



2021–2022 MEAT STANDARDS AUSTRALIA ANNUAL OUTCOMES REPORT

Delivering consumer
confidence in eating quality



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Introduction

Meat Standards Australia (MSA) is the world's leading eating quality grading program for beef and sheepmeat, developed to improve the eating quality and consistency of red meat.

The system is based on over 1.3 million consumer taste tests by more than 200,000 consumers from 13 countries and takes into account the factors that affect eating quality from the paddock-to-plate.

Beginning in 1998, MSA enables over 30 years of research and development through commercial outcomes and involves participation along the entire Australian red meat supply chain.



Introduction

MSA also includes an adoption program, which seeks to support both on-farm and off-farm stakeholders to adopt eating quality principles to generate considerable value.

The Australian red meat industry has acknowledged that meeting consumers' eating quality expectations is a strong driver of demand, which has been delivered through the MSA program.

MSA can also be linked to other intrinsic purchasing drivers such as animal welfare and sustainability, for example, through best management practices that optimise both eating quality and animal welfare.



ABOUT THE MSA PROGRAM



MSA IS THE WORLD'S LEADING **EATING QUALITY GRADING PROGRAM** FOR BEEF AND SHEEPMEAT.



IT PROVIDES PRODUCERS WITH THE **INFORMATION AND TOOLS** TO UNDERSTAND THE **TRENDS AND DRIVERS** OF EATING QUALITY.



THIS ALLOWS SUPPLY CHAIN STAKEHOLDERS TO IMPLEMENT **IMPROVEMENT STRATEGIES** AND CREATE OPPORTUNITIES FOR **IMPROVED RETURNS**.

Program Manager's report

Australia's world-leading eating quality grading program, Meat Standards Australia (MSA), continues to deliver significant benefits and value to the red meat industry, from the farm gate, throughout the supply chain, and to the consumer's plate.

Outcomes achieved in 2021–22 again demonstrate the value and integrity of the MSA program in underpinning the eating quality and consistency of Australian beef and sheepmeat.

In 2021–22, the MSA program delivered a record \$204 million in estimated additional farm gate returns to MSA beef producers – a significant increase from the estimated \$157m delivered in 2020–21, and more than the previous record high of \$198 million in 2018–19. This is a result of the year-on-year growth of the program, great use of the MSA program by processors, and improved performance by producers to meet MSA requirements.

MSA graded cattle continue to represent more than half of the national adult cattle slaughter at another record of 55% in 2021–22, up from the highest proportion of 53% in 2020–21.

More than 3.25 million cattle were MSA graded through 39 Australian beef processors in 2021–22.

While this is a slight decrease in the number of cattle graded in the previous financial year, it reflects an overall reduction in slaughter numbers as producers take advantage of generally favourable seasonal conditions across many production regions to rebuild herds.

An additional 2,157 cattle and/or sheep producers became MSA registered in 2021–22, taking the total number of registered MSA producers to 47,188.

In 2021–22, the average MSA Index for MSA compliant carcasses was 57.37, a slight decrease of 0.25 from the national average MSA Index of 57.62 in 2020–21. This can be attributed to a range of key factors influencing grading results, including an increase in females with higher ossification scores from some regions, and up to a 10% increase in the proportion of Hormonal Growth Promotant (HGP) usage in some categories.

Looking at sheepmeat, more than 2.1 million sheep followed MSA pathways through 15 MSA-licenced processing facilities. This represented 10% of the total lambs processed in Australia and of these, 84% were trademarked MSA. Of the total lambs processed in Australia, 58% were processed through MSA-licenced processing plants that follow processes to improve eating quality.

As COVID-19 travel restrictions started to ease in early 2022, the MSA team returned to facilitating in-person events and workshops across Australia.

Initially postponed in September 2021, the MSA Excellence in Eating Quality Series and awards were held in early 2022 and attended by nearly 500 producers. The biennial series travelled to six states across the country and included 'Growing and grading the greatest meat on earth' forums and award presentations.

As part of the forums, an awards presentation recognised MSA producers who consistently deliver superior eating quality beef, based on MSA Index results for MSA graded cattle during the 2019–20 and 2020–21 financial years. The series was also an opportunity to launch the *2021 Australian Beef Eating Quality Insights (ABEQI) Report*.



DAVID PACKER, MSA PROGRAM MANAGER

“The MSA program delivered a record \$204 million in estimated additional farm gate returns to MSA beef producers”



MSA graded cattle continue to represent more than half of the national adult cattle slaughter at 55% in 2021–22.



MSA delivered a range of training workshops and information sessions across the country, enabling 1,425 beef and sheepmeat producers to attend 27 workshops or information sessions that covered the key principles of MSA.

In addition to this, 200 livestock agents, advisors and industry service providers, and 80 representatives from the processing sector participated in events including eight MSA training workshops specifically designed for these key supply chain stakeholders.

The value of MSA for end users was again reflected in 2021–22. Consistency and quality remain the top two reasons independent butchers and wholesalers stock MSA product, and the motivation behind the continued year-on-year growth in the volumes they stock.

The proportion of independent butchers who sell MSA graded product has been rising over the last two years and is now at 76%, while 89% of wholesalers are selling MSA product. This included brands underpinned by MSA, where some butchers or wholesalers were not aware that in fact it was the MSA system ensuring the consistency of their trusted brands. The results demonstrate that regardless of their knowledge of MSA, the MSA program is doing the hard work behind the scenes, underpinning brand integrity and eating quality consistency.

Investments into MSA research and development (R&D) continued in 2021–22, with the aim to make all cattle and sheepmeat eligible for MSA, as well as focusing on new technologies and traits to ensure consistent consumer outcomes. Among the R&D projects underway, the impact of genetics, nutrition and management on the performance and eating quality of beef from dairy breeds has delivered promising results to date.

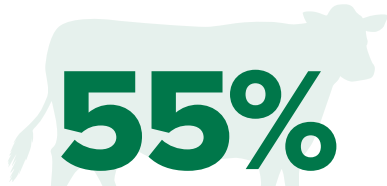
In 2021–22, MSA also took further steps towards commercialisation of the first MSA sheepmeat cuts-based model. Working with processing plants across Australia, MSA carried out benchmarking activities to help processors understand the range in eating quality across their commercial flocks and demonstrate the value proposition of the MSA cuts-based model.

In export markets, the United States Department of Agriculture (USDA) again approved MSA as a Process Verified Program (PVP) to support brand owners to use the USDA PVP shield alongside the MSA logo on their brands. This assists with marketing their MSA product in the United States, through a familiar and trusted identification to consumers.



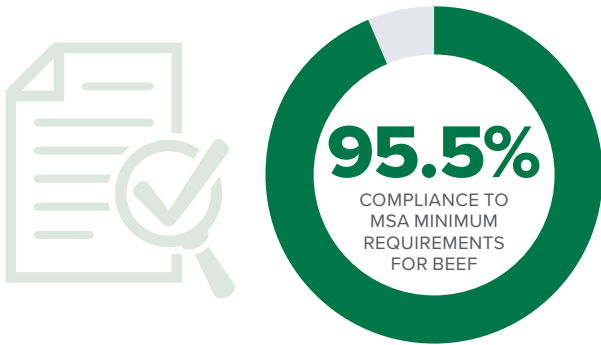
Despite the ongoing challenges the COVID-19 pandemic presented over the past year, the MSA program has continued to strive towards its *MSA Strategic Plan 2020–25* objectives, as well as support the outcomes of Red Meat 2030. The MSA program continues to demonstrate the integral role it plays in achieving the red meat industry's 2030 goal of doubling the value of Australian red meat sales and ensuring continued trust in Australian red meat.

