



**MEAT  
STANDARDS  
AUSTRALIA  
ANNUAL  
OUTCOMES  
REPORT  
2016–17**

Producing excellence in eating quality



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## OVERVIEW

More than 2.7 million cattle and 5.7 million sheep were graded through the Meat Standards Australia (MSA) program in the 2016–17 financial year. In that same 12 month period it is estimated the program delivered an additional \$130 million in farm gate returns for beef producers.

The cattle and sheep presented for MSA grading represented 40% of the national adult cattle slaughter and 25% of the lamb slaughter.

Impressively, compliance to MSA minimum beef requirements improved this year. Across the country compliance was 93.9%, with the average MSA Index also increasing to 57.59.

MSA producers can now benchmark the performance of their cattle against other producers using the myMSA feedback system. The new myMSA Benchmarking tool provides producers with the opportunity to benchmark their cattle's compliance and MSA Index results against other producers in their region, state or across the country. Parameters can be refined by selecting for feed type, hormonal growth promotant (HGP) status and time frame, providing more meaningful feedback about producers' own enterprises and performance.



Access carcass feedback at  
[www.myma.com.au](http://www.myma.com.au).

## PROGRAM MANAGER REPORT

The MSA program has continued to deliver commercial benefits to all sectors of the supply chain in 2016–17, with now more than 40% of the adult cattle slaughter being MSA graded and more than 25% of lambs following MSA pathways. This delivered an estimated \$130 million in additional farm gate returns to beef producers.

As consumers of Australian beef and lamb are asked to pay higher prices than other proteins, it is imperative their expectations are consistently met for eating quality. To do this, there are now 156 MSA-licensed beef and lamb brands underpinning their products with the independent eating quality endorsement of MSA, and 11 of these actively taking the MSA message to their customers in export markets.

Impressively, beef producers have continued to embrace carcass feedback with one-third of producers consigning MSA cattle during the year accessing the myMSA feedback system. In turn, compliance to MSA requirements has improved from 92.6% to 93.9%. Additionally the MSA Index continued to increase, now at a national average of 57.59.

More resources to support producers to continue to strive for excellence were released throughout 2016–17, with Benchmarking now available within myMSA. This allows producers to compare themselves for compliance and eating quality performance against other producers in their region, state or the country. This new resource offers more meaningful feedback to assist on-farm decisions.

Throughout the year, significant eating-quality research projects commenced to ensure that the year 2020 goals of the MSA program are achieved. That includes all cattle in Australia being eligible for MSA grading and their eating quality being accurately predicted, as well as developing a cuts-based program for MSA sheepmeat using objective carcass technologies. You can read more detail in the R & D section of this report (page 13).

Throughout the year, the MSA program received an update by removing meat colour as a minimum requirement based on research using our world-leading consumer sensory testing protocols that confirmed meat colour does not have an impact on eating quality.

Our sights are set on more than 50% of the cattle slaughter being MSA graded and 43% of lamb slaughter following MSA pathways by the year 2020, so there is still work to be done. The dedicated team at MSA is focussed on ensuring the MSA program continues to grow, improve and deliver benefits to its 48,000 producers, 54 MSA processors, 156 brands and 3,668 end user outlets.



**The dedicated team at MSA is focussed on ensuring the MSA program continues to grow, improve and deliver benefits to its 48,000 producers, 54 MSA processors, 156 brands and 3,668 end user outlets.**

SARAH STRACHAN,  
MSA PROGRAM MANAGER



## MSA BEEF

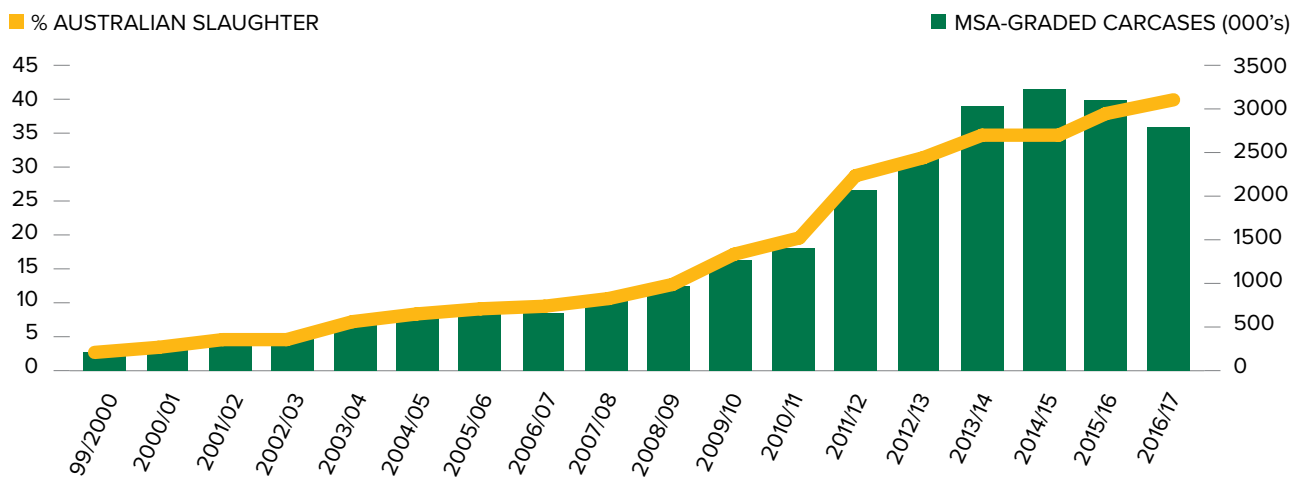
MSA-graded cattle represented 40% of the national adult cattle slaughter in 2016–17, increasing by 2% from the previous year. More than 2.7 million MSA cattle were graded through 42 Australian beef processors.

