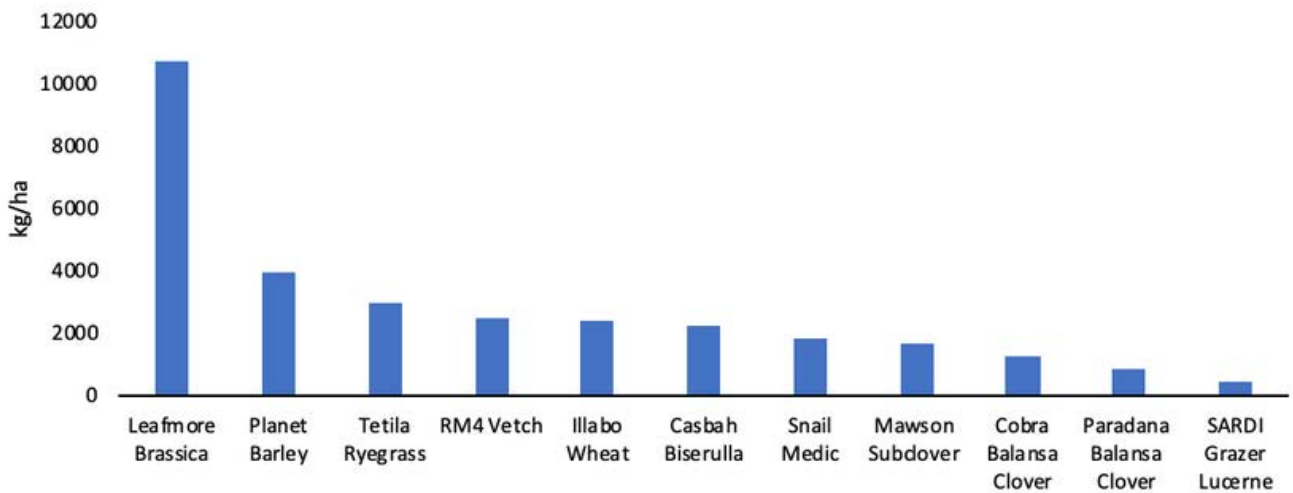
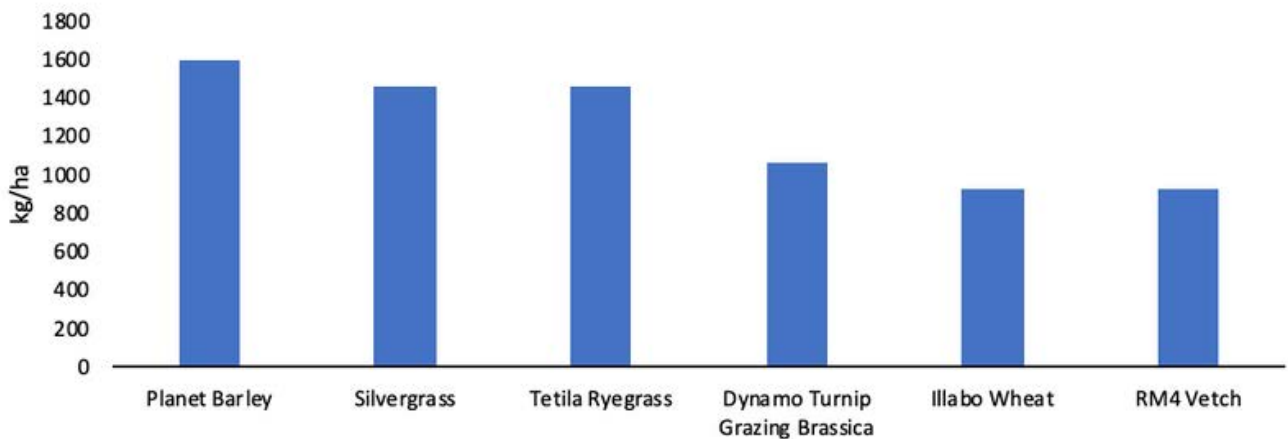


Fig.3 Sandplain 10 Weeks after Sowing kg/ha Dry Weights



PROJECT PARTNERS



TRIAL SITE MANAGEMENT

South East Agronomy Research

WITH THANKS TO

Project expertise
 - Theo Oorschot, Esperance Rural Supplies
 - Ron Yates, Murdoch University

LEAD PRODUCER

David Vandenberghe

Using nitrogen to maximise profitability in pastures

Need more sheep feed? If feed is becoming a bit tight a tactic that can be used is the strategic use of nitrogen (N).

Nitrogen can reduce the need for handfeeding by rapidly increasing the amount of green feed. Handfeeding is costly and time consuming so the aim is to feed as many of your livestock as possible from pasture. Applying nitrogen to pastures also provides critical feed for pregnant and lactating animals, while allowing deferral of grazing on other parts of the farm.

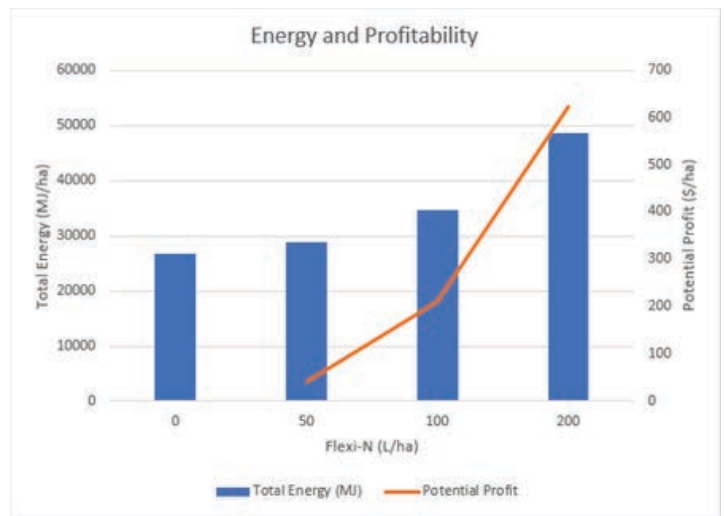


N applied to grass dominant pastures will give you the best results. Pastures will respond where soil nitrogen is low and there are no other constraints to pasture growth, such as waterlogging or other nutrient deficiencies like phosphorus, potassium or sulfur.

It is essential when applying nitrogen to pastures that the additional growth is utilised. Research has shown that an extra 15-20kg/ha DM/ha can be produced over the winter for every kg N/ha applied. On current nitrogen prices, this means that an extra tonne of feed can be produced for only \$62 to \$82/t. The greater the nitrogen response - the cheaper the feed.

Strategy for growing more grass

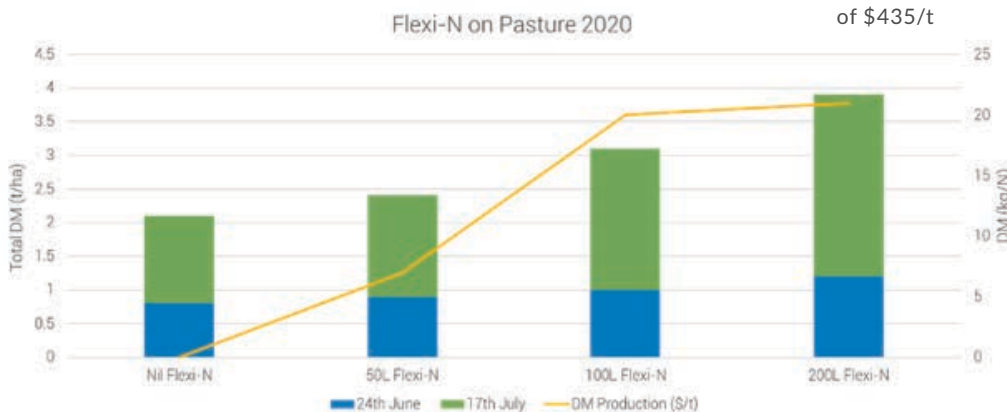
1. Identify your grassy paddocks. Look for at least 50% grass in the composition, and consider only treating grassy areas rather than whole paddocks if composition is variable.
2. Apply either 80-100kg/ha Urea or 80-100 litres /ha Flexi-N just prior to rain if possible. Rates below this recommended amount often are not sufficient to optimise the nitrogen response, and you are advised to do less area at a higher rate to maximise your return.
3. Defer grazing for at least 10-15 days if possible, this allows pasture to respond and reduces any possibility of nitrogen toxicity (a greater risk where capeweed is abundant).
4. Utilising this extra feed means you need to increase stocking rates on these paddocks. In Wagin, Flexi-N was banded at varying rates on a pasture that was re-seeded with Ryegrass, Sub Clover and Oats (5th May 2020). Quadrant Cuts were taken on the 24th June and 17th of July. 21kg N/ha (50L Flexi-N) only grew an additional 200kg of DM but where we increased rates to 42kg N/ha (100L Flexi-N) we grew an additional 1t of DM costing just \$56/ha.



Flexi-N Rate (L/ha)	Energy (MJ)	Total Energy (MJ/ha)	Additional Energy (MJ/ha)	Liveweight gain (kg/ha)	Potential Profit (\$/ha)
0	12.3	26703			
50	12.4	28785	2082	25	41
100	11.5	34701	7998	98	212
200	12.4	48628	21925	268	623
				Liveweight (\$/kg)	\$2.75
				Utilisation (%)	55

Feed quality was assessed from the cuts and scenarios for potential profits from the increase in pasture growth were generated.

*Assumes 45MJ to produce 1kg liveweight. Flexi-N cost of \$435/t



Flexi-N is the ideal product to use as it gives you the flexibility to band in those scenarios where you may be re-seeding pastures but also as a carrier for pesticides and insecticides to get broadleaf weeds and pests such as RLEM under control to minimise paddock passes. Please talk to your local CSBP AM to see how Flexi-N can help you.



