



The Breeder's Bulletin

Edition 2, 2019



MLA Genetics Campaign - No Jargon. No Complexity.



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Matesel

What is MateSel

MateSel is a mate selection and allocation software developed by Professor Brian Kinghorn. The software is used across agricultural species including fish, prawns, poultry, pigs, sheep and beef. MateSel optimises genetic gain on an index whilst maintaining genetic diversity within your flock. You can also put selection pressure on traits that may be outside your index. We have developed a front end interface so you can use MateSel to directly access the Sheep Genetic pedigree and ASBV databases. The Sheep Genetics version of MateSel now has over a 100 registered users.

Why attend a MateSel training

You need to attend MateSel before you get a user login to the software. During the training you will learn how to alter your current breeding program to get the best genetic gain from your flock. To get the most out of MateSel it is best if your flock has nearly 100% full pedigree because it draws on information through the pedigree to manage the diversity of the population.

How to use MateSel if you haven't/can't attend a training

People that use a MateSel accredited service provider and would like to know more about the program are also encouraged to attend the training.

In the past Sheep Genetics have held these training workshops in Armidale, however this year the workshops will be in Melbourne and Katanning plus potentially in other regions based expressions of interest. If you are interested in attending a MateSel workshop please contact Sheep Genetics and you will be added to the expressions of interest list and will receive all upcoming correspondence, alternatively you can register your interest at: <http://www.sheepgenetics.org.au/Resources/MateSel>. Please note the cost of the workshop is \$250 per person for 2 half days which includes the training and meals.



Submitting Carcass Scanner ID with data

As of the 1st of July it is now mandatory that Carcass Scanner Accreditation Number is included when submitting data.

It is a strict requirement of the Sheep Genetics Breeders Quality Assurance Guide that all Australian carcass scan information be recorded by an accredited or provisionally accredited scanner. For this reason, we now require all breeders to submit the accreditation number of their scanner when sending in data. An accredited or provisionally accredited scanner must supply their accreditation number to you at scanning. You can confirm your scanner is accredited by checking the Sheep Genetics website.

Genotyping in the short and long term

Genotyping and DNA Parentage Pipelines

The Sheep CRC concluded on June 30th and CRC genomics database was given to MLA. During the Sheep CRC a single genotyping company provided genomic products. Now that MLA has the database, multiple genotyping companies can contribute genotypes to the database.

This central database means you have more options for genotyping whilst keeping access to previous genotypes or parentage results. This will allow you to shop around to find genotyping provider that best matches your needs. MLA is establishing agreements that outline minimum standards for tests provided by genotyping companies to ensure compatibility with the central database.

Unfortunately, the revised genomic pipeline will not be ready for industry use by the end of October, 2019. Therefore, recommendations are provided below regarding genotyping in the short-term, and what breeders can expect in the longer term.

Genotyping in the short-term

If you require genotyping results in the next few months, it is recommended that you test with the current provider (SheepDNA/Neogen), to ensure the test is compatible with the genomics database. Testing with the current provider also ensures that you will have access to previous genotypes, when the central database becomes available.

Genotyping in the longer term

If you are considering genotyping in the longer term, and are looking to investigate what other providers may offer, we recommend that you hold off submitting samples until all relevant agreements are in place. Please note that this is only recommended if you do not need results in the short term.

We expect that a range of products will be available to you in the future. You should consider any potential Sheep Genetics recommendations regarding testing of different breeds.

DNA parentage

It is important to note that for DNA parentage testing, it is not required that you test with the current provider to get results. This is because breeders are directly sent the results of these tests, who must enter them into their software, and submit them to Sheep Genetics to be included in the evaluation.

However, it is important to note that to have access to previous parentage results (ie previously tested sires or dams) you must test with the same provider in the short-term. Once the central genomics database is developed you will be able to shop around for the best parentage test and have access to those previously tested animals, even if tested through a different company.

Contact the Sheep Genetics office for genotyping or DNA parentage testing questions. We will update you on progress about the central database.