By volume, Queensland continues to process the greatest number of MSA graded cattle with 1.2 million head, while MSA-graded cattle account for more than 60% of the state cattle slaughter in both Western Australia and Tasmania.

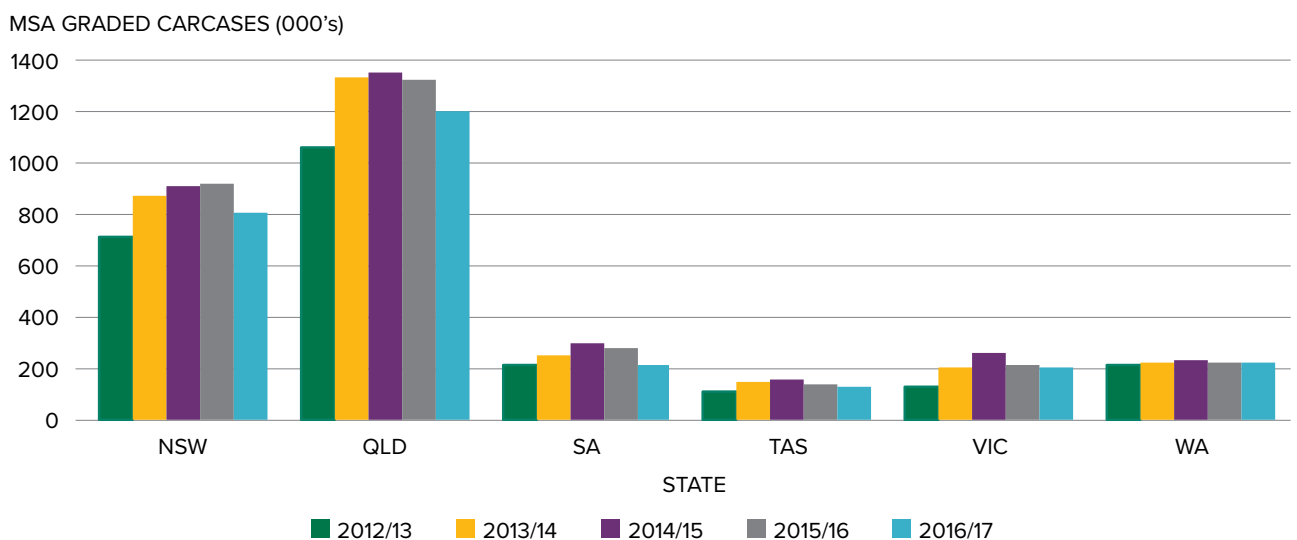
An additional 2,279 beef producers registered to become eligible to supply into the MSA program in 2016–17.



**FIGURE 1 NATIONAL MSA BEEF GRADING NUMBERS**



**FIGURE 2 MSA GRADING BY STATE**



# MSA BEEF CARCASS COMPLIANCE

Compliance to MSA minimum requirements improved throughout 2016–17 to 93.9% nationally.

Grassfed cattle represented 55% of MSA-graded cattle. The compliance of grassfed cattle to MSA minimum requirements improved by 2% to 90.7%, while grainfed carcasses represented 45% of MSA-graded cattle and achieved 97.7% compliance.

Compliance rates vary according to seasonal conditions in regions around the country. November experienced the greatest total non-compliance for the financial year with 7.6%.

This was primarily attributed to high pH levels and meat colour. June 2017 recorded the lowest non-compliance rate at less than 5% nationally.

Of the carcasses graded against MSA standards:

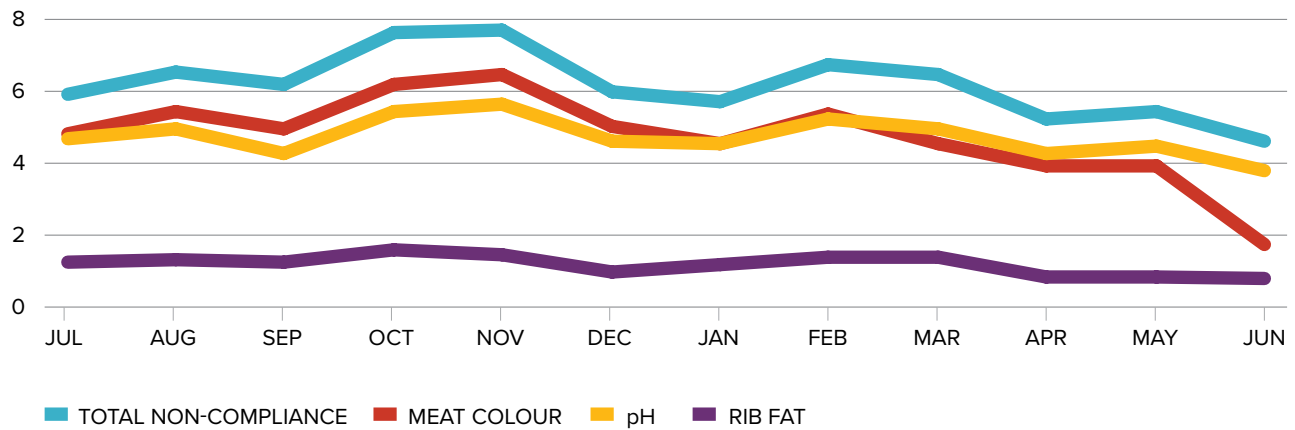
- 4.7% had pH levels exceeding 5.71
- 1.1% had less than 3mm rib fat
- 4.7% did not meet the meat colour specification of 1B to 3\*

