

ASHEEP & BEEF

Quarterly



Case Studies: CN30 getting started on farm

Jan Clawson, ASHEEP & BEEF

In 2023, ASHEEP & BEEF took up a new project, Carbon Neutral 2030: Getting started on farm, a Meat & Livestock Australia Producer Demonstration Site. Producers involved in the project now have an emissions profile for their farm completed and are putting together plans to reduce their net farm emissions.

If you are interested in getting involved, we'll be running a workshop in March 2024 with Richard Brake and we are also releasing a toolkit soon to provide the key points for sheep and cattle producers to understand the basics of carbon accounting, create an emissions profile and start identifying strategies to meet the industry target of Carbon Neutral by 2030 (CN30).

We interviewed two of the producers who joined the project this year. Our thanks to the Hoggarts and Pengillys for sharing their thoughts.

Bruce and Trudy Pengilly, Cascade

Bruce and Trudy Pengilly run a Merino sheep flock including a stud and a cropping enterprise in the Cascade area with their son Thomas and his wife Courteney. Cascade is 100km northwest of Esperance.

Why did you join the project? "We had been thinking a carbon profile was something we would need to do in the future but didn't know where to start. We saw joining the ASHEEP & BEEF project as a great opportunity especially being involved right from the start of the project," Bruce said. [cont.]

Image: Bruce, Thomas, Courteney & Trudy Pengilly with granddaughter Elsie Hoffmann.

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They have now completed two carbon emission profiles with the first being completed by their bank as part of their farm review. The second was completed after the first project workshop.

"We found the second profile a lot easier to complete, maybe because we had learnt more, but also, because during the workshop Richard Brake, the consultant for the project, recommended we refer to the net farm emissions as a 'profile' as opposed to a baseline or benchmark as we had been calling it. A profile feels more like a snapshot in time requiring less rigorous data," Bruce said.

The Pengillys used the Primary Industries Climate Challenges Centre (PICCC) Sheep and Beef Greenhouse Accounting Framework (SB-GAF) tool. While Bruce felt they could have completed the calculation in about an hour, they actually took a couple of hours because they completed it as a family, with a lot of discussion.

They had no trouble finding any of the required information. What they did find difficult was where to record some information like planted trees or soil sample results. This information is not required in the SB-GAF tool.

Bruce noted that the accounting tool is constantly changing, the first profile they completed didn't have provision for wool, which has now been included in the second profile.

What advice would you give someone thinking about completing an emissions profile? *"Don't over think it, just make a start. Don't stress the little stuff like how much fuel went into the generator or even chemical use. The big ones are fertiliser and enteric methane,"* Bruce said.

Now that they have their net farm emissions number and emissions intensity, they plan to concentrate on improving their production efficiencies and let the carbon emissions reduce over time. The strategies they are using include reducing the age of the flock by selling older ewes, mating ewe lambs, sowing more vetch to increase legumes in the system, and applying to join a sheep methane trial to get a better understanding of sheep methane production.

In future Bruce is interested in using the Feed Efficiency Australian Sheep Breeding Value (ASBV) which is being developed. In the meantime, they are looking to reduce the overall frame size of their sheep, having come to the view that bigger sheep can be less feed efficient.

Alan and Bec Hoggart, Condingup

Alan and Bec Hoggart run a shedding sheep enterprise in the Condingup area, east of Esperance on the coast.

Why did you join the project? "I wanted to become more informed on carbon. I was interested in completing an emissions profile to understand why livestock were being portrayed as the bad guys and to be able to stand up for livestock production," Alan said.

Following the first project workshop Alan completed his first carbon emissions profile using the PICCC SB-GAF tool. "We run, what I would call, a medium sized basic sheep only enterprise so I found completing the calculator a simple exercise. I know my sheep numbers for each time of the year, so it was straightforward to complete, especially with no wool to consider."

Alan estimated the calculator took less than two hours to complete. He had to go through the diary for a few things and he did round some of his sheep numbers, but being sheep only made it easy. "Probably the only thing that took a little more work was the herbicide figure."

The calculator asks for kilograms of active ingredients per enterprise. Alan knew how many litres of herbicide he'd sprayed so it was a quick calculation to get it back to active ingredients weight.

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Does my farm need to be carbon neutral by 2030?

The Australian red meat and livestock industry set a target to be carbon neutral by 2030. It is a target, not a legally imposed requirement.

Meeting the target will not necessarily need every farm to become carbon neutral.

Meat & Livestock Australia is currently recommending that producers start reducing their carbon footprint in ways that also deliver productivity improvements.

What is your advice to someone thinking about completing a carbon emissions profile? *"Complete the tool for your own interest, so you know where you sit. Just do it! Get informed and keep learning," Alan said.*

Alan found the percentage pie chart and the data summary table interesting. Seeing where the information came from and identifying what might be able to move or be reduced. Alan wants to lower his emissions and understand what's involved so he can better inform non-agricultural people and defend the livestock production industry.

In the original emissions profile Alan averaged his ewe weights. After weighing 50 sheep he found they ranged from 75kg to 105kg. He entered this information into the calculator which increased his enteric methane figure. This left Alan wondering if he could save emissions by running more 75kg ewes which produce the same number of lambs, and therefore, whether the heavier ewes were less efficient.

The Hoggarts' feedbase is predominantly permanent pastures, and the farm has a small pine plantation and an area of native bush. Over the years they have increased the farm's soil carbon from 1% to between 3–4%. Not all these points can be captured in the current calculator, but the calculators are still evolving.

The Hoggarts haven't yet identified a specific strategy to reduce carbon emissions, but Alan is thinking that a way to increase production might be to plant shelter belts against the prevailing winds across the farm, which is quite close to the coast. This could contribute to increasing their lambing percentage. They have also considered planting trees on marginal land to sequester carbon.

Get Involved

Contact: Jan Clawson
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More info: www.asheepbeef.org.au/cn30onfarm



Image: Bec and Alan Hoggart.

What is the PICCC SB-GAF tool?

The PICCC SB-GAF tool is a sheep and beef greenhouse gas accounting tool which can be used to generate an emissions profile. It is freely available as an Excel document at <https://piccc.org.au/resources/Tools.html>.

If you crop, you can complete the cropping version too.

ASHEEP & BEEF is releasing a toolkit in coming months to guide producers through the process of using this tool.



ASHEEP & BEEF Eastern States Tour 2024

We've got the travel bug again: 2-10 August 2024.

Express interest to join us on a livestock focused study tour to SA and VIC with footy, food, farms, Sheepvention and more. Limited places available, so get your name on the list if keen.

More info: www.asheepbeef.org.au/event-details/sa-vic-tour



Executive Officer Update

Sarah Brown, ASHEEP & BEEF

The big news for us this quarter was that our name change to ASHEEP & BEEF was finalised.

It's a great step with a range of benefits; funding applications are clearer, we'll be more readily thought of as a project partner and source of information for cattle production, and I will save a lot of breath not having to continually explain that "we also do cattle"! In all seriousness though, the name change is testament to the work of the members of the Cattle Sub-Committee since it formed in 2016. Their commitment to drive forward beef production systems has got us to the point where we have a very solid annual cattle field day, a suite of cattle-focused projects, and a growing reputation around Australia for the work we do. There are great opportunities for advancement in southern beef production and we are well placed to make sure that the growers in our network can take advantage.

ASHEEP & BEEF's Cattle Sub-Committee is Chaired by Ryan Willing. He commented, "As a beef producer and Chair of the Cattle Sub-Committee, I'm excited about the name change, which better reflects the work the organisation does. The Cattle Sub-Committee has been working hard to improve productivity in the beef sector locally and nationally over the last seven years and will continue to do so with various current and future projects. With the livestock price slump at the moment, it is more important than ever to be improving on-farm practices to remain profitable. ASHEEP & BEEF will keep working hard to help both beef and sheep producers stay that way."

To wrap things up as 2023 draws to a close, I'd like to thank everyone in the ASHEEP & BEEF network for their involvement throughout the year. I have had the pleasure of working with a great team of people - Jan Clawson, Courteney Pengilly, our committee members, sponsors, and project partners. The year has not been without its challenges for the livestock industry, but these times bring home the value of being surrounded by people who have a shared mindset of seeking solutions and constantly raising the bar.

All the best for the holiday season and the new year!

Vet Students Join Cattle Producer Demonstration Site Projects

Sarah Brown, ASHEEP & BEEF



ASHEEP & BEEF is pleased to welcome three fourth year Doctorate of Veterinary Medicine (DVM) students from Murdoch University to get involved in our Meat & Livestock Australia Producer Demonstration Site projects covering optimising age of weaning, managing bovine pestivirus (BVDV) and using vaccination to prevent bull preputial breakdown. Cattle producers - please make them feel welcome if they ring you up in our project surveys!

Georgia Ward, Jaime Garratt and Sammy Seah are pictured above with project facilitator Dr Enoch Bergman (Swans Veterinary Services). The students will be supervised by Dr Mieghan Bruce, an epidemiologist working and teaching at Murdoch University, as they team up with Enoch to provide statistical support in analysing the data as part of their studies. A quick update on the projects:

Preventing Bull Preputial Breakdown by Vaccination

Early next year we'll be reporting the 2023 results of the post breeding survey, highlighting the incidence and severity of the syndrome and differences between vaccinated and unvaccinated bulls. Along with this will be a simple economic analysis of various scenarios highlighting the potential direct and production losses associated with bull breakdowns within virgin bulls.

Utilising Heifer Pre-Mating Serology to Manage BVDV

30 producers participated this year and interest is strong for 2024. Our thanks to IDEXX for their support covering the cost of BVDV serology. Check out the article later in this newsletter to learn more about managing BVDV and if you want to join the project get in touch. We'll report results next year.

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Optimising Age of Weaning

6 cattle producers have undertaken to trial earlier weaning this year by splitting a mob and weaning half of the calves 60 days earlier than their traditional weaning date. Enoch has been out and about assisting wet/drying, weighing, condition scoring and drafting animals. Next step is for the remaining calves to be weaned and measurements taken on that group, followed by all weaners being weighed two months post weaning or before being sold (whichever occurs first) and both weights and weight gains compared. Results to follow!

Images: 1. Johnathon Thomas early weaned 23 of Sanderson Brothers calves at 271kg average, pictured on 05/10/23 10 days post weaning. 2. 18/09/23 Dr Enoch Bergman and Ryan Willing weighing cattle at early weaning. 3. Willings' earlier weaned calves at 215kg average being yard weaned 18/09/23. 4. Willings' earlier weaned calves on a lucerne chicory pasture 25/09/23.



Want to get involved?

There are opportunities for new producers to get involved in all of these projects next year. Get in touch if you are interested.

Project Facilitator:

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Winter & Spring Field Day Wraps

Sarah Brown, ASHEEP & BEEF

15th August saw around 60 people join the ASHEEP Winter Walk, with sunny skies and not a rain jacket to be seen. We kicked off with Ashley Reichstein & Megan McDowall at Laurina Farms in Neridup. Megan gave background on past time of calving research she had undertaken with DPIRD. There is new research funding available in this space and ASHEEP & BEEF has partnered with other organisations to apply. We then heard from Ash in the shearing shed regarding the Safe Sheds check they had run. Ash recommended the system and talked about some of the areas they were working on improving (resources available at wasia.com.au/services/safesheds/). Next was a look at a paddock where a 2022 application of Overwatch had damaged 2023 sown Franno Serradella. Then on to a comparison of Mohawk & Illabo grazing wheat.

Hitting the road, we headed to Croptimistic Operations in Beaumont where John and Michael Bertola hosted us. They crop about 3000ha with wheat, barley and canola, with the remainder sown to a dominant vetch-based pasture. The rotation after vetch is wheat, barley, barley. They run Kojac sheep, aiming for 2 ewes p/ha of vetch. The vetch was cranking. Benefits mentioned included that the system feeds the crop and provides grass control options and a disease break. Thanks to John for providing some follow-up images of the paddock in October, see next page. John and Michael then showed us through their containment feeding set up, mainly used after stubbles are grazed in summer and after pasture is sprayed off in spring before stubbles are available. The main goals are to remove feed gaps, execute timely cropping operations and to maintain body condition to control timing of selling sheep.

Images top to bottom: Megan McDowall speaking. Ash Reichstein speaks in the shearing shed. Spring Field Day attendees at Bertolas' vetch. Close up of Bertolas' vetch.



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[Cont.] Next port was Epasco in Condingup with Nick Ruddenklau. Here he and Chad Hall (South Coastal Agencies) showed us a mix of Abundant Ryegrass, Forester Oats, Margarita Serradella in the ASHEEP & BEEF Pasture Variety Trials. We then headed to the cattle yards where Enoch Bergman (Swans Veterinary Services) was testing bulls with preputial breakdowns. We were joined by AWI Chair Jock Laurie who spoke with the group, followed by classer Craig Wilson. The day wrapped up with dinner at Condy Recreation Centre where analyst Angus Gidley-Baird (Rabobank) gave a market update. All in all, a great day. Thanks to all who spoke and a big thanks to our sponsors who are key to these events coming together.



