

meatup

FORUM

For the latest in red meat R&D

Longreach, 25 March 2022

Hear about locally relevant on-farm R&D

Hear from and network with leading producers

Gain insights into tools and programs to improve your business

Increase your productivity and profitability

meatup FORUM

8:25am – 6:30pm

in collaboration with

Leading Sheep Dinner

6:30pm – Late

Guest speaker: Dennis Hoiberg, Lessons Learnt Consulting



Australian Government
Department of Agriculture,
Water and the Environment



The Leading Sheep MeatUp Forum dinner is jointly funded through Australian Government's Future Drought Fund and Leading Sheep.

MeatUp Forum Program: Longreach, 25 March 2022

Time	Session
8:00am	Registration desk opens, tea and coffee available
8:25am	Proceedings commence in the Auditorium
8:25am	Welcome and housekeeping Natasha Searle, MeatUp Forum Project Manager, Pinion Advisory
8:35am	MLA welcome and market update Michael Crowley, General Manager for Research Development and Adoption, MLA
9:00am	AWI wool industry update Emily King, Program Manager, Research and Extension, AWI
9:20am	How to improve sheep reproduction rates to increase productivity and profitability of your business Gordon Refshauge, NSW Department of Primary Industries
10:00am	MLA goat benchmarking report review John Francis, Agrista
10:40am	Morning tea
11:10am	Combining subjective and objective measurements to make informed decisions when investing in genetics Emma McCrabb, Sheep Genetics
11:40am	Maiden does may be the weak link to greater weaning rates Gordon Refshauge, NSW Department of Primary Industries
12:20pm	Diversification into agritourism David Counsell, Dunblane, Barcaldine
12:35pm	Lunch
1:35pm	Recruitment and retention in Western QLD Anna Cochrane, Isis Downs Station, Consolidated Pastoral Company
2:00pm	Equivalency of kangaroos, sheep, goats and cattle: what they eat, how much and implications for grazing management in a multi-species system Lester Pahl, Queensland Department of Agriculture and Fisheries
2:40pm	Managing sheep feed intake and nutrition requirements from joining through to weaning Rob Inglis, Elders
3:15pm	Afternoon tea
3:30pm	Business management – what are the quantitative and qualitative costs to be aware of when investing in infrastructure? John Francis, Agrista
4:15pm	Goat and sheep market trends, risks and opportunities Emma Fessey, AuctionsPlus
4:50pm	Wrap up, next steps, and evaluation Natasha Searle, MeatUp Forum Project Manager, Pinion Advisory
5:00pm	Pre-dinner drinks - Longreach Civic Centre
6:30pm	Leading Sheep MeatUp Forum Dinner - Longreach Civic Centre Guest speaker: Dennis Hoiberg, Lessons Learnt Consulting

Poll Everywhere

For audience participation, including submission of questions during MeatUp Forums, we will use Poll Everywhere.

Join via the QR code below. You may choose to download the app 'Poll Everywhere' when prompted.



PollEv.com/pinion

1. To join a presentation, type the username: **pinion** (or via a web browser, type PollEv.com/pinion)
2. Click join
3. Insert your screen name that you would like to appear alongside your question/response
4. Throughout the event, you can return to your app, the site PollEv.com/pinion or the QR code to participate.

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Welcome

Meat & Livestock Australia Limited (MLA) delivers research, development and marketing services to Australia's cattle, sheep and goat producers. MLA has approximately 50,000 livestock producer members who have stakeholder entitlements in the company.

MLA's MeatUp Forums are held throughout southern Australia to give you the latest in red meat research, development and adoption (RD&A). They are developed by Regional Producer Working Groups that include members from the Southern Australian and Western Australia Livestock Research Councils, in collaboration with the MeatUp Coordinator (Pinion Advisory) and MLA.

MLA's MeatUp Forums have been developed to keep you informed about:

- ◆ what MLA can offer your red meat business
- ◆ new and completed R&D that is relevant to your region and enterprise
- ◆ the role and responsibilities of the livestock research councils
- ◆ opportunities to get involved in regional R&D and priority-setting
- ◆ practical tools and programs available to you
- ◆ opportunities to enhance your productivity and profitability.

Today you will be presented with clear and practical ideas, information, and tools that you can take home and put into practice on-farm. We thank the presenters on the program today for their involvement in MeatUp and encourage you to make the most of your time with them today.

Regional producer working group

We thank our rangeland MeatUp Forum regional producer working group members for their contribution to MeatUp and supporting the development of the program for MeatUp at Longreach. The current working group includes:

- ◆ David Counsell, Barcaldine, Queensland
- ◆ Brett Smith, Walgett, New South Wales
- ◆ Felicity McLeod, Wentworth, New South Wales
- ◆ Gillian Fennell, Marla, South Australia
- ◆ Jamie Jones, Adelaide, South Australia

If you are interested in joining our regional producer working group, please chat to a working group member, a member of the MeatUp Forum team or contact the MeatUp Forum Project Manager.

Leading Sheep collaboration and local producer input

We thank the Qld local producers and service providers for supporting the MLA MeatUp Forum and providing local input towards the program to ensure the event is regionally relevant. We also thank Leading Sheep (QDAF and AWI) for collaborating with the MeatUp Forum team to bring the Leading Sheep MeatUp Forum and Dinner to Longreach.

Contact

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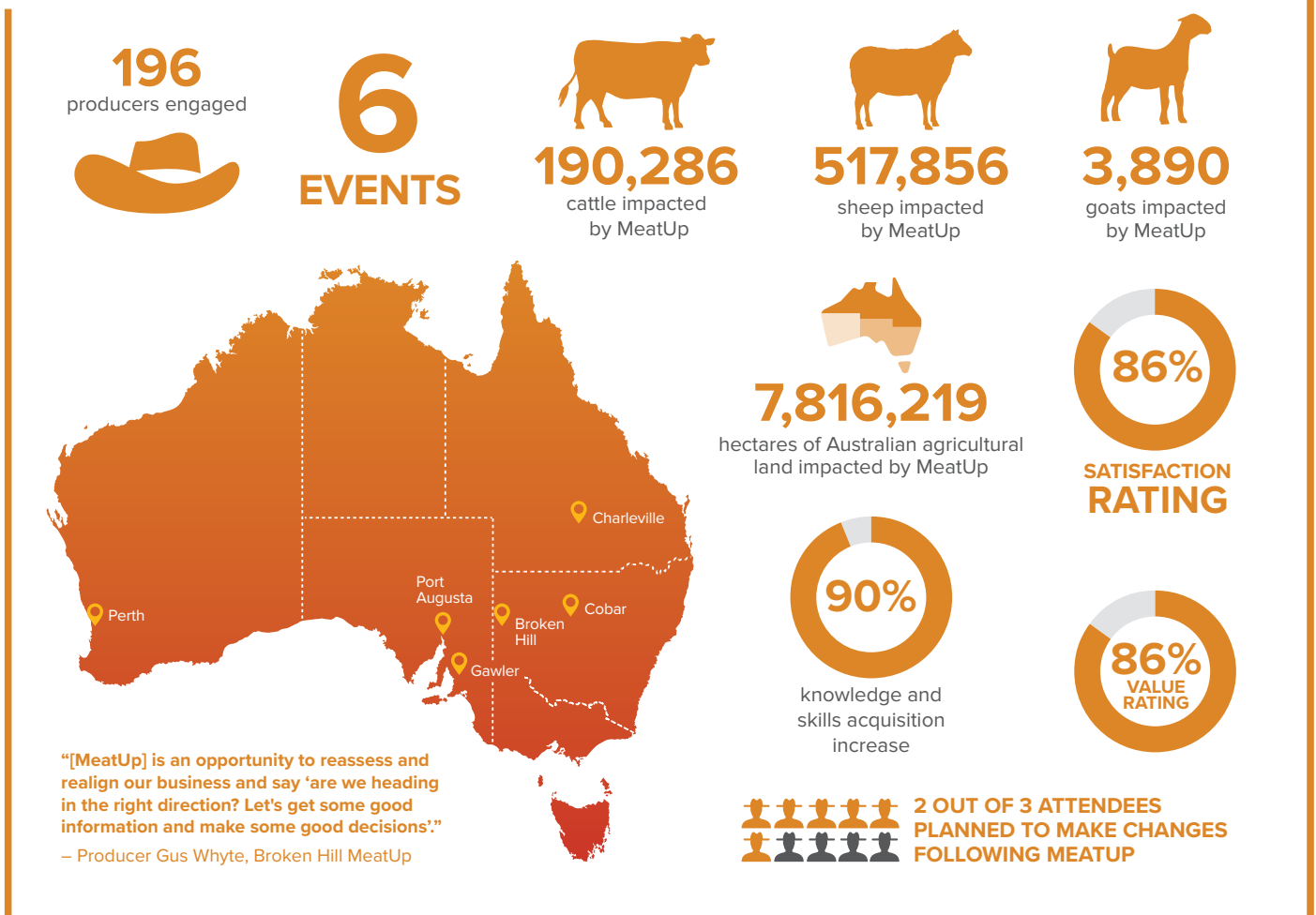
Launched in March 2021, MeatUp Forums are an opportunity for beef, sheep and goat producers to learn something new, stay up-to-date with the latest on-farm research and technologies and meet others working in the red meat industry.

Each forum is designed by producers from the local region through producer working groups to ensure topics, content and presenters are regionally relevant. MeatUp Forums demonstrate the value of implementing new practices or technologies on-farm. They also create awareness around other MLA activities, programs and projects that producers can get involved in to enable them to further build knowledge and skills.

Held predominantly throughout southern Australia, these forums introduce producers to the outcomes of MLA research and development projects and the next steps to drive profitability and productivity on-farm.



2021 at a glance



MLA welcome and update



Michael Crowley

General Manager for Research Development and Adoption, MLA

About Michael

Michael was raised on a beef cattle property at Barraba in northern New South Wales, where his family run a stud and commercial beef cattle operation. He holds a Bachelor of Rural Science from the University of New England (UNE) and has a Post Graduate Certificate in Business Administration from Queensland University of Technology (QUT).

Michael joined MLA in February 2009 to manage the Meat Standards Australia program. In 2012 he moved with his family to Brussels taking on the role of International Business Manager for EU and Russia with Meat & Livestock Australia (MLA). He returned from Brussels in 2015 as the Program Manager – Meat Standards Australia and joined MLA's Executive Team in 2016. He is now General Manager Research, Development and Adoption (RD&A). This business unit is responsible for investments in RD&A across the supply chain including livestock genetics, on farm productivity, eating quality, sustainability innovation, automation, objective measurement, market access science and product innovation.

Prior to joining MLA, Michael ran his own business marketing livestock, running beef processing for branded beef exporters and he held his own meat export license. Michael has held a range of commercial positions in the meat and livestock industry including livestock procurement, processing plant quality assurance, supply chain management, sales and marketing.

Session abstract

MLA General Manager Research, Development and Adoption, Michael Crowley will provide the welcome address for the MeatUp Forum, where red meat producers can hear the latest regionally relevant insights from research, development and adoption (RD&A) programs funded by MLA. Michael will also discuss MLA's strategic priorities, provide a market update and discuss the MeatUp program, which has been designed by producers, including the MeatUp Forum Rangelands producer working group.

Relevant tools and resources

◆ **MLA membership**

MLA membership is free to levy-paying producers of grass or grain fed cattle, sheep, lambs and/or goats. Benefits of membership include:

- participation and voting rights at the MLA Annual General Meeting (AGM)
- discounts for a range of MLA products and services, ordered via the myMLA catalogue
- invitations to local MLA events
- free subscription to MLA's regular member magazine Feedback
- free subscriptions to MLA suite of e-newsletters
- free access to up-to-date publications and information tools
- eligibility to apply for funding via MLA's Co Marketing Program



◆ **MLA market trends and analysis**

MLA's Market Information analysts examine and interpret developments in, and prospects for, the Australian domestic market, key export markets and major competitors, producing a wide range of publications.



◆ **Meat & Livestock Australia's 2020-21 Producer Adoption Outcomes Report**

The 2020–21 Producer Adoption Outcomes Report outlines the depth and breadth of adoption projects and programs that Meat & Livestock Australia (MLA) delivered for the 2020–21 financial year and how red meat producers benefited from their involvement in them.



◆ **Subscribe to MLA e-newsletters**

MLA e-newsletters to be delivered direct to your inbox at <https://www.mla.com.au/news-and-events/enewsletters/>



AWI wool industry update



Emily King

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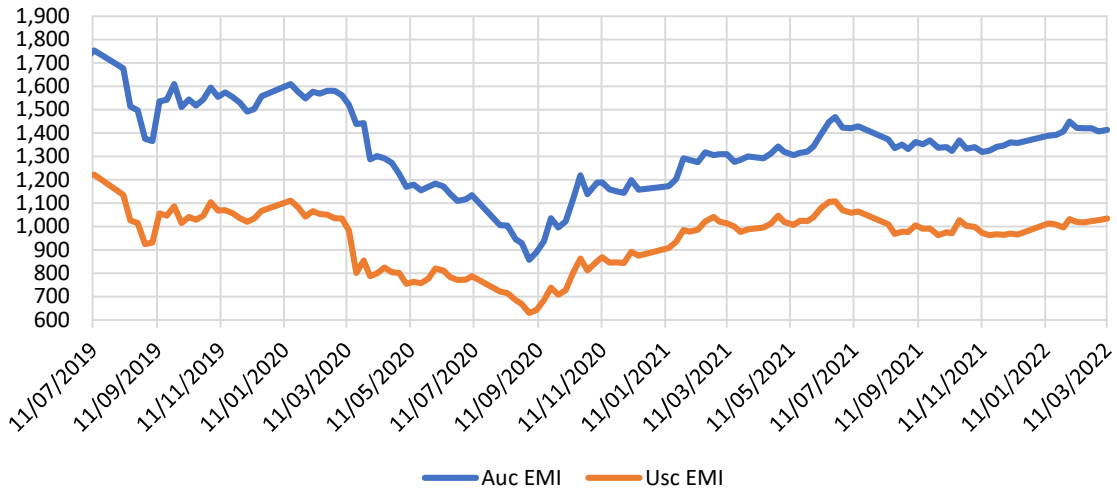
About Emily

Emily grew up in central NSW and is now based in Dubbo. Emily started working with AWI in 2012 and has always focussed on working with people and sharing information across the supply chain, whether that be discussing lamb marking rates with growers or promoting the benefits of Australian wool to a Chinese or Italian designer.