In 2016–17 an additional 1.8% of MSA-graded cattle did not meet company-imposed specifications.

\*As of 30 June 2017 meat colour is no longer an MSA minimum requirement.

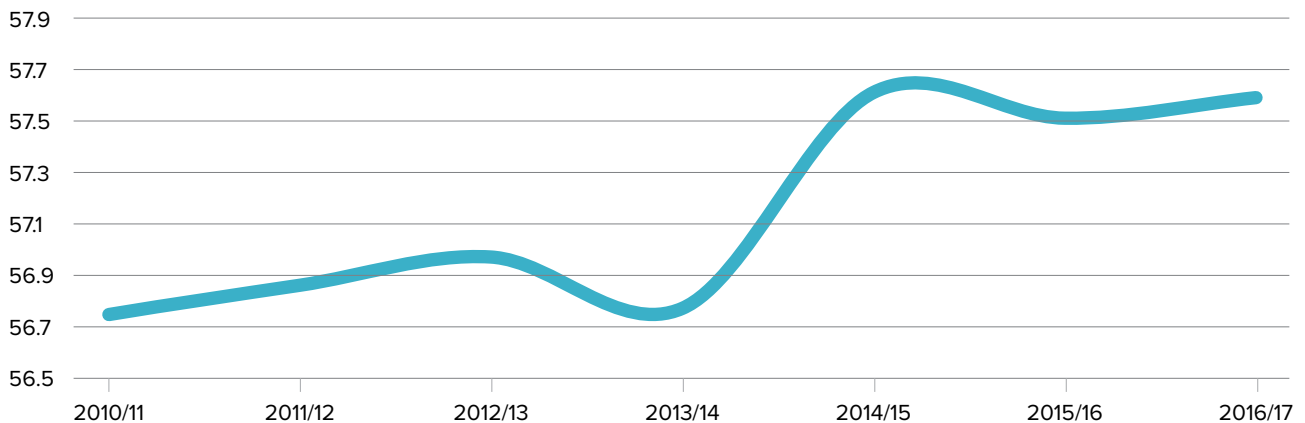
**FIGURE 3 REASON FOR NON-COMPLIANCE 2016–17**

% NON-COMPLIANCE



**FIGURE 4 MSA INDEX OVER TIME**

INDEX



## MSA INDEX

The average MSA Index for carcasses compliant to MSA minimum requirements throughout Australia in 2016–17 was 57.59. The average MSA Index for grassfed and grainfed cattle was 58.41 and 56.66 respectively.

Figure 4 shows the change in the MSA Index over time. Since 2010–11 the national average MSA Index has increased by 0.84 points.

### What is the MSA Index?

The MSA Index aims to provide meaningful eating quality feedback to producers. Each carcass is assigned an MSA Index number between 30 and 80 based on the eating quality outcomes of 39 cuts in the carcass. Higher MSA Index values indicate carcasses with higher eating quality potential. The MSA Index calculator can be found online at [www.mymsa.com.au/msamobile](http://www.mymsa.com.au/msamobile).

### myMSA

The MSA feedback online tool myMSA provides producers with easy access to feedback reports, including MSA Index performance and the ability to perform customised reporting.

In April 2017 myMSA took the next step with the launch of the Benchmarking tool, providing producers the opportunity to benchmark their cattle's compliance and MSA Index results against other producers in their region, state or across the country. Parameters can be refined by selecting for feed type, hormonal growth promotant (HGP) status and, over time, providing more meaningful feedback about a producer's own enterprise and performance.

The number of myMSA logins has increased by 11% with more than 12,000 myMSA logins. 64% of all producer registrations were lodged online and more than 1,800 producers completed the online training program.

## MSA Index 2016–17 percentile bands

### HOW DO I USE PERCENTILE BANDS?

If your average MSA Index results were equivalent to or higher than the figure shown in the Top 25% percentile band (Table 1), your cattle fall into the top 25% of eating quality results for MSA-graded cattle for that group – nationally, grassfed or grainfed.

