

The

Breeders Bulletin



Managers welcome



Welcome to the latest edition of the Sheep Genetics Breeders Bulletin. The team at Sheep Genetics are busily preparing for our Sheep Genetics Analysis Enhancements for 2024. Please register for a webinar to hear more about these exciting developments. These include updates to our LAMBPLAN carcase trait evaluations and the release of the final MERINOSELECT indexes. We are looking forward to the release of the Sheep Genetics Podcast in May. We recognise many of our breeders are looking for readily digestible information and we envisage this podcast will deliver

this. Our breeder 1:1s have been a great success as you can read about in the Bulletin. Be sure to take this opportunity to work with Sheep Genetics to focus on your data quality and achieve the best possible outcomes from our world-leading genetic evaluation.

Peta Bradley - Manager Sheep Genetics

Annual survey

Each year Sheep Genetics send a survey out to all LAMBPLAN, MERINOSELECT and KIDPLAN clients to gauge their satisfaction with the service and obtain feedback on materials, website and tools.

Service delivery

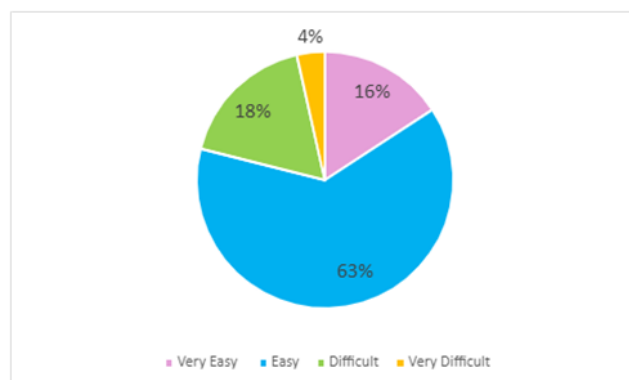
Around the 4 delivery questions, we take the questions and assign a value to generate a score for the year, we then compare this across the long term average to see how delivery compares. Generally we can see trends that link to when there were positions vacant or there were large scale changes implemented at Analysis Enhancements. Below is a table that shows the recent score for both LAMBPLAN (LP) and MERINOSELECT (MS) and the long term average.

	LP 2023	Average LP	MS 2023	Average MS
Requests are dealt with in a timely manner	4.0	3.9	3.8	3.8
Sheep Genetics staff are approachable and friendly	4.3	4.3	4.2	4.3
Sheep Genetics Staff are helpful and patient with requests	3.9	4.2	4.2	4.2
Staff members can be contacted easily	3.6	4.0	3.4	3.9

Submitting data

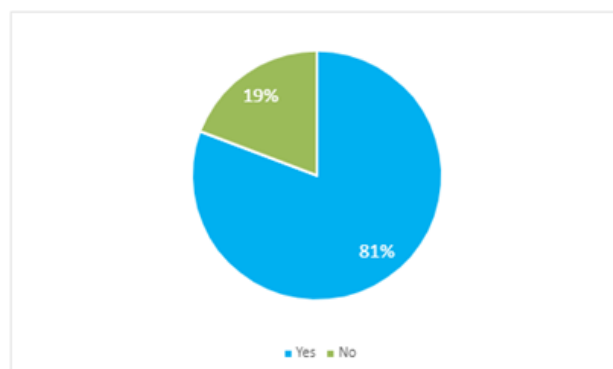
As we had the implementation of the online submissions portal where you can load your own

data, it was pleasing to see that of the respondents to the survey 53% had used the portal. We also asked a question 'How easy was it to load the file and submit data'. You can see from the graph below that 79% said it was Very Easy/Easy, which is a pleasing result for the first year of the portal.



Reports

Accessible via the results portal is the RAMPing Up Genetic Gain and Data Quality Score report. This is a useful tool to give insight and tips for improving your flocks ASBVs. Respondents to the 2023 survey indicated that 49% had accessed the report, and of that you can see below that 81% found the report useful and informative. Well worth checking out your flocks report online.