Session abstract

- ◆ Australian wool auctions have seen general price gains despite the Australian dollar continuing to ascend in value against all major trading currencies.
- ◆ Demand for Merino types <20 μm has remained strong with Chinese buyers continuing to account for >80% of greasy wool exports, followed by Italy and India.
- ◆ Global stocks of broader wools are slowly moving again, giving some minor confidence that more of that type can find a home at the consumer level.
- ◆ Global logistics continue to impact normal business activities leading to missed selling/trading opportunities due to delays. This is tightening funds and consequently overseas buyers are unable to get the quantities required fixed at current price levels to set production schedules for the immediate to medium term.
- ◆ Direct buying and offshore derived indent orders from the first stage manufacturing sector is alleviating any funding issues at present as the larger volumes on offer are mainly being sold. This relieves some of the pressures on our local traders to finance all or indeed more of that inventory.
- ◆ The Eastern Market Indicator (EMI) closed on Friday, 11 March 2022 at 1413 ac/clean kg. In USD terms the EMI gained 7usc or 0.7% to close at 1034 usc/clean kg.
- ◆ All wools finer than 18.5 μm are at their highest percentage of value above the EMI level than at any point of the past 10 years. Conversely, significantly depressed prices continue to be realised for crossbred wools.
- ◆ Production continues to rise in all states (mainly as a function of improved seasonal conditions), with production in Queensland from July 2021 – January 2022 up 36.6% when compared with the same period last year. The national clip has improved 11.2% for the same period.
- ◆ The latest Australian Wool Production Forecasting Committee (AWPFC) forecast of shorn wool production for 2021/22 is 318 mkg greasy.
- ◆ Australia produces 68% of the world's wool < 24.5 μm (376,999 mkg). In terms of broad wool (> 24.5 μm), Australia accounts for 7% of global production (719,624 mkg).

Eastern Market Indicator (EMI) - 1 July 2019 to 11 March 2022



Source: AWEX, analysed by AWI

Relevant tools and resources

◆ Market Intelligence

By undertaking a broad review of the global market for wool and competitor fibres, AWI provides wool production forecasting, retail and trade market reports, consumer insights and trend monitoring, along with fibre market research.



How to improve sheep reproduction rates to increase productivity and profitability of your business



Gordon Refshauge

Research Scientist, NSW Department of Primary Industries

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About Gordon

Gordon is a ruminant reproduction researcher with 14 years' experience working at NSW DPI. His fields of study have involved a wide variety of fields, including neonatal lamb autopsy, ewe management, nutrition, meat science, genetics, vaccines, thermal environment and disease case studies. In 2020 he completed an MLA funded study in collaboration with CSU, examining goat reproduction, with a focus on fertility and kid loss in managed and semi-managed herds.

Session abstract

This presentation explores the impact of heat stress, the fundamentals of reproduction and the benefits of body condition scoring to contribute to overall flock productivity.

Heat stress

All stages of sheep reproduction are vulnerable to heat stress. These include depressed sexual behaviour, impaired expression of sex hormones, reduced sperm and ova quality and embryo survival, each leading to lower fertility. Placental blood flow can also be decreased at any stage of pregnancy, which lowers birthweight. Lambs born during heatwaves are less likely to suckle and can dehydrate. Newborn lambs seek shade, become isolated and prone to predators. Milk production is also impaired by heat stress. Hoggets that are affected by heat stress *in utero* will cut less wool, with changes to the secondary to primary wool follicle ratio, which may increase mean fibre diameter and CV%.

Providing shade, quality water and selecting for heat tolerance are essential. We might presume that selection for more productive sheep is an indirect selection for heat tolerance, and that may be the case. However, there is no published information available to judge such an assertion. Stud and seedstock breeders must perform ram sperm quality checks about 3 weeks after the first or worst heatwaves if they wish to select in favour of tolerance. My advice is to pregnancy scan ewes if mating occurs when temperatures exceed 40°C during mating. Continue to inspect udders at lamb marking to identify those that fail to rear lambs.

How to maximise flock reproduction – the fundamentals

Sheep are seasonal breeders, with low pregnancy rates when mated in winter. Pregnancy rate and ovulation rate increase to a peak in April. Where possible, use the natural gifts of reproduction physiology to your best advantage, such as mating in autumn. However, feed supply during late pregnancy and the first 6 weeks of lactation are critical to rearing success. Thus, when you join is decided by your environment; you shape your mating program to suit feed availability, and possible aversion to grass seeds for how they affect weaners. You must also be mindful that weaner losses are high in rangelands environments, so those young animals need good nutrition, and this also factors into your thinking about when to mate. In addition to daylength, reproduction can be manipulated by genetics, hormones and nutrition.

There are genes for high fecundity, which increase ovulation rate. You can find studs with these genes and introduce them to your flock. The advantage of these genes is that you can mate your ewes at lower condition score targets.

Hormones that can be manipulated without nutrition include melatonin and androstenedione. The products are Regulin (a subcutaneous melatonin implant) that tricks the brain into thinking the daylength is shortening and, Ovastim (a subcutaneous injection vaccinating against androstenedione). Ovastim stops androstenedione from telling the brain to lower ovulation rate to just one egg. The vaccine leads to multiple ovulations and more twin ewes, but a few more non-pregnant ewes. Both products result in about 18% more lambs. Regulin is used in spring mated flocks with most success and is flexible in its use – you can choose to use it in any year, without obligation. Ovastim is a vaccine and requires an initial shot and a booster in year one, and a booster each year thereafter. It is well suited to crossbreeding and terminal production systems. You can also use teaser wethers to stimulate sexual activity in your ewes.

Reproduction hormones are sensitive to nutritional state. These states are called static and dynamic. Static effects can be measured as the liveweight of a ewe. Heavier ewes are more fertile and have higher ovulation rates. The fertility and ovulation rate in lighter weight, or lower body condition score ewes can be influenced, by increasing the nutritional state in a short period of time. This is the dynamic effect, which works best in lean sheep, while ewes in forward condition respond less successfully.

Having successfully completed mating, it is recommended to pregnancy scan your ewes. Pregnancy scanning your flock is like checking an oil dipstick. It is a necessary action if you wish to identify when reproductive losses are occurring in your flock and how large they may be. At current livestock prices, scanning is profitable under all scenarios. Identifying twins is also recommended, but you need to include management actions that lead to the rearing of more lambs. This means aligning nutritional supply with nutritional requirement. Body condition score, and experience, will help you match pasture availability and quality with requirement. Factors that typically hamper the adoption of scanning include too few paddocks, but this can be resolved. If feed is normally scarce towards the end of lambing, I recommend scanning for fetal age as well. This enables the option to create more groups that better suit your paddock number, feed quality and supply.

The importance of body condition score

Body condition score is the assessment of the amount of muscle and fat tissue that a sheep must draw on as a nutrient reserve. It reflects the animal's medium to long term nutritional intake relative to their requirement. Condition score is a subjective assessment, ranging from lean (score 1) to obese (score 5) and can be used as an indicator of current and future nutritional requirements. Condition score can be used to optimise nutrient allocation.

We use condition score as a marker for reproduction outcomes too. Ewes that are too lean, or too fat, will have sub-optimal fertility, ovulation and lamb survival rates. Relatively small improvements in body condition can lead to great improvements in productivity.

It is recommended that ewes be condition scored at weaning (fat/lean) and again about 4-6 weeks before mating. Lift the ewes that are lean (≤ 2.5 score) and maintain the rest. Condition score your ewes at pregnancy scanning and set

about to have the singles lambing between 2.5 and 3.0 score, and the twins at 3.0 to 3.5 score. Use grass to do as much of the lifting as possible. Choose the lower limits if grain feeding. The more often you condition score, the better you will become at assessing condition. Join a Lifetime Ewe Management group to learn how to score, assess the feedbase and create nutrition budgets according to litter size and condition score.

Relevant tools and resources

◆ Lifetime Ewe Management

A twelve-month course designed for producers to improve skills in managing ewes across their reproductive lifetimes



◆ BredWell FedWell- Sheep

BredWell FedWell is a practical, one-day workshop highlighting the key production benefits of superior genetics, plus feed management for improved reproductive performance and livestock productivity (BredWell FedWell also offered for beef producers). Express interest to receive more information.



◆ Making More From Sheep

• Module 10: Wean More Lambs

This module provides the framework and guidelines to set in place all the important management steps to improve flock reproduction rates and lamb survival to weaning.



• Module 12: Efficient Pastoral Production

Efficient Pastoral Production is designed to help pastoral sheep producers increase the productivity and profitability of their enterprise, as well as contribute to the personal satisfaction of operating a successful pastoral business.



◆ Sheep Reproduction Strategic Partnership (SRSP)

Building on existing industry research, development and adoption (RD&A), the SRSP will increase impact and scale by:

- Focusing on and promoting on-farm best practice management
- working with producers to apply R&D on farm in a way that is practical, economical and works for different business models
- testing and demonstrating supporting technologies
- identifying and filling gaps in R&D.



MLA goat benchmarking report review



John Francis

Director, Agrista

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About John

John Francis is the owner of Agrista, an agricultural consultancy business based in Wagga Wagga in southern NSW. Agrista provides consulting and benchmarking services to corporate and family farm asset owners and managers and the agricultural services sector. John creates value by assisting clients to identify their goals, set their business strategy, implement operational plans and monitor performance.

Session abstract

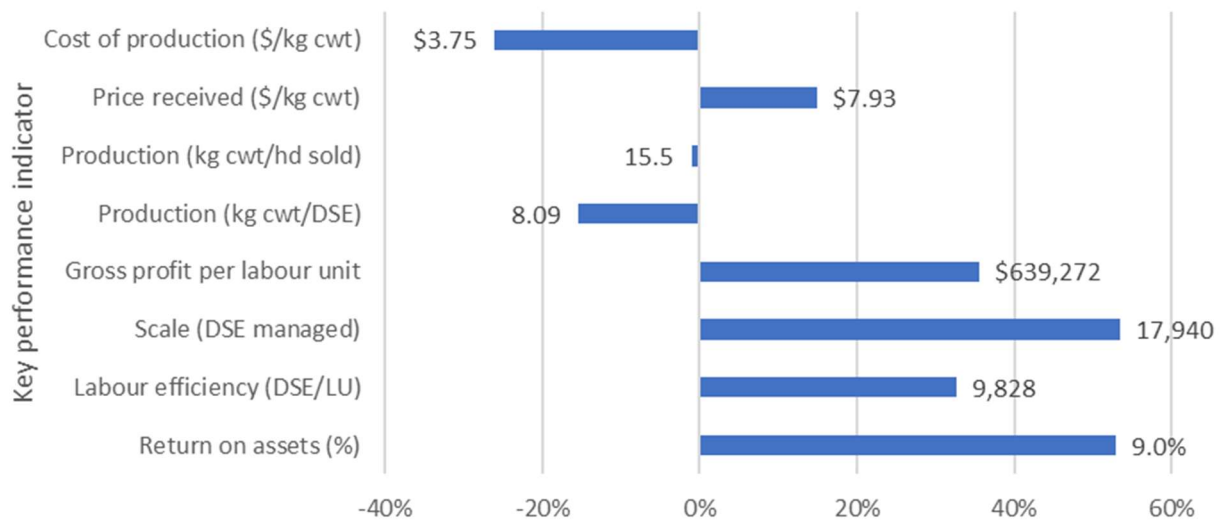
An MLA funded project which assessed the production and financial performance of managers with rangeland goat meat enterprises was completed in 2020. Between 2016 and 2020 average profits were \$20 per dry sheep equivalent (DSE) equating to operating returns of 5.4 percent. This level of enterprise performance was competitive with wool and superior to beef and lamb enterprises.

One of the features of goat enterprises, relative to other livestock enterprises, is that they had far greater volatility in returns. Typically, volatility is considered an undesirable feature of a livestock enterprise. In the case of rangeland goats, the upside of the volatility in profits, delivered \$38 per DSE in the 2020 year, which was \$5 per DSE greater than any other livestock enterprise in the same year. On the downside, the minimum average profit over the 5 year period was \$6.50 per DSE in the 2019 year but this result was still far better than beef enterprises, which is known to be a costly enterprise during drought.

The comparative business analysis showed highest profit goat meat producers generate more than double the profit per DSE of the remainder. The features that differentiate the goat enterprise managers generating the highest profits, from the remainder over the long term include:

- ◆ higher income derived from higher price and greater production per head sold but lower production per DSE managed
- ◆ marginally higher average annual stocking rate per hectare per 100 millimetres rainfall (not shown)
- ◆ higher enterprise expenses but far lower overhead expenses
- ◆ higher labour efficiency and income generation per labour unit
- ◆ triple the enterprise scale
- ◆ a significantly lower cost of production
- ◆ a lower cost of purchases indicating less trading

Deviation in relative performance of high profit producers compared with average Rangeland goat producers



The proportion of gross profit (sales plus change in inventory value less purchases) that is retained as net profit by the highest profit generators is 50 percent. This means that for every dollar generated fifty cents is retained as profit. This compares with the rest, who over the same period, retained 16 percent of gross profit as net profit.

There is a solid relationship between the proportion of gross profit retained as net profit and cost of production. This means that a driver for retaining more gross profit as net profit is more kilograms of goat meat produced for every dollar spent.

Key opportunities for goat producers

It is possible, that there is much to be gained from increasing weight gain and reducing age at sale. In other meat production enterprises, such as prime lamb and beef, this is achieved through the adoption of systems that match feed supply with feed demand, improved genetics and improving feed utilisation.

Genetics is an area where there is considerable potential for good returns on investment but still little objective data. Data quantifying the investment return on genetics is scarce due largely to the scarcity of growth rate and carcass yield data. Improvements in uptake may result if there were some clearer recommendations on the rules for success of the introduction of the genetics and data surrounding the value of the benefits.

Labour efficiency and labour cost is an area where measurable differences were observed between the most profitable goat producers and the remainder. The perception that the management of rangelands goats doesn't require a lot of labour is unrealistic. It may be true that goats require less labour than other livestock enterprises but labour, and labour-related expenses, still represent a major part of the operational costs.

The bad news on the labour front, particularly in the Rangelands areas is that labour availability is not improving. The good news however is that there are many technologies delivering solid investment returns that can be made in the labour efficiency space. The value of these has been demonstrated in the data.

Key take home messages

- ◆ It's a great time to be a rangeland goat producer.
- ◆ Rangeland goats are equally as profitable as other livestock enterprises typically managed in the rangelands environment.
- ◆ The assessment of your business allows for the opportunity to identify areas for improvement in production and profitability.
- ◆ Key opportunities are systems, genetic gain and labour efficiency

Relevant tools and resources

◆ Cost of production tool

Cost of production (CoP), measured in cents per kilogram, is an indication of the outlay required to produce each kilogram of meat for beef, sheep and goat. For producers wanting to improve the performance of their meat-producing enterprise, a good understanding of the current health of the business is essential. Cost of production is a key factor affecting the profitability of beef, sheep and goat producing businesses. Calculating your cost of production is an important step in assessing herd and flock performance and a first step to making change.



