

AUSTRALIAN MeatNews

www.ausmeatnews.com.au

VOLUME 16 | NUMBER 4 | SEPTEMBER 2018



Plan ahead for
Butcher Competitions
The three R's of Plastic
MSA: Yesterday and Tomorrow



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Volume 16 • No. 4 • September 2018

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www.ausmeatnews.com.au

PUBLISHED BY OPTIMAL MEDIA

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SUBSCRIPTION RATES

Australia wide: \$73 plus GST

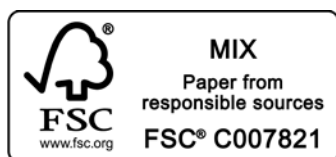
Asia/Pacific: \$A100

Europe/Nth America: \$A120

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Letter to the Editor

I write to you in relation to your article regarding the 'wholesomeness of carcasses' in the July issue of the magazine.

Much of your article resonates with me as I have had experience with PrimeSafe that bring into question the nature and classification of a wholesome carcass.

My experience started with a few white spots that had developed on a pistol-cut hindquarter in a cool room. It was duly noted in my HACCP and it was my intention to notify PrimeSafe to seek advice. An unplanned inspection from PrimeSafe preceded my opportunity to report the product. On seeing the product, the inspector proclaimed it to be 'unwholesome' and proceeded to condemn the product. He repeatedly asked me if my HACCP was up to date, which it is, but not once checked it himself.

Suggestions of trimming the affected area where met with a rejection as was a request to quarantine the beef while lab tests could be undertaken to determine whether the white spots were indeed mould. The inspector was unable to identify the mould from a visual inspection and suggested I was dry-ageing without permission from PrimeSafe.

To condemn the beef, the inspector poured blue dye across the meat in three bins on the floor of the coolroom, which splashed across the plastic shelving and other products. I was then told to 'keep it covered to minimise vermin and the smell' until my disposal guy arrived some days later.

I wrote an official complaint to PrimeSafe and was told that I had either been dry-ageing without permission or had poor hygiene practices under Section 3 of the Australian Standard (AS 4696:2007). I have since sought professional advice and communications with AMIC to at least seek recompense for the damage done to the coolroom. To date, the responses have not produced a satisfactory result and it has been more than six months since the incident.

I have been in this industry for many years and consider myself a champion for HACCP. I am very concerned at this chain of events and its subsequent consequences and have many unanswered questions:

What is wholesome?

What is dry ageing?

What is the true accepted period for hanging fresh meat and is this from kill or delivery?

How can a Primesafe representative take such drastic actions without true knowledge of what the problem is or indeed if there is one?

How can an accusation of failure to follow HACCP be achieved without first checking the HACCP?

What is the aim of HACCP?

I will keep you informed of any developments on the part of PrimeSafe or of any assistance gained through AMIC.

Name and address withheld.

Butchers the big winners as Australia's Best Bacon revealed

The 2018 Australian Bacon Awards were revealed in late August, with independent butchers taking home a swag of prizes.

Australian Pork Limited Independent Channels Manager, Jennifer Fletcher, said the artisan bacon prepared by butchers impressed the judges.

"The six very best Australian bacons in the country came from independent butchers this year," she said. "It's proof that size doesn't matter, and in fact, when it comes to bacon, those traditional recipes and methods can be a true asset."

The coveted Australia's Best Bacon title was won by Rhett Campbell, from Campbell's Superior Meats, West Pymble, for his short cut bacon, while the nation's best full rasher came from Big Country Meats n Foods, Coffs Harbour.

"The Australian Bacon Awards were introduced to celebrate the best bacon



Rhett Campbell, Campbell's Superior Meats took out the overall Bacon award.

made from 100% Aussie pork," Ms Fletcher said. "But they also shine a light on the fact that 70 per cent of bacon and ham sold here is made from imported pork.

"We hope these awards can not only be a great marketing tool for the winners, but also a boost for our Australian pig farmers."

The Australian Bacon Award winners were announced on 27 August, ahead of International Bacon Day on 1 September.

For full results and bacon recipe inspiration, visit www.pork.com.au or www.porkbutchers.com.au

And the winners are...