Images: 1A & 1B Bertolas' vetch in October. 2. Nick Ruddenklau & Chad Hall. 3. Simon Fowler & Jock Laurie. 4. Bertolas' containment feeding system. 5. Ron Yates speaking with Winter Walk attendees at Mt Burdett. 6. Monica Field discussing Epasco's Canola undersown with Lucerne. 7. Dave Vandenberghe & Ryan Willing waded through the Canola. 8. View of Lucerne establishing beneath Canola. 9. Darren Chatley gives a market update. 10. Louis Poiron speaks about GrowSafe fertilisers. 11. Hamish Jannings, Rachel Minett, Mark Walter speak on the Pasture Variety Trials.

20th September was the ASHEEP Spring Field Day, with first stop at Mt Burdett in Neridup where India Warren Hicks covered the DPIRD vetch trial (pg. 19). Ron Yates & Rob Harrison (Murdoch / DPIRD) then ran us through their latest research on pasture cultivars and rhizobia inoculant. We are aiming to tee up a trial with Ron in 2023.

Next to Epasco in Condingup, where we talked silage with Nick Ruddenklau before visiting a paddock of Clearfield Canola undersown with Lucerne, with an overview from agronomist Monica Field (Farm & General). Here it was good to also hear from a couple of our Platinum Sponsors, with Brendon Kay introducing Commonwealth Bank's new Esperance-based agribusiness executive Peter Drummond, and David Howey (Elanco) advising that an article has been published confirming cross resistance invitro (lab scale) between Dicyclanil and Imidacloprid, making careful rotation of fly and lice products more important.

We then went on to Kalanjie in Neridup, where Ryan Willing was hosting a trial of GrowSafe fertiliser run by sponsor Australian Mineral Fertilisers that was unfortunately challenged by waterlogging this season. Louis Poiron ran us through the tests they had taken. Darren Chatley (Chatley Livestock) then delivered a livestock market update.

Final stop was Lucky Bay Brewing, where we had an update from David Cook (SEPWA) on the tarps on dam catchments trial (pg. 14). Mark Walter (TKO Farming) and the team from South Coastal Agencies then ran us through the vetch demonstration being run in Cascade (pg. 17).



Hay and Silage Testing

Adelaide Hagan, Elders

With the dry finish to the year hay and silage feeding requirement will be increased over the summer and early autumn period. It is a good idea to test hay and silage to determine if livestock nutritional requirements will be met.

Nutritional analysis is useful for benchmarking this year's quality against previous and future year to determine what methods work best to obtain the best quality hay. Results help determine when the optimum time to cut hay is and how different pasture compositions affect the nutritional value.

Small variations in feed quality can have large differences on total amount of supplementary feed required. Calving and peak lactation periods are fast approaching along with their increased nutritional requirements.

Two examples can be seen below of barley silage and oaten hay.

Oaten Hay

Dry Matter	80.8 %
Moisture	19.2 %
Crude Protein	9.4 % of dry matter
Acid Detergent Fibre	30.8 % of dry matter
Neutral Detergent Fibre	59.0 % of dry matter
Digestibility (DMD)	62.1 % of dry matter
Digestibility (DOMD) (Calculated)	59.4 % of dry matter
Est. Metabolisable Energy (Calculated)	9.1 MJ/kg DM
Water Soluble Carbohydrates	13.6 % of dry matter
Fat	4.3 % of dry matter
Ash	6.6 % of dry matter

Barley Silage

Dry Matter	29.6 %
Moisture	70.4 %
Crude Protein	12.9 % of dry matter
Acid Detergent Fibre	32.6 % of dry matter
Neutral Detergent Fibre	58.7 % of dry matter
Digestibility (DMD)	66.5 % of dry matter
Digestibility (DOMD) (Calculated)	63.2 % of dry matter
Est. Metabolisable Energy (Calculated)	10.1 MJ/kg DM
Fat	4.5 % of dry matter
Ash	8.5 % of dry matter

A pregnant cow requires 9 ME MJ/kg DM and crude protein percentage of 12%. The barley silage meets both requirements however the oaten hay does not fully meet these needs. Once the cow is lactating, energy requirements increase up to 10.5 ME and 15% crude protein. The barley silage now along with the oaten hay will not meet energy or protein requirements. Increasing the legume base of the silage and hay and or cutting earlier will increase the protein and metabolizable energy.

Cow Energy Requirement	Metabolizable Energy (MJ/kg DM)	Crude Protein
Late Pregnancy	9	12%
Lactation	10.5	15%
Weaner Calf – Autumn Drop	10.8	16%

Elders Esperance has recently acquired a hay and silage sampling corer enabling us to provide testing services. We can aid in providing insight into the quality of hay and how this will affect livestock production. Feeding low quality hay or silage to livestock may result in weight loss which may be visually undetectable. Weight loss of up to 25% can occur without obvious visual signs. The cost of regaining this lost weight is often prohibitive, and occasionally impossible. Elders Esperance is happy to provide products and advice to help you meet nutritional requirements.

The cost of hay and silage testing is \$100.

Contact:

Neill Liddle – 0429 342 080
 Taylor Crane – 0473 639 755
 Adelaide Hagan – 0400 204 381
 Elders – 08 9071 9900



Sheep Tips for Tough Times

Greg Easton, Farm Management Consultant, Farmanco



The current price being offered for sheep will require some consideration about the scale and management of your sheep flock.

Now is not the time for complex management options for the sheep flock; focus on simple management that can make a real difference to your sheep flock's profitability in the long term.

Plan: Ensure you have a short-term and long-term plan for your sheep enterprise.

- Your short-term plan might be to gradually adjust sheep numbers up or down according to the break to manage both stocking rate and stocking enterprise risks. +/- 10% to 20% only.
- Your long-term plan might include using the short-term price challenge to change over to better genetics. Perhaps 17 micron target at same wool cut or a higher fertility breeding program?

Conditions Score 3.00 Ewes: Aim to have ewes at a condition score of at least 2.5 and preferably 3 for mating as lower condition scores will reduce lambing percentage and survival rates. The main task is a rising plane of nutrition (i.e., 2.5 to 2.5 is not as good as 2.5 rising to 3). Same for rams.

Rams: Ram performance will vary; some rams will mate with significantly more ewes than others. Don't put additional lower ASBV rated rams out just in case as they could be the most efficient, resulting in more lambs with less desirable traits. One option is to put out younger, better genetic rams with younger ewes for 17 days and then add the other rams for the final 13 to 18 days.

Do the *Five Ts Check*. Feed rams up on lupins prior to mating.

Mate More Than 11 Weeks After Shearing: Shearing ewes makes them less sexually attractive to rams and the shearing effect will last up to 11 weeks post shearing. It also stresses the ewe and makes her less likely to conceive.

Lamb Outside of Seeding: Many sheep flocks are complemented by cropping operations. Lambing in late June/July separates the major seeding activities from one of the major sheep activities, lambing. You will need a plan for late spring early summer feed, be that standing crops, summer fodder crops.

Pregnancy Test: No freeloaders. No lamb = free truck ride. The goal of running ewes is to produce lambs. Pregnancy test and cull dry ewes; be committed as this will pay long term dividends. Separate off the multiple lambers so they can be managed appropriately.

ASBVs: Have a plan for your sheep flock and purchase the most suitable sires to meet that objective. The best spend on improving genetics is right now. Go harder on your breeding objectives, but only if your sheep are part of your long-term plan.

Seed Pastures: Be prepared to seed pastures with cereals (even canola) to ensure early feed for the sheep flock. Dry seed pastures in advance of your normal seeding program. Dry seeding will allow you to set up your seeding rig and find any problems before seeding.

Dual-Purpose Crops: Maximise the use of dual-purpose crops. Supplement sodium, lime and magnesium with cereal crops to avoid metabolic problems. Short and regular grazing periods are better than longer (for grazing and crop yield).

Annual Pasture Mixes: Consider annual mixes of tillage radish/clover/oats/vetch if you want a good pasture but only want to commit to one year and then set up for crop again. This can be very productive and there is less potential for metabolic issues than crop grazing.

Barley Straw: If you are producing poor quality hay for fodder then consider using barley straw instead. It has a similar nutritional value as poor-quality oaten hay and is a by-product of barley production.

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Reduce Workload: Put a value on the time you spend working sheep.

- **Large Sheep Feeder:** Makes feeding sheep more efficient. Consider dual-purpose chaser-bin/feeder with scales so the investment can be shared.
- **Contractors/Equipment:** Could the job be done more effectively by contractors? Or could the time saved be spent on handling equipment? Either way, good yards, sheds and equipment will make it easier. Spend money on a good sheep handler that works for your business.

EID: Though the implementation of compulsory EID tags has been delayed, commit to making the most from this tool, auto drafting, measuring performance and making decisions based on the data. Don't cull a ewe because she's skinny, she may be have been raising twins. EIDs will pay for themselves for those who use them wisely.

Shearing: There is no conclusive evidence for the ideal shearing time. Like lambing, keep it outside of seeding, harvest and hay.

Stocking Rate and Carrying Capacity

Off the back of a very lean season for many and a short spring, the decision around carrying capacity needs to be made early.

For those who've had sub 150mm for the season and still have sheep, the decision to sell needs to be considered. History shows that feeding sheep with expensive grain and limited water is a major challenge. It is also likely that agistment is very hard or impossible to find within a workable distance.

The best decision may be to sell and sell early if facing this situation. Economically, this may not be ideal, but the work and stress associated with hand and confined feeding for an extended period can be overwhelming.

If things are tough at lambing in 2024, there is the option of confinement lambing. You really need to be committed to the cause and prepared to spend \$ on the labour to run it and keep sheep fed and watered.

Contractors/Labour/Agents: Work with you stock agent/buyer and contractors – make life easy for them so they look after you.

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Safety Spot: New Worksafe resources

Jan Clawson, ASHEEP & BEEF

In October WorkSafe held a forum specific to agriculture called Sowing the Safety Seeds. This forum focussed on issues specific to the agricultural industry and was open to anyone with an interest in making workplaces healthier and safer.

The forum was recorded, the video of each session is now available by Googling "Commerce WA, Safe Work Month 2023". There are 8 videos, each around 20 minutes long, which provide some good information.



Safe Work Month 2023

Sowing the safety seeds
agricultural safety forum

Wednesday, 18 October 2023



The 6th video in the series, *First steps to farm safety guide: getting started in health and safety*, includes great general information on **what happens when a WorkSafe inspector calls in for a visit**, what they are looking for and why.

They really don't want to stop you from farming, they want everyone to be doing the best they can, to get home safely at the end of the day.

Insurance you can shake hands with.

Your local Area Manager is

Cindy J Gilchrist

Authorised Representative of WFI (1301257)

**Southern Wheatbelt and Goldfields
Esperance**

You can contact Cindy on **0427 200 535**
or **cindy.j.gilchrist@wfi.com.au**



Swans Veterinary Services Update



Dr Katie Kreutz, Swans Veterinary Services

Since ASHEEP & BEEF have undergone a bit of re-branding, we at Swans would also like to introduce our new inclusions. A few of you may have already met soon-to-be Dr. Toni Howlett and Dr. Alex Hockton on their most recent trip to Esperance to take part in our 2 week Pregnancy Diagnosis Practical, or during any of their placements at Swans over the last 5 years of their study. Alex and Toni will be starting their veterinary careers at Swans in January 2024 and we look forward to introducing them to our clients, their livestock and pets.

We are incredibly grateful for the support the community has given all our vets over the years as Swans continues to be the premier practice in WA for growing excellent mixed practice vets. You wouldn't know it in Esperance, but throughout WA and even Australia-wide regional areas are becoming incredibly underserved by vets. Due in part to "lifestyle preferences", this is exacerbated by an overall increased demand for veterinary services in the small animal sector, driving vets towards cities. The glaringly obvious problem is leaving goal posts wide open for exotic disease both on farms and in wild populations.

Therefore, we encourage producers to continue to involve us with those odd symptoms, herd outbreaks, funny lumps and bumps and so forth. A friendly reminder that DPIRD provides a generous subsidy for conducting post mortems and sample testing. While we are fortunate to not be in the "hot spot" areas for exotic disease to enter we have gotten some diagnoses that may have gone unanswered. In 2023 we diagnosed, ruled out or differentiated between a plethora of common and uncommon diagnoses including exotic diseases like FMD. This included disease processes such as haemorrhagic septicaemia, histophilus, ergot, systemic haemophilus, helminthiasis (worms), trace mineral deficiency, black scour worm resistance, thiamine deficiency (polio), Lupin poisoning, ostertagia, acidosis, salmonella, oxalate toxicity, portosystemic shunt, hypocuprosis secondary to worms, pneumonia, listeria, vetch toxicity and coccidiosis. And if you read that and thought, dear me, all those things can happen to livestock!? Remember if there's something weird and it don't look good - to keep calm and call Swans!