Improving data quality

Development Officers push for increased data quality

At the end of 2023, the Sheep Genetics Development Officers (Kate, Chloe, and Marnie) brainstormed ways to work with Sheep Genetics members to improve the quality of data in the analysis. As part of this, the DOs are creating targeted resources to help educate SG members on the importance of high quality data. Over the next 12 months, the DOs will individually contact flocks that have been identified as having the potential to improve their data quality in key areas including;

- Genomic pedigree inconsistencies
- Pedigree associated exclusions
- Reproduction data
- Low proportion of recorded pedigree
- Low levels of effective progeny
- Low numbers of unique dates of birth
- Low proportion of linkage and flocks that are not linked for key traits (analysis specific i.e., Terminal flocks not linked for carcase traits)



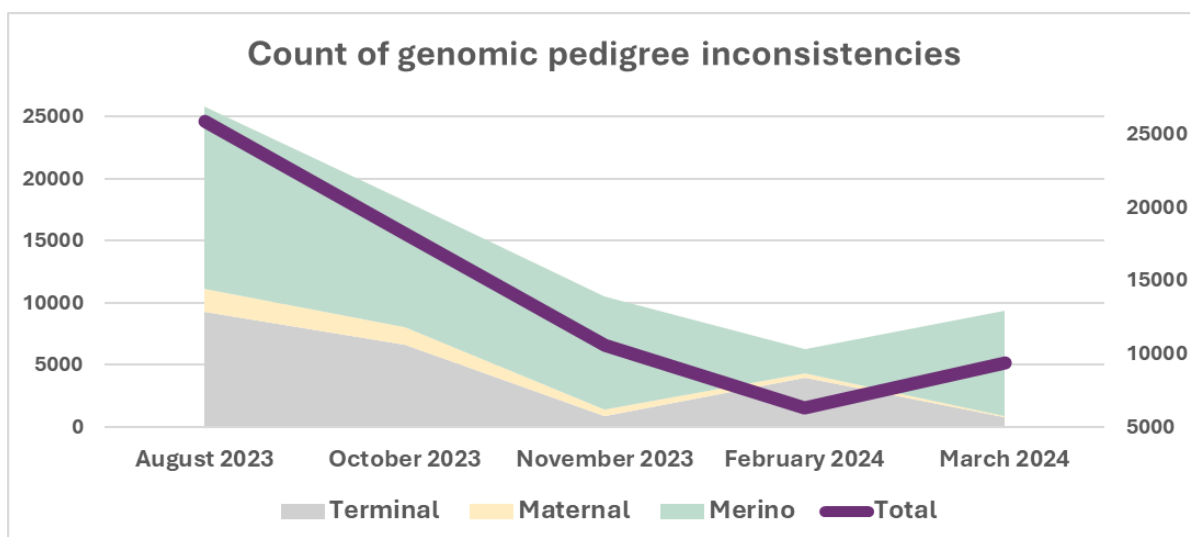
Please keep an eye out for emails regarding data quality from the Development Officers. If you would like to discuss your data quality, please scan the QR code to register your interest in a one on one.



Genomic pedigree successes

The Development Officers began individually contacting flocks that had a genomic pedigree inconsistencies (more than 10 GPIs with a result indicated by genomics) in August 2023. The number of GPIs across all analyses reduced by over 16,000 over the past 7 months which is a fantastic result!

Despite more genotypes added each run, the number of GPIs in MERINOSELECT reduced by over 40% between August 2023 and the first runs in March 2024. In the same period, the number of GPIs in LAMBPLAN decreased by just over 90%.



Breeder profile: Inverbrackie - Lynton & Ellen Arney

Property name: "Inverbrackie"

Breed: Border Leicester

Enterprise: Seedstock sheep producer

Location: Strathalbyn, SA

Rainfall: 390mm



Inverbrackie location: Strathalbyn SA

How long have you been using LAMBPLAN and what was your pathway to getting involved in LAMBPLAN?