Brindley & Chatley

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Norseman Road, Esperance WA 6450

AGENTS FOR



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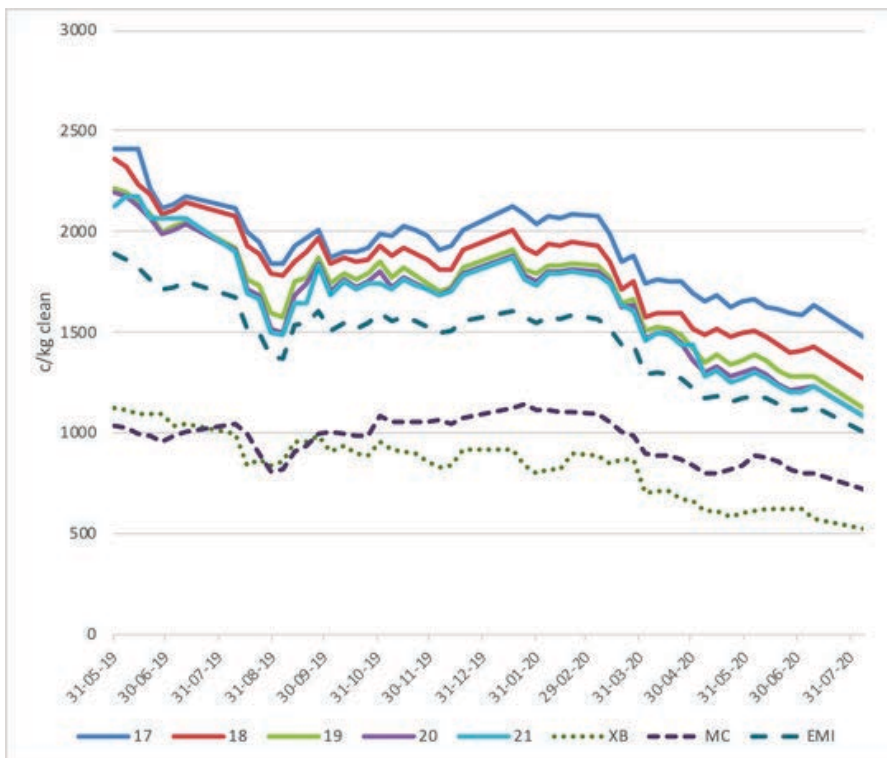
ANZ Insights: Wool



The Australian wool market went into the winter recess after finding some stability – but emerged

from the three week break to see the Eastern Market Indicator (EMI) plummet 128Ac/kg clean to just over 1,000c. Industry hopes that the firming of prices prior to the winter recess were the sign of some stability returning to market were dashed when the market re-opened, indicating that concern over global growth and the demand for textiles continues to dominate. Price increases before the winter recess were based on a limited amount of stockpiling, combined with a low number of bales being presented for auction. While COVID-19 continues to disrupt the highly trade-focussed wool supply chain as well as undermine global confidence on demand for wool products in a low growth environment, the outlook remains uncertain.

Wool prices by micron



Source: AWN, ANZ

The impact of COVID-19 on wool's global supply chains cannot be underestimated, with industry experts stating that the only reason any wool is being sold is due to China – every other market remains closed to wool imports as a result of the pandemic. As a result, Chinese buyers continued to push the price lower, despite resistance from sellers. With lingering concerns also over the stockpile of wool in China, which was reported late last year to have doubled, even interest from Chinese buyers is muted. The global shutdown and economic downturn have also put a stop to selling at the retail end, meaning that product along the supply chain from clothing, to fabric and raw wool are backing up in the system – and are unlikely to shift until retail spending starts again.

The low wool prices and high pass-in rate are leading many experts to forecast that lower wool prices are here to stay until the on farm stockpile – which has been estimated by some to be over 300,000 bales – is diminished. As many producers start shearing for the year, they are being left with the uncomfortable decision of whether to take what they can, or hold on in hope of some improvement to come.

As those in the industry continue to look for a positive from this year's wool prices, some are raising the possibility of a return to local processing as well as attracting a new generation of wool wearers as lower prices could make wool attractive to a new set of retail buyers.

Local contact: Patrick Jannings, Agribusiness Manager, ANZ Esperance, 0499 918 738

Hopes were high in late June and early July that the Australian wool market may have found a floor, were shown to be unfounded when the market re-opened in early August, with the EMI falling to 1,006Ac/kg clean – which is 670c cheaper than this time last year and 11.3% price drop was the largest percentage fall since 1991 when floor price was abolished. The market drop impacted all micron guides ranging from between 54c and 160c/kg. The drop in prices was felt across all microns, although the steepest by percentage terms were in the 19 – 21 micron category. Price declines were impacted by an increase in offerings by 7502 bales to 42,734 after the three-week annual recess, and also led to a strong increase in the pass-in rates across Sydney, Melbourne and Fremantle.

Cattle Field Day 2020

Anita Chalmer, ASHEEP Project Officer



The 2020 beef field day was held in June this year to showcase grass finishing strategies.

Ryan and Elisha Willing had experimented with grazing brassicas this year with an impressive display of forage radish control grazed using temporary electric fencing. With assistance from Theo from Esperance Rural Supplies, the following results were collected.

	Biomass t/ha	%DM
Trophy	2.28	13.3%
Tillage radish	3.24	9.4%
970CL canola	2.89	13.5%
Bonito canola	2.29	15.8%

Bronwyn Fowler from Nutrien Ag Solutions spoke on the importance of the preparation which must be done prior to grazing crops. Transitioning from sparse winter feed to a lush crop can present some animal health issues if the animals are not set up to succeed. Introducing minerals prior to grazing, particularly magnesium and calcium on cereals, and providing ad-lib roughage and a gradual introduction if possible are three major steps to success.

The Fowler cattle operation runs a program driven by winter crop grazing, sown pasture and silage supplementary feeding to eliminate feed shortages and finish yearlings early in the season. The silage is cut in late spring and stored in a bunker constructed at ground level with clay sides and covered with grain storage tarps. Simon has also sown an impressive stand of pasture at Orleans. A diverse sward of tetraploid ryegrass, barley, balansa clover to finish steers destined for the supermarket trade.

Dr David Swan from Swans Veterinary Services held the attention of the crowd despite gusty souwesterly winds and an incoming shower at Ocean View. He discussed the animal health risks associated with crop grazing, particularly in pregnant and lactating stock grazing cereals with a tendency to induce magnesium/calcium deficiency. Also of note was thiamine deficiency which was treatable if caught early on.

From there on to Epasco where farm manager Nick Ruddenklau has sown Ilabo wheat and proven its potential in the future of dual purpose cropping. The Ilabo stood up well in despite a very lean winter, the Angus heifers which had grazed it looked fat and shiny and keenly interested in the entourage of humans gathered in their paddock. Dr Enoch Bergman gave an update on the Fixed Time AI project and the promising results shown by participants.

The day wrapped up back at the Condingup Tavern where thanks goes to those sponsors who kindly chipped in for the bar tab - Elanco kicked things off, followed by top ups from WSD Agribusiness and Zoetis. Congratulations to the Cattle Committee, Chair Simon Fowler, and thank you for your work.



Cattle Spot: Infectious Pustular Vulvo-Vaginitis/Balanoposthitis (IPV/IPB) or "Exploding Dick Syndrome"

Dr. Enoch Bergman DVM, Swans Veterinary Service & Member of the ASHEEP Cattle Committee

Many producers have probably heard of Infectious Bovine Respiratory (IBR) disease. IBR is the respiratory manifestation of bovine herpesvirus (BoHV). IBR is considered one of the primary viral contributors to the Bovine Respiratory Disease (BRD) complex, conservatively estimated to cost Australian producers \$60 million dollars per year, primarily due to sickness, death, and reduced performance amongst animals in Australian feedlots. IBR replicates within the upper airway interfering with the animals normal mechanical defences from respiratory pathogens. It can be especially detrimental to the muco-ciliary apparatus of the trachea, a type of "elevator" comprised of tiny brushes which beat in synchrony to move "junk" from the windpipe back up to the throat keeping it out of the lungs. Animals with severe IBR infections (often complicated with co-infection with other viruses like BVD) are prone to developing bacterial pneumonia as a consequence.



Image (left): Trachea of animal with severe IBR infection.

Image: (top right): Feedlot animal suffering visible symptoms of Bovine Respiratory Disease (BRD).



Image (bottom right): Necropsy photo of the lungs of a feedlot animal that succumbed to BRD. Note the "normal" remaining lung in the upper right quadrant.

Like all herpesviruses, animals which survive exposure to BoHV are permanently infected with the virus and are sometimes infectious to other animals, especially when stressed. When stressed the virus will "recrudescence" or re-emerge, often with some clinical signs, though usually not as severe as the primary infection.

David Swan hired me over the phone in late 2003 fresh from a Food Animal Medicine Internship at Colorado State University. Early in my career working here in Esperance I began to notice a consistent pattern of bull breakdowns during the breeding season. Initially I thought it was just bad luck, but property after property the story was the same. Each case involved a new bull within the first couple of weeks of the joining afflicted by a ripped, swollen, and infected prepuce.



Therapy was pretty straightforward: sexual rest, anti-inflammatories, and antibiotics. Swanny or I would then usually schedule a revisit after the breeding season. If the prepuce had healed well enough, we would give him another go next year. If he had healed reasonably well, but had a stricture affecting his prepuce, we would sometimes circumcise him surgically, opening up the prepuce. If he was insured we would discuss the options with the agent. But both of us felt there was something else leading to this other than the usual presumption of misadventure or inexperience.



Image (left): Acute infectious balano-posthitis.

Image (right): Chronic infectious balano-posthitis with secondary bacterial involvement.



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Continued.