All the best for 2024 – Dr. Katie Kreutz

Swans Veterinary Services
(08) 9071 5777



New Esperance Zone Livestock Rep for WA Farmers

Sarah Brown, ASHEEP & BEEF

Cascade sheep and cropping farmer Mark Walter recently took up the role of Esperance Zone Representative on the WA Farmers Livestock Council. Chatting to Mark, he explained that his role is to take the views of the region, as he sees them, to the Livestock Council. "The Livestock Council gather a number of times throughout the year and talk about different issues. We then move motions to take to the General Council of WA Farmers to pursue," said Mark. "We last met in October and discussed eID implementation, the biosecurity levy, and live export amongst other things." "The Livestock Council is made up of zone representatives and knowledgeable people within the industry."

Mark encourages people to get in touch with him if they have a matter they want to discuss: 0427 951 417. Mark is a member of the ASHEEP & BEEF Committee and outgoing Chair, creating a valuable link between the two organisations.



Shearwell: The year that was

Brad McCormick, Shearwell Australia



In some ways, the 2023 calendar year is one many in the livestock sector may want to forget. However, ASHEEP & BEEF continue to provide an important conduit for information to assist members in their pursuit of continuous improvement. The field walks and trips have been well run, practical and well supported by members. This is why Shearwell remains a committed supporter and sponsor.

This year marked the start of the WA sheep and goat journey to mandatory electronic identification or eID. The DPIRD 2023 Tag Incentive Payment or 'TIP' program was successful with over 2.2 million sky blue eID tags supported with the 75 cents per tag discount across all participating manufacturers.

On 16 November 2023, the Hon. Jackie Jarvis, Minister for Agriculture and Food announced that the TIP at 75 cents per tag will be extended to black eID tags sold in 2024 to further support producers to adapt to the future eID requirements. Importantly, supply chain scanning infrastructure is also subject to grant funding as part of the Western Australian Governments \$25.6 million commitment to support the adoption of sheep and goat eID.

The Chief Veterinary Officer, Dr Michelle Rodan also announced in late October a change to the roll-out dates following further consultation with the WA Sheep and Goat Advisory Group and producer groups. The major change is the eID requirements for older sheep such that the WA eID system will come into full operation by 1 July 2026 when all sheep and goats will be required to be eID tagged before leaving the property.

This effectively delays full implementation by 18 months. However, there remains the impetus for lambs to be eID tagged in the run up to 1 January 2025.

With the regulatory requirements as context, Shearwell has been busy supporting producers with ID and traceability gear, attending field days and shows and working on improvements with our offer.

As our sheep and goat tags are manufactured in our Bendigo factory in Victoria, freight and delivery times are important issues. On the positive side, Shearwell has been able to maintain next day dispatch on tag orders in the vast majority of cases. However, freight rates have been problematic. Like all aspects of Shearwell's business, this has been the subject of review and change for the better.



Brad McCormick, Shearwell Australia

From 1 January 2024, freight for orders of 10 to 300 tags will be \$14, for 310 to 1490 tags will be \$23 and for 1500 tags or more will be freight FREE. Noting that Shearwell tags come in strips of 10 and our minimum order is 10.

Further, the Shearwell Turbo Tagger has been popular, with many producers that purchase one requiring more drums for their needs. To support this, Shearwell have sent over a pallet of empty drums (each takes 20 tags) and I have been distributing these around the rural retailer network for the inevitable call for more.

Shearwell would like to acknowledge our Esperance retail outlets for the sterling job they have done in taking orders and distributing same. Shearwell would like to thank our Esperance producer users and the feedback they have provided on our products. We actively seek feedback and endeavour to react positively to this important information.

Finally, Shearwell would like to congratulate ASHEEP & BEEF's Executive Officer Sarah Brown and support Jan Clawson along with the Management Committee ably led by David Vandenberghe on another excellent year in support of the membership and the ideals of the association.

Shearwell extends a wish that all have a safe and merry festive season!

Updated WA eID Dates and Support Packages Announced

Michael Britton, Animal Biosecurity and Welfare, DPIRD, michael.britton@dpird.wa.gov.au

As part of its \$25.6 million commitment toward the State’s transition to a sheep and goat electronic identification (eID) regime in Western Australia, the State Government has recently released an eID Infrastructure Grants program to support downstream market operators and an extension to the eID Tag Incentive Payment (TIP) Scheme.



eID for sheep and goats is being implemented in WA as part of a nationwide roll out that aims to strengthen Australia’s biosecurity and traceability. Our livestock traceability is critical to help us to respond efficiently to an emergency animal disease or food safety incident, and supports access to international markets.

In response to feedback received from industry, Western Australia has amended the timeframes so there is a staged approach to the implementation of eID requirements for sheep and goats to aid a smooth transition to the new mandatory system. The amended implementation timeframes are:

eID Tagging		eID Scanning	
Prior to 1 Jan 2025	From 1 Jan 2025 onward	From 1 July 2025 onward	From 1 July 2026 onward
Sheep and goats do not require eID tags.	Sheep and goats, born from 1 January 2025 onward, to be eID tagged before leaving their property (or within 6 months of birth).	Saleyards and Abattoirs required to scan any sheep and goats with eID tags.	All other properties or facilities required to eID scan all sheep and goats upon arrival.

As part of this, the TIP Scheme discount for producers has also been extended to 31 December 2024.

The **Tag Incentive Payment scheme**, which provides a 0.75 cent discount per eID tag, will be extended and will apply to black eID tags sold in 2024 to help producers adapt to the new eID requirements. The TIP Scheme has seen over 2.3 million sky blue eID tags sold in 2023.

An **eID Infrastructure Grants Scheme** has also been released to help sheep and goat supply chain operators transition to a new national electronic identification (eID) system. The first round of grants will support eligible saleyards, abattoirs, registered feedlots, export depots and livestock agents to integrate eID technology and equipment into their businesses. The grants can be used to purchase scanners, readers, wands, essential tools and materials, as well as undertake limited works to incorporate the eID technology.

A **second round of funding will open in early 2024** to support additional downstream providers, including other feedlots, seasonal operators, agricultural colleges and community organisations.

eID tagging for sheep and goats has emerged as an important technology in the agricultural sector, playing a crucial role in enhancing traceability within the livestock supply chain. With the ability to assign a unique electronic identifier to each sheep and goat, farmers, regulatory bodies, and other stakeholders can easily track the movement and health status of animals throughout their life. This traceability is particularly critical in the event of an outbreak, where rapid and accurate identification of the source and spread of a disease is essential to minimise its impact.

eID tagging can also have broader benefits as it helps to facilitate efficient record-keeping and data management practices. Traditional manual methods of tracking livestock information can be prone to errors and time-consuming. Electronic identification systems automate the data collection process, reducing the likelihood of mistakes and providing real-time, accurate information about each animal.

eID tagging can also support greater transparency in the supply chain, which is increasingly valued by consumers who are concerned about the origin and production methods of the products they consume. The adoption of eID tagging is therefore not only important for improved traceability, but it represents a critical step toward creating a more resilient, transparent, and efficient livestock supply chain.

For more information on eID for sheep and goats in WA, search "agric eID."

Immune Ready

Zoetis



Immune Ready Guidelines - a cross industry collaboration to improve vaccination uptake and on farm biosecurity

The ongoing risk of endemic diseases in the cattle industry drove the establishment of an ACV-led working group to assess vaccination guidelines to reduce the risk of disease transfer while cattle are traded through the supply chain. The working group brought together a range of veterinarians representing the dairy, beef, feedlots, live export, academia and pharmaceutical industries. The goal was to define the criteria of core vaccines and risk-based vaccinations for trade cattle, and then apply these criteria across different classes of cattle and in some instances geographical regions. This created vaccination guidelines that would suit the diverse trade markets within Australia. The group took existing frameworks from established vaccination guidelines in the US and UK.

The Outcome

The commitment now from the Australian Veterinary Association (AVA), the Australian Cattle Vets (ACV), key industry bodies Meat & Livestock Australia (MLA), Animal Health Australia (AHA), Cattle Council of Australia (CCA), Dairy Australia (DA) and Australian Lot Feeders Association (ALFA), as well as the key animal health companies: Zoetis, Coopers and Virbac, is to adopt and promote adherence to the National Cattle Health Declaration (NCHD) and the Immune Ready guidelines. Additionally, the commitment was to evolve the program and guidelines to address increasing or changing risks including a) new emerging diseases, b) when existing diseases pose a greater threat or their geographic distribution changes, c) if the virulence of an endemic disease changes, and d) when new and emerging technologies develop which enable a higher level of diagnosis, prevention and/or treatment of the disease.

The National Cattle Health Declaration (NCHD) and the Immune Ready Guidelines

NATIONAL CATTLE HEALTH DECLARATION V: 24/10/22

Property Identification Code (PIC) of this property
This MUST be the PIC of the property that the stock is being moved from

Attached to accompanying NVD/Waybill No.

No. of cattle in consignment

Biosecurity and health information

1. Has the owner owned all the cattle in this consignment since birth? Y N

2. Does the property of origin have a completed on-farm biosecurity plan? Y N

3. Have these cattle been tested for the presence of bovine viral diarrhoea virus (BVDV, pestivirus)? Y N
If tested, were any cattle found to be persistently infected? Y N

4. Have these cattle been tested for the presence of BVDV (pestivirus) antibody? Y N
Test results

5. Has the source herd had a test for Johne's disease (JD)? Y N
If so, which test? Check Test Sample Test HEC Test (dairy only)
Was the result negative? Y N Pending Date / /

6. Has the property of origin had an occurrence of clinical JD in any species in the past five years? Y N Unsure
JDDS of J-BAS of

7. BEEF CATTLE: On the property of origin, have cattle been co-grazed with dairy cattle? Y N Unsure
See explanatory note for advice on co-grazing with non-bovine species

8. Any other relevant health information

Treatments	Product name and type (e.g., pour-on, drench)	Date of treatment within last 6 months
Parasites		/ /
Ticks		/ /
Pain relief		/ /
Other treatments		/ /

Current vaccinations for the cattle being moved (see explanatory note)

Clostridial (e.g. 5 in 1): Y Date / /

Leptospira (e.g. 7 in 1): Y Date / /

Pestivirus: Y Date / /

JD (Silarum): Y Date / /

Botulism: Y Date / /

Bovine ephemeral fever: Y Date / /

Tick fever: Y Date / /

Vibrio: Y Date / /

Infectious bovine rhinotracheitis: Y Date / /

Mannheimia haemolytica: Y Date / /

Other vaccinations (specify): Date / /

Declaration (see explanatory notes for further information)

I (Full name) (Address) (Town/suburb) (State) (Postcode)

declare that I am the owner or the person responsible for the husbandry of the cattle and that all the information in this document is true and correct. I also declare that I have read and understood all the questions that I have answered, that I have read and understood the explanatory notes, and that I have inspected the animals and deem them to be healthy, free of signs of disease and fit to travel.

Signature* Date / /

*Only the person whose name appears above may sign this declaration, or make amendments which must be initialed

Tel. No. () Email

The Immune Ready Guidelines are underpinned by the NCHD. These declarations are a way for producers to provide information about the health status of the cattle they are selling and their vaccination status.

Buyers should ask vendors for a declaration and use the information provided to determine the health risks associated with the animals to be traded.

When sellers utilise the Immune Ready Guidelines logo, they agree to provide the NCHD verifying the health status of the animals advertised.

Website & Resource Hub for your use are located here: www.immuneready.net.au

The Guidelines provide a framework for producers to lower the risk of introducing disease, leading to a more productive, profitable, and vibrant cattle industry in the future.

Tarps Show Increase in Water Capture

Hayden Smith, SEPWA

Earlier this year, two dam catchments at Mount Ridley and Salmon Gums were lined with repurposed tarpaulins to gauge the potential benefits of using cost-effective material to increase run-off.

Now, DPIRD water scientist John Simons says the initial data is promising. "It shows that the tarps are generating run-off at lower rainfall thresholds than the compacted clay catchments," he says.

"At Mount Ridley in particular, where they had 15mm of rain over a day, there wasn't enough intensity in that rain to get run-off from the compacted clay catchment, whereas there was run-off generated from the tarps.



Above: David Cook (SEPWA) & John Simons (DPIRD)

"At both sites, the tarps are adding water to the dam."

A camera has been installed at the Mount Ridley site to help compare the run-off being generated from the tarpaulined section of the catchment with the original compacted clay catchment.

John says the images are telling. "From all the evidence on the camera to date, all the increase of the dam volume was due to run-off from the tarps," he says.

He says data from the Salmon Gums site shows that, for every millimetre of water that falls onto the tarp, the dam level rises by one centimetre.

The project is being driven by SEPWA, in collaboration with ASHEEP & BEEF, the Shire of Esperance, DPIRD, two grower hosts and CBH.



Funding has been secured from the Commonwealth and Western Australian governments through the Community Water Supply Program, while CBH supplied the tarpaulins.

Now, John is looking forward to seeing what the next data sample reveals about the run-off levels.

"The more different size rainfall events we have on these demonstration sites, the more understanding we'll have," he says.