RamSelect pricing

Changes to RamSelect Prices for Ram Breeders

From the 13th of June 2019 the University of New England and the Sheep CRC have agreed to remove the ram listing fees on RamSelect. Therefore, this means that **ram breeders will no longer be charged to list their catalogue on the RamSelect website**. Breeders that wish to have their catalogue on RamSelect can do so by:

- Directly uploading their catalogue to RamSelect
- Uploading it via the Sale Catalogues section of the Sheep Genetics website where it will appear on both the Sheep Genetics website and on RamSelect

It is anticipated that the removal of this fee will increase the number of catalogues on the site, promote increased ram searches, and use by ram buyers.

Ram buyers who wish to store breeding objectives and ram teams will continue be charged a user account fee of \$27.50. While users paying for flock profile tests will have the option to store the results in RamSelect, their user account will be free for the first 12 months.



MLA genetics marketing campaign



YOUR PRODUCTIVITY WITH GENETICS

better breeding values > better progeny > better performance

No jargon. No complexity.

Just a clear look at how better breeding values can help you accelerate your flock's productivity.

The problem

There's an inextricable link between genetics and the commercial profitability of the Australian livestock industry. Despite the linkage between genetic gain and profitability, the uptake of genetics by commercial livestock producers is low in some sectors.

The reasons

Research indicates that many producers are not convinced that genetic practices will ultimately deliver a net financial return. It found that the key barriers to adoption are a lack of value proposition to invest in superior genetics, a lack of education resources around genetics and using breeding values and the genetics language being 'too complex' to understand.

The solution

The low adoption of genetics by commercial producers is being addressed through a range of measures, including activities funded via the National Livestock Genetics Consortium and MLA's genetics adoption strategy.

One of the measures identified in MLA's genetics adoption strategy is a marketing campaign which addresses the lack of value proposition and provides tools and resources to help producers get started with genetics.

This document provides a summary of the campaign strategy.

The approach

The primary target audience of the campaign is commercial livestock producers: tropical and temperate cattle producers and Merino and prime lamb producers who either under-utilise or haven't adopted breeding values but are open to learning about them.

At the heart of the marketing campaign is a custom designed microsite that has been deliberately designed and written with non-users of breeding values in mind. The site is jargon free and has a simple design. All campaign collateral will include a call to action to visit the site. Within the site, there are calls to action to attend relevant workshops, visit relevant websites, contact relevant genetics advisors and read relevant publications.

The site houses brand-new content to assist producers in understanding and using breeding values.

This includes:

- 'Pick the performer' ads demonstrating the value of investing in quality breeding values
- Videos of commercial producers demonstrating the value of breeding values in their herds and flocks
- How-to animated tutorials on the basics of breeding values, setting a breeding objective and picking a high-performing sire etc.

The microsite is now live and you can visit it at:

www.genetics.mla.com.au

The campaign will be rolled out in three main streams.

More information

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Timing	Streams	Aim	Key resources	Call to action	Communication channels
First half of July	1: Why pursuing genetic progress is profitable	<u>Build awareness</u> about the value of investing in genetics and that good looking sires are not always good performers	'Pick the performer' ad demonstrating the value of investing in quality genetics	Visit the microsite	Beef/Sheep/Genetics Central ads Fairfax rural papers MLA social media MLA media release MLA Feedback magazine Webinars
Second half of July	2: Examples of commercial peers using genetics	<u>Build awareness</u> about the value of investing in genetics	Producer case studies demonstrating the value of genetics in their herds and flocks.	Visit the microsite	
August/ Sept	3: Getting grounded in genetics	<u>Inform</u> producers about how to get started with genetics	How-to video tutorials on genetics campaign microsite, including how to pick a high-performing sire.	Attend Bred Well Fed Well or Breeding EDGE/ contact third party network	

How to get involved

Seedstock producers are welcome to share the resources on the site with commercial clients to assist them in understanding breeding values and using them to purchase sires with superior genetics.

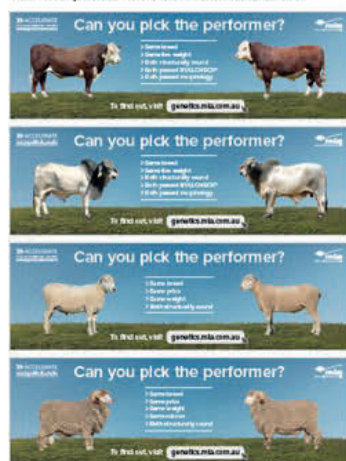
Collateral has also been developed for seedstock

producers to include in sale catalogues and newsletters. This includes flyers, ads and e-signatures. Samples of this collateral are shown below and can be accessed on the following link.