2021-22 highlights



55%
A RECORD 55% OF THE NATIONAL ADULT CATTLE SLAUGHTER GRADED MSA, REPRESENTING 3.25 MILLION CATTLE

MSA DELIVERED A RECORD ESTIMATED
\$204 MILLION
IN ADDITIONAL FARM GATE RETURNS TO BEEF PRODUCERS



2,157
PRODUCERS
BECAME MSA REGISTERED




2.1 MILLION

SHEEP FOLLOWED MSA PATHWAYS, REPRESENTING **10%** OF TOTAL LAMBS PROCESSED IN AUSTRALIA


2,502

PRODUCERS USED THE **myMSA** FEEDBACK SYSTEM **16,963** TIMES


57.37

NATIONAL AVERAGE MSA INDEX

193 BEEF BRANDS
AND
22 SHEEP BRANDS
NOW **MSA LICENCED**



13,600 CONSUMERS
PARTICIPATED IN TASTE TESTING **OVER 82,000 MEAT SAMPLES** AS PART OF EATING QUALITY RESEARCH



1,425
BEEF AND SHEEP PRODUCERS RECEIVED MSA EDUCATION

Program integrity

Throughout 2021–22, 469 audits were conducted on MSA licencees from saleyards and processors, through to retailers, wholesalers, independent boning rooms, supermarkets and foodservice outlets.

MSA also conducted over 100 integrity checks with MSA-licenced processors to support their continued success in utilising the MSA Standards. MSA completed 243 face-to-face and/or video streamed MSA grader checks on active MSA graders around Australia to ensure consistency in carcase grading.

In 2021–22:

- > 21 or 6.8% of end user outlets audited received corrective action requests (CARs).
- > No saleyards audited received CARs.
- > Four or 4.2% of processors received CARs.
- > Three or 8.6% of Independent Boning Rooms (IBRs) received CARs.

MSA retained certification to ISO 9001:2015 Standard as part of its internal Quality Management System (QMS) to ensure the reputation and integrity of the MSA program. This is the internationally recognised standard that specifies the requirements an organisation or company must implement and meet for a QMS.

In export markets, the United States Department of Agriculture (USDA) again approved MSA as a Process Verified Program (PVP) with four brand owners taking up the opportunity to use the USDA PVP shield on their MSA product in the United States.

469 MSA audits conducted.

243 grader checks undertaken.

101 plant integrity checks completed.



MSA beef

In 2021–22, more than 3.25 million cattle were MSA graded through 39 Australian beef processors.

MSA graded cattle continue to represent more than half of the national adult cattle slaughter, at a record 55% in 2021–22.

The proportion of Grainfed cattle grew in 2021–22, representing 62% of MSA graded cattle – an increase of 2.7 percentage points from 2020–21. Non-Grainfed cattle represented 38% of MSA graded cattle.

Grainfed cattle are defined as those that were lot fed at a registered National Feedlot Accreditation Scheme (NFAS) feedlot, and met the Australian Grainfed beef minimum standard specifications. **Non-Grainfed cattle** are defined as cattle derived from any production system that did not meet the Grainfed specifications.

Continued adoption of the MSA program to ensure consistency and quality in brands saw the introduction of four new brands, bringing the total number of beef brands underpinned by MSA to 193.

Processors representing 56% of MSA graded carcasses are utilising the Eating Quality Graded (EQG) cipher in their business to describe beef products by an eating quality outcome.

By volume, Queensland processed the greatest number of MSA graded cattle with 1.62 million head, while New South Wales had the highest compliance to MSA minimum requirements at 97.6%, up from 96.8% in 2020–21.

An additional 1,960 beef producers became MSA registered in 2021–22, taking the total number of MSA registered beef producers to 38,678. MSA registered beef producers now represent 26% of Livestock Production Assurance (LPA) accredited cattle properties.

A total of 9,921 beef producers consigned cattle for MSA grading at MSA licenced processing plants.