*Grainfed cattle are defined as those that meet the AUS-MEAT requirements to be classified as grainfed. MSA-graded cattle that do not meet this requirement are classified as grassfed for MSA data purposes.*

**TABLE 2 THE EFFECT OF CARCASS ATTRIBUTES ON THE MSA INDEX**

| CARCASS INPUT  | RELATIVE IMPORTANCE OF THESE TRAITS IN CHANGING THE MSA INDEX |
|--|---|
| HGP status   | Very high   |
| Milk-fed vealer  | Very high   |
| Saleyard   | Very high   |
| MSA marbling   | High  |
| Hump height (for cattle with greater than 0% Tropical Breed Content) | High  |
| Tropical Breed Content (TBC)   | High  |
| Ossification score   | High  |
| Rib fat  | Medium  |
| Hot standard carcass weight (HSCW)                                   | Low   |
| Sex  | Low   |

**TABLE 1 PERCENTILE BANDS**

| PERCENTILE BAND | NATIONAL INDEX | GRASS INDEX | GRAIN INDEX |
|-----------------|----------------|-------------|-------------|
| Top 1%          | 66.31          | 66.01       | 66.55       |
| Top 5%          | 63.72          | 63.62       | 63.88       |
| Top 10%         | 62.52          | 62.59       | 62.37       |
| Top 25%         | 60.64          | 61.03       | 59.66       |
| Top 50%         | 57.85          | 59.01       | 56.48       |
| Bottom 25%      | 55.08          | 56.16       | 54.17       |
| Bottom 10%      | 52.24          | 53.50       | 50.91       |
| Bottom 5%       | 49.73          | 51.42       | 48.63       |
| Bottom 1%       | 46.35          | 46.88       | 46.06       |

# MSA SHEEPMEAT

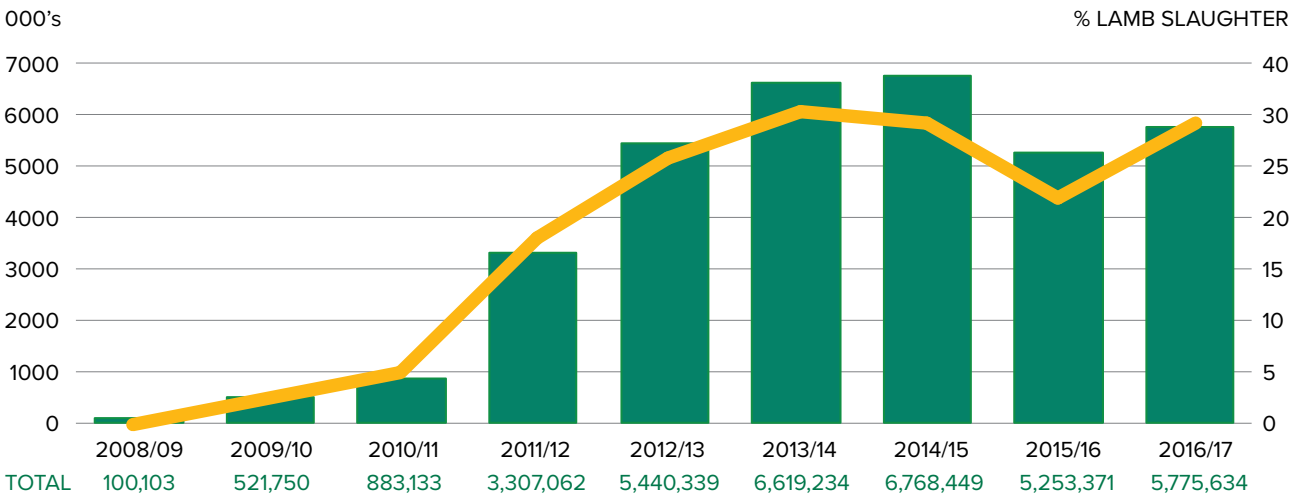
The MSA sheepmeat program has experienced a significant increase in the number of sheep processed through MSA pathways and standards since 2010–11. In 2016–17 more than 5.7 million sheep were processed through 19 abattoirs. This represented 25% of the national lamb slaughter following MSA pathways.

The proportion of trademarked lambs continues to increase. 71% of all lambs processed through MSA pathways were subsequently trademarked to support MSA lamb brands, which is an increase of 8% on the 2015–16 financial year.

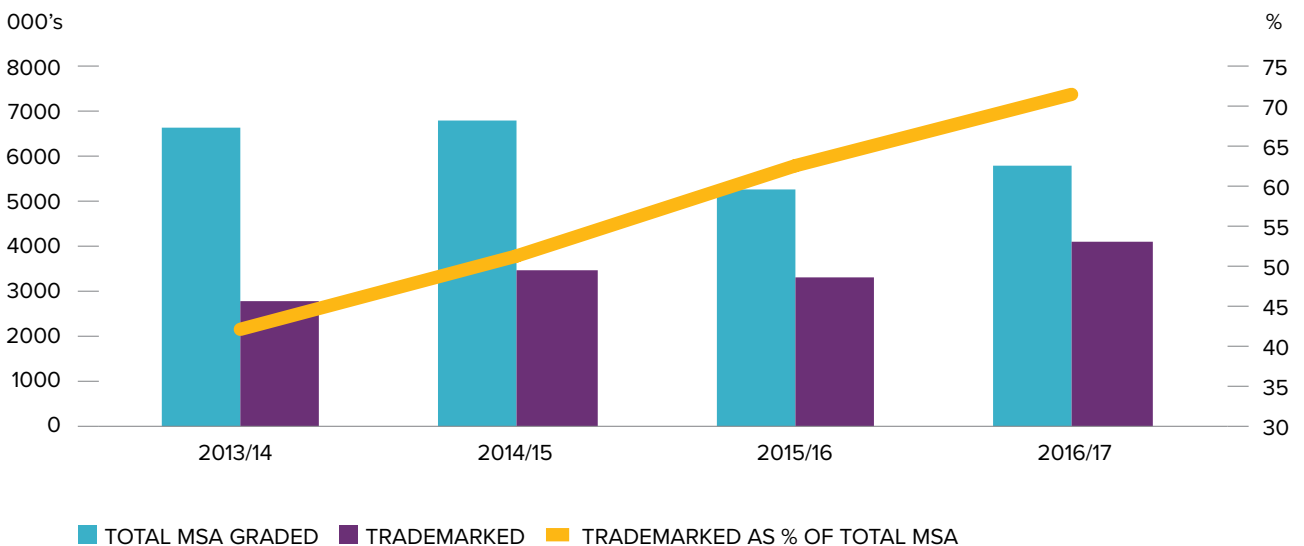
Of the 3,000 new MSA producer registrations received in 2016–17, 65% of producers became accredited to supply MSA sheep.