It was a timely opportunity for Lynton when, in 1989, the offer was made to purchase the stud from his parents Tom & Doreen Arney. The immediate reaction was to say "No!" due to a comment from a lamb buyer coming to the farm to purchase 1st cross wether lambs. The comment was "If I knew they were borders, I wouldn't have come". A couple of weeks after the offer to purchase the stud he attended an Ag Bureau meeting at a neighbouring branch where the topic was LAMBPLAN. It made sense that if you can measure it, you can use the information to target change. This was the catalyst for Lynton to going back to Tom saying that that he would give the Borders a go. In the beginning there was only growth, fat and muscle and the breeding values were only within flock, not comparable across Australia as they are now. The frustration in the early years was the continual changes and improvements made to the analysis, changing the data and the direction of breeding. Eventually the frustration of data changing and moving disappeared as he accepted that data moving was enabling better breeding decisions for the future to be made. Lynton has always been known to seek information to gain a better understanding of what is involved in creating LAMBPLAN data and providing feedback on its use.

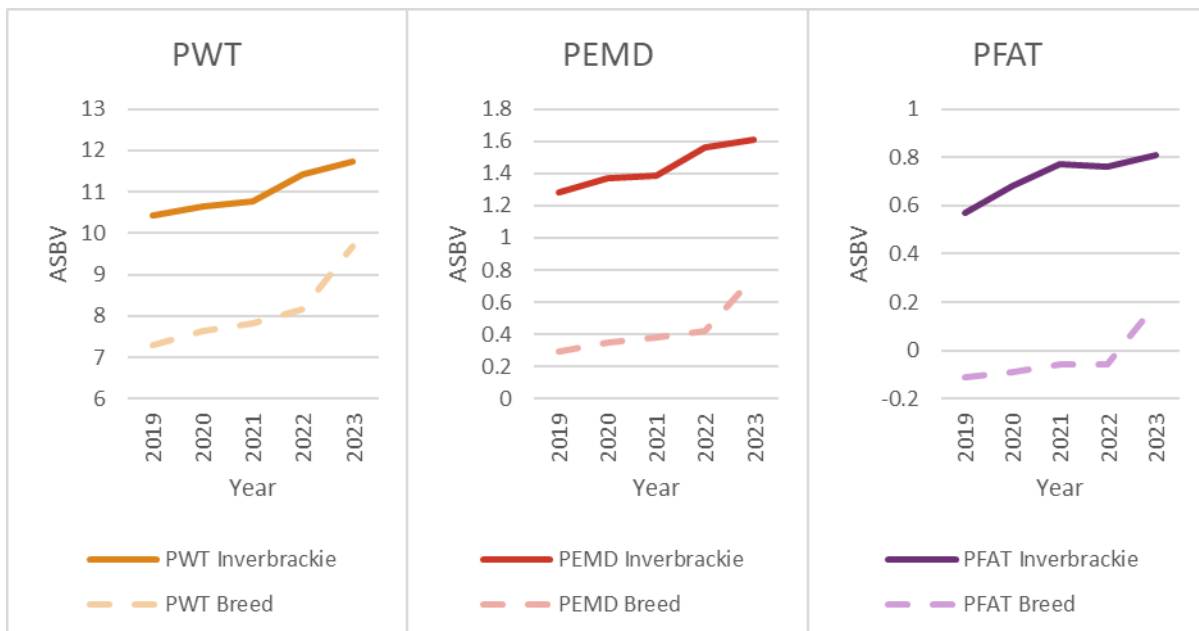
What are your breeding objectives, and how does it relate to your business direction?

We continue to be driven by that original comment from the lamb buyer and have focused

on putting a carcass into Border Leicester sheep and producing rams that produce profitable 1st cross ewes. When travelling on a Nuffield Scholarship a comment was made relating to the success of the Angus breed of cattle and Simmentals wanting to grab some of that success by becoming black, changing their fit in the beef industry. The comment revolved around that each breed should firstly understand their place in the industry and focus on that before trying to improve other traits. So, with Border Leicesters, if the focus is not on 2nd cross lamb production through maternal traits there is no place for Border Leicesters in the Australian sheep industry. Inverbrackie's breeding objectives revolve around growth and reproduction including fat before worm resistance, muscle, wool traits and the eating quality. If you are going to have fat for reproduction you must have muscle to compensate.



Inverbrackie ASBVs compared to breed.



What index are you using?