Sadly, some producers were quick to blame the seed stock producer, especially when a group of recently purchased bulls broke down simultaneously. I felt I needed to look into the syndrome more closely.

Both Swanny and I began taking blood and tissue samples from affected animals and within a season we had a working hypothesis... that MOST bulls will be exposed to BoHV (either IBR or IBP) either before or by the time they finish their first season of mating. Unfortunately, apparently some bulls are being exposed to IBP during their first joining. Some of those bulls are then developing clinical IBP, characterized by small ulcers on the penis and prepuce. Sometimes this results in oedema (swelling) of the prepuce and if the bull keeps working hard, this will usually result in a severe longitudinal tear almost always followed by a nasty secondary infection occasionally including entrapment and strangulation of the penis. Long story short, some bulls are probably immune prior to mating, some bulls survive infection during mating, but some suffer catastrophic failure!



Image: Checking a bull post circumcision.

Initially, the only vaccine available in Australia for BoHV was Rhinogard, an intra-nasal vaccine developed for the lot feeding industry. Originally it was only available 500 doses at a time in ten 50 dose vials, shipped on dry ice. Each 50 dose vial must be used immediately once reconstituted. The vaccine is a modified live product requiring only a single dose to be squirted up an animals nose to confer immunity. We began splitting up packs organizing vaccination programs for some of our larger producers and as a pre-sale treatment for some of our seed stock producers. The feedback was excellent. Effective vaccination appears to reduce both the incidence and severity of balano-posthitis in protected bulls. Eventually a second product, Bovilis MH + IBR became available. This vaccine requires two doses a minimum of four weeks apart to confer optimum protection. Delivered in a multi-dose vial, this product has been better suited to our smaller producers to whom we sell single doses.

Rhinogard is currently being reformulated to be sold freeze dried, negating the need to ship on dry ice. Presumably this will also allow smaller pack sizes to be shipped. Currently a minimum order is 250 doses. At present, we provide individual doses of Bovilis MH + IBR to our smaller producers for their virgin bulls pre-mating and organize either Rhinogard or Bovilis MH + IBR as appropriate for our larger clients.

Bovine Herpes Virus Infectious Balano-Posthitis is a devastating syndrome. Bulls exposed for the first time on properties without any form of prior immunity are at the greatest risk. By vaccinating all virgin bulls either pre-sale or prior to their first outing, we strongly believe we can reduce bull wastage and improve conception rates on most properties.

In our opinion, all sale bulls will benefit from vaccination with either Rhinogard or Bovilis MH + IBR as well as their routine Pestigard, Vibrovax, clostridial and lepto vaccinations.

Further, in our opinion, all virgin working bulls would benefit from vaccination prior to their first joining if they were not vaccinated previously by the seed stock producer. A booster of Rhinogard or Bovilis MH + IBR pre mating for bulls already vaccinated pre-sale may confer even greater protection from balano-posthitis. I strongly advocate ongoing boosters of Pestigard and Vibrovax for subsequent mating seasons, though I don't believe there is yet compelling evidence of a need for ongoing vaccination with Rhinogard or Bovilis MH + IBR in most cases, simply because almost all bulls end up exposed to the virus by the time they finish their first mating season!

Please contact me, Swanny, one of our other fantastic vets, or simply the surgery for more information regarding treating or preventing this devastating disease. In the mean time, ASHEEP and Swans Veterinary Services are working with Meat and Livestock Australia to attempt to conclusively nail this problem, before it nails you!

Contact:

Dr. Enoch Bergman
Swans Veterinary Service
0427 716 907
enoch@swansvet.com



Are we Foot and Mouth Disease ready?

Ever wondered what it might be like in our region during a foot and mouth (FMD) disease outbreak?

After laboratory confirmation of the disease, based on finding the virus in animals or their products, or finding evidence in animal blood that they have been infected with the foot and mouth disease virus, or on strong suspicion of disease, the following things will happen:

- Immediate national livestock standstill for 72 hours – announced on the radio, social media and through established networks such as a WhatsApp group or SMS messaging list.
 - This means stopping the movement of all FMD susceptible animals (including cattle, buffalo, sheep, goats, pigs, camels, alpacas, llamas and deer). In some cases there may be restrictions on movement of animal products and equipment, depending on where the outbreak occurs. This is because the virus can spread on
 - Live animals – breath, milk, semen, urine, faeces, saliva, mucus etc.
 - Meat and milk products, including wool, skins and hides
 - Contaminated forage, grain and water
 - People (including in nose and throat for up to 28 hours) and equipment including milk tankers, feed trucks etc.
 - Livestock trucks on the road may be required to return to the property of origin.
- Australia's exports of live FMD susceptible animals and their products will be severely impacted by a diagnosis of FMD.
- A restricted area of at least 3km radius around infected properties will then be established. There will be restrictions on the movement of animals and products into, from and within these restricted areas. This is because FMD virus can also spread via
 - Effluent from infected farms
 - Wind (under specific conditions).
- A control area will be drawn up, which will initially consist of the whole state or territory, with ongoing modification to reduce the size using shires etc. These areas will be a minimum of 10km radius. There will be control on the movement of animals and products into, from and within these control areas.
- The actual strain of FMD virus will be identified and vaccine may be ordered from Australia's FMD vaccine bank overseas, or from manufactures or international stockpiles if necessary. The decision on whether to use the vaccine and how it will be applied will depend on the nature of the outbreak.
- Tracing forwards and backwards from the infected premises will begin, to identify dangerous contact premises (which are highly likely to contain infected animals or contaminated products), suspect premises (contains animals with symptoms that require further investigation) and trace premises (with FMD susceptible animals that may have been exposed to the virus).
- The response to FMD will involve stamping out (the culling of animals on infected premises) and/or stamping out and vaccination. The approach will depend on many factors, including whether the outbreak is widespread or limited, density of livestock, and rate of spread to name a few.
- Disposal of infected carcasses and animal products, such as milk, will be done in a way that minimises the risk of susceptible species coming into contact with them.
- Decontamination of premises, roads, equipment and materials will be performed using agents that deactivate FMD virus. Where decontamination is not possible, items or infrastructure may need to be destroyed.
- Depending on location, part of the response may include a strategy to manage wild animals and minimise the likelihood of infection in feral populations.
- Once decontamination of affected farms is complete, then sentinel animals may be used to ensure that the virus is no longer present. This may assist in moving a property to a resolved status. Restocking is an option once a premises has been resolved and approval has been granted from the Chief Veterinary Officer.
- Compensation for loss of livestock and property is determined by state and territory legislation and processes. The terms differ slightly between jurisdictions. The compensation itself is payable by the state or territory government, but costs may be shared as part of the *Government and Livestock Industry Cost Sharing Deed in Respect of Emergency Animal Disease Responses (EADRA)*.
- EADRA is the overarching agreement that describes how emergency animal disease expenses will be shared between the commonwealth, state and territory governments and affected livestock industries. FMD is a Category 2 disease under EADRA and, as such, costs will be shared 80% by government and 20% by industry.
- To re-establish international trade, zoning based on physical or geopolitical boundaries, and/or compartmentalisation, based on subpopulations of industry, might be considered. This is likely to be a protracted and resource intensive process and would require agreement from Australia's trading partners, which is not guaranteed.

2020 Winter Walk & AGM

Sarah Brown, ASHEEP

This year's Winter Walk got off to a cracking start with around 70 people joining the day. First stop was a trip to Michael Maganotti's in Salmon Gums to look over a deep sand site that he is rehabilitating with the use of Lanza Tedera. DPIRD's Tedera Breeder, Daniel Real joined the group and gave some background on the plant before Dan Bell, Nutrien Ag Solutions, took us through their herbicide trials.

Over lunch in the paddock we were fortunate to hear from Peter Fox, Bankwest, and met members of his team.

From there, on to Tim Starcevich's where we went through his vetch. It was noted by Neil Ballard and Floyd that the vetch was nodulating, whereas the pre-existing medic in the paddock was not. They talked about options for different inoculant groups that would encourage the medic to nodulate.



Tim Starcevich takes us through his vetch



11 varieties on show at the ASHEEP MLA Pasture Variety Trial



Lanza Tedera at Michael Maganotti's

Coming back through Grass Patch, we stopped by the ASHEEP MLA Pasture Variety Trial and got some background from Luke Marquis and India Warren-Hicks (South East Agronomy Research) who are managing the trial site for ASHEEP. Theo Oorschot also lent his expertise in giving background on the different varieties.

Still at David Vandenberghe's, we took the opportunity to hear from Robert Harrison at one of Murdoch University's Dryland Legume Pasture Systems sites. Rob took us through a range of varieties that have not yet been tested in agriculture, including the "curry-scented" Trigonella which is showing promise complementing background medic by increasing the spring glut.

The day wrapped up with an AGM and BBQ back at the Gibson Football Club, with BBQ meat kindly sponsored by Rabobank. A record of the AGM will be sent out to members in due course, with a couple of highlights being the awarding of life membership to Greg Bannon and the welcoming of new ASHEEP Committee Member Ryan Willing. John Simons (DPIRD) gave a great talk on rainfall trends, groundwater levels and water management systems. We finished things off with thanks to Alosca, Esperance Livestock Transport and Elders who helped out with the bar tab - much appreciated! We hear that John Mitchell (Esperance Livestock Transport) is keen to bring back the Low Stress Stock Handling Course to Esperance next year, something to look forward to.

Thanks to speakers, site hosts, sponsors & the ASHEEP Committee, Chaired by Mark Walter, for bringing together another good day.



Rob Harrison talks Trigonella at a Murdoch University Dryland Legume Pasture Systems trial site.

Life Membership - Greg Bannon

Greg Bannon has been involved in ASHEEP since its inception, as one of the founding members and drivers of the group. At the recent AGM on the 19th August 2020, members were advised that Life Membership was being awarded to Greg for his contribution to ASHEEP's establishment and key projects that have been undertaken from that point.