Contact:

David Cook, SEPWA
 0492 232 440
 david@sepwa.org.au

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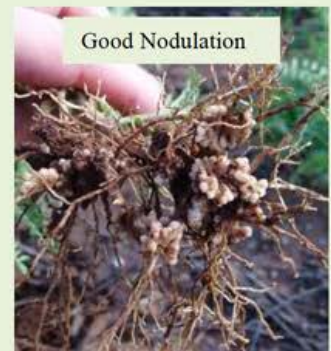
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- Can be used with seed dressings that are typically harmful to inoculants
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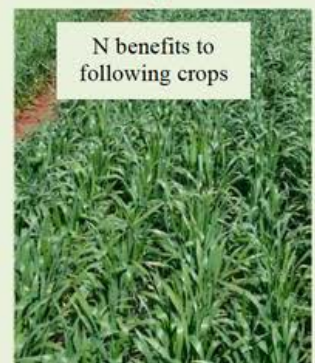
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WA Shipment Adds Bulk to Options for Faba Beans

Liz Wells, Grain Central

Two hatches of bulk faba beans are on their way to Egypt in what is believed to be the first bulk shipment of the pulse from Western Australia in at least 10 years. Put together by Esperance Quality Grains, the 9500 tonnes rounded out a cargo that included three hatches of faba beans loaded earlier in Port Adelaide.

The two hatches were loaded through CBH Grain's Esperance terminal. "We delivered 9000t to CBH in three days, and they loaded it in half a day," EQG director Neil Wandel said.

Terms of trade were also attractive. "Before we loaded the vessel, we were paid for the beans."



EQG sourced its faba beans from around 20 growers, including Neil's son Mark Wandel, who supplied 2500t. The brokered business was done through trader and Grainsource principal Simon Hutt in New South Wales.

Neil Wandel said he hoped a new-crop shipment to Egypt, Australia's biggest faba bean market by far, can follow in coming months.

EQG is now waiting for new-crop faba beans to come in so it can pack containers for its regular aquaculture customer in Vietnam ahead of looking to its next volume opportunity. "Hopefully we can offer bulk to load in Jan-Feb," Mr Wandel said.

Progression from packing

EQG has for some years been packing pulses at its Esperance site for export, and Mr Wandel said faba beans were a good fit for some soil types in the Esperance port zone.

"Esperance has a lot of soils similar to SA's, and once you get off the sandplain, they do well." "People like to grow them; they grow on higher pH and heavier country. The issue with faba beans in Esperance has been we've had to put them in containers or truck them to Perth, which is \$70 a tonne."

Provided they are priced competitively, faba beans are in demand from WA's stockfeed sector. ABARES data indicates WA biggest ever crop of faba beans was 27,100 tonnes produced in 1997-98 from 37,800ha, and the next biggest was 26,100t grown in 2018-19 grown over 14,800ha. WA's crops of recent years have been more modest, with 12,500t from 8000ha forecast from the harvest due to start in the next week or two. This is down from 19,000t from 10,000ha from the 2022-23 harvest.

Mr Wandel believes the Esperance region also has the potential to produce 50,000t annually, and the bulk option may be the price kicker some growers have been seeking.

In order to ensure a clean product was bulk shipped, EQH cleaned 7000t of the bulk shipment, which he said has "cleaned the district out of faba beans" sourced from as far away as Kojonup.

EQG's faba bean gradings go into sheep and cattle rations, as do its gradings from other pulses.

Mr Wandel said EQG business was focused on pulses, particularly higher-value ones like lentils. "Last year we containerised 25,000t of pulses."

A monthly service primarily booked by the minerals sector has typically been taking 100-140 containers packed by EQG to its markets in Asia and the Middle East.

"We clean all our product because we're trying to develop a name for good quality." "We're doing more and more each year."

Contact: Esperance Quality Grains, 08 9072 0055, trade@qualitygrains.com.au

ASHEEP & BEEF Pasture Variety Trials Update

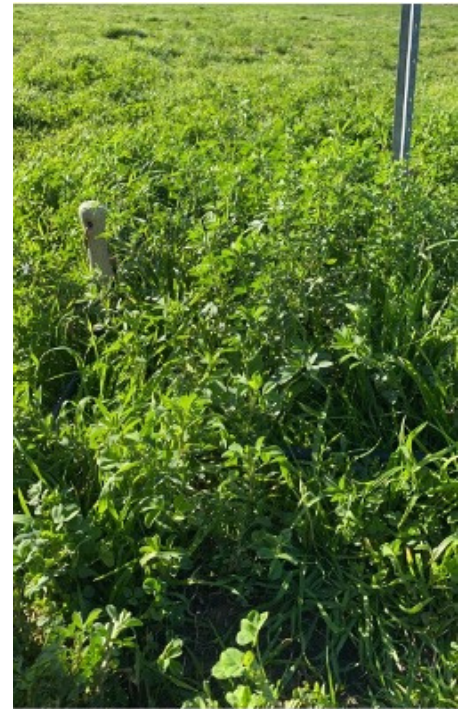
A Meat & Livestock Australia Producer Demonstration Site

Chad Hall, South Coastal Agencies

Summary of key activities and data over the 2023 season

Seven sites were chosen for monitoring, comprising of two in high rainfall zones (HRZ), three in medium rainfall zones (MRZ), and two in low rainfall zones (LRZ). The distribution of the varieties across locations and rainfall data is detailed in Figure 1. Pasture cages were set up and cuts were taken at 10, 16, and 20 weeks (when feasible) after the start of the season. The cuts were weighed while wet before undergoing analysis, and the outcomes are presented in Table 2.

The season commenced with favourable opening rains across all regions, followed by an extended period of dry and hot weather. Plantations established before or shortly after the initial April rains thrived, but biomass production was constrained due to the dry spell. The dry period persisted until the end of May, when consistent, heavy rainfall and cool temperatures broke the dry spell, leading to waterlogging in some areas. The season concluded abruptly with a significant reduction in rainfall, contributing to premature cessation and compounding the issue with poor biomass production and a restricted period of pasture growth.



Above: Dalyp Lucerne 6/7/23



Above: Grass Patch Serramex Serradella 31/08/23

The final report for the 2023 season will be published in early February 2023, and will comprehensively analyse the collected data to evaluate the performance of diverse pasture varieties and mixes across the Esperance district's varied soil types and rainfall zones. Each pasture variety's and mix's nutritional and economic value will be rigorously assessed by calculating the DSE (Dry Sheep Equivalent) potential per 100 millimetres of rainfall. This approach effectively accounts for the influence of fluctuating seasonal rainfall conditions, enabling a more meaningful comparison of pasture performance. Leveraging this metric, the report will compare the performance of pastures cultivated during the 2022 and 2023 seasons, providing valuable insights into the adaptability and effectiveness of different pasture options under diverse environmental conditions.



Figure 1: Producer Demonstration site map

Table 1: Annual rainfall data

Host Grower	EPASCO	Scott Wandel	Mark Walter			Dave Vandy	Micheal Ietto
Zone	HRZ	HRZ	MRZ	MRZ	MRZ	LRZ	LRZ
Pasture	Oats, rye, legume	Lucerne	RM4 + Rössina	RM4 Vetch/ Brassica	RM4 Vetch	Serradella (Cadiz + Marg)	Serradella (Serramax)
Seeding Date	21/04/2023	1/10/2020	27/04/2023	26/04/2023	25/04/2023	6/04/2023	1/04/2022
Weather Station	The Duke	Dalyup Park	Ag world Rain Guage	Ag world Rain Guage	Ag world Rain Guage	Scadden West	Gorya Valley
Jan	11	5	7	7	7	8	8
Feb	7	18	0	0	0	6	14
Mar	12	11	22	22	22	7	8
April	63	64	21	21	21	24	45
May	25	15	18	18	18	3	5
Jun	206	247	60	60	60	70	50
Jul	57	63	12	12	12	19	17
Aug	74	78	38	38	38	24	27
Sep	58	39	20	20	20	14	7
Oct	24	23	3	3	3	6	0
Nov	17	7	10	10	10	0	0
Dec							
Annual Rain (mm)	553	570	210.5	210.5	210.5	180.3	179.9



Table 2: Pasture cut details

Pasture Cut	Grower	Location	Pasture variety	Moisture	DM (%)	CP (%)	ADF	NDF	Lignin	TDN	ME	RFV	Wet wt	DM/ha	Total DM/Ha (Kg)
10 Week Cut	Walters	Cascade	RM4	77.3	23%	17.9	29.5	48.2	3.26	64.7	10.18	127	0.6	2724	13346.6
16 Week Cut	Walters	Cascade	RM4	73.4	26%	24	35.1	35	5.55	53.2	8	161	0.65	3419	
20 Week Cut	Walters	Cascade	RM4	33.3	67%	27	32.4	33.1	5.55	64.1	8.57	179	0.54	7203.6	
10 Week Cut	Walters	Cascade	RM4 + Morava	81.9	18%	23.9	30.8	32.6	4.44	64.6	10.16	185	0.65	2353	12713
16 Week Cut	Walters	Cascade	RM4 + Morava	72	28%	27	32.5	30	5.17	59	9.12	193	0.65	3640	
20 Week Cut	Walters	Cascade	RM4 + Morava	43.6	56%	22.9	32.8	34	5.6	59.1	9.12	173	0.6	6720	
10 Week Cut	Walters	Cascade	RM4 + Brassica	83.0	16%	28.6	24.6	32.2	3.32	66.1	10.42	202	0.675	2160	6650.86
16 Week Cut	Walters	Cascade	RM4 + Brassica	69.3	31%	25.5	29.9	29	4.92	60.7	9.42	200	0.51	3131.4	
20 Week Cut	Walters	Cascade	RM4 + Brassica	32.7	67%	28	25	23	4.27	61	9.59	271	0.101	1359.46	
10 Week Cut	Wandel	Dalyup	Lucerne + SW Pasture Mix	83.0	17%	28.8	29.1	31	4.34	62.6	9.78	194	0.3	1002	5193
16 Week Cut	Wandel	Dalyup	Lucerne + SW Pasture Mix	79.5	21%	20.4	30.5	45.7	3.34	58.7	9.06	133	0.58	2378	
20 Week Cut	Wandel	Dalyup	Lucerne + SW Pasture Mix	64	35%	23	33	45.2	4.47	59	9.13	130	0.259	1813	
10 Week Cut	Vandy	Grass Patch	Serradella	83.9	16%	26.2	26.4	26	2.67	61.0	9.48	245	0.1	322	3406.4
16 Week Cut	Vandy	Grass Patch	Serradella	63.4	37%	12.8	29	40.8	3.3	58.8	9.06	150	0.22	1610.4	
20 Week Cut	Vandy	Grass Patch	Serradella	66.5	34%	19	32	35	6.12	54.9	8.35	166	0.22	1474	
10 Week Cut	Ietto	Grass Patch	Serradella Ungrazed	87.7	12%	28.5	28.2	27.4	4.39	65.0	10.34	227	0.23	552	15799.8
16 Week Cut	Ietto	Grass Patch	Serradella Ungrazed	79	21%	21.5	34.6	36	5.38	58.8	9.09	160	0.95	3990	
20 Week Cut	Ietto	Grass Patch	Serradella Ungrazed	35.3	65%	20.2	1.4	39.9	6.29	60.4	9.37	144	0.87	11257.8	
10 Week Cut	Epasco	Condingup	Oats + Ryegrass + Clover	86.0	13%	24.7	25.9	41.6	2.23	63.6	9.97	154	0.22	580.8	8752.2
16 Week Cut	Epasco	Condingup	Oats + Ryegrass + Clover	80.7	19%	14.9	25.3	45.2	2.73	61.6	9.59	142	1.5	5790	
20 Week Cut	Epasco	Condingup	Oats + Ryegrass + Clover	73	27%	15.6	36.6	58	4.43	54.2	8.21	97	0.441	2381.4	

Regenerative sites

This year, the Cascade and Grass Patch sites have been monitored for pasture regeneration. However, they failed to yield sufficient biomass for collection during the 2023 season. A final assessment revealed that all pasture varieties succumbed to the unrelenting challenges of unusually dry conditions.

2024 Sites: Ideas?

The project team will be meeting to select sites for monitoring in 2024 early in the new year. If you are putting in a paddock of something worth having a look at please get in touch. We are keen for ideas.

Contact

- Project Lead Producer: David Vandenberghe, 0427 786 049, wattleddale@vandenberghepartners.com.au
- Site Manager: Chad Hall, South Coastal Agencies, 0448 404 614, chad.hall@nutrien.com.au
- Project Coordinator: Sarah Brown, ASHEEP & BEEF, 0409 335 194, eo@asheepbeef.org.au

DPIRD Vetch Variety Trial

India Warren-Hicks & Mark Seymour, DPIRD



Following on from the ASHEEP Spring Field Day visit to the trial at Mt. Burdett we now have vetch nutritive value, harvest dry matter cuts and yield results to share. This trial site is in collaboration with Stuart Nagel the SARDI vetch breeder. We trialed his upcoming vetch varieties (numbered varieties) at four sites across Western Australia alongside current varieties. This article will only discuss the Wittenoom Hills site. We tested a number of Common Vetch varieties and breeding lines and the Woolly Pod Vetch variety RM4.