◆ PGS for goat producers

MLA has launched a Goat Profitable Grazing Systems (PGS) package, "Getting goats to market: optimising rangeland goat production". The PGS program takes small groups of like-minded producers who want to improve their whole-farm performance and matches them with a deliverer who builds their knowledge, skills and experience through hands-on training. The PGS package was developed to build the knowledge and skills of goatmeat producers, allowing them to grow and select goats to generate profit effectively and efficiently. Visit mla.com.au/pgs.



◆ Goat levy, industry and producer performance indicators (B.GOA.1903) final report

The project was conducted to inform industry of progress toward the Meat Industry Strategic Plan (MISP) 2020, Goat Industry Strategic Plan 2020 and aimed to better understand and articulate the profitability of the goat meat industry. The results demonstrated strong financial performance in goat enterprises and should be used to identify opportunities for investments into research, development and extension.



◆ Going into Goats

Going into Goats is an information package designed to explain the essential processes for a successful goat production system. This applies to goat production as a standalone enterprise or as an enterprise that complements other production systems.



◆ **Give goats a go**

MLA's goat research, development and extension program provides services and best practice information to producers to help secure a future as innovative, profitable and resilient world leaders in goat production. This site includes resources and tools developed with producers, for producers to address commonly asked questions



◆ **KIDPLAN**

KIDPLAN is delivered by Sheep Genetics and is the national genetic evaluation for goats. KIDPLAN provides simple, practical information on the value of an animal's genes for production in the form of estimated breeding values (EBVs) and specialised indexes.



◆ **Subscribe to Goats on the Move newsletter**

Goats on the Move provides information on the latest developments in MLA's goat program and the Australian goatmeat industry. Subscribe to this and other MLA e-newsletters to be delivered direct to your inbox



◆ **Visit the MLA table during the MeatUp Forum to explore other goat related resources.**

Combining subjective and objective measurements to make informed decisions when investing in genetics



Emma McCrabb

Senior Development Officer, Sheep Genetics, Meat and Livestock Australia

emccrabb@mla.com.au

About Emma

Emma is the Senior Development Officer in the Sheep Genetics team. Sheep Genetics, a part of Meat & Livestock Australia, delivers the national genetic valuation for the Australian sheep industry as Australian Sheep Breeding Values (ASBVs). Emma has been with MLA for over three years, and previously worked as the MERINOSELECT Development Officer, where she acted as the central contact for Merino and Dohne ram breeders on all things ASBVs.

In her current role, she is responsible for the development and extension of genetic tools to the wider sheep industry, including the use of genomics and integration of new traits. She completed a Bachelor or Agriculture/Bachelor of Business at the University of New England in 2018. Emma developed a passion for the sheep industry, growing up on commercial Merino property near Booroorban, in south western NSW, and is now based in Armidale, NSW.

Session abstract

Breeding values are an important tool to assist sheep and goat producers in accelerating productivity using genetics.

Australian Sheep Breeding Values (ASBVs) allow producers to select for and improve key production traits such as reproduction while putting pressure on important health and welfare traits.

ASBVs describe an animal's genetic merit for different traits by accounting for the non-genetic factors that influence performance. This includes how the animal has been fed, its age and whether it was born a single or twin. In this way, breeding values provide information on the genes that a sire or dam will pass on to its progeny.

Sheep Genetics, a part of Meat & Livestock Australia (MLA), deliver the genetic evaluation for the Australian sheep and goat industry through MERINOSELECT, LAMBPLAN and KIDPLAN (delivered as Estimated Breeding Values). These evaluations allow producers to compare and benchmark the genetic merit of animals from across Australia, to better inform selection and purchase decisions.

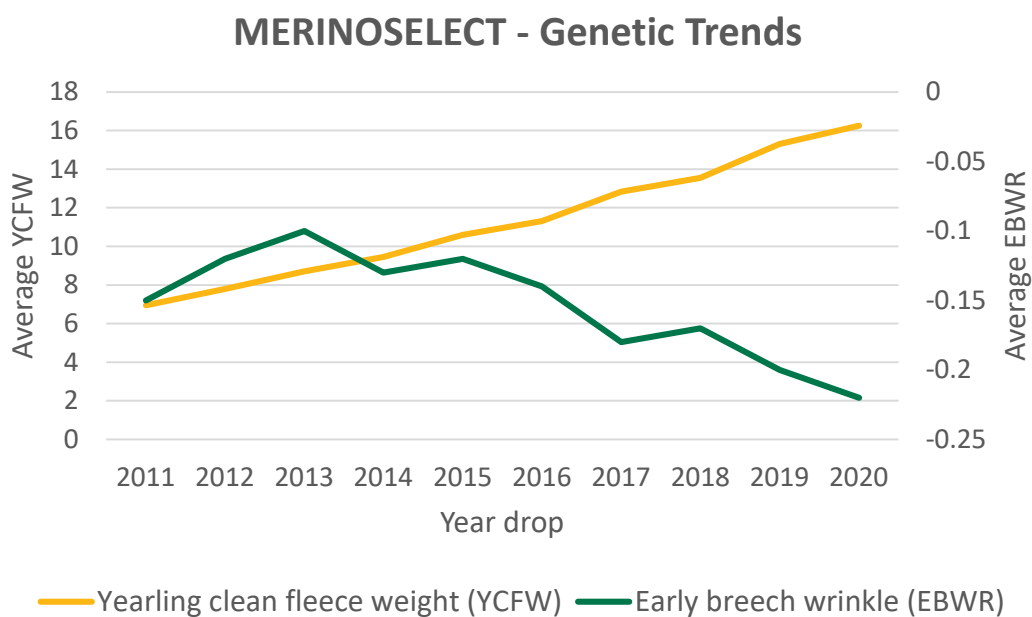
Selection indexes combine important breeding value traits into one number and are a useful way to rank animals quickly and easily. It's also important to consider the individual traits that make up the index to ensure the animal meets your breeding objective, alongside structural and type assessment.

How are producers using breeding values?

Breeding values have given producers the power to influence traits such as reproductive rate, growth, fleece and health characteristics, and manage the antagonistic relationships that exist between some of these traits.

Seed-stock breeders have shown that by measuring the traits of interest, they can manage these correlations, and make gains in important traits simultaneously.

A good example is the way Merino breeders have been able to manage the antagonistic relationship between breech wrinkle and fleece weight to make gains in both traits.



The figure above depicts the MERINOSELECT average and trend for breech wrinkle and clean fleece weight ASBVs overtime. It shows the progress MERINOSELECT breeders have made in improving fleece weight (YCFW), while reducing breech wrinkle (EBWR), or breeding for a plainer breech.

The way the industry is balancing wrinkle and fleece weight shows the power of recording and selection to meet breeding objectives.

What is a breeding objective?

Breeding objectives define a flock or herd's breeding goals and are an important tool when making selection decisions. Objectives include consideration of profit drivers, climatic constraints and health and welfare considerations. These components can then be matched to breeding value traits, and selection indexes.

For example, if regular drenching is required to manage worm burdens, your breeding objective may include reducing worm egg count (WEC) to genetically improve worm burdens and reduce the costs to your production system.

As producers make gain over time, it's important to benchmark against current industry, using percentile band tables. This information allows you to set the desired direction and a set a target to achieve over the next five years.

Sheep Genetics provides a suite of traits that can be incorporated into this breeding objectives. These range from growth and wool, to eating quality (such as intramuscular fat or IMF), health and reproduction.

What about new traits?

Sheep Genetics has released a series of traits that break down the components of reproduction for Merino and Maternal breeders. Previously, the ASBV used to select for improved reproduction was a single trait – Number of Lambs Weaned (NLW). However, many events occur throughout the reproductive cycle, from joining through pregnancy to lambing and then weaning, so using only NLW can mask the true extent of lamb losses and how these occur. Now Merino and Maternal breeders have access to component traits for reproduction, allowing for more targeted genetic gain.

The new traits include:

- ◆ **Conception (CON)** – Did the ewe conceive? Sires with higher CON will produce daughters that have a higher conception rate.
- ◆ **Litter size (LS)** – How many lambs were born? Sires with higher LS will produce daughters that give birth to more lambs.
- ◆ **Ewe rearing ability (ERA)** – How successfully did the ewe rear her litter? Sires with higher ERA will produce daughters that rear more of their litter.

These additional traits give breeders the ability to target specific parts of the reproduction cycle.

Tools for commercial producers

For commercial producers, genetic progress over time can be assessed through sire team tracking, or tools like Flock Profile, which provide an indication of the average genetic merit of the flock or herd.

Ram team tracking is an option for producers who are using rams with breeding values. It provides a genetic benchmark over time by averaging the ASBVs of the sire team each year. This provides an estimate of genetic progress and can assist in selection and purchasing decisions by providing a breeding value benchmark.

Flock Profiling is available to Merino producers and provides a genetic benchmark of where your flock sits compared to MERINOSELECT, expressed as ASBVs. The results include average ASBVs for a suite of key Merino production and welfare traits, including fleece weight, growth and breech wrinkle. The test itself involves genotyping 20 randomly selected animals, and the results are used to inform ram purchasing decisions.

For more information on Flock Profiles, and the contact details of genotyping providers who offer this product, go to: <https://www.sheepgenetics.org.au/resources/genomics>.

Many producers are tapping into the benefits of better genetics by buying rams from breeders using ASBVs. Producers who pursue genetic progress find themselves accelerating the performance of their flocks in such a way that their initial investment more than pays for itself.

Key take home messages

- ◆ Breeding values describe the genetic merit an animal will pass on to its progeny. These breeding values are an important tool to assist producers in meeting their breeding objectives.
- ◆ There are new reproduction traits that allow Merino and maternal producers to target and improve specific components of reproduction.
- ◆ There are many tools available to commercial producers to help benchmark themselves in breeding value terms, including flock profile testing and ram team tracking.

Relevant tools and resources

◆ Sheep Genetics

Australia's national genetic evaluation service for sheep and goat breeders. For a range of sheep genetics information, visit: www.sheepgenetics.org.au.



◆ MLA Genetics Hub

The one-stop-shop for resources to help build understanding of breeding values. The hub is a learning resource for producers who are keen to learn more about genetic tools, and how they can use them in their sire selection decisions. Go to <https://genetics.mla.com.au/> and choose your enterprise to get targeted information on using genetics in your flock.



◆ AWI Genetics

Woolgrowers have diverse breeding objectives for varied enterprises and environments, and AWI supports sheep breeding research and development, benchmarking and breeder tools for woolgrowers wanting to monitor, set targets and optimise the rate of genetic gain of their sheep, inclusive of all breeding philosophies. Visit www.wool.com/genetics to access a range of quality genetic benchmarking tools and informed sheep selection practices for productivity and profitability, particularly in non-visual, lowly heritable traits or antagonistic relationships across fleece, growth, reproduction and animal welfare.



◆ BredWell FedWell- Sheep

BredWell FedWell is a practical, one-day workshop highlighting the key production benefits of superior genetics, plus feed management for improved reproductive performance and livestock productivity (BredWell FedWell also offered for beef producers). Express interest to receive more information.



◆ **Sheep Reproduction Strategic Partnership (SRSP)**

Building on existing industry research, development and adoption (RD&A), the SRSP will increase impact and scale by:

- Focusing on and promoting on-farm best practice management
- working with producers to apply R&D on farm in a way that is practical, economical and works for different business models
- testing and demonstrating supporting technologies
- identifying and filling gaps in R&D.



◆ **Visit the MLA table during the MeatUp Forum to explore genetics related resources.**

Maiden does may be the weak link to greater weaning rates



Gordon Refshauge

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About Gordon

Gordon is a ruminant reproduction researcher with 14 years' experience working at NSW DPI. His fields of study have involved a wide variety of fields, including neonatal lamb autopsy, ewe management, nutrition, meat science, genetics, vaccines, thermal environment and disease case studies. In 2020 he completed an MLA funded study in collaboration with CSU, examining goat reproduction, with a focus on fertility and kid loss in managed and semi-managed herds

Session abstract

The meat goat sector may become a major red meat commodity in NSW and QLD, particularly because the animal is hardy and well suited to rangelands and semi-arid conditions, and the value of goat meat is high. The value of the Australian meat goat industry is driven by supply. Currently, price does not vary across the carcass weight range, thus revenue from goat meat is a *numbers game*, rather than a process of optimising value-added relationships. Therefore, reproduction is central to the value of the industry and on-farm profit. In 2019, the average carcass price for goat meat was \$7.60/kg, a substantial increase on the 5-year average of \$5.41/kg. In the last two years, the price has hovered between \$7.00- \$9.00/kg, and in late February 2022 was \$8.13/kg. Our analysis suggests that industry profit would increase by \$13.12 per doe mated if 10% more kids survived, at \$8.13/kg and selling at 14.2kg carcass weight.

This presentation will focus on commercial farm pregnancy scanning and kid marking results, interpreting those results in the context of global literature reports for goat reproduction; and our estimates for the cost of reproductive wastage in the managed meat goat sector.

Successful breeding of goats is much the same as sheep; influenced by season, breed, doe age, nutrition and body condition score. Different to sheep, between days 90-120 of pregnancy, does become susceptible to abortion stimulated by malnutrition. This is a concerning month and is avoided if does are adequately nourished at this time.

Pregnancy rates in our 2019 on-farm study of 9,187 does, averaged 71.5% and ranged from 45% to 97%. Kid survival also varied, with 7,028 kids marked from 10,812 fetuses identified at pregnancy scanning, averaging 65%, and ranging from 27% to 93%.

Together the average kid marking rate per doe scanned was 76.5%, and ranged from 37% to 130%. It was immediately clear that doe age was a major factor affecting pregnancy rates. Kid survival from maiden does was very poor, averaging 36%. Maidens were about 25% of all breeders and marked 13.5% of all kids, and that age class included hogget and yearling-age does. This is a major limitation for the goat sector and must be a priority for improvement.

Our field work was undertaken in semi- and managed meat goat herds, with a range of breeds from rangeland, angora cross to boer. Given the low pregnancy rate of the maidens, it appears pertinent to identify those non-pregnant does from the pregnant ones and apply some management regimen to the two classes of young females. Non-pregnant does need to be removed from the pregnant does to minimise competition for scarce feedbase resources. This is particularly important as the adult doe will drive the enterprise production and profit. The non-pregnant does can be re-mated, depending on the time of year and feedbase outlook, or sold for cash flow. Pregnancy scanning permits such classifications but requires some degree of control over mating. The economics of pregnancy scanning goats is an undertaking not yet commenced by industry – so we can't advise from a sound base of knowledge in favour of scanning for twins. However, given the propensity for malnutritional abortions around Days 90-120, I would advise scanning for twins, and separate the twin does into the best pastures from scanning to at least pre-kidding.