www.genetics.mla.com.au/share

PRINT

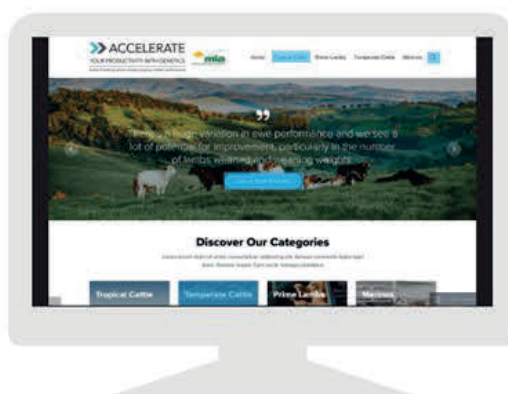
Pick the performer ads: Feedback Extra



Case study ads



LOGO AND TAGLINE



Microsite homepage

DIGITAL

Pick the performer tower ads (GIFs)



Case study tower ads (GIFs)



Microsite ad



Leaderboard ad (GIF)



Explaining TCP to commercial ram buyers

A new terminal index Terminal Carcase Production (TCP) has been introduced. It will fully replace Carcase Plus by March 2020. Until then, Carcase Plus will still be available to assist ram breeders and ram buyers to transition to TCP. Sheep Genetics understands it can be

challenging for you to explain TCP to commercial ram buyers. The following materials have been prepared to help you with the transition:

Resource	Intended application	Location
Ram buyer flyer: <i>Terminal Carcase Production (TCP) index – Replacement for Carcase Plus</i>	A flyer explaining simply why TCP was introduced, what it can achieve and how to use it. This document can be used by ram breeders in sale catalogues	Mailed out SG website
Ram buyer index guide <i>What TERMINAL index should you use?</i>	A document to help commercial ram buyers to decide which index to use and a brief explanation of each index	SG website
Ram breeder index factsheet	A detailed document explaining each of the Sheep Genetics terminal indexes targeted at ram breeders.	
Development Officer	Call or email if you have any further questions	jtaylor@mla.com.au 0280551818

How is eating quality included with increase growth and lean meat yield?

Carcase Plus is an old desired gains index that increases growth and lean meat yield, however it does not include eating quality traits. This means that when you use Carcase Plus there can be an unfavourable response for traits like intramuscular fat and shear force. We developed TCP developed to maintain eating quality whilst simultaneously improving growth and lean meat yield to a similar extent as Carcase Plus.

Since we made Carcase Plus, research identified ways to breed for eating quality in Australian lambs. Additionally, we have changed the way we develop selection indexes by including economic weights for traits based on their value to the whole supply chain.

We now have carcase information in the terminal analysis to build an index that produces a favourable response for growth, lean meat yield and eating quality. There are over 20,000 animals recorded for meat science traits like Intra Muscular Fat. This information was collected from the MLA Resource Flock, the former CRC Information Nucleus Flocks and projects by private breeders and breeder groups.

Although there are not yet supply chain signals to sheepmeat producers for eating quality, a value has been placed on eating quality from information

collected from consumer sensory taste panels and willingness to pay data. This data reveals that consumers are only willing to pay half of the full retail price for lamb that does not meet their expectations but are willing to pay up to twice as much for product that is exceptional quality.

To include overall consumer liking in Terminal Carcase Production, intramuscular fat and shear force are used as indicator traits in the index. These two traits account for a lot of the genetic variability in eating quality. Animals get their breeding values for IMF and SF5 from linkage to reference populations and also from correlations to other traits.

For those flocks that are not well linked to reference populations, the outcome for overall eating quality is still predicted to be better than if they were using Carcase Plus.

Without direct feedback from processors on eating quality, it may seem that adding eating quality to terminal indexes is premature. However, genetic gain is slow and TCP's role is to ensure that ram breeders are in a position that does not disadvantage them in the future. Without the introduction of TCP, eating quality would continue to decline.

What are the details of the change in index accuracy?

The accuracy value is a measure of the amount of information used to estimate the ASBVs for an animal. Sheep Genetics determine appropriate accuracy thresholds for reporting ASBVs and indexes. These thresholds are related to the heritability of a trait and for indexes, the accuracy threshold depends on the traits that make up the index. For indexes with fewer traits in them such as Carcase Plus, the reportable threshold is higher than that for an index with more traits such as TCP.