The trial was sown into excellent moisture conditions and all lines of vetch grew well. At the end of July nodulation was scored. The nodulation was excellent and even across the site with large fan nodules found on all plants. The site scored 7 on the pulse nodule rating system. There were no crown nodules, hence why no rating above 7 was given. At the field day Dr. Ron Yates (Murdoch/DPIRD) said the absence of crown nodules could be due to the application of pre-emergent herbicides as they prevent crown nodulation.

Three dry matter (DM) cuts were done on each variety throughout the season. The first cuts were taken at the end of July and had an average dry matter of 1.9t/ha. The second was taken at the end of August with 4.8t/ha. Lastly, harvest cuts were taken on the 18th of October (Table 1). At all three times there was no significant difference between varieties – probably expected in the good conditions at Wittenoom Hills in 2023. The Volga and RM4 samples from the July (DM1) and August (DM2) cuts were sent to Agrifood for feed testing (Table 2). RM4 DM2 sample had issues being analyzed so we did not receive results for the sample. Volga and RM4 sampled at the end of July had very similar results other than Neutral detergent fibre with Volga at 30% and RM4 at 22.5%. This could be due to Volga being a faster maturing variety, whilst RM4 was still in its vegetative phase.

The trial was harvested on November 6 and all plots harvested well other than RM4 – hence we have excluded RM4 from our statistical analysis of grain yield. The numbered SARDI lines in this trial all looked showy in the trial and yielded well with two of SARDI’s numbered lines outyielding Volga (1.94 t/ha) which is the most widely grown vetch in WA. One of the SARDI lines which produced more yield than Volga was 37107. At Wittenoom Hills early in the year we observed 37107 to be one of the more vigorous lines. Stuart Nagel has noticed 37107 to have good performance on lower pH soils and our experience indicates it also performs well on more neutral to alkaline soils, and it shows promise as a good all-round grain and hay variety. 37107 is set for release to Australian growers in 2025.

Trial Site Snapshot

Sown: April 28, 2023

Rate: 40kg/ha vetch + 100kg Superphosphate +10kg FE Alosca at sowing

pH(CaCl2): 6 at the surface to 8 at depth

Fungicide: Miravis Star July 17 and Veritas August 9

Rainfall: 291mm GSR with 114mm falling in June

Line/Variety	Mean TDM
38849	8304
Timok	8620
Studenica	8912
38397	9399
Volga	9497
38818	9521
38864	9741
38866	9959
37107	10007
38819	10008
RM4	10131
Morava	10183
P=0.836 (ns)	



Above: Figure 1 Vetch Variety Trial, Mt Burdett. 28 June 2023
 Left: Table 1 Vetch Harvest 2023 Cuts Total Dry Matter (TDM) (kg/ha)

Table 2 Vetch Feed Analysis at Wittenoom Hills in 2023

Feed Analysis	Volga (end July)	RM4 (end July)	Volga (end August)
Crude Protein	27%	29%	24%
Neutral Detergent Fibre	30%	22%	40%
Digestibility	75%	75%	64%
Est. Metabolisable energy (MJ/kg DM)	11.4	11.3	9.5



Above: India Warren-Hicks speaks at the Spring Field Day.

Table 3 Wittenoom Hills 2023 Vetch Grain Yield (kg/ha). Note RM4 has been removed from analysis due to poor harvestability.

Line/Variety	Mean GY	SigD
RM4	1316	-
Morava	1506	a
38397	1800	b
Studenica	1820	b
Timok	1931	c
38819	1933	c
Volga	1947	c
38849	1997	cd
38864	2020	cd
38818	2030	cd
37107	2064	d
38866	2095	d
P<=0.01		

Below: Figure 2 Washed and scored vetch roots with large fan nodules in the Wittenoom Hills trial. Samples collected end of July, 2023 (12 WAS)



Note. Woolly Pod varieties are not safe to graze once they begin to set pods.

National Vetch Breeder Visits WA

In October, the national vetch breeder Stuart Nagel from the South Australian Research and Development Institute (SARDI) visited WA. The trip highlighted the value of vetch and the potential for its ongoing development to drive profitable and sustainable broadacre farming systems in WA, including by reducing the risk of growing a legume.

Stuart presented at the Pulse Association of the South East’s field day and AGM and then was taken on a tour of farms using vetch and vetch trials by DPIRD’s Principal Research Scientist, Mark Seymour. Mark commented – “It was an extremely valuable few days for me and I believe local growers to touch base with Stuart, who sees vetches all over Australia and is such a key person in developing new varieties for Australian growers. I took Stuart to three of our DPIRD vetch trial sites at Wittenoom Hills, Lake Grace and Merredin, so he got to see vetches from a relatively kind environment at Wittenoom Hills through to tougher conditions at Merredin. The visit to Merredin highlighted how good vetches can perform in trying conditions.

“Western Australia’s wheatbelt is a harsh environment for legumes. Hostile soils and low rainfall often combine to produce variable growth. Vetches are one of the better adapted species to harsh conditions.

“Vetch seems to handle dry starts and variable soils as good or better than other legumes and is particularly well suited to sowing in dry or variable conditions. In addition, it is a multi-purpose plant that can be used for grazing, grown as a brown or green manure, cut for hay, or harvested for grain. Given the wide end use we are lucky that is a very widespread availability of different species and different varieties which fit most potential end uses. For example, for grain production the common vetch varieties are chosen as they produce a more marketable product, and even within the common vetches there are lines which flower very early such as Studenica through to quite late flowering lines like Morava.”

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Mark and Simeon Roberts from Cascade have been using woolly pod vetch varieties as a pasture for nearly 20 years. They sow the woolly pod variety RM4 early in the year – often late February or March which allows them to have multiple grazing times. Generally, vetch can be grazed from end of April through to the mid-November when stubbles come online. Vetch sets up their cropping phase and now their rotation is generally Vetch / Wheat / Canola / Wheat / Barley then back to vetch again.

Mark Roberts commented that “using vetch as a pasture adds diversity and risk management to a cropping system. It allows a portion of the crop program to have all nitrogen applied at planting as there is surplus organic N to requirement, hence a very easy portion of the program to manage. The grazing in the system so far has also mitigated any mouse or snail control.”

The Roberts family have always been strong supporters of research and breeding. Mark Roberts commented “It’s important that Stuart Nagel’s vetch breeding program continues to be supported by GRDC and state governments. We need access to new varieties that grow even better in lower rainfall areas, handle stress and are less prone to foliar diseases such as chocolate spot.”



Cascade farmers Mark Walter, Mark Roberts with Stuart Nigel in the Roberts’ RM4 woolly pod vetch.

DPIRD’s Mark Seymour also sees improved disease resistance as a key trait to try and improve in vetch. “Particularly if you are not grazing your vetch, foliar diseases really take off in the dense humid canopies that vetch can produce in late winter and Spring. You can try and manage diseases with fungicides, but it is hard to get the chemical into the canopy as the season progresses, so genetic resistance is required.”

Mark Roberts was recently visited by respected South Australian consultant Allan Mayfield who was conducting a survey and review of vetches for GRDC. “I am really keen to hear about the results of this review and hope that it provided guidance to GRDC on the excellent fit of vetches in our system and the importance of supporting the Vetch breeding program”, he said.

2023 Southern WA sheep reproductive rates from preg scanning

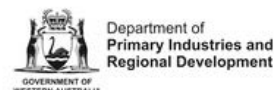
Sarah Brown, ASHEEP & BEEF

Anonymised pregnancy scanning data is collected by the Department of Primary Industries and Regional Development (DPIRD) annually from scanning providers across southern WA. It excludes any artificial insemination, embryo transfer and ewe lamb matings. The 2023 data has recently been fed into DPIRD’s **Pregnancy Scanning Benchmarks tool**, allowing producers to compare their flock to other Merino or meat breed flocks in the Cereal Sheep Zone (CSZ) and the Medium Rainfall Zone (MRZ) with the same time of lambing. Compare your results here: www.agric.wa.gov.au/sheep/pregnancy-scanning-benchmarks

Katherine Davies (DPIRD) has also produced an **article discussing the results from the 2023 data**. Following are a few highlights, but take a look at the full article for a definition of terms, calculation background, graphs, and much more information. Search “DPIRD Ovine Observer December 2023 Southern WA sheep reproductive rates based on pregnancy scanning” for the full article.

- “The 2023 pregnancy scanning dataset included a total of 577,000 scanned ewes across 344 properties.”
- “Non-merino (meat) breeds accounted for 86,000 of these scanned ewes across 60 properties, and had an average conception rate of 84%. For those properties that also scanned for multiples, the reproductive rate was 138%. Non-merino breeds were excluded from further statistical analysis between zones, time of scanning and years due to the smaller dataset.”
- “The average Merino conception rate in 2023 was 89% with a reproductive rate of 134%.”
- “Conception rates were higher for producers that scanned for multiples compared to producers that only scanned for conception (89.4% vs 87.5%; p=0.010).”
- “The reproductive rates between the CSZ and MRZ were not significantly different. The MRZ had more singles (48% vs 41%; p<0.001) with less dry ewes and twins.”
- “The time of scanning was earlier for the CSZ with 17% of ewes scanned by the end of February, compared to only 1% in the MRZ, indicating that the CSZ continues to have an overall earlier time of lambing than the MRZ.”

Preserving Paddocks and Optimising Nutrition Through Confinement Feeding



Department of Primary Industries and Regional Development

Confined feeding can play a pivotal role in protecting the land from erosion while ensuring adequate nutrition for livestock. During dry years, paddocks are at an increased risk of overgrazing and erosion, particularly when pasture cover falls below 50%. Poor seasonal conditions, grazing stubbles, paddock burning and cultivation are all factors which contribute to a high risk of wind erosion.

The drier than average conditions this season mean supplementary feeding will be necessary and widespread. It is important to consider that feeding trails on paddocks with low levels of groundcover will further increase the risk of erosion.

Setting up confinement feeding areas allows for better control of stock and easier management of feeding, watering, monitoring and handling. Before moving stock into confinement, it is highly recommended producers assess the resources required to ensure that stock can be managed until they can return to pasture.

When setting up a confinement feeding area there are five areas to consider:

1. Site selection

To preserve the majority of paddocks, confinement feeding will need to take place in a 'sacrificial' paddock. Pick a paddock with a stable soil type that will compact to reduce dust loads, like a clay or loam. Ensure convenient access to infrastructure such as yards, silos and water sources to reduce labour. To avoid considerable erosion, yet allow for runoff, a three to four percent paddock gradient is recommended.

2. Size

An allocation of 5m² for dry adult sheep is recommended with a total mob of 200-500 head. More information on size allocation for different classes of stock can be found on DPIRD's confinement feeding webpage.
www.agric.wa.gov.au/autumn/confined-paddock-feeding-and-feedlotting

3. Water

Water may be a limiting factor in enterprises this summer. To ensure an adequate supply and quality of water, water budgeting is strongly recommended. A dry sheep drinks around 4L/day, however, in hot conditions, this can increase to as much as 10L/day and should be accounted for in your water budgeting. In a confinement feeding setup, it is best to avoid paddocks with dams as they can become boggy. Use troughs that are cleaned regularly and are filled from a reliable water source to reduce any accidental stoppages. Flow rate to re-fill the trough is more important than trough space, as sheep naturally take turns drinking water. See the DPIRD website livestock water requirements and water budgeting for more information.

www.agric.wa.gov.au/small-landholders-western-australia/livestock-water-requirements-and-water-budgeting-south-west

4. Feed

Stock will have 100% of their diet coming from a ration within the confinement feeding setup. This ration needs to include energy, protein, minerals and a roughage component, with new grains gradually introduced over a 2-week period to avoid the incidence of acidosis. Weighing and condition scoring stock will allow growers to maintain targets, with poor performers removed and managed separately. A diet that meets the animals' nutritional requirements will make them more robust and resilient to disease.

www.agric.wa.gov.au/feeding-nutrition/supplementary-feeding-and-feed-budgeting-sheep

5. Animal health

Stock should be monitored for the most common animal health issues including acidosis, shy feeders, flystrike and pinkeye. An advantage of confinement feeding is that stock within these setups are easily observed.

Further information on confinement feeding and managing erosion can be found on the DPIRD website, along with a range of seasonal resources all in one place on the Season 2023 webpage.

www.agric.wa.gov.au/dry-seasons-and-drought/season-2023-information-wa-farmers



Producer Guide: Annual Heifer Pre-Mating Screening for Exposure to Bovine Pestivirus (BVDV)

Dr Enoch Bergman, Swans Veterinary Services

Bovine Pestivirus (BVDV) is an endemic viral disease of cattle responsible for considerable financial consequences for both Australian Beef and Dairy producers across Australia. Initial exposure to BVDV can result in potent immune suppression, infertility, early embryonic death, abortion, or the production of Persistently Infected (PI) animals. Whilst Meat & Livestock Australia (MLA) ranked BVDV as the second costliest endemic disease of cattle in Australia in their 2015 endemic disease prioritisation survey, and third in their 2022 survey, BVDV still remains possible to control and even eradicate at the herd level.