**FIGURE 5 NATIONAL MSA SHEEPMEAT NUMBERS**

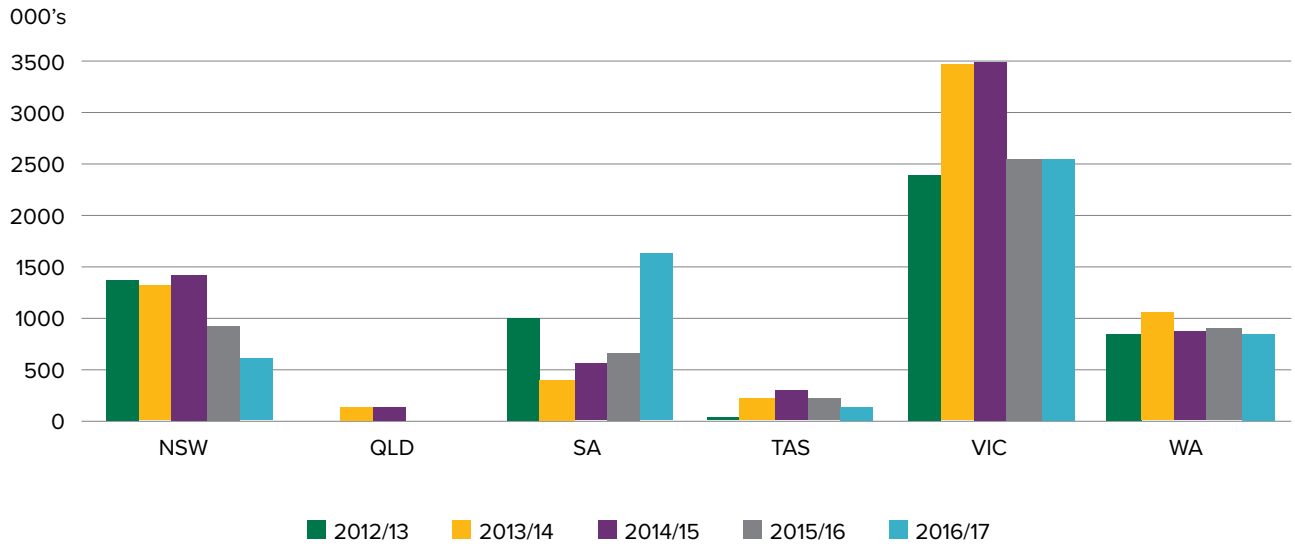


**FIGURE 6 TRADEMARKED LAMBS**





**FIGURE 7** MSA SHEEPMEAT NUMBERS BY STATE



## SUPPLY CHAIN IMPACT – EDUCATION

With an increase of 6%, more than 3,000 cattle and/or sheep producers became MSA registered to supply livestock through the MSA program in 2016–17. Of those, 64% registered online.

More than 2,800 producers received MSA education through more than 60 workshops or information sessions involving MSA and more than 1,800 producers completed MSA training via the e-learning portal.

Almost 600 end users (wholesalers, retailers, and foodservice operators) participated in MSA training, with 65% of this training conducted online.

A total of 187 operatives across 54 processors completed MSA training to understand the impact of processing on beef or sheepmeat eating quality.

Nineteen new MSA graders were trained and accredited and 24 supply-chain participants engaged in the week-long MSA meat science course.



**More than 2,800 producers received MSA education through more than 60 workshops or information sessions involving MSA and more than 1,800 producers completed MSA training online.**



### E-learning success



Meat Standards Australia's digital training courses were again celebrated on an international stage in 2017.

Created in partnership with Savv-e digital learning agency, the MSA end user and producer e-learning programs received an Honorable Mention (E-Learning) in the Business Division at the International E-Learning Association (IELA) awards at the International Conference on E-Learning in the Workplace in New York on 16 June, 2017.

The awards recognise the best uses of technology to improve learning and job performance, with entrants hailing from all over the world. All submissions are evaluated by the IELA Awards Committee, which looks for a variety of attributes including educational soundness and effectiveness, usability, and overall significance.