We try to avoid using an index as much as possible but when an index is referred to it is the MCP+. There are so many traits that come into play and there is no index that going to rank animals in a way that meets different individuals breeding objectives. An index does provide a rough sort however we prefer to use thresholds based on percentile band charts combined with our genetic trends for traits. This enables more focus to be placed on targeted areas taking into account the limitations of what is in our genetic portfolio and what is available from other sources.

performance. Pedigree Master does all that we require to get data into the system for analysis or exporting for sorting data in Excel. Lynton began using EID in 2005 and it has transformed data collection and finding particular animals in a mob. Ellen also uses Excel to look at data in different ways using VLOOKUP and pivot tables.

Do you employ a service provider?

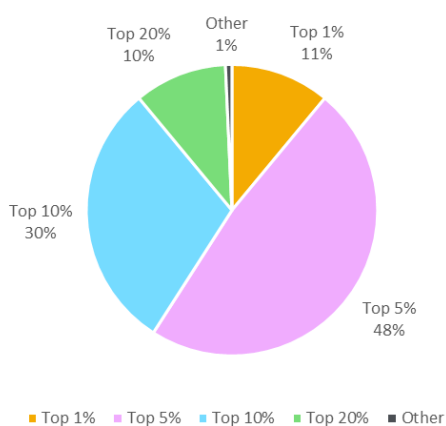
No. A service provider doesn't know our sheep like we do and it would be harder for them to sort out data issues that may arise as the historical data required for the fix is in our office. Getting new data into Pedigree Master only takes minutes. We keep up with what is available from Sheep Genetics by attending the regional forums and leading breeder workshops.

Do you collect birth site measurements? If so, what measurements do you collect and why?

Lambing rounds are done twice a day because when the lambs are still wet they don't run very fast. Lambs are tagged with visual tag at birth, birth weight recorded, litter size, date of birth and maternal behaviour score. We use the XR 5000 at lambing to provide us

with pedigree, based on ram in / out records, and use the offspring pairing function in the XR 5000 to record all the birth information including paddock of birth. This allows us to keep track of animals very closely and correct any data issues.

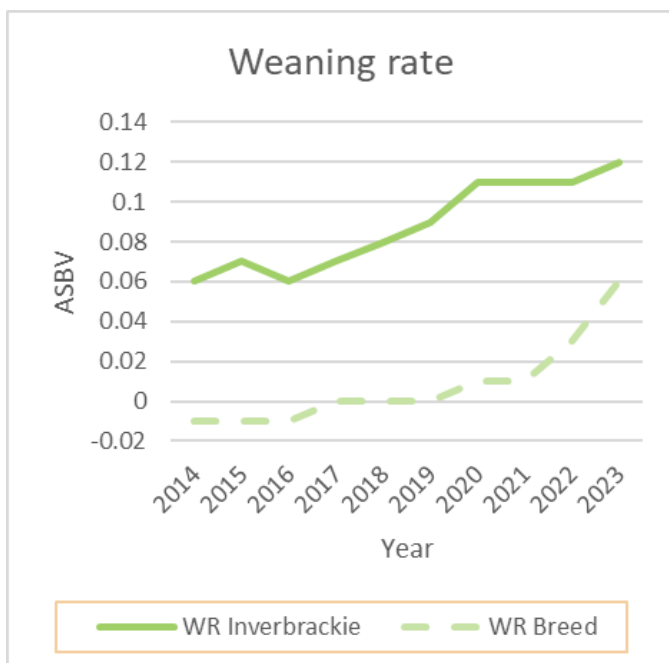
Proportion of 2023 drop Inverbrackie Border Leicesters in percentile bands - MCP+ First Cross Sire Breeds



What software do you use?

We use Pedigree Master and still have a working version of Pedigree Wizard that is used to access a dam history report that is used annually for identifying and culling ewes with poor repro

The XR box also contains the preg scan records to assist with birth type recording. A paper copy is also made in a duplicate book that stays in the ute and a copy goes to the office. DNA is collected from lambs when we are unsure of who a lamb belongs to, so we are able to maintain full pedigree on every drop. At lamb marking the electronic tag is put in identifying the lambs that don't survive as they don't have an EID recorded. In 2023 we began to use a lamb box to record a marking weight, which we believe will lead to a better indication of milk production. We drift lamb which allows us more quickly find lambs that need to be tagged and sets up our management groups based on the age of lambs. Weaning is carried out when the youngest lamb in each management group is 8 weeks old.