Understanding the role of PI animals is paramount to understanding BVDV and how best to manage it. The mothers of calves born as PIs were initially infected with BVDV whilst pregnant, and the developing calf's immune system mistakenly believed the virus to be normal, as a result of the virus being catalogued as 'self' by the growing calf. Because PIs are 'immuno-tolerant' to BVDV, they never clear the infection and shed enormous amounts of the virus into the environment for their entire, typically shortened, lives. Due to the volume of virus they shed into the environment within saliva, semen, milk, urine, and faeces, PI animals excel in spreading the virus. In fact, PIs are almost exclusively responsible for the propagation of BVDV between generations, between management groups, and between properties. By managing PIs, BVDV can be managed.

Some PI animals survive to breeding age, and some may even be selected as a replacement heifer. If a PI produces a live calf, it will invariably be born a PI. However, most PIs are born from normal cows or heifers, exposed during pregnancy to another PI. If the pregnant animal is at the right stage of pregnancy, if the foetus is not aborted, and if the dam herself lacks prior immunity, the calf will go on to be born PI itself. The cycle can then be repeated.

Controlling BVDV centres around identifying and removing PI animals, providing immunity to animals without prior exposure to the virus, and simple biosecurity steps.

A key window of opportunity to control BVDV presents itself prior to each new replacement heifer group's first joining. Replacement heifers can be screened with a simple blood test to measure antibodies to BVDV prior to joining to define their specific 'BVDV Risk'. With their results, producers can invest in the best management strategy to ensure that their next generation of breeders are both immune to BVDV and PI free prior to mating.

By blood testing 5% or a minimum of six animals from each management group of replacement heifers (that have been in constant contact for at least two months and are at least eight months of age), producers can accurately predict:

1. which management groups have been exposed to a PI and may even include a PI heifer (representing a threat to other management groups),
2. which management groups have poor pre-existing immunity (other management groups represent a threat to them).

If over 80% of the animals screened have evidence of exposure to the virus, the entire management group is more likely to contain one or more PI animals. Vaccination would be of little benefit, however, by ear notching each individual heifer, all PI heifers could be identified and culled prior to mating.

If less than 50% of the animals screened have evidence of exposure to the virus, the entire management group is unlikely to contain a PI, and vaccination would instead be a better investment.

If the seroprevalence falls between 50 and 80%, further veterinary investigation is warranted.

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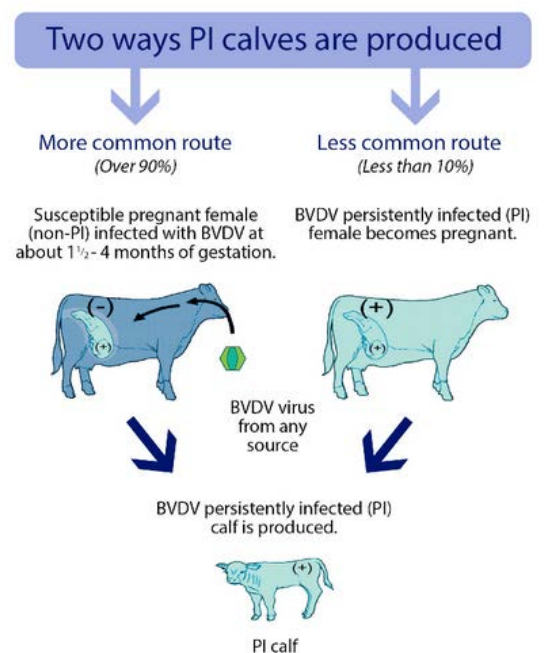


Figure 1: Compliments of the Academy of Veterinary Consultants Mallory Hoover, Veterinary Medical Illustrator and Bob L. Larson, DVM, PhD. Coleman Chair, Livestock Production Medicine Kansas State University

Producers who consistently screen their heifers prior to mating for exposure to BVDV can then **invest in the most effective intervention**. By ear notching the immune groups and vaccinating the groups without immunity, producers can ensure that each new group of heifers they produce go into their first mating both immune and PI free.

By implementing screening annually, producers can ensure their entire breeding population becomes immune and PI free. In this way, herd level eradication of BVDV is both feasible and achievable.

This article is published as part of ASHEEP & BEEF's Utilising Heifer Pre-Mating Serology to Manage BVDV, a Meat & Livestock Australia Producer Demonstration Site.

www.asheepbeef.org.au/managingbvdv



ANNUAL HEIFER PRE MATING SCREENING

Heifers must be at least 8 months old and have been in stable contact for at least 2 months.

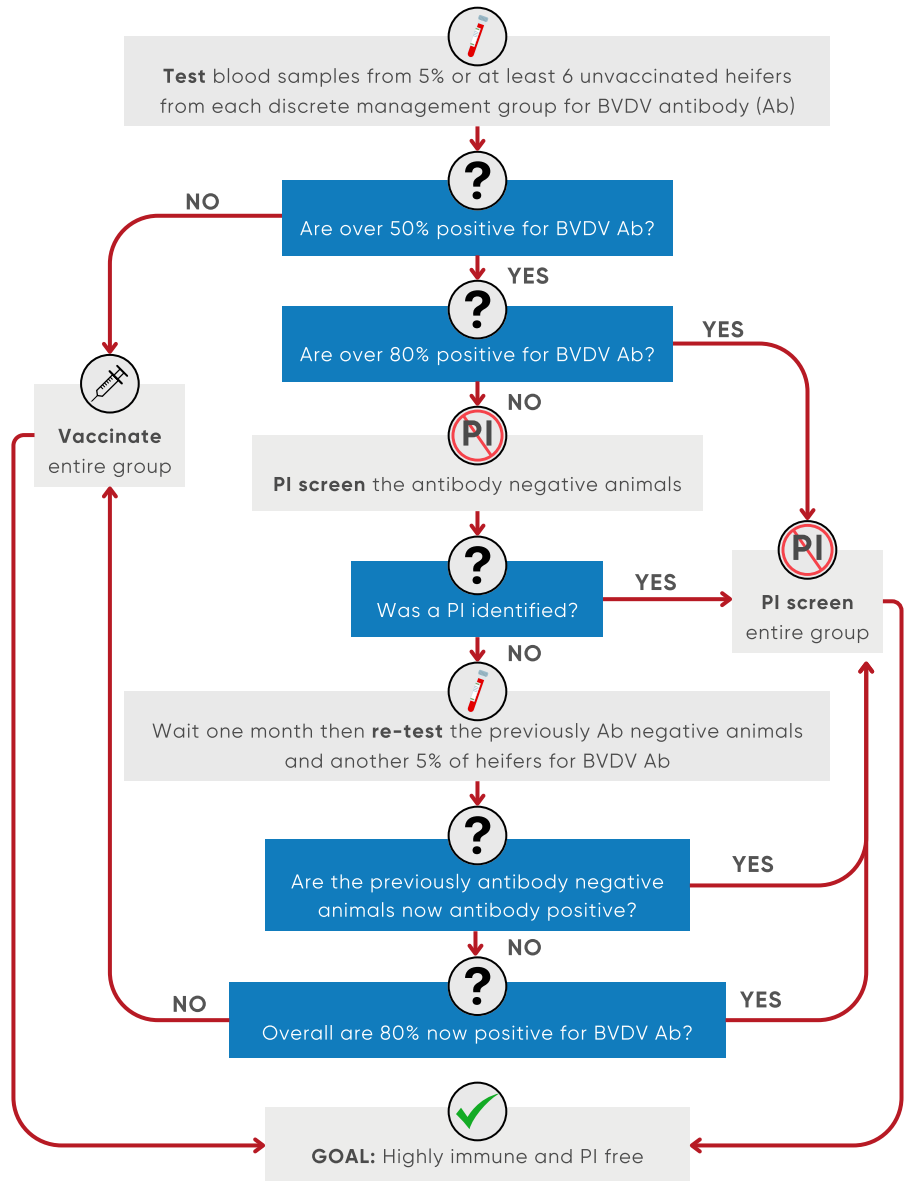


Figure 2: Compliments of Australian Veterinary Association BVDV Management Guide: Beef Edition Version 1.0, published 20.07.2015 and Enoch L. Bergman DVM, Swans Veterinary Services

DPIRD E-Newsletters: Subscription links

A selection of e-newsletters sent out by the Department of Primary Industries and Regional Development (DPIRD):

Seasonal Climate Outlook: A monthly e-news summarising the climate outlook for the next three months. It is specific to the Western Australian South West Land Division. www.agric.wa.gov.au/newsletters/sco

Climate Resilience Update: Keep in contact with climate change information, events, research and opportunities to future proof regional WA. Subscribe at www.agric.wa.gov.au/dry-seasons-and-drought/climate-resilience (link is in the righthand column of webpage).

Carbon Farming Newsletter: Industry updates and news on DPIRD's programs. www.agric.wa.gov.au/carbon-farming-related-pages/introduction-carbon-farming-western-australian

Ovine Observer: Quarterly news on issues relating to sheep production and research. It features articles written by DAFWA researchers and industry leaders. www.agric.wa.gov.au/newsletters/ovineobserver

Promising Results: Wool bio-harvesting update

Sarah Brown, ASHEEP & BEEF

The latest venture into biological harvesting of wool looks promising, according to both Australian Wool Innovation (AWI) Chair Jock Laurie and Chief Researcher Professor Phil Hynd (University of Adelaide). On 27th October 2023, AWI and DPIRD ran a joint field day at the Katanning Research Station where the latest advancements were showcased and a handful of treated ewes were 'plucked' for the demonstration.

AWI is prioritising the development of bio-harvesting technology with the aim of producing a cost-effective alternative to shearing, with reduced reliance on skilled staff and more control over timing.

University of Adelaide researchers have had a breakthrough using a naturally occurring protein found in corn that when administered to a merino sheep creates a weak point in the fibre (not a break). Phil Hynd said that eighteen months ago the penny dropped; 'We worked out the biochemistry, we understand the target. It was the most exciting moment.' 'There's work to be done but without any doubt it's looking very positive.'

Jock Laurie stated that he was optimistic that the product could be 'shelf-ready' within five years.

To get to that point, key steps include securing Australian Pesticides and Veterinary Medicines Authority (APVMA) approval, refining the method of administering the protein to the sheep, establishing a ready supply (it is currently being produced in the USA but ideally could be extracted from natural legumes in Australia), and engineering solutions to remove the fleece (AWI has recently opened expressions of interest internationally to develop de-fleecing equipment).

Further research also needs to be conducted across production systems, for example on pregnant sheep, different age groups, sexes, and levels of health. Phil stated that the biochemistry doesn't work in any other part of the body and no residual effects have surfaced to date. They have recently conducted experiments for wool and meat withholding periods which look to be quite short.

So how does it work? The process kicks off with the protein being administered to the sheep at a variable rate based on weight, this will likely be via subcutaneous injection behind the ear. When the protein is absorbed, a weak point is created in the wool follicle, but the fibre returns to growing normally shortly afterwards. There is no wool break, so the fleece remains in place.

After two weeks, or three-to-four weeks in colder areas, enough fibre has regrown below the weak point for the fleece to be harvested. A light pull is all it takes to remove the fibre causing no discomfort to the sheep. Paddock behaviour such as rubbing on fences or bush will not remove the fleece. It is envisaged that a handheld device will be developed which unskilled staff could use (at this stage a non-commercial prototype has been developed), but the end game is to create an automated harvesting system with high throughput.



Image: University of Adelaide researcher Dr Sarah Weaver demonstrated how a light pull will remove the fleece of a treated animal.

Following administering the protein there is a reasonable window of time in which fleece removal can be conducted. Enough time must be left for the sheep to regrow some wool, but if left too long it may become harder to harvest. Phil noted that their trials had found that if the fleece was left for 10 weeks it starts to get 'spongy' to break.

According to Phil, there are some major pros to this method of wool harvesting. The quality is better coming off, it peels off perfectly at a uniform length, there are no second cuts and every follicle breaks. The end of the fibre is also slightly finer, creating softer ends that will lead to more comfortable apparel. Hairs on the leg and the face are not weakened and do not come away with the fleece.

Will it replace shearing entirely in future? Probably not, said Jock. He expects that shearing will still play an important role in the industry, but that bio-harvesting will give growers more options and more control. Shearing will still likely be used as the main method of harvesting by some growers, and also to undertake tasks such as crutching.

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To date, most of the testing has been conducted on Merinos but investigations are underway to find out how effective it will be on other breeds and cross-breeds. Because hair is not impacted by the protein there will be areas of the sheep such as hocks that are not removed in the process.

In summary, there are still questions to be asked, work to be done, but overwhelmingly the researchers and AWI were very positive about how things are advancing.