Overall Best Australian Bacon

Campbell's Superior Meats, West Pymble, NSW

Short cut

1. Campbell's Superior Meats, West Pymble, NSW
2. Perry's Quality Meats, Smithton, Tasmania
3. Elite Meats, Holt, ACT

Full rasher

1. Big Country Meats n Foods, Coffs Harbour, NSW
2. Leabrook Quality Meats, Leabrook, SA
3. Meatways Butchery, Kambah, ACT ■

The Good Meat Story

Meat & Livestock Australia (MLA) has launched a new online platform that provides consumers with an open and trusted source of information about the production of beef, sheep and goat meat in Australia.

The aim of the website is to demonstrate how Australian red meat is produced sustainably, in high welfare systems and is an important part of a healthy balanced diet. Good Meat is also home to a range of educational resources including study guides, classroom posters, lesson and activity sheets, virtual farm visits, digital lessons and online board games.

MLA Managing Director Richard Norton said that the consumer is king in our industry and we understand that community trust is integral to a sustainable and prosperous industry.

"Good Meat provides an engaging platform for red meat producers to share their story and demonstrate

their commitment to best practice and continual improvement."

Recent research for MLA shows that only about 1 in 5 meat eaters have a good understanding of the Australian beef and lamb industry and there are now almost 20 per cent fewer Australians from urban centres visiting cattle or sheep farms annually compared to eight years ago.

However, the same research reveals consumers' appetite to learn more about food production, with more than 50 per cent interested in how Australian farmers produce beef and lamb.

"Farmers remain one of the most trusted professions in the community and are best placed to share information about the production of red meat," said Mr Norton. "That is why Good Meat puts Australian red meat producers on centre stage – sharing their stories and values.

"Good Meat will also prove an



important tool for those producers looking for resources to help share their story, promote what they do, build consumer confidence and challenge misconceptions.

"The Australian red meat industry needs to continue to meet the expectations of global customers, by providing evidence that demonstrates our practices meet their needs. Offering data and transparency to customers is key to building trust," he said.

Good Meat builds on and replaces the current Target 100 platform and offers the very latest information for consumers about red meat production.

To find out more about Good Meat, visit www.goodmeat.com.au ■

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Ham Bags

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Reduction in E.coli in beef research

A new method to reduce E. coli and potential pathogenic bacteria in beef is this week undergoing further testing at the JBS abattoir at Scone, New South Wales.

A team of Tasmanian Institute of Agriculture (TIA) food safety researchers is working with industry to develop a solution that will enhance food safety for the red meat processing sector, jointly administered and funded by AMPC and Meat & Livestock Australia.

"We have found through our laboratory and pilot trials that spraying beef carcasses with oxidant and water during refrigeration, a process known as spray-chilling, causes significant reductions in E. coli numbers and helps maintain meat weight," TIA Research Fellow Dr Jay Kocharunchitt said.

"Most types of E. coli are harmless, however pathogenic E. coli are a risk to public health so there is no tolerance for them in some export markets."

Dr Kocharunchitt said the trial builds on tests carried out earlier this year at the JBS abattoir at Longford. "In an earlier trial, we captured microbiological data that gave us a baseline, which we have used to design the current trial at JBS's [Scone] abattoir... This trial will clarify the next steps to develop this method for commercial use." ■

Be Bold, Be Branded, Be Wagyu

The Wagyu Branded Beef Competition is the industry's annual showcase for Wagyu brand owners to compete and achieve the very best in Australian Wagyu.

Hosted by the Australian Wagyu Association, the 2019 Wagyu Branded Beef Competition presents awards in four classes: Fullblood Wagyu, Crossbred Wagyu, Commercial Wagyu and Gourmet Sausage.

Wagyu beef is characterised by its large eye-muscle, unique high-quality fine marbling and characteristic umami flavour, giving an exceptional eating experience. The Competition gives promotion to Wagyu brand owners; and butchers to create the most decadent sausages imaginable.

Overseeing the event will be chef John Alexander, who says that the competition gives the Wagyu industry a chance to show consumers just how exceptional Australian Wagyu can be for the pinnacle of fine dining, retail and hospitality.

Entries will open for the Competition in December, while judging will take place at Redlands RSL, Queensland, on



The 2018 Wagyu Branded Beef Competition Grand Champion, The Phoenix by Mort & Co.

the 14th March, 2019. Winners will be announced at the 2019 Annual Conference Gala Dinner, to be held in Adelaide, in May 2019.