Key take home messages

Three key fundamentals for producers new to the goat game to focus on to enable improved herd reproduction and in-kind productivity and profitability are:

- ◆ Don't worry about breed trends, just learn how to manage goats. Use body condition score (BCS) at mating and mid-pregnancy to guide your decision making and record (and keep track of) your herd reproduction rates, (kids weaned per doe joined).
- ◆ Fix up udders – there is too much separation of the udder halves and too many large teats. However, these characteristics may not change very quickly if you have too many rangeland bucks getting in. If you cull females, do so based on udder assessment at weaning and pregnancy status at scanning. If you purchase bucks, ask your stud breeder about their classing criteria on udders to ensure they sufficiently match yours.
- ◆ In managed and semi-managed herds, use pregnancy scanning at 80-90 days after mating has started, to guide your stocking rate decisions. Calculate how many mouths you need to have feed for and look at how much feed you have. The two need to balance for optimal production and profit.

Relevant tools and resources

◆ Reducing Kid Loss – Select and Protect (Phase 1)

This project aimed to establish a baseline understanding of reproductive wastage, causes and costs of reproductive wastage in the Australian goatmeat industry. It also made recommendations to effectively address reproductive wastage, including outlining additional RD&A requirements. The final report, (Refshauge, G., Atkinson, T., Robertson, S. M., Hernandez-Jover, M., Allworth, B., Friend, M. (2020) can be downloaded.



◆ Going into Goats

Going into Goats is an information package designed to explain the essential processes for a successful goat production system. This applies to goat production as a standalone enterprise or as an enterprise that complements other production systems.



◆ Give goats a go

MLA's goat research, development and extension program provides services and best practice information to producers to help secure a future as innovative, profitable and resilient world leaders in goat production. This site includes resources and tools developed with producers, for producers to address commonly asked questions



◆ PGS for goat producers

MLA has launched a Goat Profitable Grazing Systems (PGS) package, "Getting goats to market: optimising rangeland goat production". The PGS program takes small groups of like-minded producers who want to improve their whole-farm performance and matches them with a deliverer who builds their knowledge, skills and experience through hands-on training. The PGS package was developed to build the knowledge and skills of goatmeat producers, allowing them to grow and select goats to generate profit effectively and efficiently. Visit mla.com.au/pgs.



◆ Subscribe to Goats on the Move newsletter

Goats on the Move provides information on the latest developments in MLA's goat program and the Australian goatmeat industry. Subscribe to this and other MLA e-newsletters to be delivered direct to your inbox



◆ Visit the MLA table during the MeatUp Forum to explore other goat related resources.

Diversification into agritourism



David Counsell

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About David

David, with his wife Genevieve run Dunblane which is a 15,000ha property on the eastern edge of the Mitchell grass pastoral zone in central western Queensland. The property is located west of Barcaldine on the Landsborough Highway. Dunblane has run a Merino wool enterprise for over 90 years. Dunblane also runs an agritourism enterprise.

David, a graduate of the Mackinnon Project, a farm consultancy and advisory group operating out of the University of Melbourne Vet School, holds degrees in Veterinary Science and several other business qualifications including an MBA from the University of New England. David is actively involved in a wide range of agricultural and farm consultancy activities in addition to running Dunblane Pastoral Holdings. David has contributed to many MLA and AWI projects over the years, and continue to, including roles on advisory panels and producer working groups. David is currently on the Leading Sheep Producer Advisory Panel and Leading Sheep North and Central West Committee, and is also a member of the MeatUp Forum Pastoral Regional Producer Working Group.

Session abstract

Agritourism offers significant opportunities to local producers wishing to create diversity in income and cashflow. Many (all) local properties have features and infrastructure well suited to creating an agritourism business.

Agritourism refers to a tourism-related agricultural experience, service or product that connects visitors with people, places, or products on a farm. Agritourism is an important growth industry for Queensland's economy, particularly in regional and rural areas over the next decade and is expected to be worth an estimated \$4.5 billion by 2030.

Scale of Opportunities

There are many tourists that pass through our region each year and spend a significant amount of money each day whilst they are travelling. The number of travelers is expected to continue to increase (with baby boomers in or approaching retirement). Whilst the past two years has been a real winner for outback tourism because of local travel driven by closed borders (national and international) during the COVID-19 pandemic, the significant increase in tourist numbers throughout inland Australia was already occurring and this trend is expected to continue.

It is said that the Landsborough Highway should be called the "River of Gold", with the number of vans passing through Barcaldine each day for the winter months that each have an estimated budget of >\$100 a day that will be spent locally. Longreach sleeps over 1,200 visitors every night during the tourist season.

The Queensland roads and Landsborough Highway funnel large numbers of travelers in right past our front gates. There are three primary destinations on the bucket list for many of those who pass through this region, the Gulf, the Birdsville Races (schoolies for grey nomads) and Uluru. Others are chasing an adventure, a lap of Australia or are doing the outer loop of regional QLD. Coupled with the local attractions including the Stockman's Hall of Fame,

Qantas Museum, Australian Age of Dinosaurs and several others, we will always see large numbers of tourists in our part of the world.

People's access to camping and off-road travel in Australia has improved significantly. Improved cars, caravans, accommodation, roads, 12v electrics, solar panels, internet and connectivity all contribute to ease of travelling]. For example, a retired couple can go off road all day and yet talk to the grand kids each night. In fact, last year quite a few of our campers were working from 'home', in their van whilst driving around Australia. Australians are changing their lifestyles and are seeking ways to get away from the maddening crowd, agritourism is satisfying this need.

Camping shops such as Boating Fishing Camping (BCF) are serious businesses. Walk through BCF, etc and have a look what's on offer for the average punter planning a camping trip. Of course, loading up with \$10,000 of car fridges, tents and swags from BCF now means people want to test (need to justify) all the new gear they have. The trend to off-roading and camping is increasing. There is also massive wait lists to purchase many types of vans. I regularly hear from campers who are wishing to upgrade, but have over 12 months waits on some types of off-roaders.

Do your market research

When considering agritourism and how or what to offer (in terms of products or services), do your market research. There are many consultants and whole day seminars on this topic i.e. recent day by RAPAD (Remote Area Planning and Development) in Longreach. The first thing to consider is who or what segment of the market you intend to attract.

Some of the distinct demographics amongst travellers that are regularly seen at Dunblane include but are not limited to the following:

- ◆ Traditional retiree (classic grey nomad)
- ◆ Self-funded retirees
- ◆ Travelling groups (the bridge club)
- ◆ Mum, dad and the kids and the new camper!
- ◆ 50s adventurers

Whether you develop a product for one group or a range of products, each demographic may be seeking quite different experiences or services.

A big part of what I think attracts people to Dunblane is the nothingness. Allowing people feel the heat, let them get a little smoke in their eyes, gaze at a great sunset, watch the sunrise, consider the universe under a massive sky on a starry night and experience the serenity and the silence. I believe our collective tourism product in western Queensland needs to consider the BIG SKY concept.

Benefits of agritourism

Benefits of agritourism as identified by the Queensland Farmers Federation include

- ◆ Development of a brand, establishes provenance, and builds reputation by sharing the farming story in the context of the people, place and produce.
- ◆ Innovating and diversifying through value-added products and services.
- ◆ Potential to increase income through agritourism revenue streams.
- ◆ Potential to reduce the volatility of cashflow.
- ◆ Monetise underutilised assets such as farm buildings and natural aesthetic.

- ◆ Connect with locals and visitors to the area.

Additional benefits for you and your business:

- ◆ Utilise available labour/human resources/farm infrastructure.
- ◆ Reduce isolation and improve mental health.
- ◆ Exposure to interesting, enlightening (business) people.

Understand the word 'EXPERIENCE'

We have seen an increase in the demand for 'experiences' and as a result this is an area of our agritourism business I am trying to grow. Visitors want to be involved in where they are staying, they want to hear the story behind the property, they want to smell the smells, hear the noise, be a part of what is going on and understand the why and how it works.

Most of all, travellers want to talk to real people. This can present a challenge at Dunblane as everyone wants to chat and have a drink at beer o'clock, even when there are still jobs to be done. This has been a key learning; time management is critical when balancing farming and tour guide duties. Along with a place to stay, your time is the service that you are offering, and how do you put a price on time and charge for it?

When travellers head to western Queensland, they typically stay in caravan parks with other like-minded travellers. They visit local sights, shops and bakeries, and meet more people who are doing just the same. While there is comfort in crowds, and word of mouth is the best form of advertising, many travellers don't want to spend their time surrounded by other travellers.

Many tourists don't get to meet the real iconic Australians that live in western Queensland, and they do want to meet us. The bushies, the farmers, they all have a story to tell. Therefore, any business that offers the opportunity to meet with a farmer is presenting a highly sought-after experience and an experience that the large commercial tourism operators have great trouble delivering.

Rural people are walking national treasures and most city folk want to meet us, they want to know us, they care about us and they want to know we are doing ok. We represent to many urban Australians what they see as quintessential Australian. The bloke on the horse, cracking the whip, in a Driza-Bone at the Sydney Olympics was not a random decision.

Often when I meet a city person and they hear I am a sheep farmer from drought-affected Longreach, they are genuinely interested in me as a farmer. Whilst this is good for the ego, it's actually the aura of being a person from the bush that makes people interested in me. I represent a connection to something that is very Australian and something that few people nowadays have a connection to.

Our livestock are also an attraction as society is increasingly concerned about where their food comes from and how it is produced. I am of the view the way we run livestock is very acceptable. In my experience when our visitors see how we conduct our livestock operations at Dunblane, they seem reasonably satisfied.

About Dunblane

In 2018 we were severely drought affected, and I started considering potential income streams that were not tied to rain-driven agriculture. Following a basic SWOT (strengths, weaknesses, opportunities, and threats) analysis, we began to allow people to camp behind our shearing shed. A website app freed me from the booking and payment process involved, and suddenly we were going into agritourism. It was these initial campers who helped me understand aspects of Dunblane that were appealing to visitors. More campsites followed and now our agritourism venture is a core part of our winter business activities. I continue to experiment with what I can offer to our campers

and continuously wonder how to grow our business.

Why I do it

Whilst there are the obvious financial benefits from a profitable and sustainable agritourism business “, any decision to develop an agritourism business must have ties to your core business values and beliefs.

When exploring the opportunity for agritourism at Dunblane I looked at what people experience as they travel central west Queensland. I felt that most of the visitors to our area had relatively poor experiences, when compared to what could be offered by local producers. They were driving right past our district’s best features, visiting only the museums and signposted sights.

Perhaps the other driving reason behind our decision, was the opportunity to give back. This region has just experienced over 7 years of drought in many areas. There has been drought aid, government subsidies, RFD assistance, free hay delivered from Victoria, debit cards in the mail, Blazeaid, support etc. and I have received some of that aid. I also received miles of empathy and concern from others, city friends and strangers alike. I always wondered how to say thanks, how I might give back to those that have provided support. A successful agritourism business providing bush camping on a sheep property ticks a lot of boxes for me and perhaps it’s my way of giving back to the wider community.

What I do

Dunblane provides a range of private, off-grid campsites across the property. We provide the opportunity for people to pull in off the highway and camp the night before heading on the next day.

We have a basic self-drive tour of the property, it takes 3 hours and allows visitors to engage with livestock, see wildlife and get their 4WD’s off road. We have also begun inviting visitors to the yards when we are shearing and doing other animal husbandry activities to add to their experience.

How do I do it

Visitors book via the internet, receive electronic directions to their private campsite and additional comprehensive automated text messages then follow as they travel to the campsite. We provide basic facilities; pets are allowed and at several sites there are artesian hot tubs. Campfires are a real drawcard and privacy is a winner. Most visitors arrive around 4:00pm and are gone by 9:00am. In 99.9% of cases, the camps are cleaner after they depart. We inspect camp sites each day to check things such as gates, firewood, toilets, etc. are all in order.

Feedback is the breakfast of champions and is critical in the growth of any tourism business to ensure any issues are addressed. In 2022, Dunblane was nominated as a finalist in HIPCAMPS top 10 campsites across Australia.

A story of growth

I started providing camping opportunities 3 years ago, have made plenty of mistakes but largely enjoyed the journey. The venture earned \$500 in 2 months at the end of the 2018 tourist season, this grew to \$5,000 in 2019. In 2021 Dunblane welcomed over 800 visitors, and now employs a full-time caretaker for the agritourism enterprise, who doubles as a farm worker when required.

I am setting some BHAG’s (big hairy audacious goals) for this year for our agritourism enterprise. Watch this space!

Key take home messages

- ◆ Always smile
- ◆ On farm experiences are their goal
- ◆ Exposure to animals is 'gold'
- ◆ The mobile phone is critical
- ◆ Ask for and seek feedback and address any issues
- ◆ Don't let them get lost
- ◆ Some people won't like you, your property or your product – this really dents your pride!
- ◆ Answer their questions before they get there
- ◆ Make it easy for visitors
- ◆ 'Word of mouth' is everything
- ◆ Wikicamps is a very powerful website and will get you a lot of customers
- ◆ Watch the cheapskates
- ◆ Get your social media right, always update and develop this - photos play a key role

Relevant tools and resources

- ◆ **Dunblane Pastoral Website**

Look at the Dunblane Pastoral website www.dunblanepastoral.com.au, or find us on Instagram (@dunblanesuperfine) or Facebook (@DunblaneOnFarmCamping). Using social media is important.



- ◆ **Familiarise yourself with travel/camping sites/apps**

Visit sites that travellers use, including www.hipcamp.com/en-AU, www.wikicamps.com.au/ and www.campsaustraliawide.com/, and list your tourism enterprise. Search Dunblane on these sites/apps and see how we've used the tools. Explore other operators.

- ◆ **Engage external support**

Use outside expertise such as website developers and tourism consultants to support your venture.

- ◆ Use services offered by the **Remote Area planning and development** board, visit www.rapad.com.au. Grants may be relevant from time to time.



Recruitment and retention in Western QLD



Anna Cochrane

Station Manager – Isis Downs Station, Consolidated Pastoral Company

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About Anna

Anna, with her husband Andrew manages Isis Downs Station, for Consolidated Pastoral Company. Anna is a leadership specialist who delivers high-energy keynote presentations that challenge audiences to think differently about how they run their business, with a particular focus on attracting and retaining staff. Audiences love hearing about her real-life experiences in working with people and leading businesses.

Anna will complete her Masters in Business Leadership from Charles Sturt University in May 2022 which builds on her degrees in Agricultural Economics and Political Science. She has a strong background in learning, community development, business analytics and leading companies through strategic change.