Why is the scale different?

There is a noticeable difference in index values between TCP and Carcase Plus. This is due to the way that indexes are built. Carcase Plus uses an older method of calculation, called desired gains, and the index values are not in a relevant unit. TCP is calculated using bio-economic modelling software, *SheepObject* which places economic values on the traits that influence profitability in that production system. The majority of Sheep Genetics are calculated this way. Unlike Carcase Plus, a unit increase in TCP reflects an additional dollar per ewe joined per year meaning the units are more meaningful. A visual that depicts the changes in numeric scale can be found on the ram buyer flyer: *Terminal Carcase Production (TCP) index – Replacement for Carcase Plus*.

Strategies around applying TCP to sales and selection

Ram buyers still should use TCP the same way as other indexes. Please see find the key steps below:

Before the sale:

- Rank animals in the sale on index value
- Consider the individual ASBVs which are important to you to create a short list of rams to look at on sale day

At the sale:

- Look through your short list of rams to find the ones that meet your structural and type requirements

For more information and resources to assist ram buyers with picking sale rams please refer to the how-to-videos on the MLA genetics site: genetics.mla.com.au

To assist in benchmarking sale rams relative to the current year drop of animals in Sheep Genetics, use the percentile band tables, which are found on the Sheep Genetics website (<http://www.sheepgenetics.org.au>). The animals in the top 10th percentile rank the highest on the index, and those in the 90th percentile rank the lowest.

Specifying pedigree type

Sheep Genetics checks data quality when data is submitted and analysed. These checks ensure we generate the best quality breeding values possible.

One common check is that lambs entered as twins must have the same sire. DNA parentage tests, however, often identify twin lambs have different sires when sires are syndicate mated. Therefore, to prevent twin lambs sired by different sires being excluded when DNA parentage is used, pedigree type needs to be captured when entering data into the software. If pedigree type is not specified and twins are entered with different sires then the pedigree will be excluded from the evaluation.

Furthermore, to ensure the continual development of the analysis, pedigree type for other pedigree methods is encouraged to be captured in the software. Pedigree Type is recorded for both the sire and dam. All software

can capture this information. If you have questions about how best to enter this information please contact your software or service provider.

The different pedigree types that can be specified are:

- Mothering at Birth
- Mothering at Marking
- Mothering at Weaning
- DNA
- Pedigree Matchmaker
- Single Sire Lambing
- Inferred from Dam
- Inferred from Lambing Data
- Other

Interpreting the pedigree inconsistencies report

Interpreting the new Pedigree Inconsistencies report

Sheep Genetics is now reporting pedigree inconsistencies as part of our routine analysis. A PDF report titled 'Pedigree Queries' is now attached to your Analysis Results email as an additional report, for those breeders who have flagged inconsistencies in the database. This document identifies genotyped animals that have inconsistencies between the supplied pedigree and the pedigree described by the genomic test.

The report has four columns:

Animal ID: the ID of the animal with inconsistent pedigree.

Pedigree Type: the type of pedigree which has the inconsistency i.e. if it is the supplied sire, or dam that is incorrect.

Pedigree Supplied: the pedigree that was supplied to Sheep Genetics by the breeder via the data

submission.

Indicated by Genomic results: the pedigree as indicated by the genomic test. This proposes the parent more likely to be a parental candidate according to the genotype. We can only provide a proposed parent if the more likely candidate has been genotyped and is in the database. This column will be blank if the true parent has not been genotyped.

Please note that pedigree discrepancies are only identified between supplied pedigree and full genomic tests, not DNA parentage results.

This is the first time these inconsistencies are being reported at a routine level, therefore some breeders may find the lists of inconsistencies very extensive. Note that these inconsistencies can be from other reasons apart from incorrect pedigree, including sampling errors. Therefore, consider all possibilities when investigating.