MSA beef

Figure 1. MSA proportion of slaughter by state 2021-22

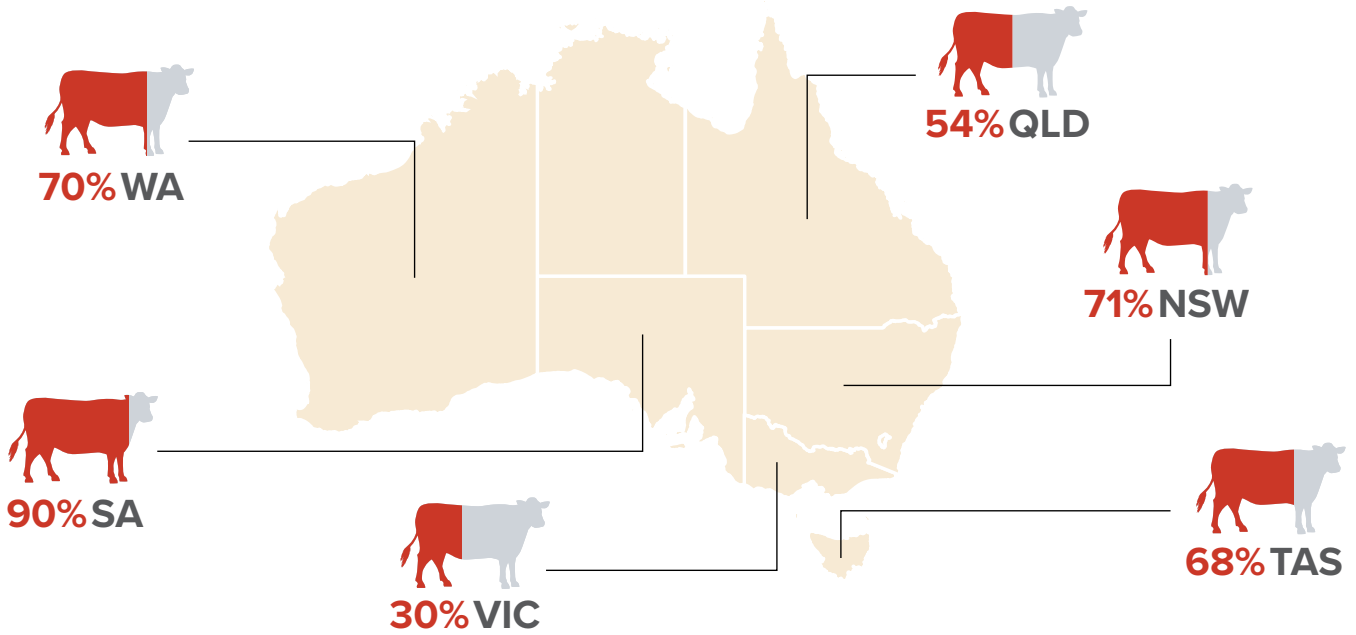


Figure 2. National MSA beef grading numbers 2021-22

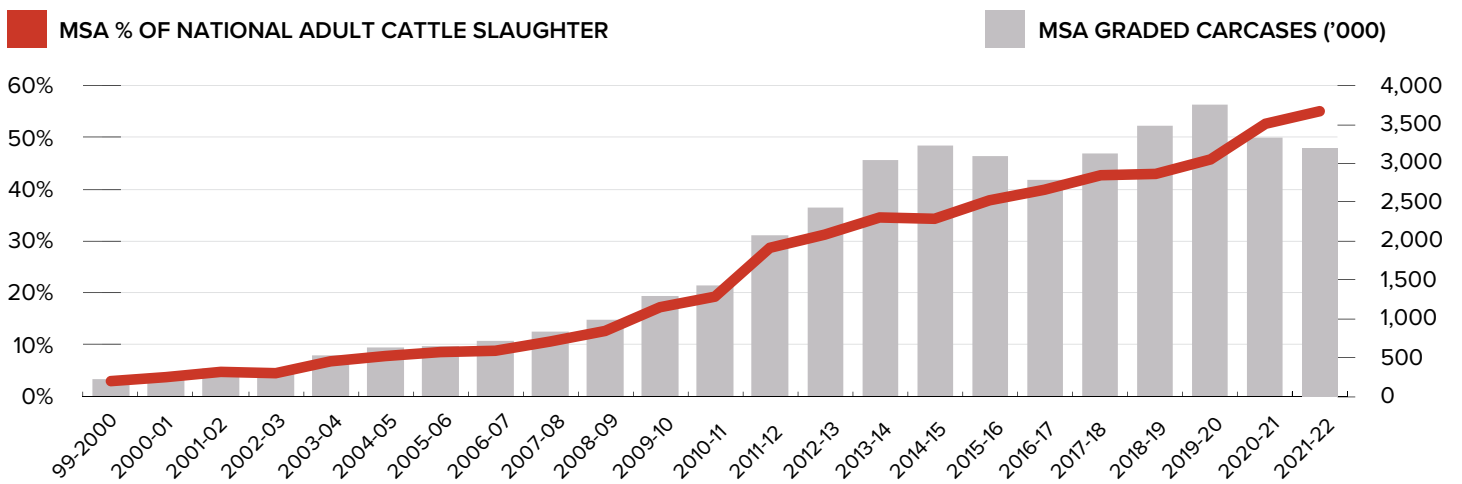
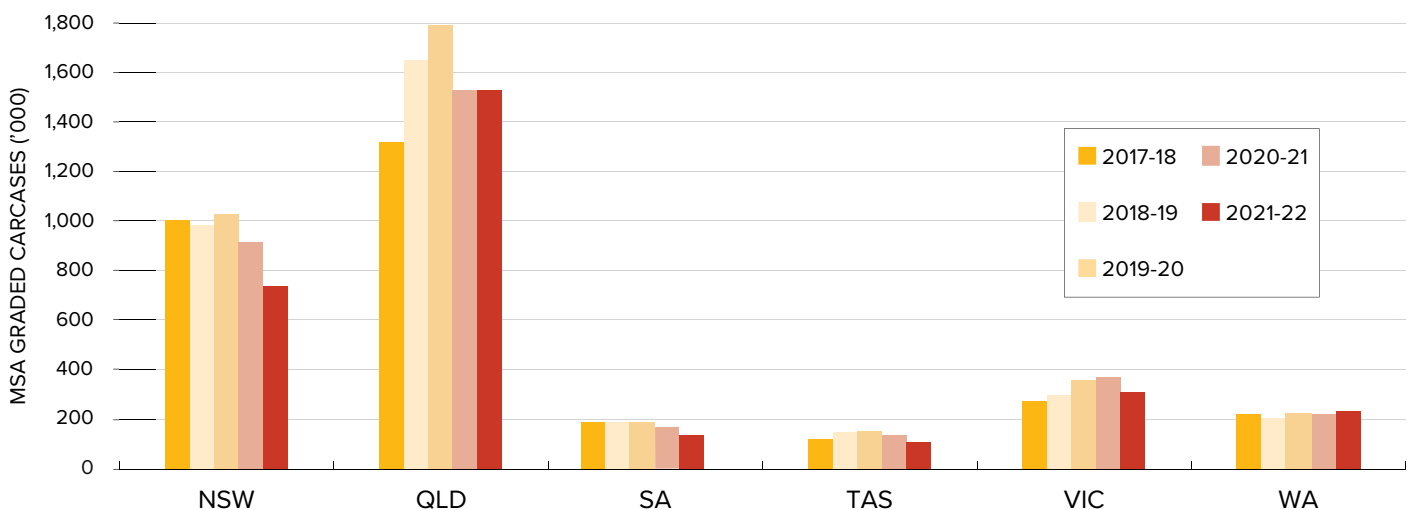



Figure 3. MSA graded carcasses by state 2017-18 to 2021-22




MSA beef carcass compliance

Compliance rates vary throughout the production regions of Australia according to seasonal conditions. In 2021–22, overall compliance to MSA minimum requirements was **95.5%** nationally, equalling the record-breaking level of compliance set in 2020–21. Non-compliance was the highest in September 2021 at 5.4%, an improvement of the 5.9% non-compliance rate set in July 2020.


Non-Grainfed cattle represented 38% of MSA graded cattle – a decrease of 2.8 percentage points from 2020–21.



MSA compliance for non-Grainfed cattle remained unchanged at 91.7% in 2021–22.



Grainfed cattle increased to represent 62% of MSA-graded cattle – an increase of 2.7 percentage points from 2020–21.



MSA compliance for Grainfed cattle decreased slightly from 98.1% in 2020–21 to 97.8% in 2021–22.




Figure 4. National non-compliance 2021–22 by total, pH and rib fat

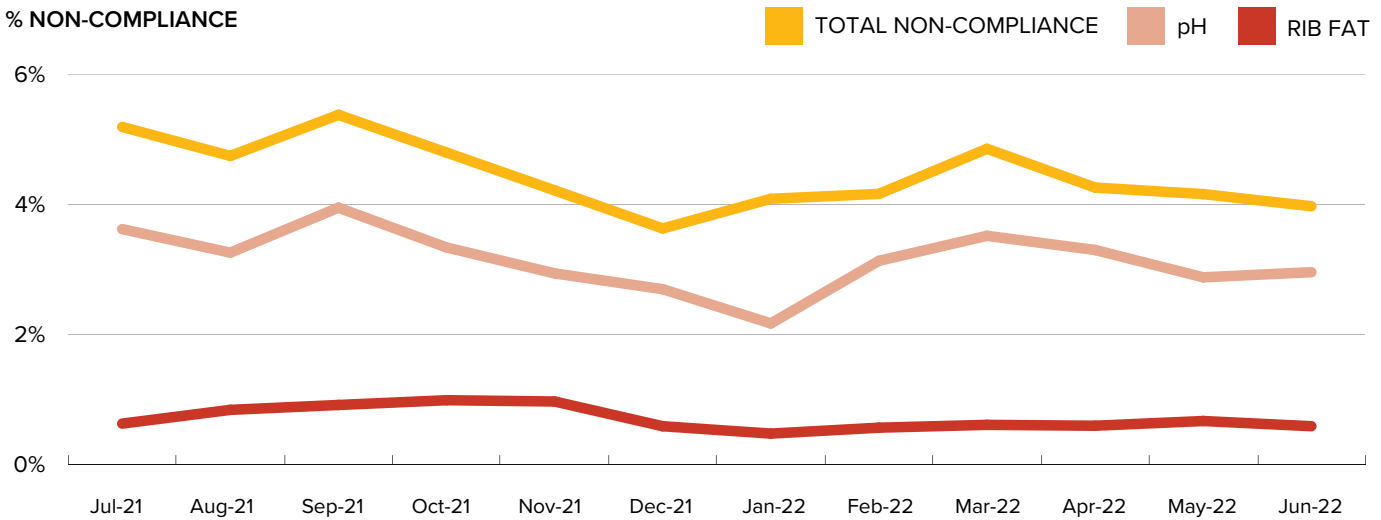
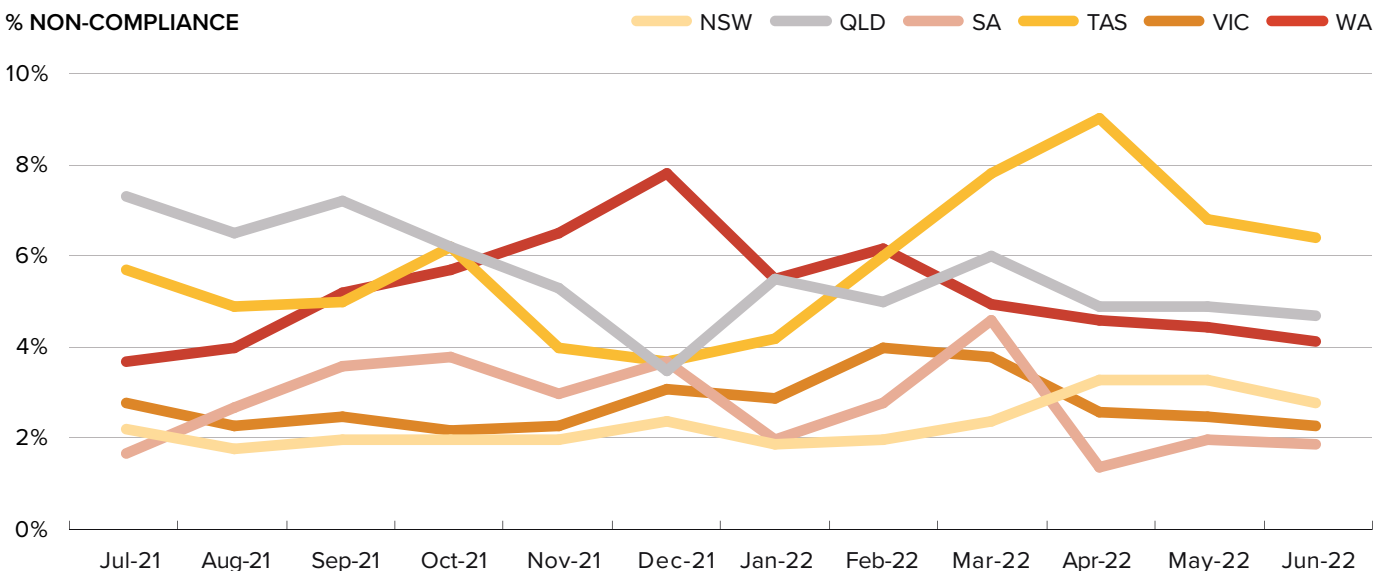


Figure 5. MSA non-compliance by state 2021–22



MSA Index

In 2021–22, the average Index for MSA compliant carcasses was 57.37, a slight decrease of 0.25 from the national average MSA Index of 57.62 in 2020–21.