Session abstract

Attracting station staff is becoming increasingly difficult as the on-farm jobs market becomes highly competitive. Since 2017, Anna and her husband Andrew have employed 67 staff. This process has been at times enriching and at times frustrating. Despite managing over 20,000 cattle, 8,000 goats and 263,000 hectares, it is managing their people that is their hardest task.

This presentation provides practical tips and tools to become an employer of choice, mapping a way for businesses to improve their recruitment process and then retain the staff they employ. This presentation draws on Anna's practical experience in recruiting and retaining staff on Isis Downs. It provides ten key lessons that can be scaled up or down for any business, including those who are staffed solely with family members.

1. Reputation is important.

It is critical that you know what your reputation is, both as a property manager/owner and as an employer. It is then even more important to manage that reputation.

2. Know what is important to you.

A great employer knows what is important to them. It might be a clean and tidy station; it might be animal welfare or safety; it might work ethic or precision; or it might be having fun on the job or a mix of all of them. Whatever your priority is, you need to be able to articulate it.

3. Communicate your values in your recruitment process.

The first contact you have with any recruit needs to provide some information about your values and priorities. You then need to back that up at every future point of contact throughout the recruitment process.

4. Be prepared to chase hard.

Younger employees will typically not answer your advertisement. You need to answer theirs. Be prepared to feel like you are being interviewed rather than the other way around.

5. Understand what makes them tick.

Each generation has certain characteristics that they lean towards. It is important to understand this and target your recruitment practices to your audience.

6. Word your advertisements well.

Your advertisement, wherever you place it, is your first contact with your new employee. Consider what message you want to send them.

7. Set your expectations.

When you employ someone, discuss your expectations with them and don't shy away from the hard topics. This is about having great communication and great dialogue between employers and employees and/or family members.

8. Know your team.

Get to know your employees. Find out how they like to communicate, when their birthdays are and what's important to them. There is great value in personality and behavioural diagnostics that help identify how people and teams work together better.

9. Feed them well.

If you have well fed staff, you will have happy and productive staff, but I'm not just talking about food either. Feed them with opportunities, experiences, social interactions and some perks.

10. Be compassionate and generous.

Generosity of spirit is perhaps the greatest of leadership qualities. You never know what someone else is going through. Compassion and generosity are critical when working with family and staff.

Key take home messages

- ◆ Know what is important to you and your business.
- ◆ Know what is important to your staff.
- ◆ Be clear yet compassionate in your approach.

Next steps

- ◆ Review your reputation and be able to articulate your values and priorities.
- ◆ Review how you write your advertisements.
- ◆ Look to do some leadership development and/or personality type testing to understand yourself, and then understand and work with others better.

Relevant tools and resources

◆ Australian Rural Leadership Foundation

The Australian Rural Leadership Foundation develops courageous and authentic leadership to support resilient regional, rural and remote communities. Established nearly 30 years ago, the ARLF is a national, not-for-profit organisation with both a national and international footprint. It specialises in delivering tailored and ethical leadership development programs and initiatives.



◆ Engagement is the key to staff retention – Farm Weekly article

Australian agricultural businesses will need to be more adaptive to change to hire and retain millennial staff. Millennials, born from the early 1980s to about mid-1990s, now make up more of the workforce than any other generation, but they are different to those before them. They want to be connected and undertake work that is meaningful.



◆ People in Agriculture

People in Agriculture is an initiative that provides all the latest information about working in the industry. The easy-to-use website features information on employment law, news, career management and professional practice. It is a free resource built for all employees and employers within the Agricultural industry. Visit www.peopleinag.com.au for more information.



◆ Attracting and retaining staff in the pastoral livestock industry. Collect the fact sheet from the MLA table.

Equivalency of kangaroos, sheep, goats and cattle: what they eat, how much and implications for grazing management in a multi-species system



Lester Pahl

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About Lester

Lester Pahl has been involved in pastoral industry research in south west Queensland for 27 years. Lester is particularly interested in the macropod component of total grazing pressure and how this impacts livestock enterprises.

Session abstract

Many studies have reported the daily dry matter intakes and diet composition of cattle, sheep, goats and macropods (kangaroos and wallabies). Over 100 studies fed straw, grass or lucerne to these animals and measured how much they ate each day. The benchmark for comparing the daily intakes of these species of herbivores was a dry sheep equivalent (DSE) – 50 kg Merino wether or dry ewe at maintenance. Based on how much dry matter is eaten daily, a 50kg goat is 1 DSE, a 50kg macropod is 1 DSE and a 450kg steer is 8 DSE. But not all sheep, goats and macropods weigh 50kg, and not all cattle weigh 450kg.

The average size of a macropod, including all age classes on the ground, is 25 kg. This is approximately 0.5 DSE or 0.06 Animal Equivalent (AE). When macropod populations are at their peak, an 8,000ha property could have 10,000 macropods. This is equivalent to 5,000 DSE or 600 AE.

Over time, cattle, sheep, goats and macropods eat many of the same plants in the same places. This is especially the case for annual native forbs, annual grasses and perennial grasses. At times they will compete for the forages which are the main drivers of livestock productivity.

While multi-species systems may reduce risks associated with climate and market variability, the large overlap in the diets of these herbivores combined with different production cycles and different infrastructure and management requirements create challenges for running multi-species grazing systems.

This presentation is based on two papers I wrote for an issue of the Rangeland Journal called Managing Total Grazing Pressure in Australia's Southern Rangelands:

- ◆ Macropods, feral goats, sheep and cattle. 1. Equivalency in how much they eat
- ◆ Macropods, feral goats, sheep and cattle. 2. Equivalency in what and where they eat

It is also based on findings and observations over many years of rangeland research including literature review of 100's of studies conducted in Australia and overseas.

The main questions I was interested in were, to what extent:

- ◆ are these animals equivalent regarding their grazing pressure?
- ◆ do they eat the same plants and forage in the same places?

Macropods, feral goats, sheep and cattle.

1. How much do they eat

- ◆ Sheep were a range of breeds
- ◆ Cattle were *Bos taurus* and *Bos indicus*
- ◆ Goats were a range of breeds
- ◆ Macropods were red kangaroos, wallaroos, eastern grey kangaroos and western grey kangaroos

Over 100 studies fed straw, grass or lucerne to animals and measured how much they ate each day. The benchmark for comparison of these species of herbivores was a dry sheep equivalent (DSE) – a 50kg Merino wether or dry ewe at maintenance. Based on the dry matter is eaten daily, a 50kg goat is 1 DSE, a 50kg macropod is 1 DSE and a 450kg steer is 8 DSE. But not all sheep, goats and macropods weigh 50kg, and not all cattle weigh 450kg.

You can work out total AE's or DSE's for livestock you have based on number, weight and reproductive state. But you don't know these for macropods and feral goats.

The average size of a macropod (kangaroo and wallaroo), including all age classes on the ground, is 25kg. This is approximately 0.5 DSE or 0.06 AE. You would have to guess how many macropods are present on your property, and/or ask Parks and Wildlife for their estimate of this.

In years when macropods reach peak densities, it would not be uncommon for an 8,000ha property to have 10,000 macropods. In terms of dry matter intake, that is equivalent to 5,000 DSE or 600 AE.

The average size of a feral goat in rangeland mobs, including all age classes, is 26kg. This is approximately 0.52 DSE or 0.07 AE. If truly feral, which is unlikely now, you would have to guess numbers. But more likely they are managed, numbers etc are known, and DSE can be calculated.

Dorpers are popular and becoming increasingly common. In terms of how much they eat daily, you could assume that a 50kg dry Dorper at maintenance is also 1 DSE.

On a kg for kg basis, they all appear to consume about the same amount of dry matter daily when fed the same forage. However, in the paddock, they eat different plants with differing digestibility's. The smaller the herbivore, the more selective it can be, and thus the more likely its diet is high quality and highly digestible. This allows them to consume more dry matter per kg of body weight per day. For example, feeding straw reduces daily dry matter intake by around 40% compared to eating lucerne. Hence, a 25kg kangaroo or goat may rate more than 0.5 DSE.

Differences in water requirements are also worth considering. When comparing species of herbivore on a kg for kg basis, cattle require 50% more water than sheep, sheep require 60% more water than goats, and goats require 3

times more water than kangaroos. The higher the water requirements, the more they must drink and the more they are tied to water points. Species with high water efficiency are more likely to travel further from water, find more and better-quality forage, and maintain adequate daily dry matter intakes.

Macropods, feral goats, sheep and cattle.

2. What and where do they eat

- ◆ Sheep were Merino
- ◆ Cattle were *Bos taurus* and *Bos indicus*
- ◆ Goats were feral goats of the Australian rangelands
- ◆ Macropods were red kangaroos, wallaroos, eastern grey kangaroos and western grey kangaroos

The studies of diet composition reviewed are all from Australian rangelands.

Overall, there was huge variability in what each species of herbivore ate at any one time or place. Each species of herbivore eats the best quality forage available, providing enough of it can be consumed to satisfy their daily energy and nutritional requirements. Smaller herbivores will nearly always consume better quality forage than larger herbivores. The larger herbivores need to consume plants which are larger and more common.

Some plants are not eaten because they are poisonous or extremely distasteful. But for most other plants, they are eaten when they are most digestible. This is when they are small, growing, green, with high moisture and protein contents. The timing of their most active growth stage during a year varies for different plant species and groups, and it also varies between years. Obviously, availability also greatly influences diet composition. Different land types support different species of plants, and availability declines as plants disintegrate and are grazed.

So not surprisingly, the diets of each species of herbivore differ greatly with time and location. Also, not surprisingly, the diets of each species of herbivore in the same paddock at the same time are often very different. But over several months to a couple of years, the diets of all these species of herbivore overlap considerably. This is particularly the case for annual forbs, annual grasses and perennial grasses.

I cannot tell you what species of plants are most preferred by sheep, cattle, goats and macropods on your property. But I can describe trends in diet composition that may be helpful. The studies reviewed mostly reported diet composition in terms of accepted plant groups, being annual grasses, perennial grasses, annual and perennial forbs, shrubs and trees, and litter lying on the ground.

Annual grasses generally live for only a few months. Examples are windmill grass, flinders grass, five minute grass, button grass, downs couch, pepper grass, lovegrasses and bottlewasher grasses.

Perennial grasses live for a few to many years. Examples are mitchell grasses, Queensland blue grass, mulga mitchell, desert bluegrass and buffel grass.

Forbs are sometimes described as herbaceous (non-woody) plants, but more often, they are regarded as both herbaceous plants and woody sub-shrubs or shrubs. Examples are native legumes (e.g., glycine, grey rattlepod, peabush), lamb's tongue, daisy burr, wild carrot, sida, mint bush, saltbush, pigweed, red spinach, soda bush, foyxtails, hibiscus, tomato bush and burrs.

Examples of the larger shrubs and trees, some of which provide browse for herbivores, are turkey bush, hakea, hopbush, cassia, mulga, eastern dead finish, beefwood, ironwood, western bloodwood boree, whitewood, leopardwood, wilga and wild orange.

Litter on the ground is often flowers, seeds, fallen leaves, fine twigs and detached grass stems.

Generally, Merino sheep, cattle, feral goats and the macropods have similar hierarchies of forage preferences. The sequence from most to least preferred forages is annual forbs and annual grasses, green perennial grass, new growth

of perennial forbs, dry perennial grass, leaves of large shrubs and trees and finally, litter lying on the ground.

However, what they eat at any one time is also strongly influenced by availability. While availability of forages is affected by climate, land type and grazing, it is also a function of herbivore body size. Herbivore body size determines daily intake requirements and selective foraging abilities. For example, minor components of pastures such as green grass shoots can be available to and sustain small herbivores such as macropods, but not larger herbivores such as cattle. Similarly, sparse and very small plants or litter are available to and can sustain sheep or goats but not cattle.

Merino sheep and cattle have similar hierarchies of forage preferences. The difference between these two herbivores is that cattle will progress through this sequence faster than sheep and end up eating more dry grass, woody perennial forbs and browse than sheep. However, sheep will probably eat more remnants of plants and litter lying on the ground, which will keep them alive longer than cattle.

Feral goats also prefer annual forbs, annual grasses and green leaf of perennial grasses to browse. They differ from sheep and cattle in that they eat less chenopods such as salt bush and blue bush, and almost at any time have more browse of larger shrubs and trees in their diets. Feral goats also consume a wider range of browse species than sheep and cattle, which includes all the browse species eaten by sheep and cattle. Additionally, feral goats will survive longer than sheep by continuing to consume litter lying on the ground. Their ability to consume a large amount and wide range of browse and fossick for litter on the ground allows them to survive longer during droughts than the other herbivores.

The red kangaroo also has a similar diet to sheep. They prefer and have diets with large amounts of annual grasses, annual forbs and the green leaf of perennial grasses. Their capacity to select these high-quality components of pastures is much greater than that of the other herbivores. Consequently, they consume these forages for longer periods of time than the other herbivores. While red kangaroos also eat perennial forbs and sometimes browse, they switch to these much later than sheep, cattle and feral goats. Characteristically, their diet contains more grass than sheep, cattle and goats.

Wallaroos and eastern grey kangaroos consume the most grass of all these herbivores. They prefer herbage as do the other herbivores and will continue to chase and consume dry perennial grass when the other herbivores have switched to perennial forbs and browse. They rarely eat browse and then only small amounts. Perhaps this is why they appear to die earlier in droughts than sheep, goats and cattle.

As is the case with diet composition, at any one time, overlap in where sheep, cattle, feral goats and the four species of macropods forage is often low. However, over periods of several months to two or three years, as climatic conditions change, overlap in foraging distributions is high. While equivalency in what and where these herbivores eat is not quantifiable, it appears to be high overall. This is particularly so for perennial grass, which is the dominant forage for herbivores in the rangelands. Importantly, what these herbivores have in common is that they share the herbaceous forbs and grasses which drive high growth and reproductive rates. Differences occur mostly regarding their use of woody forbs and browse, which is possibly responsible for differences in their capacities to survive droughts.

Dorper sheep have become popular because they appear well adapted to the rangelands, sheep meat prices are high, and fencing that can keep them in paddocks is now widespread. However, little is known about their diet in Australia. Studies in Africa indicate that Dorpers consume more woody shrubs and less grasses than Merino sheep over the period of a year. However, their diets were very similar during the growing season. In comparison to goats, including Boer goats, Dorpers appear to eat less browse.