The MSA Excellence in Eating Quality training modules were developed for all participants in the MSA supply chain, ranging from program overviews to technical training for processors, and practical modules for end users to capitalise on MSA technology.

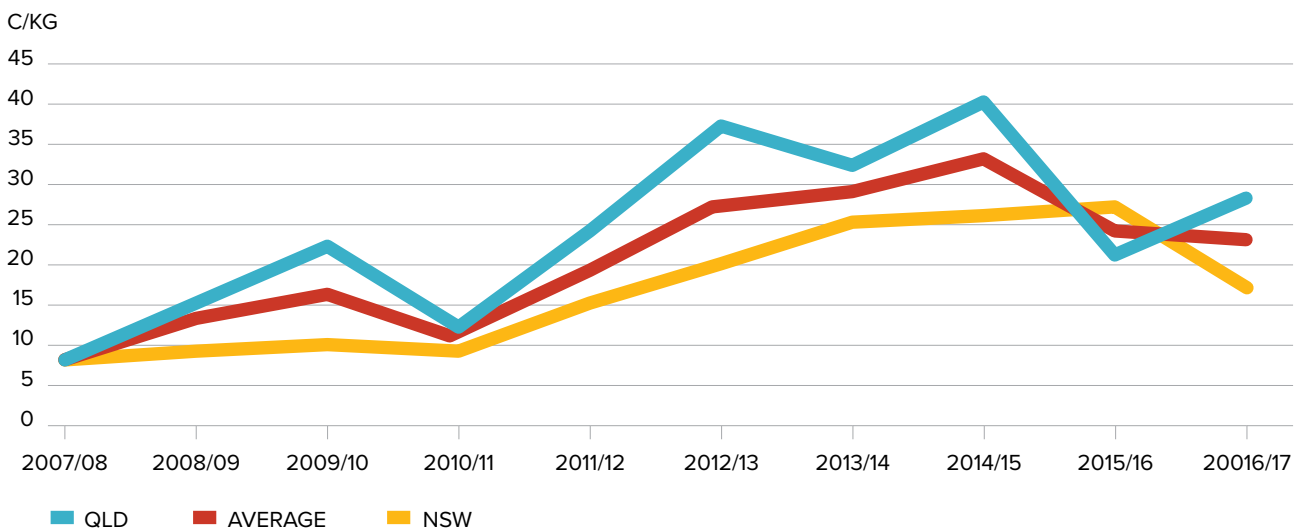
To access the e-learning training programs, visit:  
[www.producer.msagrading.com.au](http://www.producer.msagrading.com.au); or  
[www.enduser.msagrading.com.au](http://www.enduser.msagrading.com.au).

## SUPPLY CHAIN IMPACT – PRODUCERS

The National Livestock Reporting Service (NLRS) reported over-the-hooks cattle price indicators for MSA cattle being higher on average than non-MSA cattle in both Queensland and New South Wales throughout 2016–17. The average price differential for MSA young cattle (excluding accredited grainfed) across all weight ranges was \$0.23/kg and \$0.11/kg for cattle that met grainfed accreditation standards.

Based on the average carcass weight of MSA cattle in 2016–17 MSA beef producers potentially received an additional \$65 per head for young, non-feedlot cattle and \$34 per head for cattle that met the grainfed specifications.

**FIGURE 8** OVER-THE-HOOKS PRICE DIFFERENTIALS – YOUNG CATTLE



*An indicator is used to assess market trends. The indicators should be used as a means of following rises and falls in the market.*



# SUPPLY CHAIN IMPACT – END USERS

## Brands

MSA is a quality mark and independent endorsement to underpin the eating quality of Australian beef and lamb brands. In 2016–17, sixteen new brands became licensed to use the MSA trademark to support the eating quality claims underpinning their products. Three brands adopted exporter guidelines to communicate MSA in international markets, taking the total number of brands promoting MSA in export markets to 11. There are now 156 MSA-licensed brands in Australia.

## End users

As of 30 June 2017, there were more than 3,600 end user outlets (including wholesalers, retailers, supermarkets and foodservice businesses) licensed to promote and sell MSA products.