Judging of the Wagyu beef is based on five criteria: visual appeal (raw and cooked), juiciness, flavour, aroma and the physical sensation in your mouth. Points are awarded for each criteria and the top winners receive Gold, Silver and Bronze recognition. The entry with the most points across all three categories is deemed the Grand Champion of the Wagyu Branded Beef Competition.

Entry forms will be available on www.wagyu.org.au in early December. ■

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Meat your local butcher

Craig Munro of Munro's
Quality Meats Sydney

What is your name and the name of your butcher shop and where are you located?

My name is Craig Munro and I own Munro's Quality Meats with my father Barry. We are located in Sydney's North-West in the semi rural township of Wilberforce.

How long have you been a butcher?

I started working as a wash up boy in my father's butcher shop at the age of 14, did my apprenticeship have been a fully qualified butcher for 12 years.

Why did you become a butcher?

My father, Barry owned the butcher shop and the opportunity to work alongside someone that I admired was too great to pass up. Barry has a very keen eye for workmanship, attention to detail and business skills, he has passed on his knowledge to all his apprentices over the years and I am glad to have been taught by him.

What are the typical products you have in the store?

The type of products we make and sell have changed over the years since I started working at Munro's Quality Meats. When I first started the biggest new fad was crumbed schnitzels, kebabs and stir fries. We now make mignons, kiefs, pastries and even bake pies and quiches. We use these products to complement the traditional steaks, chops and sausages.

Who is your typical customer?

Our typical customer is hard to sum up as we have a varied cross section in our local community. The area is very multicultural with multiple generations. Being a semi rural area we have customers that work the land but we

are also close enough to the city and industrial areas. All these factors lead the business to create products to suit all demographics. This has worked well for the business and created a sense of community within our area.

What is your favourite cut or product?

Since competing in the Meatstock Butcher Wars it has opened my eyes to numerous new products. My new favourite cut of meat is rolled beef rib. In order to get this product we take our beef short rib, two bone, about 15cm long, remove the membrane on the back of the bone then remove one bone, leaving all meat attached. We then French trim the remaining bone, about 3cm, season both sides of the rib and roll and tie with twine. I usually slow roast it wrapped in foil over the open fire, but the oven or weber or smoker would make it just as good.

What has been the highlight of butchering so far?

The highlight of my butchering so far has been teaching apprentices the trade and watching them grow as tradespeople. It is not often talked about but I think most owners have a great sense of pride about the people they train and employ as it is often a reflection of themselves and the business.

What goals do you have for the future?

The shop is in the midst of rejuvenation with renovations underway, new business partnerships developing and an increase in staff. The goals for the business is to continue to grow and for the shop to continue as part of the community.



Barry Munro with his son Craig.

What has been the best advice you have been given?

The best advice I was ever given came from my father and that was to never stop learning. Every day presents itself with new opportunities to learn something new, so keep your eyes and mind open.

What are some of the challenges you have faced?

The challenges that we have faced over the years have been attracting quality staff. Due to our location a lot of butchers don't want to travel to work; we have combated this issue by using our experienced staff to train local

school leavers into apprentices. It took time and patience but has reaped benefits in the long run.

How is superannuation important to you?

Superannuation is important to me because although I love this trade and can't see myself anywhere else, I know a day will come when my body can no longer stand up to the physical aspects of this job. When that day comes I need to be prepared. Superannuation is savings that I have worked for my whole life that I will enjoy when that time comes.

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The Econoliser Knife Steriliser available from Highgate are suited to knives and abattoir equipment such as brisket saws.

turn reduces energy costs. For refrigerated areas, the lower ambient heat produced reduces overall running costs. In addition there is no virtually no steam, eliminating condensation on your product.

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Available exclusively from Highgate,



general manager Alister Joyce says that many abattoirs in Europe have already experienced the benefits of the Econoliser with reduced energy costs, lower water consumption and less waste water, while achieving knife sterilisation levels that meet the regulation standards for the meat processing industry.

For more information or to book an onsite demonstration call Highgate on 1800 089 456 or www.highgategroup.net.au. ■

Two Butchers – Aspirational & Contemporary

Two Butchers is not a traditional butcher shop that has evolved to meet changes in the local community, it was created with a specific goal in mind – to bring a modern, farmer oriented approach to butchery.