Have you faced any roadblocks, and how you overcame these challenges?

Reproduction is a trait measured later in life and has low heritability. Good quality reproduction data will continue to be an issue as the generation interval cannot be shortened and the data is repeatable but with a low heritability.

Our location continues to be a roadblock for us. It is not ideal for marketing as we sell less than 10 rams within a 50km radius and most clients are more than 2 hours away. Some 15 hours drive away so we generally deliver the rams to them. Distance has led us to using Auctions Plus and helped us identifying that we need to provide high

quality data and sufficient information that people feel comfortable purchasing rams without travelling to see the rams. We have worked with neXtgen Agri in the past few years to provide us with structural scores on the sale rams and the data we record is being used to train artificial intelligence to do the scoring in the future. In 2023 we changed the sale format with the rams remaining in the pens during the sale while having video of each lot running while being auctioned which has enabled us to speed up the selling process.

The biggest roadblock is tradition and the baggage that comes with it. We haven't been able to deal with that effectively other than to continue to keep up with the latest industry information and to focus on breeding sheep that suit the future requirements and not being swayed too much by tradition. We have dominated the Border Leicester listing in the LAMBPLAN database for a number of years and if we are to continue to make genetic progress it will have to come from within our flock. Linkage will be maintained by nominating rams for the resource flock and MateSel is used to manage inbreeding.

How are your commercial clients using the genetic information that you provide them? Do you have any examples of success stories?

Our commercial clients are a great bunch of producers who use the data heavily in their businesses, each having slightly different breeding objectives and emphasis with their trait selection. We also have clients that aren't frightened to put us under the microscope.

One of our clients consigned a group of 1st cross lambs with their 2nd cross lambs for processing so that they could compare results. Chiller assessment was organised for carcass shape and fat, with results showing no statistically significant difference between the 1st and 2nd cross lambs – a great result for the producer and Inverbrackie.

We also had a new client who is using EID to identify production differences. They joined an age group of ewes to a number of different ram sources and were able to compare ram sources with a 10% difference in preg scanning in their merino ewes. He was also able to identify a further 15% difference between the 3 lines of merino ewes that he purchased annually.

Another client who selects heavily for WEC has not drenched their 1st cross ewes for a couple of years.

This really proves to us and our clients that making breeding decisions based on data is really paying off. So far we have fared well in these trials that clients have undertaken. We understand that our client loyalty exists only while we can supply them with leading genetics, so we will continue to push the boundaries of genetic progress in the years to come.

What excites you about the future of sheep production?

Looking back, it has been a fantastic journey that we have been on for the last 30 years and don't see why it is going to stop. Lowering methane production is going to be one of our next challenges and we have always loved a challenge. Other technologies, like facial recognition of sheep will be great enabling much more data to be collected in the paddock. DNA is also providing more accuracy and information, though the importance of collecting trait phenotypes can't be understated. Flock profiling for 1st cross ewes will be a great advancement in prime lamb production.



Lynton is slowing up or the lambs are getting faster, either way, someone else will have to take on more of the physical work. The business is in transition to the next generation. Ellen was put on as manager in July 2022 and this year she has begun purchasing her way into the business. Lynton believes that if she is doing the work, then she needs to be rewarded for her work and decision making. That is exciting.

Hearing from Ellen Arney – Manager of Inverbrackie

I got my start in the industry when I was 13 and got my pick of 10 ewes from our flock to own and manage, with any progeny being mine to sell or breed from. Now 13 years on I am once again given the opportunity to purchase some more ewes to



Photo: Ellen Arney

expand my proportion of the flock and get underway even more in our succession of the business. I returned home in 2020, as most people did with covid, after working away at casual jobs and completing my double degree of Agriculture and Business at the University of England in Armidale. Although learning a lot about the industry through study, hands on experience can teach you just as much. I have an incredible wealth of knowledge learning from Lynton and being able to witness over many generations the difference in what we are breeding through genetic selection. This is a very exciting but somewhat lengthy process. We aim to collect raw data on as many traits and animals as we possibly can, to give us the most information, to make the best choices. Without measuring how do we know if we are going in the right direction?