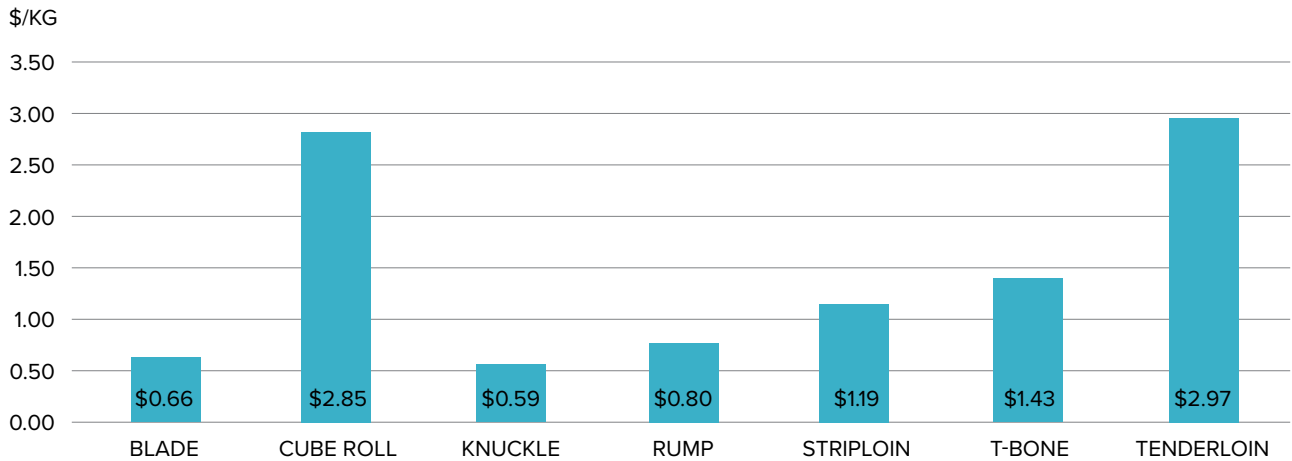
## Retail

600 independent butcher surveys were conducted in 2016–17 by Kantar Millward Brown. Of those surveyed 58% sold MSA beef. Of those butchers, 61% rated their satisfaction with MSA beef as good to excellent and 60% of surveyed butchers were aware of MSA lamb.

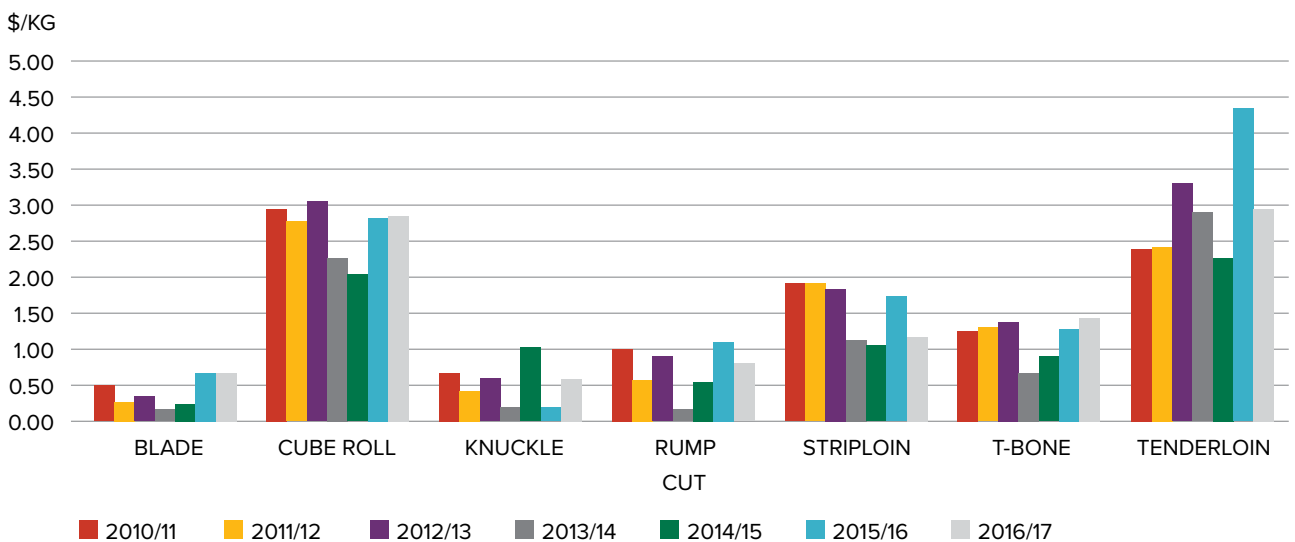
The average price differential for MSA beef compared to non-MSA cuts at independent butchers stores across all major primal cuts was \$1.50/kg.

Consistent with previous years MSA tenderloins averaged the highest price differential at \$2.97/kg followed by cube rolls at \$2.85/kg.