Working through Pedigree Queries reports

1. Start with the most recent drop on the report, and work backwards from here.
2. If there is a parent indicated by the genomic result, consider the likelihood of that animal being the correct parent
 - Was the proposed parent in your sire team (or a dam) in the relevant drop?
 - * was cross-contamination occurring between an AI/ET program?
 - * Is the proposed sire in your back-up sire team?
 - * Could there have been mis-mothering during mothering up, with lambs that were born in the same interval between lambing rounds?
 - Has the proposed parent been used in your flock?
 - * Could a ram have got through the fence?
 - Has the ID of the sire/dam been incorrectly entered?
 - * Looking for other progeny of this sire or dam can assist in check if the ID has a typo, as often they will not have any other, or very few, progeny.
 - * Could samples have been mis-labelled when they were taken and tested?
3. For animals where there is no proposed parent, consider potential alternative parents, which may not have a genotype in the database (for example the back-up sire).
4. There is also the option to re-genotype animals, if you believe it may have been a sampling error with the original genotype.

Contact the Sheep Genetics team for assistance working through the Pedigree Query report.

Fixing the incorrect supplied pedigree

If you find that the supplied pedigree is incorrect, please update the parentage in your on-farm software. You will then need to re-export the drop of

the effected animal for an analysis run to update the pedigree information for that animal in the evaluation.

*please note the disclaimer at the foot of the report

2019 Service and software providers workshop

Over the course of the 30th of April and 1st of May Sheep Genetics ran its annual service provider training workshop where over 30 service providers from across the network attended. Service Providers are an important extension of the work Sheep Genetics does and the development of this network is something that is core to the Sheep Genetics business plan.

Tom Granleese from the Sheep CRC, Sam Walkom from the Animal Genetics and Breeding Unit and Sam Clark from the University of New England, joined the Sheep Genetics team in delivering the workshop. Topics for the workshop included the Fundamentals of ASBVs, how the quality of data into the evaluation impacts the quality of the breeding values derived, a Sheep Genetics update as well as an overview of the tools that available to service providers.

The second day began with a workshop on how to develop a new trait and how take it right through to being a fully-fledged ASBV. The group was tasked with considering examples of traits that might be important into the future. Following on from the genetics tool kit session the previous day, Tom Granleese unravelled the workings of genomic prediction as a tool and discussed how this technology can be best used in flocks. Finally, the workshop concluded with a session

on MateSel where service providers got to use the tool and work through examples.

Sheep Genetics would like to thank the Sheep CRC for its support of the dinner for service providers as well as its support of the Sheep Genetics service provider network over the last 8 years.

If you are considering using a Service Provider please consult the list on the Sheep Genetics website for endorsed Data Managers, Genetics Advisors and MATESEL Advisors as well as to find a list of accredited Carcase Scanners. <http://www.sheepgenetics.org.au/Service-providers>

Following the Service Provider workshop the Sheep Genetics team met with the different software companies to discuss the on-going developments and to ensure that software's align with the required format for Sheep Genetics data submission. It also is an opportunity for Sheep Genetics to report on the analysis enhancements so that software companies can implement these changes to the front-end interface that our breeders interact with. If you have any questions about how best to use these functions and features, please contact your software provider.

Accredited carcase scanners list

current 18/10/19

Name	Status	Location	Telephone	Email
Trevor Pearce	Accredited	Young NSW	Mob: 0428 993 061	tpscanning@gmail.com
Tim Lawrence	Accredited	Armidale NSW	Mob: 0419 147 419	timlawrence1974@gmail.com
Jake Burey	Accredited	Holbrook NSW	Mob: 0427 507 409	jburey01@gmail.com
Ric Power	Accredited	Goulburn NSW	Mob: 0437 131 925	richard.power@landmark.com.au
Steve Milne	Accredited	Hamilton VIC	Mob: 0428 786 327	sjdjmilne@bigpond.com
Chris Parker	Accredited	Hamilton VIC	Mob: 0429 992 477	info@summitpark.com.au
Ian Bradtke	Accredited	Peterborough SA	Mob: 0407 729 341	ian@lazerline.com.au
Rachel Chirgwin	Accredited	Saddleworth SA	Mob: 0428 600 265	rachel@cvsuffolks.com.au
Nick Lawrence	Accredited	Bordertown SA	Mob: 0447 077 705	pinnaclesuffolks@bigpond.com
Peter Moore	Accredited	Williams WA	Mob: 0427 176 332	scanwest@bigpond.com
Mike O'Neill	Accredited	Noggerup WA	Mob: 0409 684 332	micviconeill@bigpond.com
Tamesha Gardner	Accredited	Kojonup WA	Mob: 0408 001 353	stocksmart@idavale.com
Liz Barby	Accredited	Kojonup WA	Mob: 0419 194 798	liz.barby@gmail.com

Sheep Genetics Staff Updates

Gus Rose—Manager

Sheep Genetics is delighted to announce the arrival of our new Sheep Genetics manager. Gus Rose commenced work with us this week and is already busy getting more understanding of Sheep Genetics.