Greg was the initiator of the ASHEEP Lambing Planner when he set a target for the group to define a sequencing formula that could and would, if properly followed, produce a 100% plus outcome for lambing. A bit like SEPWA's 3 Tonne Club, this represented a giant lift above existing levels. With support from the Department of Agriculture, the resulting planner was developed into both a hardcopy resource and a phone app. It now has reach across Australia and internationally in the United Kingdom and New Zealand, it put ASHEEP on the map and generated a significant reputational boost.

Importantly, this project brought ASHEEP to the attention of Australian Wool Innovation and Meat & Livestock Australia, relationships that have been critical to ASHEEP's ongoing work.

Greg now resides in South Australia, and with COVID-19 border restrictions was unable to join us to be awarded his Life Membership in person. Bob Reed has kindly put together some of the history of Greg's involvement in ASHEEP, to be shared in the next edition of the newsletter. Our sincere thanks goes to Greg for his contribution to ASHEEP.

Market Report: Sheepmeat

Rob Davidson, WAMMCO International

It's impossible in today's world not to start a market update without the mention of the COVID-19 pandemic. The World Health Organisation are now reporting that there are over 21.2 million confirmed cases of COVID-19 worldwide and tragically this includes over 760,000 deaths. Along with the global illness, restrictions enforced on "our lifestyle" have greatly altered world lamb and mutton markets. Global tourism is at an all-time low. As an example, the international cruise liner industry was predicting over 30 million passengers to sail this year, however government restrictions have seen passengers stay at home. Dubai, one of the largest international travel hubs in the world is struggling. Generally speaking, businesses associated with the food service/white table cloth industry have been smashed, whereas the supermarket/retail sector has still reported positive sales.



Domestically, the short term closure of a number of major eastern state sheepmeat plants and the labour restrictions placed on operating Victorian plants has led to a drop in overall processing capacity. As a result, lamb producers in the east have witnessed a severe correction in lamb values. International lamb selling prices have also fallen during the same time as all processors seek to secure adequate sales in an unstable market environment. This downward price movement in the market will also be felt in WA.

The reduced eastern state processing numbers has resulted in increased demand from WAMMCO Katanning and our Goulburn plant, Southern Meats to supply chilled lamb into the supermarket business in North America. Our "Hormone and Antibiotic Free" independently audited product has a strong following and we continue to believe that this will become the new industry standard in the years ahead.

In China, lamb sales are steady and still providing the best returns for offcuts (accounting for up to 20-30% of the carcase), though prices and demand is much lower than the same time last year. Mutton sales into China remain strong, especially for 6-way cuts. 6-way cuts allow for high volume efficient processing through the new Katanning processing room. The WAMMCO mutton brand is in high demand in China for its leaner, well-trimmed and graded specification that is produced at Katanning.

As we move into the busy Spring period, members are encouraged to contact their preferred agent or Peter Krupa 0427 810 613, Wayne Radford 0429 944 733, Rob Davidson 0429 380 195 or Alison Addis 1800 199 197 to discuss their livestock options.

On behalf of WAMMCO we thank you for your support and look forward to it continuing.

The Vandenberghe's: Lamb auto-feeder system

ASHEEP interviews David Vandenberghe

This lambing season has not been an easy one for many producers in the Esperance region, with drought declarations, limited feed on offer, and the challenge of managing all this when ewes seem quite content to walk off with one lamb when they started with two.

David and Katherine Vandenberghe farm a mixed enterprise system with properties in Scaddan, Grass Patch & Gibson. Their merino flock carries valuable genetics that they constantly work to refine. Every animal is tested and tracked.

Faced with feed shortages this season after an incredibly dry year, David decided to take a stand against twinning ewes who were leaving lambs behind by investing in an automatic lamb feeding system.

Snapshot

Location: Scaddan, Grass Patch & Gibson

Area: 6072ha

Stock: Sheep 8000 head
Stud Ewes 1600
Commercial Ewes 1900
Mated to terminal 1200



Whilst this technology is relatively new to the Esperance region, it is being increasingly adopted throughout Australia and New Zealand by producers who are looking to minimise livestock loss and potentially profit from their efforts.

Another consideration is in addressing the widening gap between consumer understanding of farming practices and levels of acceptable loss. Those who are buying the end product at the supermarket or clothing rack are increasingly concerned about how stock are managed on-farm and potentially less accepting of traditional levels of loss. Could this system be another tool used in maintaining the "right to farm"?

Left: David Vandenberghe surveying full-bellied lambs raised on the feeding system.

The Vandenberghes set up the auto-feeder system in the back of a raised shed, with access via a ramp to an outside run. With the auto-feeder machine in transit and lambing already underway, they moved quickly to install a sink with hot / cold water, and ply dividers to create four separate pens and a central hub where the machine could sit. When the machine arrived they were halfway through lambing, with a fair number of spare lambs being bottle-fed in anticipation of moving them to the auto-feeder system. With everything plumbed in and ready to go, 60 lambs were introduced at once and the auto-feeder journey was off to a running start.

Walking into the lambing shed, you might expect general conversation to be drowned out by the cries of many little lambs. But the shed is quiet - no one is hungry and calling. There are piles of sleeping lambs and a heater in the corner warming up a fresh arrival who's having a hard start. This is lucky for us, because I take the opportunity to drill Dave on everything he's learnt so far and I'd like to thank him for taking the time to show me around and for sharing his experience to date.



Continued.

Why did you see a benefit in going for an automatic feeder system this season?

We got sick of seeing good lambs left behind this season. The paddocks are low on feed after a very dry year and a combination of that and cold nights is causing lamb losses in the twin mobs. The lambs we are bringing in are generally all from multiples. With prices as they are, there is likely to be a profit in it and the lambs the machine turns off should be equal to those raised by the mother - they look it at this stage. As soon as the feeder arrived we were able to pick up a lamb without hesitation and not leave it to chance. It's also part of our strategy to maintain our "right to farm" as far as improving public perception of farming practices.

Rough costs*

- 2hrs per lamb labour
- \$50-\$70 milk powder per lamb, depending on weaning date.
- \$7500 machine
- \$4400 shed fit-out (plumbing & carpentry)
- 1 bag pellets
- Electricity and diesel for warming

**Noting that these estimates were taken part-way through their fist run with the auto-feeder*

How did you manage the health of the lambs you brought into the system?

Every lamb gets a spray of Cetrigen on the umbilical cord and a dose of Alamycin going in. We've also considered whether we give them all a 3in1 or 6in1 on arrival. The ground in the pens gets cleaned regularly with a liquid disinfectant.

Lambs coming in that were poorly in the paddock got a dose of Dextrose brewing sugar into the mouth as soon as we picked them up. It was really impressive to see how that can bring them back. We have been making our own "colostrum" and giving it to them in the first 24hrs if it looks like they have never fed.

As far as losing lambs once we have picked them up, there have been some issues with lambs that have struggled to learn to feed. Also some issues with getting bad bacteria in the gut and a tiny bit of arthritis coming through.



How have you gone teaching the lambs to self-feed?

There was some adjustment initially because we had a number of lambs that were being bottle-fed before the machine arrived. Those lambs had to be taught how to use the feeder. Dad took charge of that by holding them on until they learnt.

We initially tried to track which were self-feeding by putting chalk around the mouth pieces, we moved away from that though and started marking them ourselves when they were seen feeding.

A reasonable lamb that can walk would be picking it up in about half a day. If the lamb was sick to start with, it might take a few days, or may not pick it up at all.

Are you happy with the set-up?

We've got around 80 lambs on the system and the machine is going well, although the lambs can be less inclined to drink if the milk is able to cool down too much in the lines.

We initially had weed matting covered by hay on the floor of the pens but found that didn't work too well, getting soiled quickly. They are now on slatted boards, but we might look at something different as it's possibly not good on their feet for a long time.

Giving them access to an outside run has been great to give them some fresh air and exercise. They race back and forth in packs.

What is the plan for weaning?

Weaning is likely to be at around 5 weeks of age, depending how they look. We've introduced them to pellets and a bit of hay in their pens. We're putting thought into how to manage marking.



Project Update: Supporting shifts to non-mulese systems

The non-mulesed project ASHEEP is involved in, run by AgPro Management, began in autumn. The MLA-funded project involves groups of producers (or grower groups!) across the medium and high rainfall zones of W.A.. It aims to demonstrate best practice for non-mulesed systems, and provide support for producers wanting to shift to, or trial, not mulesing.

It's all about supporting producers through the transition, coming up with a plan and involving producers who have already shifted to non-mulese. This way, producers can draw on each others' experiences, anticipate the challenges and support each other.

Involved producers met for a workshop at Scott Welke's farm. Michael Palmer and Tom Murray shared their many years of experience in running non-mulesed systems. This was combined with feedback coming from across the state in other non-mulese groups.



Below is a summary of the key messages from those who have made the transition:

- Dag management is key-through every tool you have at your disposal. It's all about working your way towards a clean flock.
- Dag score cull ewe hoggets at 12 months. Culling starts with the 5's- its up to you and the flock numbers you aim for to decide how hard to go.
- Others cull the first 10-20% that develop dags before the others.
- Worm management important to reduce dags- but make sure not leading to drench resistance issues.

Producers also noted the following:

- Main roadblocks to transition aren't fly related, its selling culls and potential issues at shearing- but most are finding few issues at shearing as sheep are quite plain.
- WA sheep have been bred towards non-mulese options for a while: Existing fly pressure has already driven a lot of genetics towards a non-mulesed option, partly due to body strike vulnerability.
- Definition of non-mulesed when it comes to tailing: there can be no scarring other than where the tail has been cut- ie. no scarring either side of the tail

The next meeting is to be held the last week of August, where the ParaBoss tool will be focused on, as well as weaning management and culling. If you are interested in joining the group to learn more, please don't hesitate to get in contact.