Main messages regarding how much, what and where they eat:

- ◆ On a kg for kg basis, sheep, goats, cattle and macropods eat approximately the same amount of dry matter daily.
- ◆ At any one time, diet composition of these herbivores is often different, and they often forage in different parts of paddocks.
- ◆ Invariably, over a year or two, their diets and foraging areas converge.
- ◆ Over a year or two, these herbivores rely on the same highly digestible forbs and grasses for their growth and reproduction.
- ◆ The smaller the herbivore, the better it is adapted to the rangelands. They can perform well by selecting sparse high-quality forages, then surviving on small amounts of remaining plants and litter.
- ◆ Sheep, goats and cattle are further suited to rangelands due to their capacity to consume a wide range of grasses, forbs and browse. But the bigger the animal, the sooner they run out of feed.
- ◆ Macropods have the greatest capacity to select the green and more digestible components of grasses, have the lowest water requirements, and can travel long distances in search of forage reserves. Generally, they are unable to survive on browse.

Key take home messages

- ◆ There are benefits of running multi-species systems. They will utilise more plants in more places on a property and thus, at least at times, allow more DSEs to be carried. It seems there is potential to run more DSEs in favourable seasons by using a mix of herbivores.
- ◆ Sheep and goats are also likely to suppress some woody regrowth.
- ◆ They better cope with and last longer during droughts and they are easier to supplement during droughts.
- ◆ The foraging activities of larger herbivores such as cattle can improve the quality and accessibility of forages for smaller herbivores such as sheep.
- ◆ A mix of herbivore species may buffer against inevitable changes in market prices, as well as climate variability which is already high.
- ◆ Realising these benefits without losing production efficiencies and damaging pastures seems challenging. It will require a higher and more vigilant level of management and investment. However, where there is a will there is a way. High red meat prices and a very good season provide ample will at the moment.
- ◆ More infrastructure may be required for handling mixes of species. Given that wild dogs are prevalent, exclusion fencing is needed to protect sheep and goats, and to prevent them escaping paddocks or properties. A wider range of yards, equipment and machinery may also be needed if running sheep, goats and cattle.
- ◆ Sheep, goats and cattle have different production cycles. Consequently, there will be more mating, branding, weaning, moving and selling activities each year.
- ◆ Increasing production efficiencies by increasing the ratio of prices received to costs incurred is vital to the success of a pastoral business. This seems more challenging for multi-species systems.
- ◆ Given that sheep, goats, macropods and cattle share many of the same plants in the same places over time, some species will suffer when grazing pressure is high.
- ◆ The smaller herbivores will consume herbage at the expense of larger herbivores. Larger herbivores are

likely to benefit small herbivores by cropping large tussocks of grass, encouraging new growth and making this more accessible to the smaller herbivores. This is certainly the case for cattle and macropods, and probably for cattle and sheep. While macropods and sheep or goats benefit from this, this may cause a decline in the quality and quantity of forage available for cattle. Also, it is likely to place higher grazing pressure on plants.

- ◆ It seems unlikely that the long-term carrying capacity of a property can be increased by running a mix of herbivores. Over time, as forage supplies run out, sheep, goats and cattle all eat much the same plants.
- ◆ Multiple herbivore species along with their multiple age classes and their specific needs will be a large challenge for management. It will be more difficult to rest paddocks and to control grazing pressure.
- ◆ Goats and Dorpers have higher weaning rates than Merino sheep and cattle which is likely to have implications for stocking rates.
- ◆ What is good for sheep and goats is also good for macropods. Macropods will continue to multiply quickly when conditions are suitable. There will be periods when macropods consume as much forage as livestock.
- ◆ Macropod populations can only be prevented from reaching high densities by continually culling them when their numbers are relatively low. This does not seem possible due to the large and ongoing efforts required, and the tightening of macropod culling policy that is likely to follow opposition from the commercial kangaroo industry and various animal welfare and environmental organisations.

Relevant tools and resources

- ◆ A research paper was published in The Rangeland Journal i.e. Pahl, Lester (2020), Macropods, feral goats, sheep and cattle. 2. Equivalency in what and where they eat. The Rangeland Journal. 41. 10.1071/RJ19059. An abstract can be read here, and a full paper can be requested



- ◆ A research paper was published in The Rangeland Journal: Pahl L. (2020) Macropods, feral goats, sheep and cattle. 1. Equivalency in how much they eat. The Rangeland Journal 41, 497-518. An abstract can be read here, and a full paper can be requested



- ◆ **Making More from Sheep**

- Module 12: Efficient Pastoral Production

Efficient Pastoral Production is designed to help pastoral sheep producers increase the productivity and profitability of their enterprise, as well as contribute to the personal satisfaction of operating a successful pastoral business.



Managing sheep feed intake and nutrition requirements from joining through to weaning



Rob Inglis

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About Rob

Rob was born and raised on a family farm in southern NSW and holds a Bachelor of Science and Associate Diploma in Farm Management. He has 40 years' experience in agriculture including farm management; ruminant livestock research (NSW DPI) and livestock agency and advisory services. In his current role Rob coordinates the Elders National Livestock Production team as well as consulting to key livestock clients. Rob has delivered the Lifetime Ewe Management for 6 years, delivering the course to over 30 groups throughout southern Australia. He has also delivered sheep and cattle programs for AWI, MLA and NSW LLS. Rob owns and runs a small sheep breeding operation in the Murrumbidgee Valley.

Session abstract

- ◆ The reproductive performance of your ewe depends on how well you manage her nutritional requirements throughout the year.
 - Differential management of ewes based on litter size and condition score is the key to reproductive efficiency.
 - The most important phase in the production cycle is between weaning and joining. Ewe management during this period has profound short, and long-term implications.

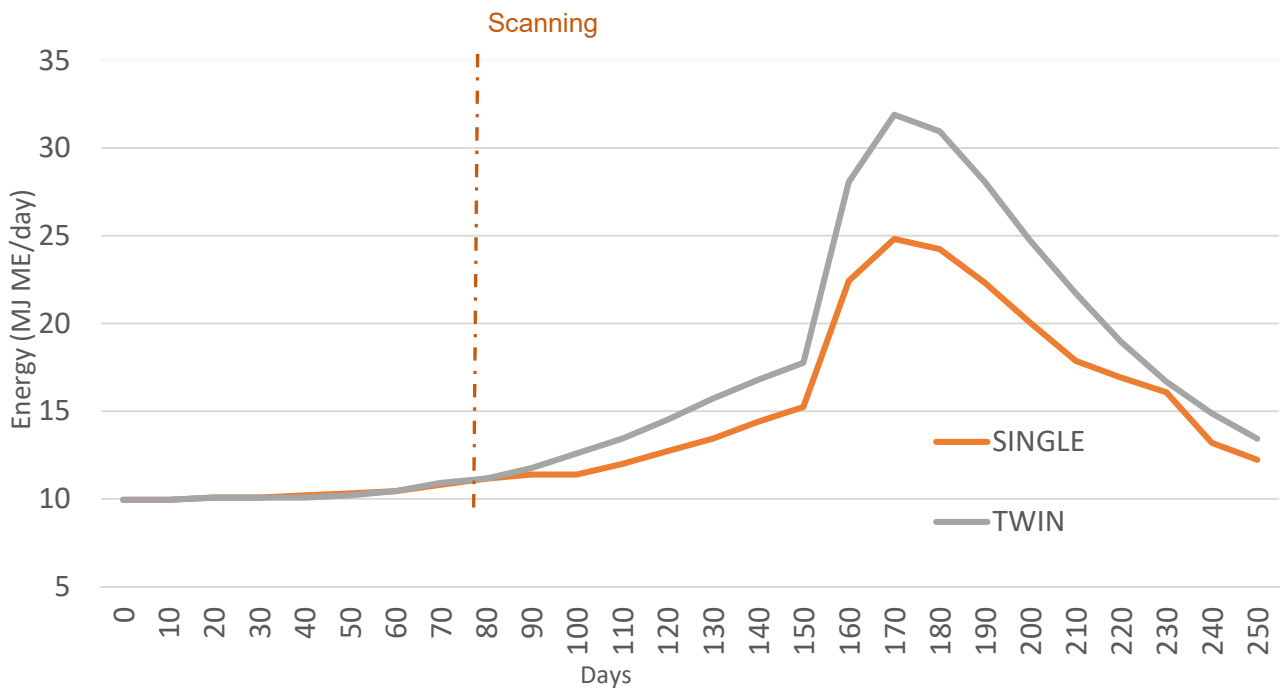


Figure 1: Maintenance energy requirements for a 60kg Merino ewe

- ◆ Climate variation has made matching pasture growth to requirements even more challenging.
 - Capitalising on periods when we are “kicking with the wind” fortifies production.

- ◆ Monitoring and managing ewe condition score is paramount.
 - Pregnancy scan for singles and multiples.
 - The standard reference weight of the ewe is a key measurement.

- ◆ Producers should understand the nutritive value of pastures and supplementary feeds.
 - Understand the importance of feed quality and digestibility of feed. Feed quality has a profound effect on the energy intake of livestock.
 - Understand metabolisable energy and protein balance.
 - Understand how to calculate the cost per MJ of energy.

- ◆ Mob size influences survival rates particularly in multiple lambing ewes.
 - Manage mobs according to number of expected offspring and condition score.
 - The graph below shows the results of trial work, coordinated by Amy Lockwood and Serina Hancock (Murdoch University) and funded by AWI and MLA, conducted on several sites in Western Australia, South Australia, NSW and Victoria. The trials were run on mixed farming, intensive and pastoral properties.

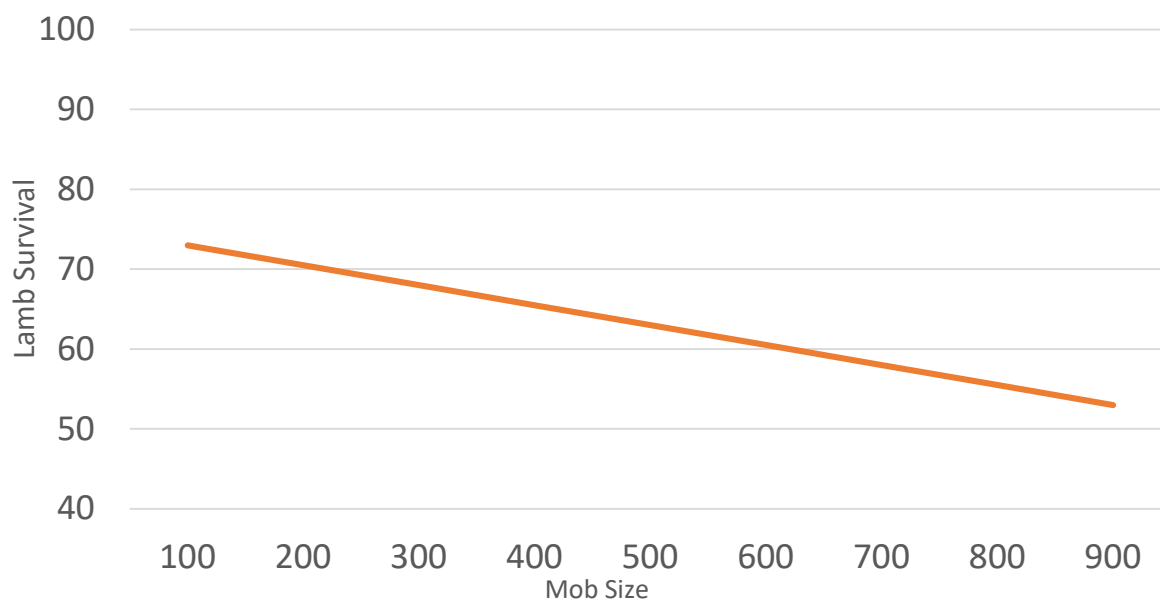


Figure 2: Lamb survival percentage as it relates to mob size of sheep. Amy Lockwood, Murdoch University; AWI & MLA funded research.

- ◆ The timing of supplementary feeding will determine the economic viability.

Table 1: Comparison of 2 feeding scenarios. Early feeding to maintain condition vs late and corrective feeding. Trial conducted on 2 properties in south east South Australia (Brendan Voss; Elders LPA).

60kg Dry Ewe, CS3	Maintain Condition	Lose Condition
Feb/Mar		
ME Supplement (Grain mix = barley + buffer)	5.5 MJ (0.5kg/h/d)	0 MJ
Energy Balance	Maintain	Lose 0.6 CS /month
Condition Score end March	3.0	1.8
Apr/May		
April/May feed (max gain 0.5 CS/month)	5.5 MJ (0.5kg/h/d)	15.5 MJ (1.4kg/h/d)
Condition Score end May	3.0	2.8
TOTAL FEED		
Ration cost = (\$300/t)	15c/day for 120 days	50c/day for 60 days
Total cost 4 months	\$18.00	\$30.00

Key take home message

- ◆ Proactive feeding is less costly and more productive than reactive feeding.

Relevant tools and resources

- ◆ **MLA Producer Demonstration Site - Managing the growth of ewe weaners**

Western Local Land Services and Elders is working with seven demonstration site producers, managing a total of 307,452 hectares and 87,500 sheep in the Booligal area of south western NSW, to demonstrate the benefits of increasing weaner nutrition and weight gain during puberty on their subsequent reproductive rates.



This resource provides an update on the progress of the Producer Demonstration Site Project in the Western region, including sharing some of the current findings, ewe weaner weights, pasture assessments and upcoming project events.



- ◆ **Lifetime Ewe Management**

A twelve-month course designed for producers to improve skills in managing ewes across their reproductive lifetimes.



- ◆ **BredWell FedWell Sheep**

Bred Well Fed Well is a practical, one-day workshop highlighting the key production benefits of superior genetics, plus feed management for improved reproductive performance and livestock productivity (BredWell FedWell also offered for beef producers).



- ◆ **Winning With Weaners**

This workshop is aimed at lifting the lifetime performance of Merino ewes through the improved management of weaners. Winning With Weaners assists participants in understanding the key issues affecting weaner survival, the impact of weaning weight on the survival of weaners to first joining and guides you through developing targets for growth individual to your flock to set up your breeding ewes for lifetime performance.



◆ **Picking Performer Ewes**

This practical workshop is aimed at lifting the lifetime performance from Merino ewes by recognising and total lifetime productivity and value of Merino ewes (fleece, meat and surplus stock).

Step through sessions relating to the whole reproductive cycle and focus on understanding ewe lifetime performance and the concept of 'passengers vs. performers'; the importance of undertaking the three key performance practices of scanning, condition scoring and wet & drying at marking; turning potential into profit by lambing and weaning well; and strategies for success - mapping it all out in a management calendar.



◆ **Making More From Sheep**

• **Module 10: Wean More Lambs**

This module provides the framework and guidelines to set in place all the important management steps to improve flock reproduction rates and lamb survival to weaning.



• **Module 12: Efficient Pastoral Production**

Efficient Pastoral Production is designed to help pastoral sheep producers increase the productivity and profitability of their enterprise, as well as contribute to the personal satisfaction of operating a successful pastoral business.