Opened in 2016 by two mates, Steven McMeniman and Kenneth Kearney, the aim was not to have the style of butcher shop reminiscent of the 1990s, but one that had a contemporary design and a focus on local produce that has the highest standard of production – grass fed, HGP and antibiotic free – and working directly with the farmer.

In line with that approach Steven and Kenneth designed the shop to incorporate a dry ageing cabinet and combi oven and have since installed a smokehouse, along with the standard butcher's tools of trade.

The range of equipment has enabled Two Butchers to diversify their product range from the very beginning. Prime cuts, sausages, hamburgers for traditional butcher products, but also value-add products such as roasts, dry aged prime cuts and low and slow bbq such as pulled pork and lamb shoulder.

“Most of our customers are local, young families who are time poor,” said Steven. “With that in mind we have worked hard to produce a range of meal options as single serve or family portions that mean families can have a meal on the table within 30 minutes with a simple re-heat. We estimate nearly 70% of the buying and decision making is done by the mums, who want ready to eat, nutritious meals.”



Combi-ovens are an integral part of the success of Two Butchers, cooking up to 180 roasts per week, plus pulled pork or lamb for lunches.



Two Butchers owners Steve and Kenneth created the business with a modern approach to product and shop fitout.

The roasts of pork, lamb or beef have been a popular addition to the range of value-add products, selling as many 60 roasts on a Wednesday and up to 120 on a Sunday. Tuesdays will often see the team whipping up egg and bacon rolls to bring the early bird shoppers in.

“We have had the combi oven since opening the shop 18 months ago. We worked with Nathan Finch who was at Viking then and now at Unox. The more we use it, the more uses we find for it. The pulled pork and lamb can be set before we go home at night and are ready to go for pork and lamb rolls the next lunch time. Roasts can be set in the morning, ready for that night. We owe a lot of our success to Nathan and that combi oven.”

The premium end of Two Butchers' product offering is dry aged beef.

The dry ageing cabinet was installed along with the combi oven in the beginning, more because it is a great feature for the shop and draws potential customers in. Rib on the bone is the most popular dry aged meat, along with rump and T-bone. Wagyu is also dry-aged. Using a lower marble score Wagyu (MS 3-4) gives a good balance between moisture for dry ageing while retaining the Wagyu flavour. Such is the

success of the dry aged products, Two Butchers are considering putting in a second cabinet.

“With this equipment we have been able to diversify a lot more than we could have as a traditional butcher shop. It has allowed us to offer a range of products to suit families through to special occasions,” said Kenneth. “We are now offering catering, which represents about 30% of our total business – birthdays, engagements, graduations – where we provide the full package.”

Steve and Kenneth’s commitment to locally sourced products extends to sauces, marinades, eggs and other complementary products. Fresh produce for the roasts is sourced from the local market and meats are sourced from local farmers and abattoirs that Steven and Kenneth have developed a one-on-one relationship with.

The reputation that the shop has developed has attracted the eye of the low and slow barbecue community who now support Two Butchers who in turn have become the go-to butcher shop for low and slow bbq competitors.

The greatest challenge for Two Butchers is not so much neighbouring shops or supermarkets, it is the drought.

“Farmers are really feeling the effects of the drought. Our hearts go out to them as we really want to support them. Our lamb supplier is doing it hard and he is finding it difficult to maintain the quality. It’s still good, but the cost is hurting. For us, trying to adjust pricing with customers is difficult, because we don’t want to hurt the farmer either. The prices are going up with the drought, but people still need to be able to afford it,” said Steven.

“The support we are getting from our customers is fantastic – most are supportive of our approach and have a

great deal of sympathy for the farmers and understand that as much as we try and hold the price as long as possible, we may have to adjust it.”

“The success of the shop has been mostly down to Steve and Ken appreciating that the future of the butcher shop is not how it was in the 1990s,” said Nathan Finch, Unox. “By understanding that producing value-

add products such as dry-aged and roasts, their take on what a butcher shop can be has seen them grow in diversity and reputation in a short period of time. My advice to anyone opening or re-designing a butcher shop is to work with people you trust, listen to their advice and know that a few simple cuts and sausages is only part of the story.” ■

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Strong competition, strong butchers

The emergence of competitions for butchers is giving many in the industry an opportunity to improve their knowledge, network with peers and promote their business. The biggest challenge is knowing what competitions are on and where.

As we move forward with each issue, *Australian Meat News* will keep you updated on competition dates.