The decrease can be attributed to a range of key factors influencing grading results.

In the non-Grainfed category, there was an increase in the number of females with higher ossification scores from some regions. This was likely due to the effects of the drought early in life carrying through to non-pregnant females being sent for finishing and/or processing.

There was also an increase in Hormonal Growth Promotant (HGP) usage in some categories, which also negatively impacted the MSA Index score. Nationally, there were 56,000 more cattle HGP treated, or a 5% increase on 2020–21.

- > The average MSA Index for non-Grainfed cattle was 58.20 – a decrease of 0.49 from the previous year.
- > The average MSA Index for Grainfed cattle was 56.89 – a decrease of 0.04 from the previous year.

Using the MSA Index percentile bands

MSA Index percentile bands provide producers with an indication of where their average MSA Index sits in comparison to the performance of others, ranking national data from the bottom 1% to the top 1%.

For example, if your average MSA Index results were equivalent to or higher than 61.13 (Table 1), then your cattle fall into the top 25% for national MSA Index for MSA graded cattle.

Table 1. MSA Index percentile bands

Percentile	National Index	Non-Grainfed Index	Grainfed Index
Top 1%	68.01	66.07	68.36
Top 5%	65.49	63.88	66.3
Top 10%	63.66	62.8	64.39
Top 25%	61.13	61.13	61.14
Top 50%	57.86	59.1	56.87
Bottom 25%	54.11	55.87	52.96
Bottom 10%	49.48	52.63	48.78
Bottom 5%	47.86	49.74	47.57
Bottom 1%	45.43	44.05	45.76



Table 2. Effects of carcass attributes on the MSA Index

Carcass input	Relative importance of these traits in influencing the MSA Index
HGP status	Very high
Milk-fed vealer	Very high
Saleyard	Very high
MSA marbling	High
Hump height	High
Ossification score	High
Rib fat	Medium
Hot Standard Carcass Weight (HSCW)	Low
Sex	Low

myMSA – The home of carcass feedback

myMSA is an online portal where producers can easily access their MSA grading and carcass data, in addition to housing a suite of feedback and benchmarking tools. Through the portal, MSA producers can also complete refresher training, access the electronic National Vendor Declaration (eNVD) system and other relevant tools and fact sheets.

In 2021–22, 2,502 producers utilised the myMSA feedback system 16,963 times.

Since the platform's update in 2020, myMSA continues to provide producers with easy-to-use features to measure and monitor eating quality performance and compliance. Access to carcass data, benchmarking tools, the MSA Index calculator and customised reports enable producers to improve decision making on-farm.

Producers can predict MSA Index scores or calculate the impact of changing carcass attributes with the **MSA Index calculator**, which can be accessed online by scanning this QR code.



To access myMSA visit
www.mymssa.com.au



Changes undertaken in 2021–22 included an update to the registration and e-learning portal for newly accredited MSA producers. The new registration portal uses single sign-on with myMLA, making it easier for producers to identify properties that require MSA accreditation. It also features a refreshed e-learning platform, allowing producers to easily work through content and outcomes that will ensure an understanding of the MSA program, maximising eating quality on-farm in the lead up to slaughter, and accessing and utilising carcass data in myMSA.

MSA Excellence in Eating Quality Series and awards

The MSA Excellence in Eating Quality Series aims to raise awareness of MSA best management practice through a series of forums, including leading industry speakers and recognition of those producers in each state who consistently deliver superior eating quality beef for the benefit of consumers and the profitability of the industry.

Almost 500 attendees had the opportunity to hear from industry representatives about how they can take steps to improve their MSA performance when the series was held nationally in February and March 2022, after being initially postponed in September 2021 due to COVID-19 restrictions.

The biennial series travelled to six states across the country and included 'Growing and grading the greatest meat on earth' forums and awards presentations.

Each forum included presentations and panel discussions featuring guest speakers from key processors and brand owners, livestock consultants and producers.

The topics were focused on the benefits of the MSA program across the supply chain, as well as the importance of data-driven decisions to underpin practice change.

The series helps producers understand the links between consumer and customer requirements, on-farm production and growing profitable livestock, which meet market specifications.

It also assists them to make practical on-farm changes to the benefit of their herd's eating quality and carcass outcomes.

This includes understanding state benchmarks and focus areas to improve as found in the biennial *Australian Beef Eating Quality Insights (ABEQI) Report 2019–21*, which was launched at the forums and can be accessed online by scanning this QR code.



The ABEQI report is generated from the analysis of MSA grading results of 7.1 million cattle, processed and graded through 38 MSA licenced processors nationally during the 2019–20 and 2020–21 financial years. It aims to help beef producers optimise the eating quality of their cattle by demonstrating the impact of various production factors on the MSA Index.



MSA Business Development Officer, Will Atkinson, and MSA End User Training Facilitator, Rafael Ramirez, during a presentation to producers at the MSA EEQ forum in Bunbury, Western Australia.

MSA Excellence in Eating Quality Series and awards

The events also provided an opportunity to recognise beef producers across Australia for outstanding results in their MSA grading outcomes during the 2019–20 and 2020–21 financial years.

To be eligible for the awards, an MSA producer must have:

- > supplied volume (MSA cattle) in the top 50% for that state and feed type
- > had at least average compliance rate for the state
- > consigned MSA cattle at least once per year (2019–20 and 2020–21).

Awards were announced in each state for Most Outstanding MSA Feedlot (with the exception of Tasmania), and two awards for Most Outstanding MSA Beef Producers, to recognise producers of both larger (Band 1) and smaller (Band 2) MSA consignment volumes.

One producer from each state was awarded the MSA Excellence in Eating Quality Progress Award for showing the greatest improvement in their MSA results since the last awards series in 2019.

A new award was also presented to one producer in each state for Champion MSA Index Carcass.



Kelsie, Karol and John Wilkes, Pittsworth, won the 2021 MSA Excellence in Eating Quality Awards in the category for Most Outstanding MSA Beef Producers, Band 2, in Queensland. They're pictured with MSA Program Manager David Packer and MSA Producer Engagement Officer, Laura Garland, at the MSA EEQ forum in Roma, Queensland.



Harmony Operations Australia – Dimboola Feedlot, won the 2021 MSA Excellence in Eating Quality Award for the Champion MSA Index carcass in Victoria. Michaela Dodd and Penny Crane of Harmony Operations Australia accepted the award at the MSA EEQ forum in Wodonga, Victoria.



MSA Program Manager, David Packer, chairs an industry and speaker panel at the MSA EEQ forum in Bunbury, Western Australia. From left to right, panellists included Wayne Shaw from Harvey Beef, Jack Semini of Semini Enterprises, Terry Russell from Johnson Meats, Dr Graham Gardner from Murdoch University and Ed Riggall, AgPro Management.



Thomas Foods International Feedlot Business Administration Manager, Kelly Nankivell; Feedlot General Manager, Tom Green, and Livestock Manager, Harrison Lightbody, accept the 2021 MSA Excellence in Eating Quality Awards for Most Outstanding MSA Feedlot and Champion MSA Index carcass in South Australia.

MSA sheepmeat

All sheepmeat following MSA pathways has met strict criteria to optimise eating quality and meet consumer expectations. In 2021–22, more than 2.1 million sheep followed MSA pathways, through 15 MSA-licenced processing facilities across NSW, Victoria and Western Australia.

This represented 10% of the total lambs processed in Australia and of these, 84% were trademarked MSA.

Of the total lambs processed in Australia, 58% were processed through MSA-licenced processing plants that follow processes to improve eating quality.

In addition, 802 sheep producers became MSA registered in 2021–22, taking the total number of MSA registered sheep producers to 25,458. MSA registered sheep producers represent 33% of LPA accredited sheep properties.