Contact Georgia Reid, AgPro Management to get involved on 044 752 3110 or georgia@agpromanagement.com

DWER Update: Farm Water Supply Planning Scheme

Article by Department of Water and Environmental Regulation (DWER)

Rainfall in July 2020 resulted in enough runoff into on-farm and off-farm dams to provide some relief to farmers in the southern and south eastern area of the dryland agricultural areas. As a result, water carting has been temporarily suspended to all three Water Deficiency Declaration areas in the Shire of Esperance including Salmon Gums, Cascade and Grass Patch. All sites are currently being reviewed including assessment of the capabilities of on-farm supplies and strategic off-farm sources to determine whether Water Deficiency Declarations can be revoked.

The Department of Water and Environmental Regulation (DWER) will continue to monitor the situation to track rainfall and capacities in Strategic Community Water Supplies. The department will continue to administer the Community Water Supply Program (up to \$100 000 available for Shires and Communities to upgrade or build non-potable water supplies) to build on the non-potable Strategic Water Supply Network across the dryland agricultural region. The department supports the Shire's proposal to develop non-potable water infrastructure projects under the Drought Communities Programme.

DWER, as well as the Department of Primary Industries and Regional Development are planning to meet with targeted grower groups in coming months to discuss water issues, best practice catchment and dam management and promote the Farm Water Supply Planning Scheme.

The **Farm Water Supply Planning Scheme** provides a rebate for WA farmers which would see a water auditor help farmers develop a water supply plan to identify ways to improve the sustainability of their on-farm water supplies. Funding is provided up to \$1000 to cover 50% of the audit cost. The first step in the process is to contact an approved farm water auditor.

For more information call 1800 780 300 or email ruralwater@dwer.wa.gov.au.

An independent review of eID tags and applicators

James Macfarlane, ASHEEP Member, 0447 999 902

Electronic identification (eID) in sheep is becoming more widely used in Western Australia. Whilst this is the case, there are many who have not yet adopted the technology, and more still who don't understand how it works and/or its value – especially in a commercial enterprise. What follows is a progress report of ongoing, independent evaluations of some of the more popular 'wrap-around' style electronic ear tags available in Western Australia.

Since as early as the 1960's, Australian livestock producers have been tracing their animals. Traceability of livestock in Australia began in earnest in the 1970's, but it's only since the launch of the National Livestock Identification Scheme (NLIS) for sheep in 2006 that the practice has gained serious momentum. The NLIS mandated that sheep were to be tagged using coloured plastic tags with a unique identification number and placement of the tag in either left or right ear (which signifies the sex of the animal), allowing visual identification.

Electronic ear tags were first introduced to Australia in 1999, in cattle. These tags were then issued for voluntary use in the sheep industry in 2007. From the 1st of January 2017 however, all sheep and goats born in the state of Victoria were mandated to have eID tags.



Victoria is still the only state where eID tags in sheep are a mandatory requirement. The mandate was primarily introduced as a way of improving biosecurity in the state. It is said that our coloured tags brings traceability of the source of a disease outbreak down from two weeks to two days. With all producers using eID tags however, this could be reduced again, from two days to two hours. What a difference that could have made for the devastating Foot and Mouth outbreak in the UK in 2001, where >6million sheep and cattle had to be destroyed.

Electronic tags use radio frequency identification (RFID), with each tag emitting a unique 16-digit number, which receiver units can detect. Once identified, the producer is able to record individual traits, treatments, results and more, building a lifetime of data for each sheep. This information provides an opportunity to manage a flock more accurately and efficiently, by using objective records for culling etc. Subjective examination/classing of sheep will always be required – a somewhat dying art – but used in conjunction with objective data, producers have a far more robust approach towards strategic decision-making. You don't know what you don't know, but eID will help you know.

An eID tag itself doesn't improve production or profit; it provides an alternative management method, driven by data, that can lead to superior production and profitability. The number one barrier to adoption is cost. Clients will often ask why they should spend more on an electronic tag, when plastic tags work very well, and are so much cheaper – about five times cheaper in fact. It's a complicated analysis, but essentially comes down to the ability to cull and/or breed from individual animals – shifting the bell curve by using objective data.

It's become widely accepted that the return on investment (ROI) in eID tags (and associated equipment) is ~3:1 i.e. you stand to receive \$3 back for every \$1 invested. There have been several studies conducted over the past few years, the lowest returning \$1.87, the highest being \$10.60, and the most recent (published by MLA earlier this year) being \$4.12, for every \$1 invested. Anything more than 1:1 should be worth your consideration. However, please note that the ROI is scalable, with returns becoming more favourable, the larger the number of sheep in a flock.



Pin sizes vary a great deal between the tag types.
(Top to bottom: Allflex, Leader, Shearwell, Zee Tag)

The Victorian government provides a subsidy, bringing the price of eID tags in line with the cost of plastic tags. This subsidy isn't permanent though – it was introduced because of the mandate. Will we receive a similar subsidy in WA? I doubt it. However, on a week-long study tour to Victoria, with other industry peers and producers (courtesy of DPIRD), the common theme from VIC farmers was 'I wish we'd done it sooner'; 'If only we'd realised the benefits before' etc. It is very important to note however, that you will only ever see a positive return if you use the data you capture.

If we assume that you have understood the benefits of introducing eID technology to your farm business, and you're now looking at hardware and software options, one of the first questions you'll want to answer is what type of tag (and applicator) to go for, and why. I've been trialing some of the more popular brands of eID tags available in WA, including: the Allflex RapID tag, the Leader Multitronic tag, the Zee Tags TagFaster tag, and the Shearwell eID SET tag. All of these tags are NLIS compliant and have been used as an alternative to a standard plastic tag. Note that all of these tags are 'wrap around' style tags. Round 'button' tags are also available.

Continued over page.

Allflex RapID tag (and RapID Tagger)



The RapID tag is the first eID tag I ever used. It's a very popular choice, with a solid reputation. It measures 76.5mm long, by 14mm wide. This makes it one of the larger tags available. The eID chip is uniquely located within the pin, hence why the pin is so large when compared to the others. It measures 23mm long, by 6mm wide, is straight, strong and has a sharp tip. It is free to rotate/swivel, meaning the tag can move in the ear without the pin spinning – to help reduce infection and aid healing. Allflex claim to use the highest quality RFID transponder, to maximise read distance. The tags are available in strips of 20, with a minimum order of 60 tags.

The applicator is a powder-coated metal construction. It's medium weight and solidly built. It can slip a little in the hand though. It has a strong spring, that returns to position reliably. It includes a button by the thumb that allows the user to lock it shut for neater storage. It only works with the RapID tag – not its plastic counterpart.

Leader Multitronic (and 3 in 1 multi tag applicator)



Leader Multitronic tags have the boldest and brightest colour range of all. They measure 83mm long, by 13.5mm wide, making them another of the larger tags available. The eID chip is stored in a raised section in the middle of the underside of the tag. The pin measures 17mm long, by 4mm wide in the centre. The pin has somewhat of a conical shape – the same design as the Shearwell tag on trial here. It is fixed in position, made of plastic, and has a sharp tip. The tags come joined in strips of 10.

The applicator is the only stainless steel one being tested here. It is heavy weight (similar to ear-notching pliers) and built very well – the sort to last forever if you look after it. I'm not the only one to have experienced tags getting caught in it though – not releasing immediately – which can cause problems. It works with three different [Leader] tag types though, which is potentially handy.

Zee Tag TagFaster tag (and TagFaster plier applicator)



Zee Tags are owned by parent company Datamars – also responsible for TruTest and Prattley. This combination of tag and applicator includes the most expensive tag, but cheapest applicator. The TagFaster tag is the smallest tag being tested here, measuring 77mm long by 8mm wide. Similar in concept to the Shearwell SET tag, the eID chip located in the bulbous underside of the tag. The pin measures 15mm long, by 3mm wide. It is straight and has a sharp tip (the sharpest I'd say). It is however the weakest of the pins, bending on application on multiple occasions. It isn't fixed but doesn't swivel freely enough for the swivel to be of any benefit. The tip of the pin is housed within a cylindrical termination, with a guarded but open end, designed for improved air flow to help reduce the chance of infection at the site of the wound. This is the only tag on test with a 'hinge'. This improves flexibility, but only to 90degrees, at which point it actually becomes stiffer than the others. It does however improve the strength of the tag at the flex point. The tags are supplied in multiples of 20.

The applicator is the smallest and lightest of the four, made from a hardened plastic material. It is so small that anyone with particularly large hands might find it awkward to use. The spring has become stiff over the past year, unlike the others which remain supple. This applicator works with both the plastic and eID TagFaster tags.

Shearwell eID SET Tag (and SET Tag applicator)



Shearwell's eID SET tag is widely used and has a loyal fan base (particularly in the Eastern states), including shearers [when speaking with shearers, the large majority said that this tag was their preferred option, as they're less easy to cut out]. These tags are made in Bendigo, Victoria. They measure 80mm long, by 9mm wide. The eID chip is housed in the swollen underside of the tag, with the tip of the pin sitting within an extension of the housing, as if covered by a sheath – similar to the Zee Tag. Hiding the tip like this means there's less chance of snagging skin or clothing and may improve comfort for the sheep too. The fixed pin measures 17mm long, by 4mm wide at the centre. It is the same shape and size as the Leader pin. I've heard that the shape was designed to aid superior retention. Tags come in strips of 10.

The applicator is made of a durable, hardened plastic material. It has great ergonomics, sitting well in the hand, with cut-outs for the fingers to sit in, making it easier to hold on to than some of the others. It's light weight and has a strong spring. It works with both SET Tag types – the plastic and eID versions, which saves time switching between applicators if you're using plastic tags in wethers and eID tags in ewes for example.