We'll leave things with a final comment from Phil, who wrapped up with a laugh from the crowd at Katanning: ***'I am not dying until this bloody works. I am passionate about it. I am also a scientist and I know things don't work exactly as you want them to all the time, but I am confident.'***

More Information: Watch a 10min update from Phil Hynd including questions from a farmer at www.youtube.com/watch?v=vCXnrwpKcCQ

Note: This research is not related to Bioclip, a previous attempt at bio-harvesting that created a break in the wool and required sheep to wear nets to catch the fleece.



Image: Members of the University of Adelaide research team.

Podcast Spot: 'Season Resources' & 'Carbon Shortcuts'

Sarah Brown, ASHEEP & BEEF

Following are a couple of the latest ag podcasts on the block. If you come across a new podcast you recommend get in touch and we'll share it with the group.

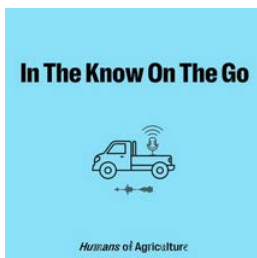


SW WA Drought Hub's Dry Season Resources Podcast

Dedicated to sharing information that supports growers in preparing for and responding to dry seasons. Hear from growers and industry experts on managing dry season responses, ranging from early planning to tactical decision-making as the season changes throughout the year and setting up for the following season.

Visit www.hub.gga.org.au/resources/dry-season-resources/

- Episode 1: Financial risk and planning in a dry season with Farmanco
- Episode 2: Best Practice Soil Management with DPIRD
- Episode 3: Key agronomy tips from 2023 with Crop Circle Agronomy
- Episode 4: 15 years of farming systems changes with DPIRD
- Episode 5: N bank and retained nutrition after a low crop year with CSBP
- Episode 6: Livestock in a dry year with Elders and Agrarian



Carbon Shortcuts Podcast with Richard Eckard

Carbon Shortcuts is a podcast introducing "all things carbon in Aussie Agriculture" over 4 episodes. The hosts interview leading expert Professor Richard Eckard (Melbourne University). The series focuses on communicating "things that matter in a way that is easy to understand". Several producers in ASHEEP & BEEF's CN30 Producer Demonstration Site project have given the podcast good reviews. To listen search for "In the Know On the Go" by Humans of Agriculture in your podcast player:

- Episode 1: Understanding Australia's Emission Reduction Goals
- Episode 2: Understanding the Carbon Market
- Episode 3: Supply chain, classes & variations of emissions, accounting frameworks, how farmers can get involved
- Episode 4: One last pick of Prof Richard Eckard's brain on all things carbon in Ag

Australian Wool Innovation Update

Jodie King, AWI

THREE NEW DIRECTORS ELECTED TO AWI BOARD

AWI has a seven-member AWI board and board elections are held every two years. Directors James Morgan, Noel Henderson and David Webster all retired at November's AGM. Five candidates stood for election to the board in 2023. The three candidates with the most votes from shareholders, in person and by proxy, were elected to the vacant board positions.

More info: www.wool.com/news-events/news/3-new-directors-elected-to-awi-board/



AWI WOOL TRIP WEST

Tuesday the 24th of October the AWI team, including AWI Chairman, Jock Laurie, AWI CEO, John Roberts and outgoing WA Board Director, David Webster flew to Western Australia to meet with growers and industry members. First stop, Boyup Brook where the team met up with newly appointed AWI Industry Relations Officer WA, Jodie King at Rylington Park, AWI Wool Harvesting School.

This visit enabled the team to meet and talk with the students over lunch and highlight the importance of their work in the supply chain. While at the school Prime Super were also in attendance talking with the students on the importance of super and planning for the future.

After lunch they headed back to the shed where the AWI team got to witness firsthand the grower funded AWI trainers in action, training the up-and-coming shearers and wool handlers of the future.

After this visit they headed to Darkan for a grower meeting where growers were given updates on AWI's R&D, Marketing and Extension programs. 50+ Growers were in attendance, and they were given the opportunity for open Q&A which growers appreciated and had many questions answered.

Thursday the 26th of October saw the team head to Katanning for the AWI Bio Wool Harvesting Demonstration, this too was another great turn out with 150+ growers, people in Industry in attendance.

Search YouTube, Bio-Harvesting of Wool for a video and explanation by Professor Phil Hynd from the University of Adelaide.

Friday 27th of October before flying out saw another opportunity to meet with more growers in the area. Kojonup was a slightly smaller group compared to Darkan but was nonetheless impactful and informative. Due to the early break in the season many growers were on bailers or headers early but advised that they would have loved to attend or would like the opportunity to meet again with the AWI team.

AWI Chairman and CEO advised that they will be back to Western Australia when harvest has finished as they are aware how important it is to connect with growers.



FEED365 Demonstration Sites: 2023 season wrap

Sarah Brown, ASHEEP & BEEF

The FEED365 Project is a collaboration between the Department of Primary Industries & Regional Development (DPIRD) and Meat & Livestock Australia (MLA). The purpose is to research and redesign livestock forage systems to fill feed gaps, develop new feed base options and integrate them into grazing systems.



ASHEEP & BEEF is coordinating three demonstration sites in the project between 2022-2024. Following is an update on how they played out during 2023 and some insight on the broader trials that DPIRD is running at the Katanning Research Station.

SITE 1: Early feed in a pasture (cropping rotation)

Location: Esperance Downs Research Station, Gibson

Host: Josh & Tegan Sullivan

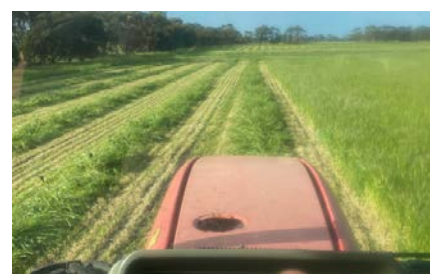
Profile: Soil sample 0-40cm, sand to sandy loam, 5.9-6.4 pH(w)

Paddock History: Regenerating pasture of rye grass, sub clovers, capeweed.

Paddock Name: E2

Objective: To increase early and late grazing potential while preserving sub clover.

Demonstration Plan: This paddock was sown into an experimental pasture mix in 2022, sown at two different rates. In 2023 the site was put into Planet Barley as part of the Sullivan's cropping program. The intention was to run a crop grazing demonstration this year, however seasonal conditions did not deal a good hand, with a very dry start followed by significant rainfall at this site. 214mm fell during June. The crop became waterlogged and unfortunately plans to graze the site were abandoned. As the season progressed Josh debated on whether to harvest what he could or see if the regenerating clovers would bulk up for hay. The clovers made an impressive go of it and in late September Josh made the decision to cut the paddock for hay.



Images: Site 1 19/09/23 sub clover regenerating under crop followed by hay cutting several days later.

SITE 2: Pasture mix for long term pastures

Location: Esperance Downs Research Station, Gibson

Host: Josh & Tegan Sullivan

Profile: Soil samples 0-40cm, loamy sand / sand, subject to waterlogging, 5.7-6.2 pH(water)

Paddock History: Long-term regenerating pasture including brome grass, silver grass, geranium, rye grass, sub clovers.

Paddock Name: N4

Objective: To use tetraploid ryegrass to suppress unwanted grasses such as brome and silvergrass, and to increase pasture biomass.

Demonstration Plan: In 2022 this paddock was sown with a pasture mix and then divided in half, with one half grazed (Half A) and the other kept for hay (Half B). A deep rip strip was included for comparison purposes. In 2023 the site was split into halves running the opposite way (7ha each). Two experimental pasture mixes were sown on 22nd February, ideally to provide autumn feed, spell over winter and then graze again through late spring.

2023 N4 Half 1 (7ha) Pasture Mix:

Express Oats	@ 30kg/ha	
RM4 Vetch	@ 20kg/ha	
Balansa clover	@ 1kg/ha	Included as paddock is subject to waterlogging.
Alosca C & F/E	N/A	Alosca Group C for balansa clover & Group F/E for Vetch not needed (residual from 2022 application)

2023 N4 Half 2 (7ha) Pasture Mix:

Tetila ryegrass	@ 10kg/ha	
Margurita / Cadiz serradella pod mix	@ 20kg/ha	Donated by Esperance Quality Grains. Alternative was Eliza instead of Cadiz.
Express Oats	@ 30Kg/kg	Alternatives were Cereal rye 20 kg p/ha or Triticale 30kg p/ha. Express Oats selected due to seed availability.
Balansa	@ 3kg/ha	Gland Clover was the preferred variety but seed not available in time.
Alosca Group G/S	90kg total	In dry granule form, to treat the serradellas.
Alosca Group C	N/A	Alosca Group C for balansa clover not needed as residual from previous year's application.

With a very dry start to the season, the aim to graze during autumn was not met. A visual assessment of the paddock on 24th May 2023 determined that the plants were not advanced enough to cope with grazing and then be able to rebound for a second grazing, so in the interest of extending feed throughout the year grazing was not conducted.



Our thanks to Esperance Quality Grains for donating the serradella mix.

On 21 July 2023 Josh reported that after receiving 214mm rain during June, and with site already being subject to waterlogging, the oats, rye grass and vetch were all dead. Later observation by Josh report that the only sown species to survive were Balansa clover and limited vetch. Wimmera Ryegrass and Brome Grass were also noted as surviving.

Later in the season Josh did get some grazing from the paddock, but given that the trial treatments had limited survival no measurements were taken and the demonstration was ceased. Josh applied a grass selective following grazing.

In October, Dr Daniel Real and Dr Angelo Loi (DPIRD) visited Esperance and we made plans for this paddock for the 2024 season. Angelo was particularly interested in trailing a mix that has shown promise under tough conditions in the Katanning FEED365 trials:

- Triticale 40kg /ha - A mixture of Speedee (early cv) and Wonambi (late cv)
- Cereal Rye 30kg /ha - Fastfeed or Vampire
- Balansa Clover 10kg p/ha

Angelo noted that the Balansa is recommended at a higher sowing rate than usual because it will be sown dry and losses can be up to 50%. If budget was an issue, he suggested the Balansa ration could be brought back to 7.5kg/ha, but if not an issue (e.g. if someone was growing their own seed and had access at low cost) he'd recommend up to 15kg/ha dry sown.



Above: Site 2 under grazing 19/09/23.

Below: Site 3 Tedera 31/05/23.

SITE 3: Permanent Pasture System (Tedera)

Location: The Oaks, Dalyup

Host: Mitchell Greaves & Demi Vandenberghe

Profile: Soil samples 0-40cm, loamy sand to clay loam, 5.5-8.2 pH(w)

Paddock History: 7 ha creek-side paddock in pasture, unsuitable for a crop rotation with a sloping topography, higher rainfall and little by way of drainage issues.

Paddock Name: HP2

Objective: Establish Tedera as a permanent pasture to graze over the summer-autumn feed gap.

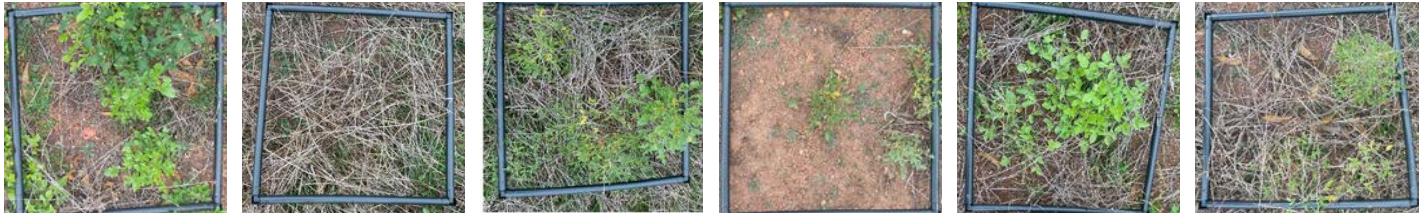
Demonstration Plan: Establish Tedera in winter 2022 and graze in autumn 2023.



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In preparation for grazing to commence, on 21st May 2023 Sinead O’Gara (O’Gara Ag) took pasture measurements. Sinead observed a base of Tedera as well as a variety of weeds present in the pasture. The coverage of Tedera in the paddock was sparse and varied. There were areas where there was a high proportion of Tedera in higher density and areas where Tedera was small in size. There was an area of high lovegrass and dried grasses and areas where no plants were growing with bare ground and rock. The Tedera was variable in growth levels and maturity. A proportion of the plants were undersized and immature, and a small proportion <10% were maturing to flower. The larger plants undergoing flowering would have a reduction in nutrition and higher proportion of lignin.

Food on Offer (FOO) was reported at 620 kg/ha average (range of 0 – 800kg/ha). Below are a selection of images taken by Sinead, illustrating the variation in growth.