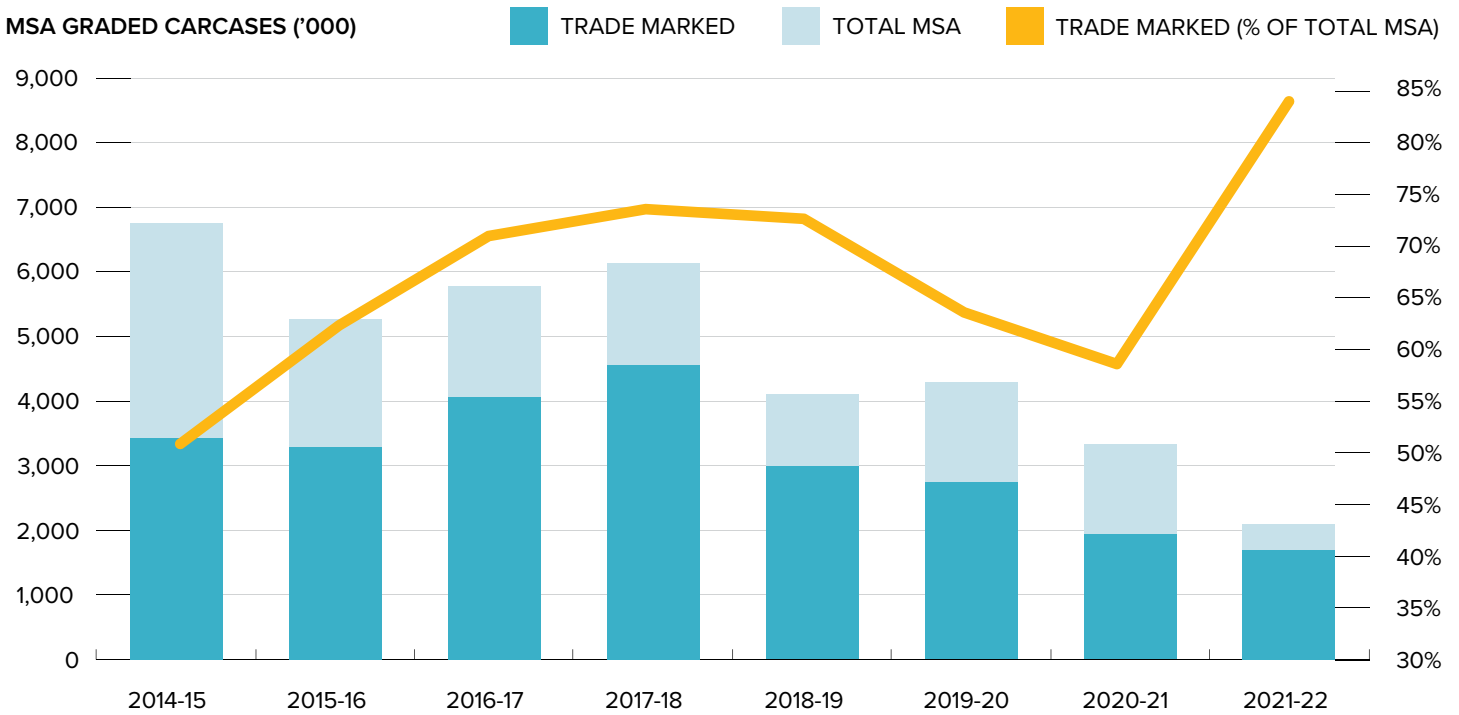
By volume, Victoria processed the greatest number of lambs through MSA pathways at 1.34 million head.

A total of 97.4% of all lambs presented for MSA met the program's minimum requirements – a decrease of 1.6 percentage points on the previous year.



MSA sheepmeat

Figure 6. National MSA lamb numbers 2014–15 to 2021–22 including proportion trademarked MSA



MSA sheepmeat cuts-based model

Following industry approval of the MSA sheepmeat cuts-based model, MSA took the next step towards the model’s commercialisation in 2021–22, signalling a new frontier for the sheepmeat industry.

Based on over a decade of research, the model uses three measurements on each carcass: hot carcass weight (HCW), lean meat yield (LMY) and intramuscular fat (IMF). The MSA model then predicts the eating quality of nine cut-by-cooking method outcomes (grill and roast) for each carcass.

Working with supply chains across Australia, MSA carried out benchmarking activities to understand the range in eating quality of the commercial flock through these supply chains. This aided in demonstrating the value proposition of the MSA sheepmeat cuts-based model, which will ultimately allow for processors and brand owners to apply sophisticated eating quality segregation within their supply chains.

These engagements also provided an opportunity to discuss key areas of focus with supply chains including infrastructure and technology improvements, practical and system implications, as well as opportunities to support their suppliers towards proactive practice change through producer adoption programs.

The commercialisation of the MSA sheepmeat cuts-based model will underpin transformational change to the sheepmeat industry to capture more supply chain value. MSA’s strategic goal is to commercialise the model in the 2022–23 financial year.

Inputs

- Hot carcass weight (HCW)
- Lean meat yield (LMY)
- Intramuscular fat (IMF)

Outputs

Grill



knuckle
loin
outside
rump
topside

Roast



knuckle
leg
rack
shoulder



UNGRADE



Supply chain impact

The MSA program delivers benefits to stakeholders throughout the supply chain from producers through to end users. To maintain and extend the reach of the MSA program, a number of initiatives were held throughout 2021–22 with producers, processors, livestock agents, advisors, industry service providers and students.

Education

A return to in-person events in 2021–22 saw a total of 1,425 beef and sheepmeat producers participate in 27 workshops or information sessions that reinforced MSA principles. This included a range of MLA supported events, supply-chain workshops, webinars, and other producer-focused meetings and activities.

In addition to this, 200 livestock agents, advisors and industry service providers, and 80 representatives from the processing sector participated in events including eight MSA training workshops specifically designed for these key supply chain stakeholders. Four events were also held for 275 students throughout the year.

A five-day MSA Meat Science course held in June was completed by 13 people. The comprehensive course explains the scientific factors affecting the eating quality of beef and sheepmeat all the way from production through to the consumer. The course is a requirement of licencing for MSA processors but is also suitable for producers, lot feeders, livestock agents, traders, industry consultants and anyone wanting to gain a more thorough understanding of the factors which impact red meat eating quality. For more information about the course, email: msaenquiries@mla.com.au

MSA beef producers potentially received an estimated **\$97 per head** in additional returns for young, non-Grainfed cattle and nearly **\$48 per head** for Grainfed cattle.



Supply chain impact

MSA price differentials

In 2021–22, the MSA program delivered a record \$204 million in estimated additional farm gate returns to MSA beef producers – a significant increase from the estimated \$157m delivered in 2020–21, and more than the previous record high of \$198m in 2018–19. This is a result of the year-on-year growth of the program, great use of the MSA program by processors, and improved performance by producers to meet MSA requirements.

Average hot standard carcass weight (HSCW) of MSA graded cattle in 2021–22 was 327kg, a significant increase from the 2020–21 average of 315kg.

For non-Grainfed cattle, the average HSCW in 2021–22 was 304kg, up from 294kg in 2020–21.

For Grainfed cattle, the average HSCW was 341kg, up from 329kg in 2020–21.

The average price differential for MSA young cattle (excluding Grainfed cattle) across all weight ranges was \$0.32/kg, up from \$0.27/kg in 2020–21.

The average price differential for MSA cattle that met Grainfed standards was \$0.14/kg, up from \$0.09/kg in 2020–21.

Based on average HSCW of MSA cattle and price differentials in 2021–22, MSA beef producers potentially received an estimated \$97 per head in additional returns for young, non-Grainfed cattle and nearly \$48 per head for Grainfed cattle.

2,157 cattle and/or sheep producers became registered to supply livestock through the MSA program this year.

42 new MSA graders were trained and accredited.