There's no such thing as a perfect tag. All tags have advantages and disadvantages. So, what makes a tag a good tag? I've used multiple factors to help determine this, including: cost, colour, print space, readability, retention, ease of application, and customer service. I've scored each tag on all these factors, and applicators on price, feel, ease of use, and functionality – 1-4, with 4 points awarded to top spot, 1 point to last position – then ranked them, providing an indicative preference result at the end.

Starting with cost – the single most important factor, according to recent polling – the Shearwell SET tag is (statistically speaking) significantly cheaper than all the others in this group. There is no significant difference between the other three tag prices. The recommended retail prices (inc. GST) are as follows:

- **Shearwell eID SET tag \$1.55**
- Leader Multitronic \$1.75
- Allflex RapID \$1.86
- **Zee Tag TagFaster \$1.90**

This gives a range of \$0.35 – a gap large enough to be more than the typical price of a plastic tag.

I've only been using single tag applicators, as opposed to multi-tag applicators – something available for the Allflex RapID tags and TagFaster tags. The retail cost (inc. GST) of the featured single-shot applicators are as follows:

- **TagFaster hand pliers \$12.00**
- Shearwell \$13.20 (free with your first 200+ tags)
- Leader 3 in 1 applicator \$49.50
- **Allflex RapID Tagger \$64.00**

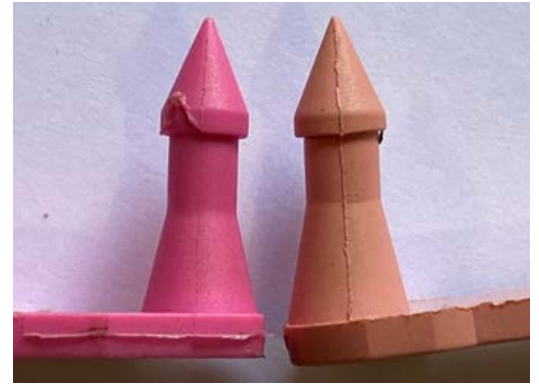
Colour is important if you're using an eID tag as your only tag. Despite being able to identify individual animals with eID tags, it's always useful to be able to identify age at a glance. Plastic tag colour has always been a complaint, with many of the colours being wishy-washy and hard to tell apart from afar. The story is no different with eID tags.

There is however a clear winner in this category – **Leader**, with their newly introduced (2020), heat treated, UV-stabilised colour range. The colours are truly vibrant and easy to tell apart, unlike the others, which all continue to use the same pastel-like colours (for the most part). Ironically though, purples seem to be good across the board this year. As important as colour can be, they can of course all end up looking the same if covered in dirt!

Print space varies dramatically between the tags. This is important if you want to be able to visually identify individual animals by management number and/or for more clearly displaying your brand and PIC number, potentially farm name too; not to mention the NLIS logo of course, OJD stamp, and manufacturer's code/tag number as well. Having multiple print options allows producers more flexibility around what they wish to have most visible. Of these tags, Allflex and Shearwell offer the best options (in my opinion). The space available often determines text size. It's more so the layout of the print design that offers most opportunity though. The largest text available comes from Allflex, allowing lettering up to 9mm tall. The narrowest tag – TagFaster – inherently means the smallest text, when utilising maximum print options. The Multitronic's unfortunate top-mounted (on the underside) bump-out to contain the eID chip means that print space on the underside becomes very limited. A PIC number or manufacturer's code/tag number can be printed there, but that leaves the rest competing for space on the top side. This category goes to **Shearwell**, for their clever use of every square millimeter of available space. Your brand can be squeezed into the round space sitting above the pin for example; the NLIS logo and V stamp sit on the bend. It's all very neat, and with multiple layouts available – including custom options – this one hits a home run, even if the maximum text size isn't as big as some others.

I have noticed no discernable difference in the reliability of **readability**, with all tags reading as easily as each other. There's not been a noticeable difference in distance to read either.

Retention, in part, also refers to reliability. In quizzing shearers about their preferred tag, they almost exclusively said the Shearwell, as they're less easy to cut out. Producer polls rank Shearwell highly too, for retention. Of all the tags I've tried on farm, the only ones I've personally lost are Allflex RapID tags. I've not lost many, but the few I have lost have been through infection and/or getting caught in fencing and being ripped out. Some say that the larger wound, caused by the larger pin, introduces more chance of infection occurring. However, others will tell you that the more the wound site can breathe, the better the chances of healing well, and in that respect, the RapID tag has more air space around it than the others. Further, due to the strength of the RapID tag pin, if a shearer were to cut through the tag, the tag is likely to remain in the ear, albeit with two parts swinging around. Leader have a '100% retention' guarantee, so you will get your tags replaced if they do get lost. A renowned Victorian producer once told me that the shape of the Shearwell pin (same as the Leader) was designed with retention in mind. The TagFaster tag seems to have a good rate of retention (despite the tightest fit and therefore the least amount of airflow around the wound site) ...if you can get it into an ear.



The pins on the Leader Multitronic and Shearwell SET tags have a remarkably similar design (Leader left, Shearwell right).



The difference in colour is obvious here, with the Leader tag (pictured on top) a standout – literally! These are all post-breeder pink tags.

Continued.

Ease of application of a tag implies how easily it pierces the ear, and how quickly you can re-load and move to the next. The TagFaster tag, although possibly the one with the sharpest pin, is comparatively difficult (sometimes impossible) to punch through any ear other than a lamb. In bigger, thicker ears, I found that the pin would bend/fold over and sometimes not even scratch the surface! So, if all you're doing is using them for marking lambs, they'll be fine. In fact, in lambs, they pierce the ear with ease. Bigger than that though and you might struggle. The tags clamp together and pop out of the applicator without issue. The applicator is very small and light, which I don't think will appeal to everyone. It's easy to know which way to place the tag in the applicator as the male part of the tag goes into the blue part and the female into the pink part – so that's good. The spring has become stiff though, so it's become less easy to use over the course of a year. Having said that, it's almost a disposable item at only \$12. The Allflex tags are easy to punch through any size ear, although take a little more effort on bigger ears due to the larger pin size. The applicator is satisfactory, but nothing more. It's a shame that you need to switch between two applicators if applying plastic and eID tags at the same time. The biggest issue I've found with the applicator though (mirrored by numerous producers I've spoken with) is the misalignment of tags, with the pin not aligning correctly to the hole underneath, causing 'misfires', for want of a better word. This may not be as much of an issue with their multi tag applicator. As with the retention category, I'm awarding a joint top spot here to Leader and Shearwell.

They pierce any size ear very well – again due to the design of the pin maybe? Both applicators accept multiple tag types. The Leader applicator is a very high-end product, finished in solid stainless steel, although the extra weight (700g) may put some off. It has a spring-loaded 'pusher' button inside it, to ensure perfect positioning of the tags (in the applicator) every time. The Shearwell applicator is one of the cheapest available, although extremely well designed and built. It's easy to determine top and bottom – by colour. The tags have a satisfying clunk as they're loaded, and they're held tightly in place, and release faultlessly.

Customer service can be as important as the product itself. I've had experience dealing with all these manufacturers, and all have been very helpful. Website usability is a key element of customer service, and Shearwell is a clear winner here. It is a very easy-to-navigate site, with intuitive ordering system...the others not so. Shearwell and Allflex don't have an on-the-ground presence in WA, which counts against them, even though their phone and email support is very good. Leader's newly appointed state manager, as well as the Datamars rep have both been a pleasure to deal with – in person.

VERDICT

Having scored all tags and applicators across 10 different categories, they ranked in the following order:

- 1st place: Shearwell eID SET tags
- (a close) 2nd place: Leader Multitronic tags
- 3rd place: Allflex RapID tags
- 4th place: Zee Tags TagFaster tags

Trials and research are ongoing. More tags will be tested in due course.

James Macfarlane is a member of ASHEEP. He is based in Kojonup, where he and his family have a farm, running a mix of Merinos and dual/multi-purpose Merinos, and he also consults. James is not incentivised by any brand, and his observations are meant as an independent guide for what may suit you.

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Storage of hard seeded pasture legumes increases germination when sown in early autumn

Robert Harrison, Murdoch University

Background:

The expense of scarifying and dehulling of certain pasture legumes (e.g. yellow serradella) can be counterproductive to the adoption of pasture legumes in medium to low rainfall environments. Summer or twin sowing of hard seed is well known to bypass this barrier of adoption, however, not all pasture legumes have the hard seed breakdown pattern suitable for these sowing techniques. Notwithstanding this, the Centre for Rhizobium Studies has recently published an article describing the effect of storage on hard seed breakdown patterns (Harrison, et al., 2020).

Research abstract: Knowledge of the hard seed content of annual legumes, and its pattern of breakdown, is critical to the understanding of their ecology and management within farming and natural ecosystems. For logistical reasons, seed that has been stored for varying lengths of time is often used for pasture establishment and agronomy experiments. However, the implications of storage on hard seed physiology is unknown. The aim of this study was to explore the impact of seed storage on its subsequent pattern of hard seed breakdown when exposed to field conditions. Experiments examined seed from six different annual legume genotypes that had been either produced the prior year or stored under ambient conditions for 11-22 years (two examples below, Figure 1 and 2). Comparisons were then made between the two seed sources on hard seed breakdown patterns in the soil. Although initial hard seed levels were mostly unaffected by storage (seed of five genotypes remained over 93% hard after more than 11 years of storage), the patterns of release from dormancy during exposure to hard seed breakdown conditions of stored seed differed greatly ($p < 0.05$) from freshly produced seed. Hard seed in the stored seed of most genotypes was reduced from $> 90\%$ to $< 10\%$ within 68 days over autumn, with shallow burial, whereas fresh seed remained $> 90\%$ hard during the same period.