Gus grew up on a sheep and grain farm in Western Australia before doing a Bachelor of Animal Science at the University of Western Australia. He then worked as a research officer at the Department of Agriculture and Food Western Australia mostly evaluating the impact and adoption of sheep and pasture research projects. Gus also completed a Master in Agricultural Economics exploring how labour requirements and limitations impact farm management and profitability. Gus's PhD in Animal Breeding at Wageningen University investigated how breeding can be used to make sheep and farms resilient to uncertain pasture growth and prices. Gus has been living in Greece for the last 5 years working on research projects for sheep and goats.



Daniel Brown will continue to work with the team over an extended transition period after that return to his research scientist role at AGBU working on Sheep Genetics research and development.

Please join with us in welcoming Gus to the team.

Emma McCrabb—MERINOSELECT

Emma joined the Sheep Genetics team as the MERINOSELECT Development Officer in November last year. Emma recently completed a double degree of Bachelor of Agriculture and Bachelor of Business at the University of New England. During this time, Emma had the opportunity to participate in a study tour of Argentina for the IFAMA Agribusiness case study competition, Intercollegiate Meat Judging and National Merino Challenge. She also gained experience in the sheep supply chain through work with stock agents, and in wool trading. Prior to starting her university degree, Emma worked on a cattle station in the Kimberley region of WA.



Emma has grown up on a commercial merino and beef enterprise near Hay, in south-west NSW.

James Taylor—LAMBPLAN

James also joined Sheep Genetics as the LAMBPLAN Development Officer in November last year. James completed a degree of Bachelor of Agriculture majoring in Production Animal Health at the University of Melbourne. During this time he was involved in the Intercollegiate Meat Judging team both as a competitor and coach. After completing his degree James worked on mixed farming properties in Northern Victoria and the Riverina.

James is from a beef, sheep and lucerne property at Tandarra in Northern Victoria where he also runs his own flock of commercial merinos. While studying, James completed a MSA Meat Science course.



2019 Regional Forum Updates

Annually, Sheep Genetics runs a number of Regional Forums across the country for all members between May and July. The forums this year had excellent attendance with more than 115 breeders attending forums held at:

Glen Innes, Bendigo, Wagga Wagga, Adelaide and Perth

Genetics is a continually evolving space and Regional Forums are a great opportunity to stay up to date on the submission requirements, latest analysis developments and new tools to diagnose recording levels on an individual flock basis. Feedback from the 2019 regional forums was extremely positive with one of the highlights being the opportunity for breeders to go through their individual flock reports with Sheep Genetics staff on a one-on-one basis.

Sheep Genetics attempts to update the content

delivered every year at these forums so that there is something on offer for all breeders. We strongly encourage breeders to attend. For dates for the 2020 Regional Forums please keep an eye on Sheep Genetics communications.

The Ramping Up Genetic Gain report is still a key focus of the Sheep Genetics Regional Forums. The report focuses on the factors that influence the rate of genetic gain and how a flock is performing for these. One of the key components of the report is identifying areas where flock performance and data quality can be improved. If any breeder would like an immediate copy of their Ramping Up Genetic Gain report please contact the Sheep Genetics office and the Development Officers will be able to create your report and discuss your report with you.