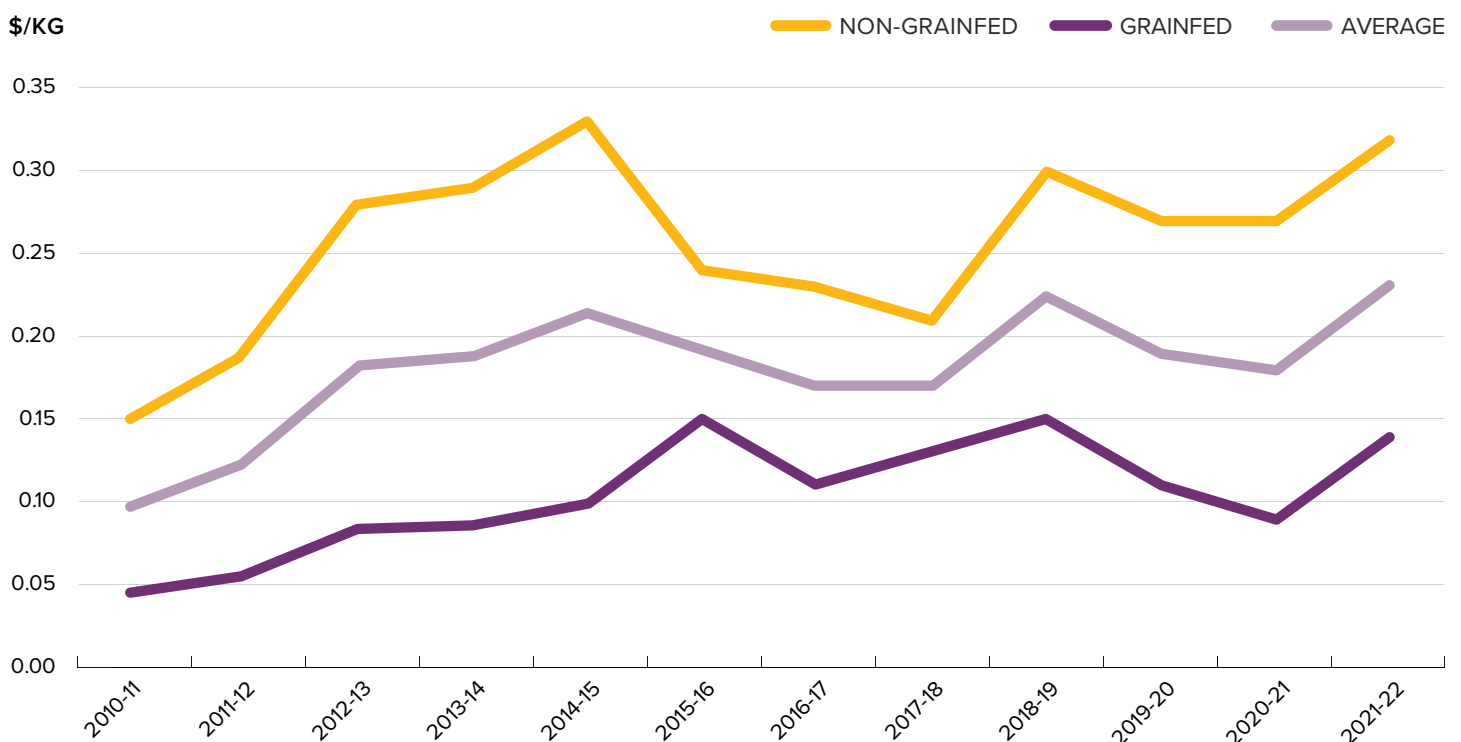
78 operatives across seven processors completed MSA training on the impact of processing on beef or sheepmeat eating quality.

47 staff completed independent boning room training.

149 people undertook training via the MSA e-learning portals.

13 people completed MSA Meat Science Course.

Figure 7. Over-the-hooks price differentials over time



Supply chain impact – end users

Consistency and quality remain the top two reasons independent butchers and wholesalers stock MSA product, and is the motivation behind the continued year-on-year growth in the volumes they stock.

For over a decade, MLA has been undertaking research with Australian independent butchers and wholesalers to understand their perceptions of, and satisfaction with, MSA graded meat.

Results from the latest research undertaken in 2021–22 involving 600 independent butchers and 88 wholesalers reflected the strength of MSA in underpinning beef and lamb brands.

The survey found 80% of butchers and 78% of wholesalers identify consistency and high quality of the product as the key drivers for stocking MSA brands. Wholesalers also identified customer demand for MSA product as important.

Feedback also showed that amongst butchers and wholesalers who didn't think they stocked MSA product, the main brands they do stock are in fact licenced MSA brands. The results demonstrate that regardless of their knowledge of MSA, the MSA program is doing the hard work behind the scenes, underpinning brand integrity.

The survey also found the proportion of independent butchers who sell MSA graded product has been rising over the last two years and is now at 76%, while 89% of wholesalers are selling MSA product.

At a state level, Queensland had the highest level of brands underpinned by MSA amongst survey participants.

Butchers and wholesalers sell MSA products at a higher price differential than non-MSA products.

As of 30 June 2022, 1,139 end users representing 3,443 outlets, were licenced to promote and sell MSA products.

Four new brands became MSA licenced, taking the total to 193 beef brands and 22 lamb brands.

73% of surveyed butchers and 83% of surveyed wholesalers rate their satisfaction with MSA-graded meat as 'very good to excellent', up from 66% for both in 2020–21.

64% of wholesalers found it important to have MSA as part of their beef product offering, up from 63% in 2020–21.

50% of wholesalers rated the usefulness of the MSA program to their business as 'extremely useful or very useful', up from 42% in 2020–21.

Figure 8. Average retail price differentials 2021–22 – MSA beef

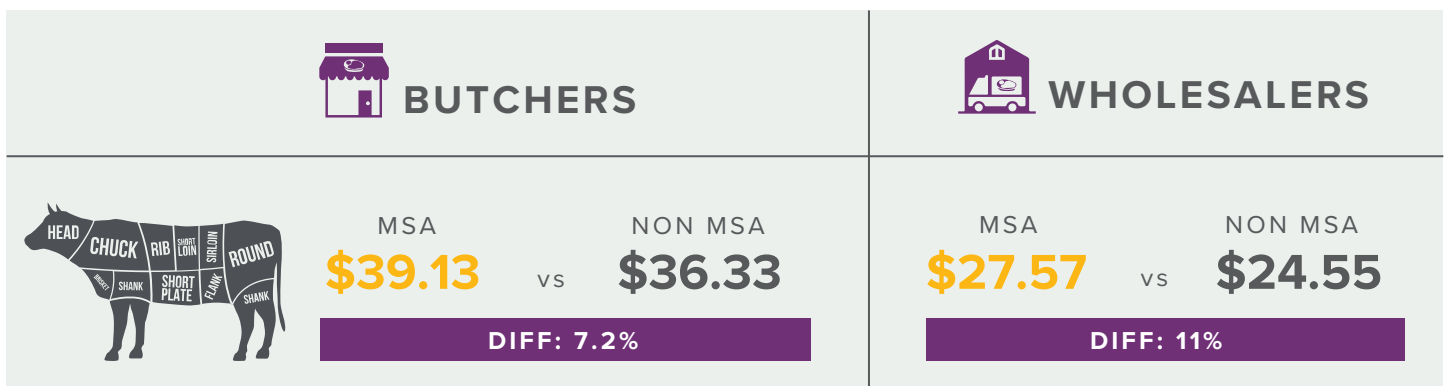
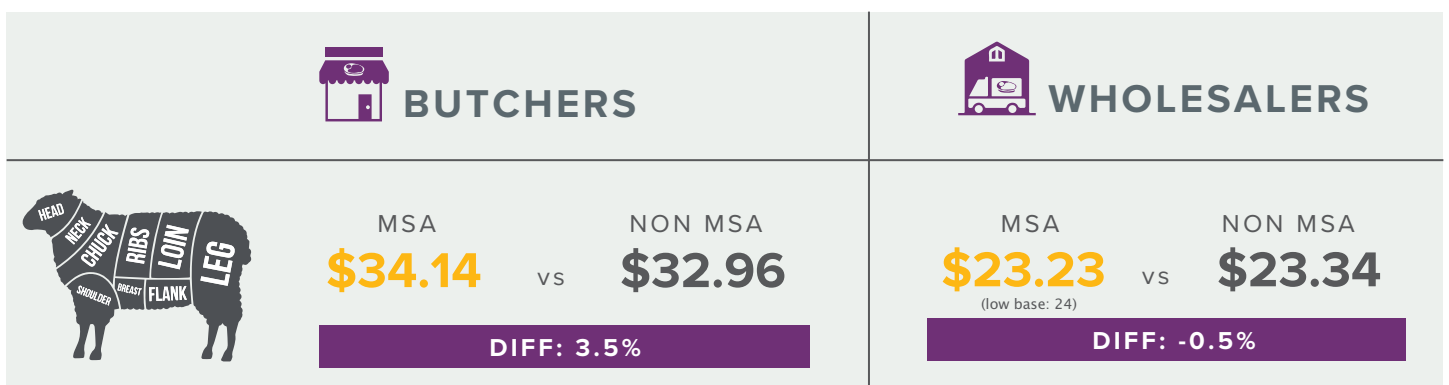


Figure 9. Average retail price differentials 2021–22 – MSA lamb



MSA producer case study

Consistency the key for top Victorian producers



Craig and Isla Delmenico won the 2021 MSA Excellence in Eating Quality Award for Most Outstanding MSA Producer, Band 1, in Victoria.