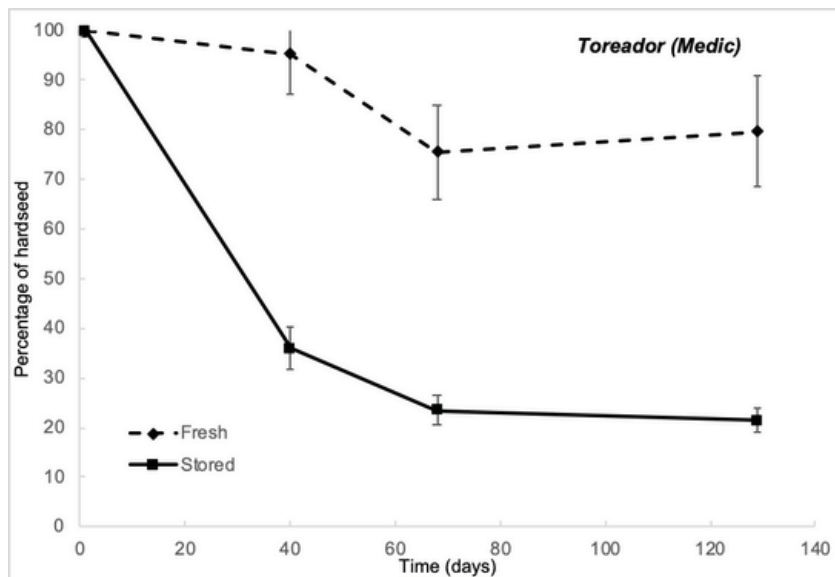


Figure 1: (Top) Hardseed breakdown of both fresh and stored seed of *M. littoralis x tornata* cv. Toreador (seed in pod) exposed to field conditions over 129 days. 95% Confidence intervals are presented at the intersected points to represent significant difference.

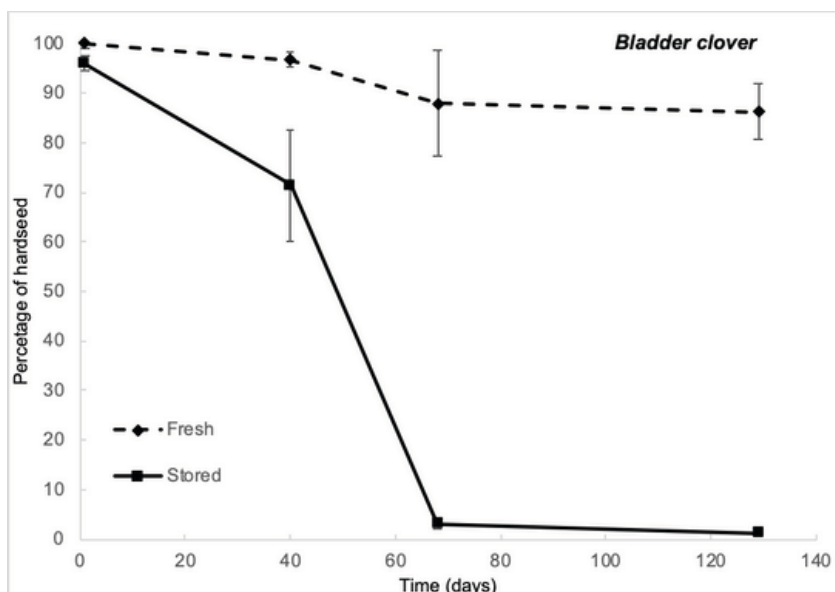


Figure 2: (Bottom) Hardseed breakdown of both fresh and stored seed of *T. spumosum* exposed to field conditions over 129 days. 95% Confidence intervals are presented at the intersected points to represent significant difference

Further research in 2020 has identified that the rate of germination as well as the hard seed breakdown pattern has both been accelerated. However, more pasture legume species need to be examined in the next season as well as the sowing time, so further recommendations can be made to farmers.

If any farmer in the ASHEEP region has any stored and fresh yellow serradella pod (i.e. cv. Santorini) can you please get into contact with Rob Harrison (email: r.harrison@murdoch.edu.au).

Paper reference for further reading:

Harrison, Robert J., Howieson, John G., Yates, Ron J. and Nutt, Brad J. (2020) Long-term storage of forage legumes greatly alters the hardseed breakdown pattern in situ. *Grass and Forage Science*.

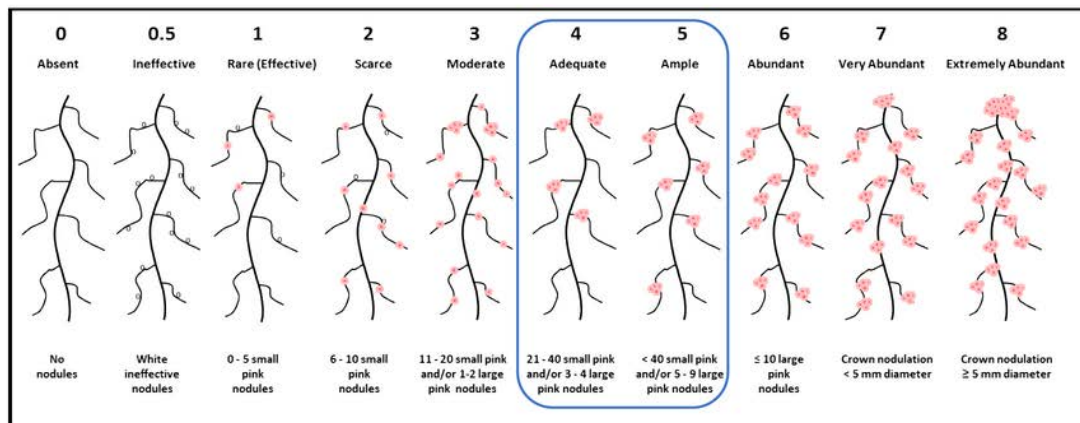
How to check for nodulation and the Nodulation Chart #showusyournod

Floyd Sullivan, Business Development Manager, ALOSCA Technologies Pty Ltd

Now is the time for digging up your crop/pasture legumes to check the nodulation.

Use this nodule rating system. This is the system used by the Centre for Rhizobium Studies (CRS) at Murdoch University www.crs.murdoch.edu.au to assess their field samples. The chart was supplied courtesy of the CRS.

Nodule scoring system



Source: Yates, R.J., Abaidoo, R., and Howieson, J. 2016. Field experiments with rhizobia. Pages 145-166 in: Working with rhizobia, J. Howieson and M. Dilworth, eds. Australian Centre for International Agricultural Research, Canberra.

Remember when sampling

1. Timing, don't expect to see many nodules before 6 weeks post germination. Also be wary of later season nodulation assessment as nodules will senesce as soils seasonally dry out in spring.
2. Take a representative sample, much like you would for soil sampling. You will need a minimum of 20 plants, the more the better.
3. Dig plants up don't pull them out. Even in light textured soils nodules will pull away from the roots if pulled from the ground. Dig down most of a spade blade depth if possible (250mm).
4. Wash the soil from the roots. This is particularly important with heavier textured clay and loam soils. With light textured soils the bulk of the dug soil will fall away and a light rinse will reveal the nodules. Heavy textured soils can be a little problematic when washing and may require soaking in a bucket of water for a while to disperse the soil before you can assess the nodule colonies.
5. When assessing the root nodules there are 2 main attributes you should be assessing to give you an idea of how efficient your legume-Rhizobium nitrogen capture is or is progressing if it is an early assessment. Firstly nodule number, use the nodule rating system to rank your sampled plants on the 0-10 scale by grouping the plants into piles. Tally the plants in each segregation. The tally totals can be used to calculate percentages and/or a whole of sample average. Secondly assess nodule colour, you will need a sharp blade to cut nodules open and check they are pink inside. If the nodules are green or brown or white then they will in all likelihood be ineffective nodule colonies not optimally fixing nitrogen. There can be effective and ineffective nodules on the one plant.

WALRC Update: Virtual farm tours on YouTube

Esther Jones, WA Livestock Research Council (WALRC)

More than 1000 people, mostly Australian, have spent greater than 10 minutes of their time watching content on the WALRC Youtube channel since it was launched in April.

The WALRC youtube channel houses edited versions of a series of virtual farm tours, giving interested parties the opportunity to watch segments of relevance to their farming operation or research program at their convenience.

Each of the four host farmers were asked to identify what they saw as their current production limiting issues they were addressing on farm and to share their approach to finding solutions, including what worked and what didn't.

To help address the issues identified, WALRC matched each virtual tour with relevant experts to help problem solve and provide their insights - as a stimulus for discussion.

WALRC aimed to have between 6 and 12 local farmers participate as guests live during the tour, but the real focus was on the watch later opportunity it provided.

The discussions have directly led to:

- PDS applications being lodged to help demonstrate answers to the issues identified;
- Driving home the message that greater adoption of existing research, particularly in the areas of vitamin and mineral deficiency, would generate significant production gains;
- Recognition from the farmer audience that two hours in the home office on zoom can provide technical information in an efficient manner during busy times; and
- Praise from the host farms whose 'benefit return' from investing the time in sharing their story was worth it, given the access the process gave them to outside experts.

WALRC's primary charter is to identify research priorities from the southern WA region and convey them to MLA.

And, while the virtual farm tours didn't specifically ask participants to nominate research gaps and priorities, by framing the discussion in the context of 'what were the challenges being experienced by the virtual farm tour', it has enabled WALRC to gain a deeper understanding of the research and extension responses needed.

"While nothing ever replaces the depth of conversation that is possible in face to face meetings, especially during the informal parts of those meetings, there is no doubt that WALRC will move towards a hybrid model of reaching MLA levy payers next season," said executive officer Esther Jones.