**FIGURE 9 AVERAGE MSA RETAIL PRICE DIFFERENTIALS 2016–17 BY CUT**



**FIGURE 10 AVERAGE MSA RETAIL PRICE DIFFERENTIALS OVER TIME**



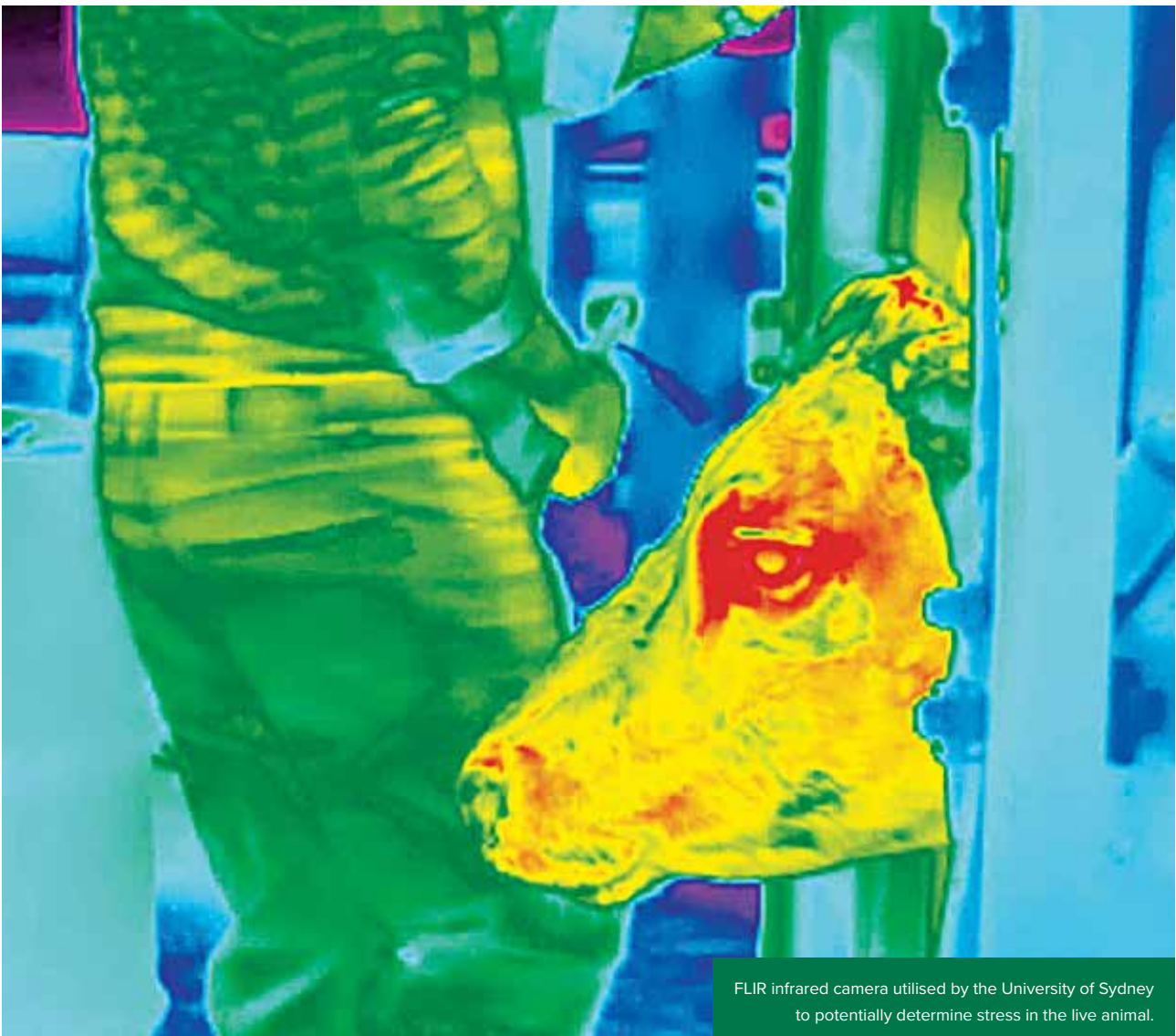
## RESEARCH AND DEVELOPMENT

During 2016–17, a large amount of research was conducted to address the MSA program goals for the year 2020. Research projects are designed and reviewed by the MSA R&D Pathways Committee to address the priorities set out by the MSA Beef Taskforce.

This included the conclusion of consumer sensory testing of meat from the MSA mixing and stress trial, with results due in late 2017. The mixing and stress trial project involved collaboration across eight farms in Tasmania, including King Island, multiple trucks, two vessels, two saleyards with the abattoir, a value-adding facility and four universities. This research was focussed on finding individual animal measures that will enable industry to accurately predict the eating quality of all cattle from a range of slaughter pathways. The trial also used camera technology to assess the ability to

detect pre-slaughter stress and linkages to eating quality. Products from this project have also been used to test different ageing interactions with temperature and extended time on eating quality to reflect export practices.

One of the largest trials MSA has conducted commenced during 2016–17 to test new cuts and new cooking methods, as well as build upon the accuracy of the MSA model for existing cuts. Cattle of varying breeds, with genomic information and varying carcass attributes were selected. Up to 67 muscles were fabricated using existing and new cooking methods, including osso bucco, sous-vide and combi oven with steam versus dry roasting. This project will involve nearly 9,000 consumers utilising the consumer sensory protocols that have become recognised as the standardised global protocols for eating-quality research.



FLIR infrared camera utilised by the University of Sydney to potentially determine stress in the live animal.

## PROGRAM INTEGRITY

During 2016–17 more than 900 audits were conducted on MSA licensees from saleyards and processors through to retailers, wholesalers, supermarkets and foodservice outlets. A risk-based approach has been implemented for end user auditing.

5.2% of end user outlets audited received corrective action requests (CARs), which is a reduction from 2015–16. There were no critical CARs issued to any supply-chain sector during the year.

This improvement in end user compliance reflects an uptake of resources provided by MSA over the past 12 months, including the online self-assessment tool and upgraded online end user training.

**TABLE 3 AUDITS CONDUCTED IN 2016–17**

| AUDITS            |     |
|-------------------|-----|
| Processor         | 103 |
| Saleyard          | 40  |
| END USER AUDITS   |     |
| Wholesaler        | 238 |
| Supermarket       | 154 |
| Retailer          | 284 |
| Foodservice       | 148 |
| MAJOR CARs ISSUED |     |
| End users         | 77  |
| Processors        | 15  |
| Saleyards         | 3   |

All MSA licensees are supported by MLA staff through account management processes to aid compliance to MSA standards, resolve CARs and identify further opportunities to gain value from the MSA program.

MSA maintained both ISO certification and United States Department of Agriculture Process Verified Program approvals this year.