Succession plan case study

Lynton has always encouraged and supported his daughter's paths into agriculture. When they were only 13, his daughters Ellen and Lauren were given 10 ewes. The girls' number of sheep has grown over the years and despite Lauren choosing another career she holds the stud's record for highest price ram sold. Now, with Ellen having a strong interest in the farm, Lynton has put Ellen on as manager, and has stepped back from the farm decision making. Ellen now has a piece of her own land to manage and reap the benefits from. Ellen is slowly purchasing more ewes and will purchase and lease more land off Lynton over time, until eventually she will have full ownership. With Ellen as farm and stud manager, she has final say in all breeding decisions associated with Inverbrackie, but uses Lynton as a mentor and sounding board.

Their partnership in this business has been very successful to date, with Ellen taking over as manager in July 2022. They are aiming for a 5-year transition period where Lynton can impart all his years of knowledge to Ellen while stepping back.



Photo: Lynton and Ellen Arney

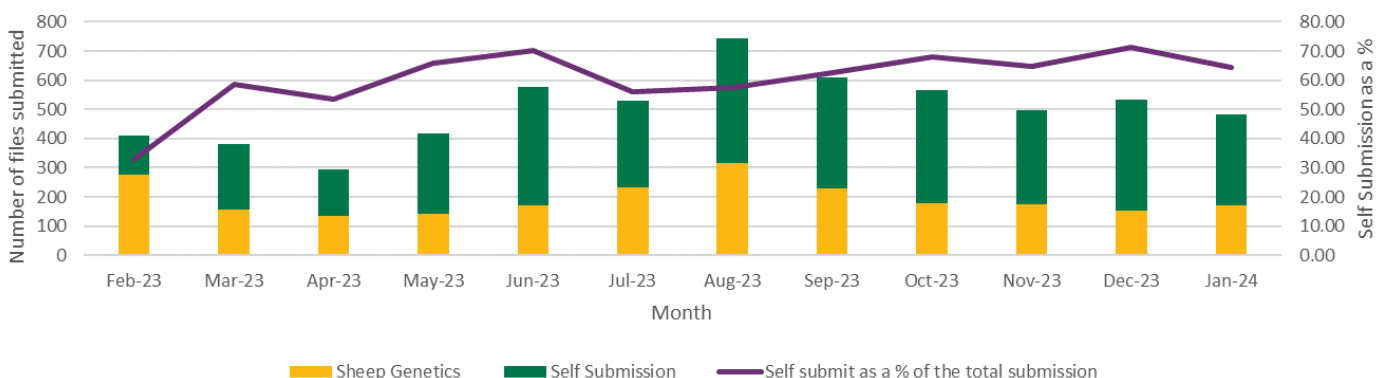
The Submission Portal turns 1

The submission portal was introduced to Breeders and Service Providers in February of 2023. Allowing real time feedback and identification of potential data issues, it has been a huge hit with large scale



uptake across the analysis. The submission portal was a fundamental change in how clients (seedstock breeders) interact with Sheep Genetics and has seen improved data quality and accuracy.

Submission of data file by User type



Merino Sire Evaluation field day

The New England Merino Sire Evaluation Association (NEMSEA) field day at Woodlands, Torryburn in early March provided Kate and Chloe with an excellent opportunity to engage with local sheep breeders and commercial producers.

The sire evaluation program conducted by NEMSEA compares the performance of multiple sires by assessing their progeny within a specific environment. This approach assists producers in identifying sires that excel within their specific conditions. The within flock breeding values calculated for animals involved in AMSEA trials only use data collected from the trial, rather than the entire MERINOSELECT database, meaning they are a very accurate representation of genetic performance within their particular production settings. All trait measurements collected during these evaluations are submitted to Sheep Genetics and incorporated into the MERINOSELECT database. This means these animals also receive ASBVs, which utilise all available data and provide standardised comparisons across environments.

On display at Woodlands was the 2023 and 2022 drop lambs, penned in sire groups. This gave attendees the opportunity to compare sires at a visual level, as well as via the within flock breeding values specially calculated for this trial.