"As people become more familiar with Zoom the time efficiencies are increasingly attractive.

"Virtual meetings enable a reach to a much greater audience and the watch patterns from our YouTube channel show that people are interested in the content, even when it is just literally a recording of a meeting."



To visit the WALRC
youtube channel visit
this link:

<https://bit.ly/WALRCYoutube>



WALRC
WA Livestock Research Council

WA Shearing Industry Association Update: AGM

Following is an excerpt from Darren Spencer's President's Report from the WASIA AGM, 25th July

Welcome everyone to our 2020 AGM. Thanks for taking the time to come along and support your association in a time of unprecedented uncertainty.

I would like to talk a little about COVID-19. Today has only been made possible because of the sacrifice made by everyone in adhering to the policies imposed by our federal and state governments. We in Western Australia are in one of the safest places on the planet. The shearing industry has been fortunate to be able to continue to work when many other industries have been totally shut down. We all know someone that has been laid off or had their business closed. The measures that WASIA in conjunction with Wool Producers Australia, National Farmers Federation, Sheep Producers Australia and Shearing Contractors Australia initiated enabled shearing to be declared an essential service and therefore could continue to work.

As a member of such an iconic Australian industry it was inspiring to see how everyone was able to adapt to policies put in place to social distance in a vibrant and physical workplace that does not lend to social distancing. To see wool handlers, wait for shearers to go into the pen and shearers to wait for wool handlers to get the fleece out of the way in a bid to keep working was great. Contractors leaving a shearer off every second stand when stands were too close for social distancing measures was another measure taken for continuation.

[...] Valerie and I have been busy working with NFF, Wool Producers and SCAA to enable shearers and wool handlers from New Zealand to enter Australia and especially Western Australia for the spring run. This group has been working with state Agriculture Ministers, the Federal Minister and Federal Immigration. The Minister from Agriculture Alannah MacTiernan has been helping us as much as she can but ultimately the decision is down to the federal government as to who they will allow to enter Australia. Thanks to Valerie's dedication WASIA members have been way in front of the pack to get New Zealand workers. Members have been given as much information as we can possibly muster to apply to immigration, this is more than any other association has provided and so much so that the Victorian Agriculture Minister was asking if we would share our information. That was before their second outbreak. We are still following up new leads and should anyone manage to have success please share with us your experience. Unfortunately, Victoria and NSW have gone backwards, and this has made it much harder to get staff from in Australia.

Other than COVID-19 there have been plenty of other activities to attend to. Shearer training and shearing schools have been run this last six months. In March there was a shearing school/hub run by DPIRD and AWI at Warranine Park west of Brookton. I was able to attend twice during the ten days and see the trainees all working together and helping each other learn new skills. [...] Last week I went to Esperance to see the trainees shearing at Epasco Farms out Condingup way. This school is organized by Basil Parker and the ASHEEP Group and funded by AWI and Regional Development Australia Goldfields Esperance. I turned up on the right day to meet with the directors of RDA and Sarah Brown Executive officer of ASHEEP. Whilst speaking with the group I mentioned that this year more than any other will be the greatest time to be able to get a job in the shearing industry. They need to make the most of this opportunity.

I met with Craig French and Stephen Feighan from AWI [...] Craig French is a very approachable person and is very keen to work with our association to provide shearer and shed hand training. He calls up every few weeks to find out what is happening in Western Australia which is great for us. Our only problem will be the amount of money that AWI have to allocate with the drop in wool prices.

I have continued to attend Agricultural Working Group and Ag Industry Safety Group meetings on behalf of the association. Valerie and I also attended a Worksafe Summit with Ministers MacTiernan and Johnson. All agricultural industry bodies were represented at this meeting where we had presentations from Work Cover and the Commissioner of Work Safe Darren Kavanagh. I think it was a very productive day for our association and I made a strong point to the Commissioner that with all the proactive work that work safe has done they have not actually been into the shearing sheds.



Neither he nor Bill Johnson could answer why there has not been any visits to shearing sheds when shearing has such a high incidence of workplace injuries. [...]

Full report available via WASIA.



**WA SHEARING INDUSTRY
ASSOCIATION (INC)**

ASHEEP is a group member of the WA Shearing Industry Association and full details of WASIA services are available from the website www.wasia.com.au or you can contact the WASIA office by calling 0412 227 252 or emailing to admin@wasia.com.au.

DPIRD Update: Real time Sheep Notes plus Ovine Observer gone digital

Article provided by Department of Primary Industries & Regional Development (DPIRD)

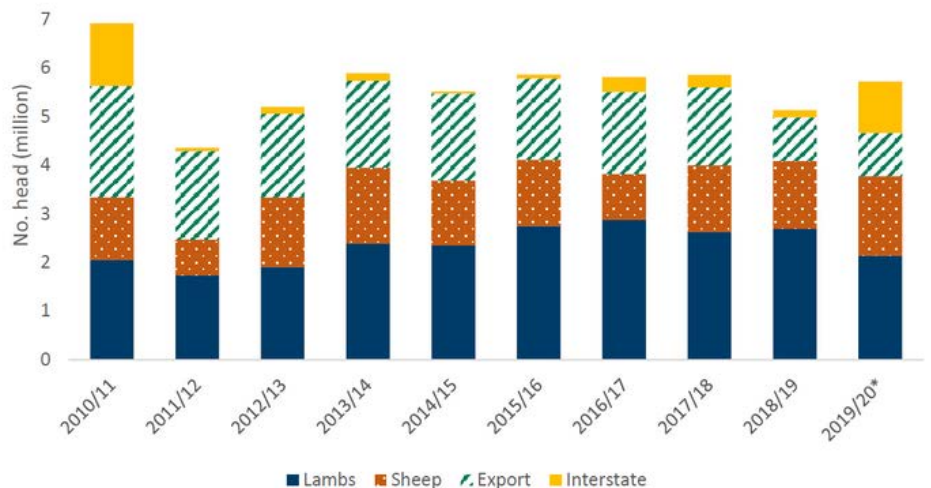
Data-driven decision making in the sheep industry has been given a boost, with the popular Sheep Notes reference publication going online. The Department of Primary Industry and Regional Development collates and distributes the publication's facts and figures and will curate the new webpages, which will be updated with real time information.

Senior development officer Mandy Curnow said while the biannual newsletter will still be published and emailed to subscribers, the move online was in response to industry demand for more up-to-date data to aid business efficiency.

"Producers, consultants, analysts, industry leaders and supply chain stakeholders no longer have to wait until Sheep Notes is published and can access the latest Western Australian flock, trade and export data at any time of the day," Ms Curnow said. "The online service harnesses accurate, timely data about wool and meat exports, flock demographics, gross values, interstate transfers and turn off for wool, sheep meat and live exports. It also supplies regular price indicators for mutton, lamb, wool and live exports."

The new website also features a series of interactive charts and data tables that can be downloaded and integrated into other applications. The charts are automatically updated to reflect any available information – some weekly, monthly or by calendar or financial years.

Ms Curnow said in the increasingly dynamic, global market place, access to precise, relevant information was essential for modern business operations. "The vertically integrated, international supply chains for Western Australian wool, sheep meat and live exports are long and subject to a range of internal and external influences, like price fluctuations and weather events," she said. "The real time information on these new webpages will assist supply chain stakeholders to manage the short and long term supply and demand needs of their businesses.



The number of head (in millions) turned off from WA farms each year. The analysis includes a breakdown of lambs and adult sheep, as well as the number of head sent for live export or interstate.

"Producers and consultants can also use the data in association with the department's Sheep Flock Composition Calculator to make evidence-based turnoff and flock management decisions to optimise the value of sheep enterprises." The Sheep Notes webpages can be accessed for free from the department's website agric.wa.gov.au, along with the Sheep Flock Composition Calculator and a range of other flock management decision making aids.

www.agric.wa.gov.au/sheep/western-australian-sheep-and-wool-industries

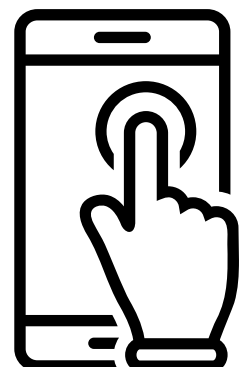
Ovine Observer

DPIRD have also advised that the Ovine Observer will now be only available electronically, with the last paper edition having gone out in July. Online subscription is free.

The publication is a quarterly newsletter on issues relating to sheep production and research. It features articles written by DAFWA researchers and industry leaders.

Producers need to make sure they subscribe to the electronic version in order to keep receiving it.

www.agric.wa.gov.au/newsletters/ovineobserver



Upcoming ASHEEP Events

ASHEEP's Spring Field Day is scheduled for 24th September with the details soon to be released.

Also in the works are:

- **South West Farm Tour** 8th - 11th September 2020
- A **rabbit warren destruction & pest control technology workshop** (to coincide with the release of some vials of much-coveted calicivirus to ASHEEP members) with South Coast Natural Resource Management.
- A **Saltland Masterclass** with the Gillamii Centre and all kinds of experts in the field.
- A **Ramping Up Repro Workshop** with Zoetis and Swans Veterinary Services.
- An opportunity to visit the **Neridup site of the ASHEEP MLA Pasture Variety Trials**.
- A return of the **Low Stress Livestock Handling Course** in early 2021 with Esperance Livestock Transport.

Keep an eye on your emails, or if you do not have an email address then give Sarah Brown (Executive Officer, ASHEEP) a call on the number listed below to be kept updated.

WALRC Newsletter



Subscribe to the WA Livestock Research Council newsletter.



www.walrc.com.au
admin@walrc.com.au
 0418 931 938

• OCTOBER •

Next ASHEEP Committee Meeting is scheduled for October 2020.

Contact a committee or staff member by 5th October to raise an item.

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