◆ **Sheep Reproduction Strategic Partnership (SRSP)**

Building on existing industry research, development and adoption (RD&A), the SRSP will increase impact and scale by:

- Focusing on and promoting on-farm best practice management
- working with producers to apply R&D on farm in a way that is practical, economical and works for different business models
- testing and demonstrating supporting technologies
- identifying and filling gaps in R&D.



Business management – what are the quantitative and qualitative costs to be aware of when investing in infrastructure?



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About John

John Francis is the owner of Agrista, an agricultural consultancy business based in Wagga Wagga in southern NSW. Agrista provides consulting and benchmarking services to corporate and family farm asset owners and managers and the agricultural services sector. John creates value by assisting clients to identify their goals, set their business strategy, implement operational plans and monitor performance.

Session abstract

The upside of solid commodity prices and reasonable seasons is being seen in improved operating profits of farm businesses, particularly in those that have been disciplined around expenditure.

While the operating profits have been increasing so have the value of the key assets in a livestock production system – livestock and land. In many parts of Australia agricultural land prices have more than doubled over a four-year period and some livestock classes haven't been far behind in relative value. This increase in capital value has positive and negative implications for producers.

On the positive side, asset growth creates passive wealth for farming families by increasing equity, assuming the assets are owned and everything else remains constant. On the negative side - it results in a larger value of assets from which profit is generated. This means that it can be harder to maintain high levels of farm profitability.

Profitability is a ratio. Profitability, at a whole farm level, is a measure of operating profit divided by the total value of farm assets managed. A ratio typically measures efficiency. The profitability ratio measures the financial resource efficiency of the business. In other words, it measures how well the manager utilizes the millions of dollars that they have invested in the resources of the business and allows for a comparison against alternative investments.

Column A of Table 1 shows profitability levels of 3 percent at asset values of \$10 million. Column B shows that where asset values double, with no increase in operating profit, profitability halves. To maintain profitability, where asset values double, profits must also double (Column C).

Table 1 To maintain the same profitability where asset values double, profits must also double.

	A	B	C
	Original asset	Asset values double	Profits double and
Operating profit	\$300,000	\$300,000	\$600,000
	÷	÷	÷
Farm asset value	\$10,000,000	\$20,000,000	\$20,000,000
	=	=	=
Profitability (ROAM)	3.0%	1.5%	3.0%

The need for investment

As asset values rise it becomes increasingly important to identify those investments that increase farm operating profit from a low marginal cost. These are the gains that collectively contribute to maintaining profitability by increasing profit. These investment opportunities need to be continually revisited because they are sensitive to changes in investment costs and commodity prices.

There are several ways that infrastructure investments can work to increase operating profit:

1. Delivering additional production with each productive unit having a lower marginal cost than it is in the existing system.
2. Lowering cost so that each existing productive unit delivers a lower cost of production.

The extent to which infrastructure investments increase profitability depends on:

- the extent to which there is an increase in operating profit.
- the extent to which any increase in production adds to the capital value of the business.

It is desirable for an investment in infrastructure to deliver higher profits than the status quo because the higher profits deliver the cashflow to repay the upfront cost of the investment. Sometimes an additional benefit associated with investment in infrastructure is the increased capital value associated with additional production.

Investment in exclusion fencing, for example, typically leads to increased livestock production due to an increase in stocking rate. This occurs as feed resources are provisioned to farmed livestock rather than pest animals. The increase in production delivers no change in absolute land value (land value per hectare) but a change in land value per productive unit (land value per DSE). This is demonstrated in Table 2. This results in a reduction of the denominator which leads to an improvement in profitability.

Table 2 Increasing production can lower the land value per productive unit

Measure	Pre fencing	Post fencing
Stocking rate (DSE/ha)	0.8	1
Land value (\$/acre)	\$300	\$300
Land value (\$/ha)	\$750	\$750
Land value (\$/DSE)	\$938	\$750

The combination of higher operating profits and lower land value per productive unit can be a powerful combination. As land values continue to rise there is increasing incentive to pursue these gains.

Goat and sheep market trends, risk and opportunities



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About Emma

Emma Fessey is part of the AuctionsPlus Market Insights (AMI) team with a focus on the sheep, lamb and goat markets. Emma balances her work with life as an elite athlete as part of the Australian Women's Rowing team. She grew up on her family's mixed sheep, cattle and goat property in north western NSW and brings a strong practical skillset to her work as she analyses key market trends and information for the agricultural community.

Session abstract

For Australian sheep, lamb and goat producers, AuctionsPlus provides detailed and region-specific insights into trends and producer intentions. An AuctionsPlus analysis of historical data for sheep, lamb, and goats in the Longreach region has revealed distinct shifts in the breakdown of sheep and lamb categories for both purchases and sales. Merino production has long been the staple for sheep producers in the region. However a significant shift into shedding breeds– (Dorper's and Australian Whites), has been clear across the restocking purchases of Queensland buyers since the beginning of 2020. Year-on-year shedding breed lamb purchases for Queensland increased by 79% in 2020, and a further 50% in 2021, while the overall proportion of Merino ewe and wether lambs has decreased since 2019. While positive seasonal conditions have been the key catalyst behind increased sheep purchasing over the past two years, other factors including the difficulty to secure shearers, weighed up with the survivability, durability and price relationships associated with shedding breed sheep has sparked a large increase in purchasing trends in Queensland.

Across the fast growing and dynamically changing goat sector, regular weekly commercial goat sales on AuctionsPlus since 2019 have provided encouraging insights and trends into producer intentions and the broader direction of the industry. With Southern and Western Queensland listing record numbers for the first two months of 2022, amplified by positive seasonal conditions and buoyant prices across the market, the clear shift from opportunistic harvesting to a more calculated management program of goats is clear.

Notable Trends & Analysis:

Sheep:

- ◆ In 2021 the number of lambs purchased by QLD buyers totalled 107,917 head – doubling on year-on-year levels and higher than both 2019 and 2020 lamb purchases combined.
- ◆ As restockers were striving to purchase lambs coming off the drought in 2020, following solid rain across much of the sheep producing areas of QLD, for the first time since records began, shedding breed lambs accounted for the highest proportion of lamb purchases at 43%.

- ◆ The proportion of Merino wether lamb purchases decreased overall from a high of 68% of total purchases in 2018, down to 32% in 2020 and 39% in 2021.
- ◆ Shedding breed lamb proportions have increased from 16% in 2018, to account for 32% of purchases in 2021. Crossbred lamb purchases have also risen in the state, to account for 15% of purchases, up from just 10% in 2018.
- ◆ A comparison of Queensland and national historical price data for sheep and lambs reveals that most sheep and lamb categories sold from QLD vendors sit between 0-40% below the price mean compared to the national average. The largest price differences occur across shedding breed categories and NSM Merino ewes where bloodline, quality and age are strong dictators of price. Queensland offerings of Merino wether and wether lamb categories however sit close to or above the national price average in 2021.

Table 1: Top Queensland sheep listing and purchasing areas for 2021.

	Sheep Listing Area		Sheep purchasing Area	
1	Longreach	17,565	Longreach	17,781
2	Cunnamulla	16,819	Cunnamulla	10,526
3	Augathella	14,619	Goondiwindi	10,340
4	Thallon	12,090	Condamine	7,962
5	Morvern	8,434	Dirranbandi	7,819

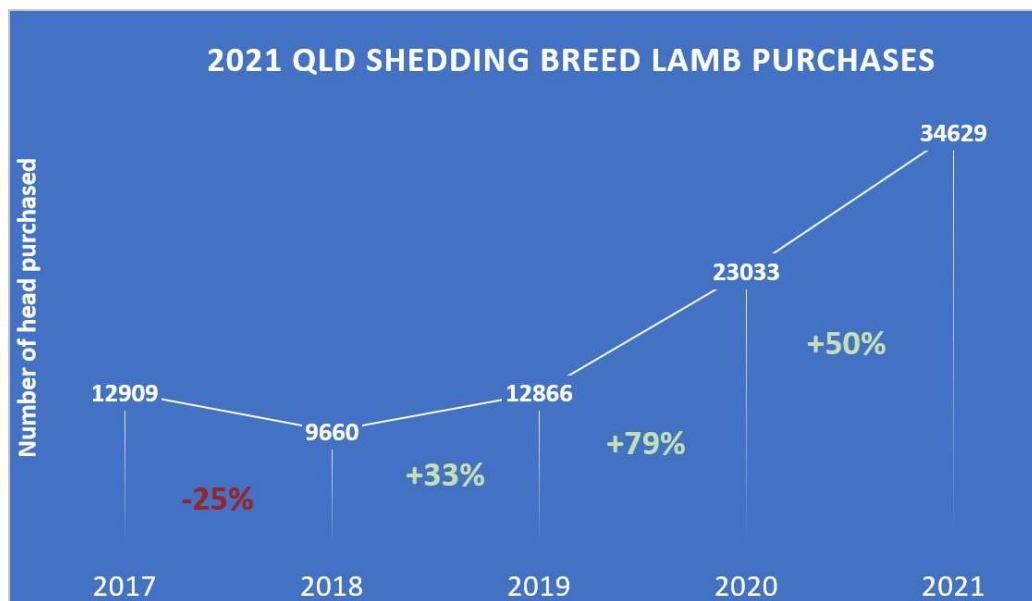


Figure 1: Queensland shedding breed lamb purchases from 2017-2021.

Lamb Category offering breakdown

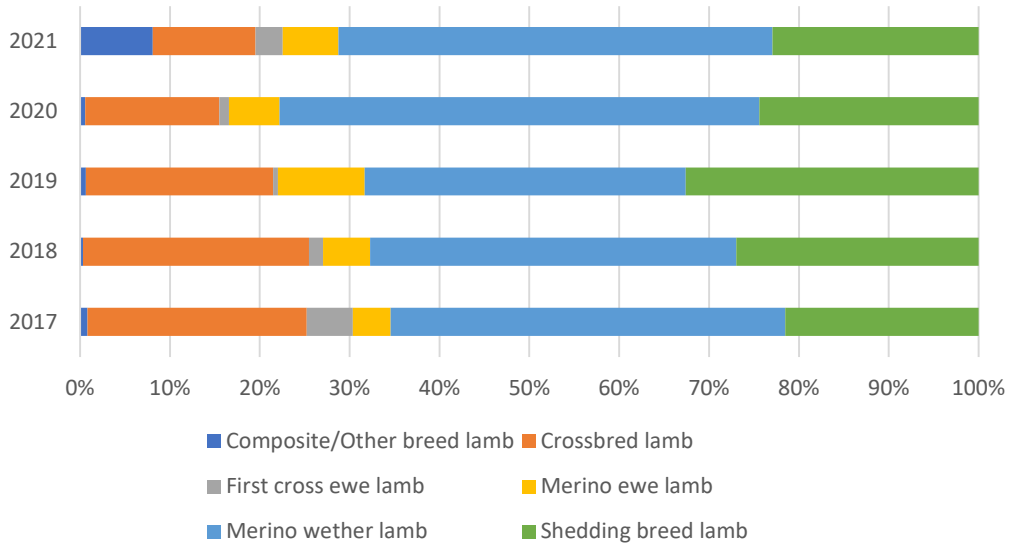


Figure 2: Queensland lamb category offering breed breakdown from 2017-2021:

QLD Lamb purchases 2017-2021

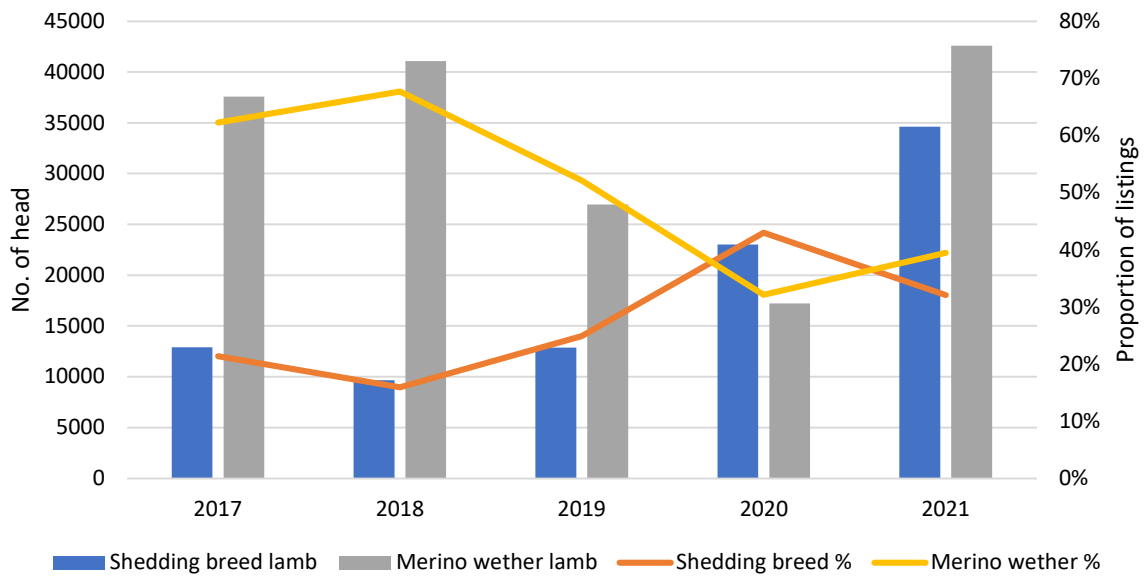


Figure 3: Queensland shedding breed and Merino wether lamb purchases from 2017-2021

LONGREACH AREA 2021 LAMB CATEGORY BREAKDOWN

■ Crossbred lamb ■ Merino ewe lamb ■ Merino wether lamb ■ Shedding breed lamb

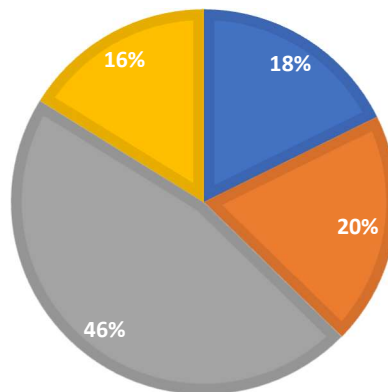


Figure 4: Breakdown of Longreach lamb category offerings in 2021.

Goats:

- ◆ QLD goat listings have significantly increased year on year. The first two months of 2022 have recorded the two largest listings consecutively, totalling 18,158 head in January 2022 and 19,571 head in February 2022. This was a 788% and 857% increase for the same months in 2021, respectively.
- ◆ The proportion of rangeland goats listed on AuctionsPlus continues to dominate numbers, however an increase of first cross Boer/Rangeland goats is evident due to their increased carcass weights without compromising their durability.
- ◆ In 2021, of the goats listed in Queensland, 75% remained in the state spread across Western and Southern Queensland.