For Victorian Mallee mixed dryland farmers, Craig and Isla Delmenico, the relationship between handling of cattle and their performance cannot be overstated.

Running approximately 150 British breed cattle across their predominantly cereal operation near Ultima, the Delmenicos produce cattle to an average target weight of 550kg to be sold into the supermarket trade.

Their 100% compliance to MSA requirements during 2019–21 saw the Delmenicos win the 2021 MSA Excellence in Eating Quality Award for Most Outstanding MSA Producer, Band 1, in Victoria.

The Delmenicos source weaners around the 250–300kg mark and they believe even the origin of the cattle can have an impact on their temperament and performance.

“Obviously, a lot depends on price and season, but if we can, we prefer to source cattle from the south as they have typically had more exposure to handling and are quieter as a result,” Craig said.

“Once they arrive home, we have a real focus on consistency with our handling which means we use the same vehicle and same people to check the cattle each time, and even our agents know where to park when they visit so as not to put the cattle on alert with an unfamiliar vehicle.”

Targeting a daily average weight gain of 1.7kg and finishing the cattle on grain grown on-farm, the Delmenicos aim to turn off

between 200 and 300 head per year and use MSA as a tool to track performance and tweak production systems at home.

“Using MSA feedback, we have basically been able to narrow down to one preferred carrier who handles and delivers cattle in a way that lets them perform as well as possible,” Craig said.

“We’ve also seen a difference in results by drafting cattle into weight classes as soon as they arrive, along with drenching and needling all at once to reduce handling.

“We then sort them into weight groups three weeks prior to transport, so they’re happy in their mobs before they go.”

The Delmenicos see benefit in the opportunities for continuous improvement that MSA feedback provides producers.

“We find the MSA Index score useful as an indication of carcass performance and look to keep pH around 5.5 while keeping an eye on P8 fat to ensure the cattle aren’t over done,” Craig said.

“There is always room for improvement, and it definitely puzzles us when we buy what we think is a really even line of cattle from one producer, treat them the same and then get a wide range of results.

“As an industry, access to data is critical to homing in on areas for improvement and working out how to get more from the cattle you buy or breed.”

MSA producer case study

Animal welfare focus delivering results for Kylagh Feedlot



Ivan and Nick Rogers, Kylagh Feedlot, Tammin WA.

Dedication to animal welfare and optimum nutrition have been pillars to success in achieving compliance with Meat Standards Australia (MSA) specifications for the Rogers family at Kylagh Feedlot, Tammin.

Ivan and Jill Rogers operate the 6,000-head capacity feedlot in Western Australia's central Wheatbelt, feeding predominately Angus and Angus/Wagyu first cross cattle, as well as mixed breeds.

The Rogers also have a cropping operation, cattle trading business, and backgrounding and breeding operation.

Kylagh Feedlot won the 2021 MSA Excellence in Eating Quality Awards in the category for Most Outstanding MSA Feedlot in WA, based on its average MSA compliance of 99.1%, and average MSA Index of 61.89.

Kylagh Feedlot operates as a 100% custom feed yard with the largest and majority client being Kylagh's own trading business, Kylagh Cattle Pty Ltd.

All cattle that enter the feedlot have known end points that are communicated to the feedlot through strong communication between the clients and the feedlot operators.

"Given the significant investment in cattle procurement and value add, if you do not understand the end specifications, your business risks are high," Ivan said.

"If you agree to have cattle meet those specs, you need to make sure they reach those targets and concentrating on reaching them builds a strong partnership with the customer."

Ivan said the trading company sources steers and heifers at an average weight of 350kg for their programs, which include a 100-day Angus steer program and a 70+ day supermarket yearling program.

Kylagh Cattle Pty Ltd also has an agreement to supply 400-day grainfed Wagyu/Angus F1, which are also fed at Kylagh Feedlot with an entry weight of 300kg at around 13 months of age.

Target carcass weights range from 280–300kg for the supermarket program and 420kg for their Wagyu program. Kylagh has been the exclusive supplier to the Coles Finest 100-Day Grainfed brand in WA since its inception in 2011.

The Rogers family started their feedlot at the end of the 1990s with the grainfed yearling program as their foundation, and Wagyu the most recent addition to Kylagh's feeding programs.

“Kylagh Cattle Pty Ltd are putting a lot of effort into genetic selection within our Wagyu program as this is very much a marbling outcome program. We have a three-year cycle from conception of a Wagyu calf to sale of a 400-day grainfed animal, meaning that we are realistically viewing this as a long-term program,” Ivan said.

Kylagh Cattle has been registered with MSA since the inception of the program in order to achieve better outcomes for the business, both in accessing premium markets and recognising the benefits for the consumer.

Carcase feedback is accessed through the myMSA portal and used in conjunction with carcass reports from the processor to analyse the performance of each group of cattle.

“We know with our programs that we will be in the higher MSA Index score range, so when we achieve those high grades of 61 plus, or with our Wagyu we are chasing medium-high marbling, AUSMEAT Marbling score 6 or 800 MSA Marbling, it gives us confidence that we are producing beef of high eating quality,” Ivan said.

“MSA is an integral part of the red meat supply chain.

“Supply chain partnerships are the cornerstone of our business and partnering with stakeholders that share our ethical values is important. A key to these partnerships and our own operation is placing a high emphasis on animal welfare. Kylagh’s motto is ‘Quality Through Care’.

“Building Environmental, Social and Governance (ESG) principles into our supply chain is providing clarity and focus for all stakeholders. This has real impacts in how we operate our business with the refusal to purchase unweaned calves

as an example of how ethical approaches influence our business activity.

“A single, trusted transporter is utilised right from procurement to ensure cattle are transported safely and once they arrive at the feedlot, they are unloaded into the low stress cattle yards, designed by renowned animal behaviourist, Dr Temple Grandin.

“We are focused on maintaining minimal stress in the yards, which is the pressure point for the cattle.

“There are no motorbikes, dogs or horses used in the yards. We have pens in a variety of sizes to allow us flexibility and all pens are cleaned frequently.”

Nutrition is essential to achieving weight and quality targets, and Ivan explains it is for that reason they took advice from a nutritionist and source only premium grain with high energy and high starch qualities.

All grain is screened and cleaned, before being tempered to bring the moisture up to 20% to give the cattle the maximum opportunity to utilise the starch. They also have their own pit silage program, established in 2018.

“There are no daily weight gain targets at Kylagh – we concentrate more on feed conversion ratio targets,” Ivan said.

“Good feed conversion is gained by providing the cattle the correct feed ration, at the right quantities, in a comfortable pen environment.

“Attention to detail is everything and acting on that where possible, while you can never expect to get everything 100%, we certainly do our best to try.”



Research & development

Investments into MSA research and development (R&D) aim to make all cattle and sheepmeat eligible for MSA, as well as focusing on technologies and traits to ensure consistent consumer outcomes.

Investments being made into eating quality R&D will provide beef and sheepmeat brand owners with a competitive advantage, allowing them to reinforce their brand's eating quality to consumers.



In a market of rising red meat prices and fierce competition from alternative proteins, opportunities exist to improve the eating quality and consistency of red meat and retain consumer confidence.

R&D delivers benefits to industry by:

- > creating the opportunity for beef and lamb supply chain participants to capture greater value and increase the profitability of the Australian red meat industry
- > helping to underpin Australian red meat brands and differentiate their products from competitor countries and proteins
- > delivering price differentials from MSA compliant cattle, which improves the return on investment for producers and brand owners.

In 2021–22, the MSA R&D team continued to collaborate with research partners on the following key research projects.