The presentation of the 2022 drop evaluation results was conducted by Ben Swain, the AMSEA Executive Officer, along with Todd Whillock, the Site Chair. Following this presentation, talks were delivered on various research topics within the sheep industry by Josh Lamb and Eloise Spanner. Moreover, a session on utilising eID technology was led by Kiri Broad, Jock Nivison, and Jamie Swales. These sessions provided attendees with valuable insights into the latest advancements and practices in sheep breeding and management.

The field day was a great example of some of the research and work that goes into genetic evaluations, and the results gave producers valuable insight into the performance of some well used sires in the New England environment.

More information about the results from NEMSEA can be found on the following link, or by scanning the QR code.

www.merinosuperiorsires.com.au/merino-sire-evaluation-sites/



Photo: Woodlands field day

Events wrap up

Meat Elite and Superwhites combined meeting - March 24

Peta, Marnie, and Daniel Brown (AGBU) presented to Meat Elite and Superwhites across 3 days during the combined breeder group meeting in Albury. Upcoming analysis enhancements, Sheep Genetics business updates, as well as a large variety of genetic trends and potential areas of improvement that group members can make were presented and discussed. Both Meat Elite and Superwhites contribute approximately 30,000 of the terminal rams that are joined each year, so annual meetings with these groups are very beneficial for both the groups and Sheep Genetics.


Australian White Suffolk Association Conference - March

Peta and Marnie attended the Australian White Suffolk Association Conference in Halls Gap, where they presented to association members and joined producers for a walkthrough of Thomas Foods International in Stawell. Peta presented upcoming analysis enhancements and updates at Sheep Genetics, and Marnie presented a number of trends surrounding the performance and quality of data for White Suffolk flocks in LAMBPLAN. It was a great opportunity for Peta and Marnie to meet with Sheep Genetics clients across the 2 days to discuss any questions/queries as well as talk about data quality.

One-on-one

Sheep Genetics undertook 9 one-on-one breeder catch ups in February to discuss data quality and any queries breeders have about their data. Those breeders have supplied feedback following their one-on-ones, which showed that breeders have reported the effectiveness of the meeting with Sheep Genetics to be 92.5%! To organise a one-on-one with one of the Sheep Genetics Development Officers, please scan the QR code and fill in the form noting any queries or specific data quality areas to discuss.





Corriedale Eating Quality Field Day - March

Marnie attended and presented to ~40 producers at the Corriedale Eating Quality Field day at Skipton. The field day had a great turn out, with lots of members of the Performance Corriedale Group there as well as a lot of commercial producers. The Performance Corriedale Group are currently running a Satellite Flock focused on eating quality with several breeds represented including Corriedale, Border Leicester, and Composite Maternal sires. Progeny were penned by sire and on display at the field day offering a great opportunity to visually inspect differences across sire breeds. Some of the progeny will soon be phenotyped for eating quality traits, so keep an eye out for the results feeding into Sheep Genetics . Marnie presented some genetic trends as well as discussed the importance of eating quality, as well as how to select the best sire for a breeding objective.

Texel Eating Quality Satellite Flock Webinar

Kate and Marnie attended a webinar with Texel breeders and UNE staff (genetics researchers and meat scientists) to discuss results of the Texel Eating Quality Satellite Flock. There was good discussion around the trial and phenotyping process for eating quality data. Satellite flocks are a beneficial way to phenotype for hard to measure traits like eating quality, as well as increase linkage across flocks involved.

Scanner Accreditation

Each year Sheep Genetics run an annual scanner accreditation to ensure that carcass scanners are accurate and repeatable when measuring fat and muscle phenotypes. Kate and Marnie went down to Wagga Wagga in late March for the annual scanner accreditation. There are two parts of the accreditation process, the first day scanners measure ultrasound fat and muscle phenotypes for 40 sheep twice over. On the second day, the same sheep are put through a CT machine. We then assess the repeatability of scanners and correlations of their ultrasound fat and muscle phenotypes to the actual phenotypes recorded via the CT machine.

Sheep Genetics would like to extend a big thank you to Jodie and Andrew Green of Aloeburn stud as they supplied sheep for the 2024 accreditation process.

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