Table 2: Top 5 goat listing regions in 2021:

	Listing Area	
1	Mitchell	20,075
2	Morvern	17,225
3	Cunnamulla	11,035
4	Longreach	7,155
5	St George	5,588

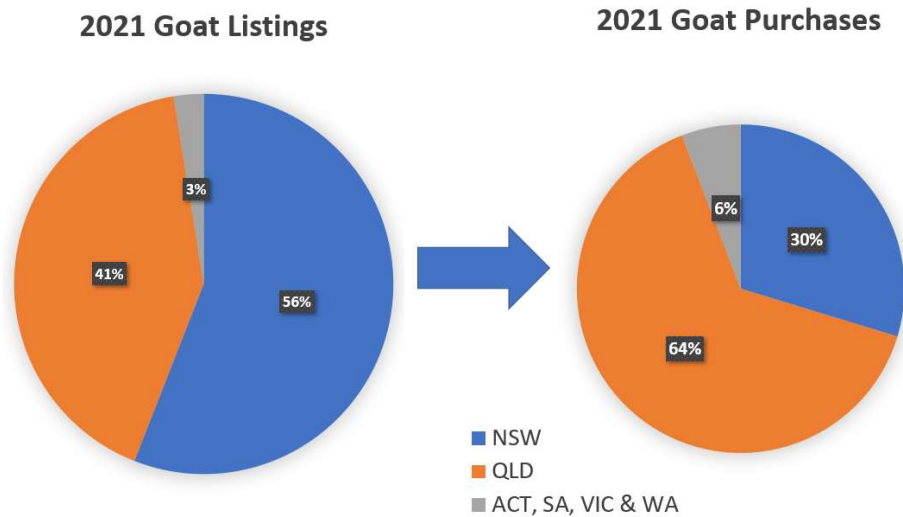


Figure 5: 2021 state breakdown of goat listings and purchases

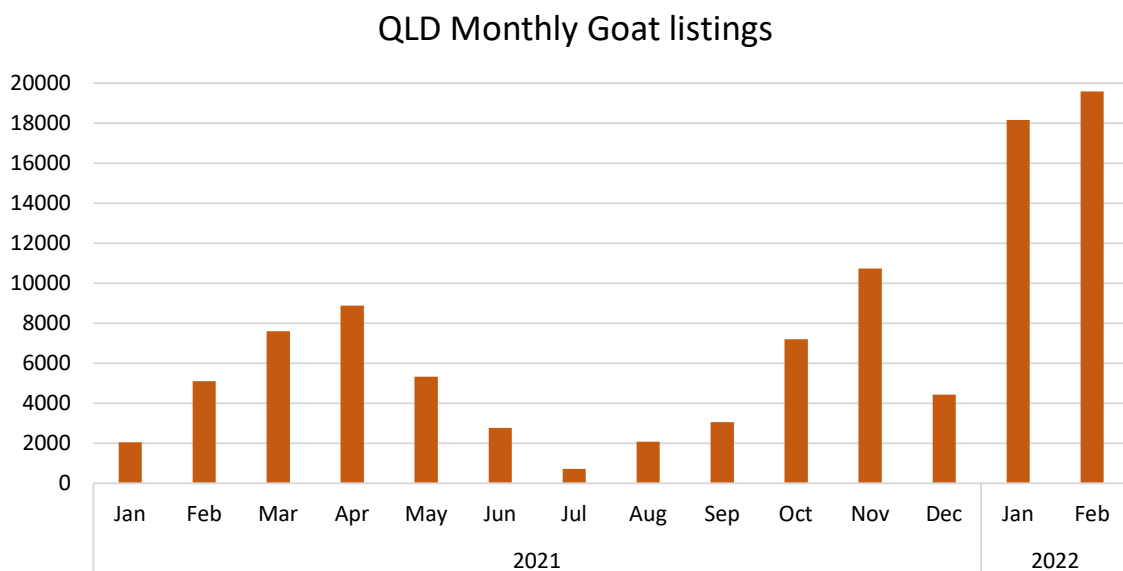


Figure 6: Queensland Monthly goat listings from 2021-22.

What to watch:

- ◆ Supply chain resilience for sheep and goat inputs and outputs. Following disruptions across much of summer with labor shortages, supply and logistic disruptions brought on by both COVID-19, widespread rainfall and flooding, the approach into cooler months is expected to see a return to a more stable commercial market.

Key take home messages

- ◆ Queensland producers are placing increased focus on shedding breed and meat sheep as opposed to the Merino.
- ◆ Ongoing opportunity in goat production with record high numbers across the state.

Relevant tools and resources

◆ AuctionsPlus LivestockBI

A new tool that will help you optimise your livestock transactions. Bringing together market intel from every sale on AuctionsPlus, LivestockBI provides unrivalled insights from the single biggest cattle and sheep market in Australia.



◆ Going into Goats

The Going into Goats Guide is an information package designed to explain the essential processes for a successful goat production system. This applies to goat production as a standalone enterprise or as an enterprise that complements other production systems.



◆ Goat Industry overview – trends, prices, opportunities

This site information about pricing trends, who is buying goatmeat, what opportunities exist in the market place, levy investment and the industry's structure.



◆ Goat levy, industry and producer performance indicators

The project was conducted to inform industry of progress toward the Meat Industry Strategic Plan (MISP) 2020, Goat Industry Strategic Plan 2020 and aimed to better understand and articulate the profitability of the goat meat industry. The results demonstrated strong financial performance in goat enterprises and should be used to identify opportunities for investments into research, development and extension.



◆ Making More From Sheep

Making More From Sheep was developed by AWI and MLA and provides Australian lamb and wool producers with best-practice information, tools and training to help them build profitable and sustainable sheep enterprises. It includes a twelve module sheep producers manual.



◆ MLA Market Trends and Analysis

MLA's Market Information analysts examine and interpret developments in, and prospects for, the Australian domestic market, key export markets and major competitors, producing a wide range of publications



◆ Interactive Market Tool

Interactive market information tools allow you to customize the latest data to suit your needs from the comprehensive warehouse of saleyard, over-the-hook, slaughter throughput, skins and feeder information. All saleyard reports include audio commentary from your local market reporter



My take home messages and actions

Reflect on the presenters at the MeatUp Forum. For those of relevance to you, note the session title, your key messages, and actions you can take to implement ideas.

Session	Action - Things I could do to implement ideas



Leading Sheep is a proactive network of Queensland sheep and wool businesses; at the forefront of practical and relevant information and technology to equip progressive and thriving producers for the future.

It aims to do this by maintaining a high level of engagement with producers in three regions across the state – south, south-west, and north/central west.

In each region, an extension officer, and a regional coordinator work with a regional committee of producers to determine local priorities. This ensures producers receive the latest information on industry issues, as well as advice on new practices and technologies that will lead to long-term sustainability for the industry.

Leading Sheep encourages all producers, and particularly those aged between 18 and 39 years, to take part in the program and increase their uptake of new technologies.

Leading Sheep is an important partnership between the Queensland Department of Agriculture and Fisheries and Australian Wool Innovation and is supported by AgForce.

The Leading Sheep program is assisting Queensland's sheep and wool producers to maximise productivity in both good and hard times.

Objectives

Leading Sheep objectives currently include:

1. Proactively identify local, industry and producer priorities and collaborative opportunities to deliver timely information and outcomes to Queensland sheep and wool producers. The priority areas are:
 - pest animal management;
 - drought planning;
 - ewe and lamb survival; and
 - business performance.
2. Promote underutilised, beneficial technologies to Queensland sheep and wool producers.
3. Create, identify and promote opportunities for future sheep and wool industry members to shape the direction of a thriving industry.

Visit www.leadingssheep.com.au/subscribe to subscribe to our monthly newsletter containing news, information, and upcoming events relevant to Queensland sheep and wool producers.



paraboss



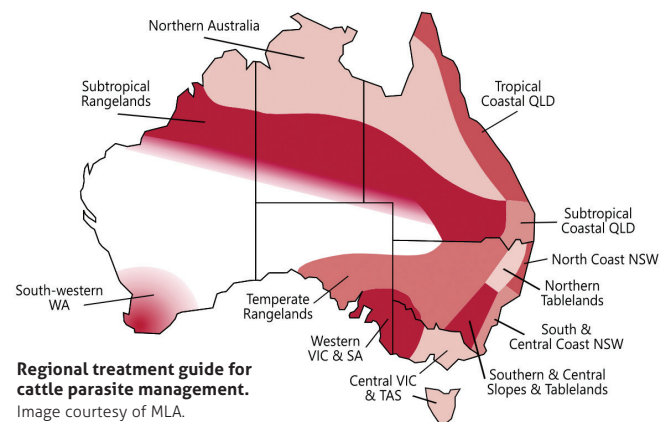
Integrated parasite management for **cattle**

ParaBoss for cattle is the industry's new go-to resource for parasite management information, bringing together the latest R&D and practical resources all in one place.

This online resource offers regionalised and seasonal tactics to reduce the impact of flies, ticks, worms and lice in any grassfed beef, feedlot or dairy herd.

Find information on the biology, treatment and management of parasites and the latest advice on preventing chemical resistance.

Tried and tested by producers, see how ParaBoss for cattle can benefit your business. Visit paraboss.com.au.



tickboss **wormboss** **liceboss** **flyboss**

This ParaBoss update has been developed and funded by Meat & Livestock Australia, the University of New England and Queensland Department of Agriculture and Fisheries, with technical guidance and endorsement by technical experts.

paraboss.com.au





Learn about your responsibilities as an employer.

Providing a great workplace and managing your employees is a key part of running a successful business. People in Agriculture provides you with the latest, industry specific employment information through tools, tips and examples, wherever and whenever you need it.



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MLA's EDGEnetwork® (EDGE) delivers northern research & development and helps red meat producers improve productivity and profitability. Face-to-face workshops allow producers to develop new skills, learn from others in the industry and access the latest research, leading to effective practice change in their businesses.

Grazing fundamentals EDGE

Foundations for grazing production

A one-day workshop to give you a broad understanding of grazing production system components and the core, scientifically-backed principles to optimise grazing land productivity.



Breeding EDGE

Build a more reproductive herd

A three-day workshop to evaluate the performance of your breeding program and identify strategies for higher productivity and reduced reproductive loss.



Nutrition EDGE

Nutrition fundamentals to hit production goals

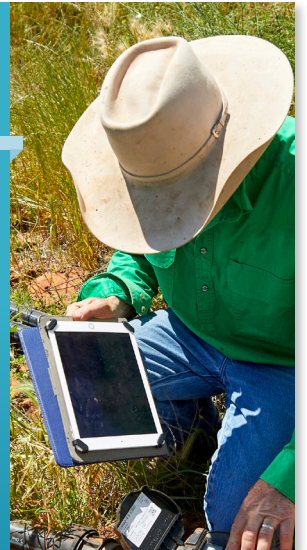
A three-day workshop to understand optimal use of supplements and the nutrition required to reduce mortality, improve fertility and boost weight gains in your herd.



Business EDGE

Know your business, grow your business

A two-day workshop to enhance your financial management and improve business efficiency and profitability. You will also develop strategies to deal with financial risk and external market factors.



Grazing land management EDGE

Strategies for long-lasting grazing potential

A three-day workshop to thoroughly understand your grazing environment and strategically manage your grazing business to optimise land condition and productivity in the long-term.



Upcoming events

Nutrition EDGE

Blackall
6–8 April 2022

Business EDGE

Blackall
2–3 June 2022

For more information about EDGE:

 mla.com.au/edge-network

To find an EDGE event near you:

 mla.com.au/events

Getting Goats to Market

Optimising rangeland goat production



If you think you could optimise your business's efficiency but you're just not sure where to start, join MLA's Profitable Grazing Systems' Getting Goats to Market.

Developed by Schuster Consulting Dubbo, NSW.
Participants will learn how to:

- Upskill in managing goat production to meet market demands and improve market compliance
- Develop a production plan to improve productivity and profitability
- Capitalise on key profit drivers through live animal assessment, condition scoring, stocking rates and nutrition
- Review grazing strategies, infrastructure, cost of production, animal health and welfare
- Enhance record keeping and ensure production inputs are tracked

This package is delivered to small groups of producers over a 12-18 month period through one-on-one coaching and group sessions.

For more information or to register your interest, please visit mla.com.au/pgs or email pgs@mla.com.au

Delivery of this package is supported by MLA's Profitable Grazing Systems (PGS) Program.

mla.com.au/pgs

Better your business



MLA offers red meat producers a range of training opportunities, resources and publications.

TRAINING OPPORTUNITIES

Profitable Grazing Systems is a group-based delivery program designed to deliver training and coaching over several months and up to a year to improve producer skills and knowledge. The aim is to achieve practice change on-farm in the areas of people, business, reproduction and genetics, value chain and feedbase.



mla.com.au/pgs

Producer Demonstration Sites are on-farm projects run by producer groups who want to demonstrate findings from known research into their local farming system. MLA calls for Producer Demonstration Site applications that will help to improve the profitability, productivity and sustainability of red meat enterprises every April.



mla.com.au/pds

EDGEnetwork[®] workshops offer practical knowledge and skills on topics such as breeding and genetics, business management, nutrition, grazing and land management. Workshops range from one to three days.



mla.com.au/edgenetwork

BredWell FedWell are practical one-day workshops designed to teach producers the key benefits of superior genetics and feed management for improved flock and herd performance.



mla.com.au/bredwellfedwell

The toolbox, MLA's free eLearning platform, builds knowledge in the areas of animal welfare, husbandry, feedbase and genetics. Packages take between 15 to 20 minutes to complete online, allowing users to learn at their own pace.



elearning.mla.com.au

myMLA is a customised online dashboard that provides news, weather, events and R&D tools relevant to you, as well as a single sign-on feature for integrity systems.



mla.com.au/aboutmymla

Seasonal hubs provide resources, tips and tools organised by season to make it easy to find relevant information to support your business decisions.

mla.com.au/seasonal-hubs

Feedbase hubs provide tips and tools on soils, pastures, legumes and weed management alongside the latest R&D to increase pasture production, quality and persistence.

mla.com.au/feedbase-hub

MLA's Feedback magazine signposts producers to practical on-farm information and showcases how MLA is investing levies in research, development and marketing activities.

mla.com.au/feedback

Keep informed about the latest red meat and livestock industry news, market information, events, research and marketing with MLA's suite of e-newsletters. Mastheads include:

The Weekly • Integrity Matters • Goats on the Move • The Quarterly Feed • Global Markets Update • The Advisor.



mla.com.au/enews

RESOURCES

PUBLICATIONS

Become an MLA member today

MLA membership is **free** to levy-paying producers of grass or grainfed cattle, sheep, lambs or goats. To become an MLA member call **1800 023 100**, visit mla.com.au/membership or scan the QR code.





www.mla.com.au/meatup