Sheep Genetics Advisory Committee

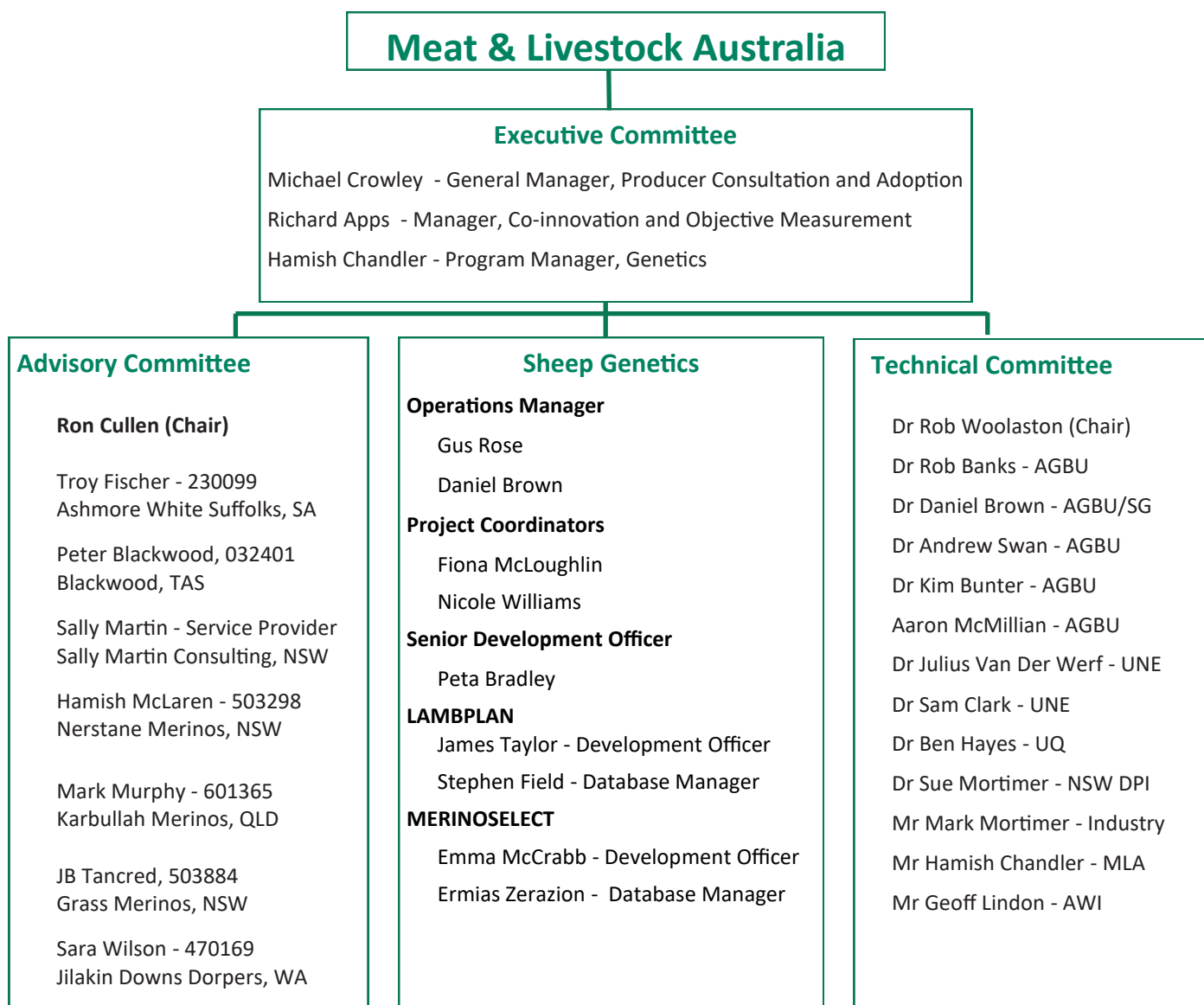
The Sheep Genetics Advisory Committee comprises the Sheep Genetics Executive, six industry representatives and an independent Chair. The Sheep Genetics Advisory Committee has been established to assist in communication and representing to MLA the views and requirements of current and potential clients and the wider sheep industry. The Committee has an active role in business planning and annual review of the operational performance of Sheep Genetics.

Sheep Genetics have recently appointed two members to the advisory committee after Murray Long and Mark Mortimer have completed their time on the

committee. We would like to thank Murray and Mark immensely for their contribution the Advisory Committee over the past years. As a result, Sheep Genetics have appointed two new members to the Advisory Committee and would like to warmly welcome JB Tancred and Peter Blackwood onto the Advisory Committee.

If any Sheep Genetics member would like anything brought to the attention of Sheep Genetics and would like an alternative means to do so please contact a member of the Advisory Committee. Details can be found on the back of the Breeders Bulletin.

Sheep Genetics Organisational Structure



**Sheep Genetics staff should always be
the initial contact point for all communication**

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