Research & development

Dairy beef

Research into the impact of genetics, nutrition and management on the performance and eating quality of beef from dairy breeds has delivered promising results to date.

While there has been some variation in growth rates, some cohorts of dairy animals have MSA outcomes and carcass traits similar to the beef animals to which they were compared.

The project has successfully completed the live animal component of a study into the suitability of existing beef production pathways for dairy breeds under a range of non-Grainfed and Grainfed systems, as well as a prospective commercial pathway to include veal in the MSA program. This included a previously untried high intensity diet designed to achieve a superior eating quality from Holstein cattle finished at a young age.

The consumer sensory analysis is in the final stages of completion, and the final report is aimed to be published in late 2022. As part of this, a new cooking type for schnitzel was included, which could be included in future iterations of the MSA model.

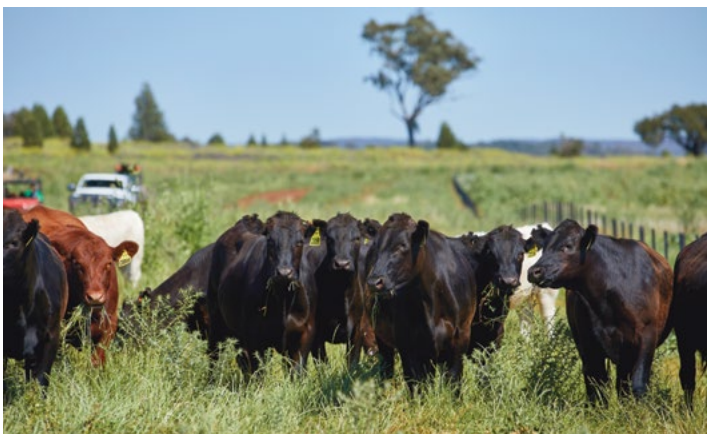


Wagyu effect

Researchers aimed to evaluate a potential 'Wagyu effect' on beef eating quality, over and above the MSA model predictions.

The trial compared Wagyu, F1s and Angus cattle which were fed for 200 or 300 days for three cohorts. Results indicated that whilst Wagyu cattle outperformed the comparison cattle for some cuts, this was not consistent across all cohorts.

The final report is due later in 2022 and aims to outline any recommendations regarding the MSA model, including outcomes from a review by the independent research advisory group, the MSA Pathways Committee.



Rail

This research is aimed at determining the eating quality impact of rail transport. Due to various environmental factors including weather, rail track availability, COVID-19 disruptions and livestock availability, the project was delayed. The first of two trials remaining in this project was expected to take place in August 2022.



Saleyard research

A project to understand impacts of further saleyard pathways was initiated this year, with the first cohort of cattle tested in March 2022 and consumer sensory trials in June 2022 as part of the initiative.

This pathway looks to understand the eating quality impacts of cattle through saleyards over longer periods, including between 48–72 hours from farm to slaughter, as well as the impact of re-feeding animals for six and 13 days.

The second phase of the trial is to be conducted in the 2022–23 financial year.



Research & development

Biomarkers to predict high pH carcasses

MSA is investing in the research for tools to predict eating quality and compliance in live animals and post-slaughter for carcass sortation. This includes a project investigating biomarkers (biological measurable indicators) that in this instance are proteins detected in saliva.

Early results show several biomarkers collected in saliva four weeks prior to slaughter can predict pH non-compliance (pH >5.70). More than one biomarker will likely be required to accurately predict non-compliance.

The project includes the development of commercialisation pathways for any proposed in-field test. Initial discussions were held with potential commercial partners who provided early positive feedback.

Next steps will include testing of candidate biomarkers over multiple time points from a larger sample size with at least two supply chains.



Hoggets v lambs

To investigate the eating quality of hogget compared to lamb, sensory testing was undertaken to understand the relationship between muscle, cook method and animal age.

Cook methods utilised in the sensory testing included grill, roast, slow-cook, stir-fry, and low-n-slow barbecue.

Across each of the cook methods there appeared to be minimal difference between hoggets and lambs, while slow-cooked samples were rated the highest for eating quality by consumers.

This research will underpin expansion of the MSA sheepmeat cut-based model for further sheepmeat categories and cooking methods.



Consumer sensory testing

Supporting MSA's research projects, over 13,600 consumers participated in taste-testing panels during 2021–22 to sample 82,080 beef and sheepmeat samples.

For beef, a total of 25,200 samples from 13 different projects were tested by 4,200 consumers. Testing was undertaken in 70 different sessions, with 39 of these in Australia, 20 in the United States, nine in the United Arab Emirates, and two in Ireland.

For sheepmeat, five cook methods comprising grill, roast, slow cook, stir fry and low-n-slow barbecue were prepared. A total of 56,880 samples were tested by 9,480 consumers.



Objective measurement

Support for Objective Carcass Measurement (OCM) technologies continued, with a number of the devices achieving conditional approval for some traits whilst they continue to refine their assessment abilities to achieve full accreditation, along with further technologies in development.

These devices are measuring AUS-MEAT and MSA traits, which are included in both the MSA Beef and Sheepmeat grading models. Development is underway looking at new traits including intramuscular fat (IMF%) for beef.

In 2021–22, devices which received conditional approval included four cut surface cameras (E+V, Q-FOM, MasterBeef, MIJ-30) and the MEQ probe for both beef MSA marble score and sheep IMF%.

MSA graders are involved in the accreditation trials of the beef cameras as they are the standard for carcass assessment.



MSA producer case study

Pasture improvements underpin MSA success



Rhys Fischer, Yarli Pastoral, Waltowa, South Australia.

Investing in pasture renovation has not only boosted productivity for South Australian beef producer Rhys Fischer but expanded marketing options for his cattle as they achieve high rates of compliance to MSA.

Based at Waltowa in the Upper South East, Rhys operates Yarli Pastoral, comprising three properties running 700 to 800 Angus and Angus-cross breeders.

Rhys won the 2021 MSA Excellence in Eating Quality Award for Band 1 producers in South Australia, based on his 94.4% compliance to MSA requirements during the 2019–20 and 2020–21 financial years, and average MSA Index of 63.62.

The Fischer family have been long-term MSA registered producers. In the eight years since Rhys bought out his parents and began managing Yarli Pastoral independently, he has set out to boost productivity and feed security by focusing on pasture improvement.

“Most of the country here is sand over limestone or sand over clay, or deep sand. It grows a lot of veldt grass naturally and we rely a lot on summer rainfall,” Rhys said.

“After some tough years from 2013 to 2015 when we didn’t get much summer rainfall, I set out a strategy to renovate pastures and achieve better pasture establishment.

“Especially since 2016 when commodity prices kicked, we’ve been able to invest more in our pastures, transitioning to better, renovated lucerne pasture.

“We also crop about 300 to 400 hectares of barley each year for grain or hay production. We then direct drill lucerne into clean barley stubble the year after. Having a good feed bank allows us to get our cattle through winter and turn them off in spring.”

Yarli’s production system involves three calvings throughout the year – February–March, June–July, and August–September – with all females preg-tested.

As pastures have improved, Rhys has expanded his marketing options, supplying cattle into a range of brands all underpinned by MSA.

“Our February–March drop cattle traditionally go to Woolworths as milk vealers in December–January, at around 390kg liveweight,” Rhys said.

“I bought a property five years ago to grow out heavier weight cattle, which we had never really done before.

“The spring-drop cattle are targeted at the Teys Grassland EU market. I grow out essentially most of the steers to 580–600kg liveweight, and some of the steers also go into Teys’ premium 36° South brand.”

To ensure the cattle are on a rising plane of nutrition, Rhys runs a strict rotational grazing system, with mobs run in 20–40ha paddocks and moved every three to five days in winter, and every 10 to 14 days in summer.

Rhys also keeps stress levels at a minimum in his cattle.

“The cattle are yard weaned and we do training through the race with them and spend a lot of time with them to ensure they’re calm and quiet,” Rhys said.

“Once they’re weaned, any of the cattle that are growing out to heavier weights get handled every six or seven weeks when they’re weighed. When I go into a paddock to move them, I just beep the horn and they move to the gate – they know it’s time to be shifted.”

Once cattle are processed, Rhys analyses all carcass data to check over-the-hook performance.

“Looking at the data really tells me if I’ve got it right out in the paddock,” Rhys said.



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