Samples were sent for nutritive analysis and Sinead reported:

- Results showed moisture levels as being in line with biomass testing at approximately 30% DM and 70% moisture.
- Significant high levels of crude protein (CP) were present in the legume, above average levels of over 15%.
- Moderate levels of NDF (neutral detergent fibre) and ADF (acid detergent fibre) were in the legume, this indicates that there is higher % of digestible matter of the plant in comparison to indigestible fibre.
- The lignin levels indicate fibre content of the fodder are moderate to low. The lower level of the lignin indicates that the material is highly digestible, and it would require a lower level of physical mechanism (chewing, chemical and churning of the rumen) to break down to absorb the nutrients and less of the material is undigested and passed through as waste. It also indicates a lower level of energy is used in the digestive breakdown process as a material with a lower lignin content is highly digestible.
- TDN DM% is an indication on the % of digestible matter in the fodder resulting at 68.9% digestible, and approximately 31% of fodder consumed is passed as waste.
- Energy ME (MJ/kg) were moderate to high at 10.95. This level of megajoules would sustain a single bearing medium framed sheep at 100 days of pregnancy. The minimum requirement of a medium framed single pregnant ewe is 10mj per day mid pregnancy.
- The RFV – relative feed value was high at 280, indicating that this fodder is of high value and nutritional density.
- Overall, the nutritional analysis of this fodder was of high value and is a good source of energy and protein.
- A higher level of FOO would be optimal for this fodder to sustain and fill in the autumn feed gap – a common issue in Western Australia.

Daniel Real reviewed the pasture test results and commented that the results are consistent with DPIRD’s previous experience that Tedera is of high nutritional value and a good source of energy and protein. Daniel also noted that the analysis of mineral content indicated that the Tedera at The Oaks is quite low in Phosphorous (P) and Sulphur (S), and is fine for Potassium (K) (see Table 3). The P and S levels would have been restricting plant growth. Daniel advised that the Tedera would benefit from an application of 20 units of P and S with fertilizers like Super Phos; Big Phos or others with mainly with P and S.

Minerals	%DM
Phosphorous (%DM)	0.27
Potassium (%DM)	1.50
Sulphur (%DM)	0.05

Table 3

Daniel went on to observe that the % DM indicated that the Tedera was quite water stressed. Normal values for green plants are about 20%. During summer when Tedera is drought stressed, DM% goes up to about 30% and when happily growing in winter and spring it will be at about 20%.

On 31st May 2023, condition scores were taken of the sheep. The sheep were due to be shorn and it was intended to get this done the following week and to start grazing after that. Due to wet weather conditions the sheep were not able to be shorn. Weights were then taken on 12th June 2023 and grazing commenced that day. The Table 4 on the following page contains data captured from the sheep.

Stock Movement – Merino Wethers	Stocking Rate (sheep/ha)	Condition Score Average	Weight Average (kg)	Average Daily gain (kg/hd/day)
31/05/23 75 sheep condition scored	N/A	2.76 Range 2-4		
12/06/23 74 sheep added to 7ha paddock	10.5 sheep/ha		42.4kg	
08/08/23 73 sheep removed after 58 days grazing		2.9 Range 2-4	52.6kg Range 38-70	0.18kg/hd/day
Comments	Average condition score increased by 0.14. Measurements started with 75 sheep and concluded with 73 sheep. 1 sheep from the original group condition scored jumped the fence and was not added to the paddock. 1 sheep was found dead in the paddock, cause unknown, and no other sheep were displaying health issues.			

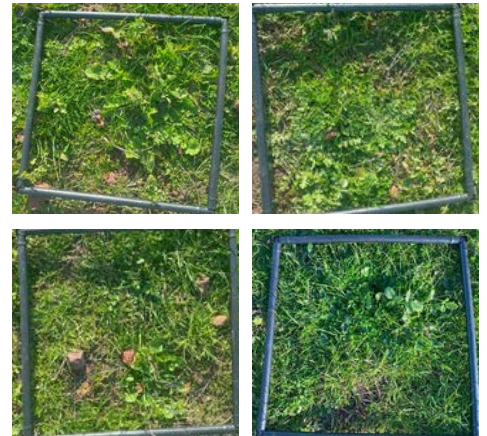
Table 4: Stock measurements. **Condition scores were taken with thanks to Jake Hann, Nutrien Ag Solutions.**

Sinead O’Gara attended the site to take pasture cuts toward the conclusion of grazing on 5th August 2023. Key areas of Sinead’s observations included:

- The area had received high levels of rainfall for the month. Saturated soil.
- There was high level of weeds in the paddock and limited Tedera proportion to weed. A mixed variety of winter weeds were dominating the ground coverage. The Tedera that was present was small and isolated in numbers. In certain areas there would be 85% weeds and 15% or less Tedera. Herbicide had not been used to control winter weeds which were in strong competition with the Tedera, and the sheep grazing the paddock would also target the highly palatable Tedera over the winter weeds giving them further advantage.
- The Tedera present had low biomass and was heavily grazed. As a result, biomass cuts could not be taken.
- The Tedera was not nodulating – it presented a strong tap root but no nodules present on the root system. The lack of a root system may be due to the high level of water and low level of drainage in the soils. The soil composition of sandy loam – held sufficient levels of water, but the sandy component also ensures adequate drainage.



Above: 24/07/23 tedera after six weeks of grazing. Below: Representative images taken by Sinead on 05/08/23.



Sinead’s recommendations included:

- Remove the sheep, as long-term grazing will negatively impact the growth of the Tedera into the spring and reduce biomass and productivity. Livestock should be removed from the paddock in the cooler months to allow growth of the Tedera and ensure a positive recovery in spring as the soil and atmospheric temperatures increase.
- Grazing should recommence in late spring when there is an increase of Tedera biomass. Early spring this is the prime period for Tedera to regrow and increase feed availability. Grazing should be deferred until there is adequate growth of Tedera allowing to reach full potential. Pre-maturing grazing could negatively impact the Tedera’s growth and limit it as a feed source into spring. Grazing should be completed rotationally graze and not set stocked. Livestock should be rotated when there is a reserve of 500kg/DM biomass of fodder remaining. A reserve allows the Tedera to recover and resprout new foliage.
- Apply herbicide control to target the competition going into the warmer months targeting the broad leaves and reduce the competition of weed vs Tedera. During the warmer months of spring the current weeds will intensify and outcompete the Tedera and limit it as a feed source.

Sheep were removed from the paddock on 8th August 2023.

Mitch and Daniel discussed the site in late August, with Mitch commenting that the rest of the same flock were grazing Illabo wheat at the same time and that the animals in the Tedera had better performance. Daniel recommended that the tedera would benefit from a selective mix of Diflufenican (200 g a.i./ha = 400 mL/ha) + Flumetsulan (40 g a.i./ha = 50 g/ha) + Diuron (180 g a.i./ha = 200 g/ha).

Ultimately, Mitch decided not to apply the spray at that time due to other commitments and also raised that the site had required a lot of herbicide and pesticide inputs since establishment. Part of the challenge is that the paddock is coming out of permanent pasture and as a result, weed and insect pressure has been significant.

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The paddock is not suitable for cropping and was identified as an area that would benefit from improvement. ASHEEP & BEEF is in discussion with DPIRD about providing a degree of cost / benefit analysis to this site.



Image: Dr Daniel Real and Dr Angelo Loi visit the Tederia 12/10/23.

In October, Daniel and Angelo visited the site, with Daniel noting that “the Tederia was coming back nicely after the grazing, considering the dry conditions and the large weed competition.” Being too late to spray, it was determined to leave the site ungrazed until the autumn feed gap when green feed will be most valuable. “Therefore, next grazing might be in March/April/May 2024 and then in Nov/Dec 2024. Grasses will need to be controlled prior to grazing in autumn with a pre-emergent application of Propyzamide or Ultro.

“There will be an enormous amount of ryegrass coming up, it will be good to control it very early. Post-grazing, we might need another grass selective herbicide like Select or similar plus a broad leaf herbicide depending on the weeds present,” said Daniel.

In early December Mitch reported that the Tederia seems to be handling the dry conditions well so far, better than the lucerne they also grow.

Katanning FEED365 Trials

The FEED365 demonstration sites in Esperance are offshoots from the core FEED365 trials being run at the DPIRD Katanning Research Station where 63 species are being trialled under grazing across 48 half-hectare plots between 2021 – 2025. It’s a significant undertaking that evaluates perennial legumes and grasses, annual legumes and grasses, specialist winter forages, grazing crops, opportunistic summer forages, crop stubbles, and shrubs. The desired long-term outcome of the project is to reduce supplementary feeding costs of a typical mixed farming business by 30% and lift on-farm profitability by 10%.

In October, ASHEEP & BEEF’s Executive Officer Sarah Brown met up with Claire Payne, a member of DPIRD’s research team based in Katanning. Claire’s focus in the project is on measuring animal production data to assess quality of pasture, rather than only pasture tests and modelling which is often the case. Once grazing of a plot commences, the sheep have weights and conditions score taken and this is repeated every three weeks. According to Claire, animal weight is a relatively good indicator of production throughout the year and condition scoring becomes particularly useful in summer and autumn.

Claire showed Sarah through several of the most promising treatments with details as follows. Images have been provided by DPIRD.



A- Cereal mix (Triticale cv Speedee 25Kg/ha and cereal rye cv Fastfeed (25Kg/ha) dry sown over regenerating French serradella cv Margurita. Grazing strategy: early winter & deferred grazing in early summer, it will regenerate in 2024. Photo date: 11/23.

B- Cereal mix (Triticale cv Speedee (25Kg/ha) and cereal rye cv Fastfeed (25Kg/ha) dry sown over regenerating subclover cv Forbes. Grazing strategy: early winter & spring, it will regenerate in 2024. Photo date: 09/23.

C- Cereal mix (Triticale cv Speedee (25Kg/ha) & cereal rye cv Fastfeed (25Kg/ha) dry sown with French serradella cv Margurita (20Kg/ha), crimson clover 20Kg/ha, subclover Forbes (20Kg/ha). Grazing strategy: early winter & spring & deferred grazing in summer, it will regenerate in 2024. Photo date: late 8/23.



D



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D- Triticale cv Speedee (60Kg/ha), Clover Mix: crimson clover (15kg/ha), subclover cv. Forbes (15Kg/ha), balansa clover cv Paradana (15Kg/ha) and gland clover cv Prima (15 Kg/ha). Grazing strategy: early and mid-winter grazing, deferred grazing in summer. Photo date: mid 09/23.

E- Regenerating serradella mix (Margurita (5Kg/ha) and Serramax (7Kg/ha) and tetraploid ryegrass (cv Astound) (14Kg/ha) sown in 2021. Grazing strategy: winter and spring. Photo date: 08/23.

F- Serradella mix (Margurita (5kg/ha) and Serramax (7Kg/ha) and perennial veldt grass (3Kg/ha) sown in 2021. Grazing strategy: early summer and autumn. Photo date: late 11/23.

G- Tagasaste and Saltbush. Photo date: late 11/23.

H- Tedera sown in 2021 (15Kg/ha). Grazing strategy: early summer and autumn. Photo date: 11/22.

I- Lucerne cv Sardigrazer (7Kg/ha), Chicory cv Commander (2Kg/ha), Cocksfoot cv Summerdorm (3Kg/ha) sown in 2021. Grazing strategy: Early summer and Autumn. Photo date: 10/23.



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You can find more information on the other treatments and a list of the species at www.agric.wa.gov.au/FEED365



Meat Eating Quality

Beyond the FEED365 project, Claire Payne is also undertaking a PhD in lamb eating quality, runs a terminal stud, and leads DPIRD's Objective Carcase Measurement Feedback project (2022-2025). She is well worth a chat if you have an interest in improving the tastiness of your flock.

The Objective Carcase Measurement Feedback project aims to 'assist WA producers with understanding carcase feedback, improving carcase quality, and hitting market specifications.' It focuses on using emerging technologies to measure lean meat yield (LMY) and eating quality (EQ) and envisions that improved measurements by processors will lead to these traits becoming profitable for farmers to pursue.

The project involves 40 farm businesses and has been working with meat processor WAMMCO's Dual Energy Xray Absorptiometry (DEXA) system to provide carcass feedback to participants. There are opportunities for more producers to get involved, Claire is currently looking for a second group to take part.

Find out more about the via the link below or keep up with Claire on X (Twitter) at @Claire_Payne24

www.agric.wa.gov.au/livestock-research-development/sheepinks-objective-carcase-measurement-feedback

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Red meat image reference: MLA & WAMMCO Meat the Market poster.

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UPCOMING EVENTS

evokeAG 20-21 Feb 2024, Perth, www.evokeag.com
eID Workshop (TBC), 12 Mar 2024, Esperance
ASHEEP & BEEF Expo: Handling Equipment, eID, Tech 13 Mar 2024, Esperance, www.asheepbeef.org.au/events
Esperance Zone Innovation AGM 14 Mar 2024, Esperance, www.ezi.org.au
Carbon Profile Workshop, 21 Mar 2024, Esperance
BEEF2024 5-11 May 2024, QLD, www.beefaustralia.com.au
ASHEEP & BEEF AGM + Conference 20 Jun 2024, Esperance
SA & VIA Livestock Tour 2-10 Aug 2024, www.asheepbeef.org.au/events

• FEBRUARY •

Next ASHEEP & BEEF Committee Meeting is scheduled for February 2024

Contact a committee or staff member to raise an item.

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