Have we missed a competition or has a date changed?

Let us know at optimalnews@majestic.net.au

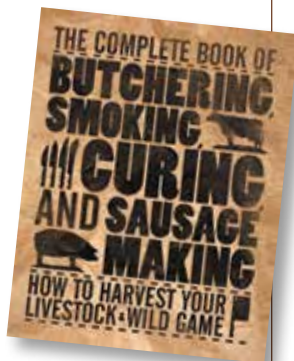
COMPETITION	DESCRIPTION	DATES	WEBSITE	CONTACT
Meatstock Butcher Wars	A feature of Meatstock, the competitors are given 30 minutes to produce a range of retail-ready products from a half saddle of pork and half a lamb. Judging is based on technique, speed, creativity and final presentation.	Melbourne 16-17 March, 2019 Sydney 11-12 May, 2019 Auckland 23-24 February, 2019	www.meatstock.com.au	Shannon Walker shannon.walker7@tafensw.edu.au
Lifeline International Young Butchers competition	Aimed at helping young butchers learn and network, competitors cut, prepare and cook as part of an awareness campaign for Lifeline WA	Perth 21st April, 2019		Robert Retalick Robert.retalick@gourmetbob.com
AMIC Sausage King	Designed to give AMIC member butchers an opportunity to produce the very best sausages	State competitions held June and July 2018. National winners announced in March 2019	www.amic.org.au	
AMIC Apprentice of the Year	Recognises the skill and training of butcher apprentices	National winner announced February 2019. Check state AMIC reps for state competitions	www.amic.org.au	
Great Aussie Pie and Sausage Roll Competition	During Fine Foods Australia	September 2019	www.greataussiepiecomp.com.au/	Danielle Lindsay admin@greataussiepiecomp.com.au
World Butchers Challenge	An international competition, teams of butchers compete to produce the best retail ready products	Sacramento, California, USA April 2020 (TBC)	www.worldbutcherschallenge.com	ashley@wbccouncil.com
World Skills Australia	Designed for apprentices to compete at a regional level in butchery and potentially, internationally	2018, 2020	www.worldskills.org.au/skills/retail-butchery/	info@worldskills.org.au
Melbourne Salami Festa	Produce the best family recipe in a range of salami categories. Open to amateurs and professionals	Melbourne 13-14 October 2018	www.melbournesalami.com	info@melbournesalami.com

COMPETITION	DESCRIPTION	DATES	WEBSITE	CONTACT
Royal Sydney Fine Foods	54 classes of smallgoods and charcuterie for butchers and manufacturers	September (Spring)	http://www.rasns.com.au/sydney-royal-competitions/competitions/deli-meat/	Fine Food Show Coordinator dtomsen@rasns.com.au
Intercollegiate Meat Judging	Meat grading competition for trainee graders	July 2018	www.icmj.com.au	Maria Thompson meatjudging@gmail.com
Perth Royal Smallgoods Awards	Smallgoods competition for local industry to showcase and benchmark their products	June	https://www.perthroyalshow.com.au/competitions/competition-entries/perth-royal-smallgoods-awards/	John Clark Competitions and Event Coordinator smallgoods@raswa.org.au
Wagyu Branded Beef Competition	Wagyu producers showcase the premium Wagyu beef. Gourmet Sausage class is open to all butchers	March 2019	www.wagyu.org.au	Deb Andrich deb@wagyu.org.au

Book Competition Winner

The winner of a copy of *The Complete Book of Butchering, Smoking, Curing and Sausage Making* by Philip Hasheider is John Preston from Country Style Meats & Smokehouse, Garfield, Gippsland Victoria.

Congratulations John and thanks to all who entered the book competition.



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REICH smoke houses, ovens, fermentation rooms, water cookers
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Plastics: *Essential* – but can they be better managed?

In the meat industry plastic is an essential material. At the processing level it plays an important part in food safety, storage and shelf life, transport and product quality. At retail, it is again used for food safety, but also for retail presentation and to provide consumers with a safe and convenient means of transporting and storing products at home.

At the same time, plastics are becoming a significant source of pollution and there is growing community awareness that plastics must be used responsibly. That includes reducing their primary use – where possible – and ensuring used plastics are recovered, reprocessed, reused, recycled or disposed of in the most energy efficient and environmentally responsible ways available.

Editors Note

This article is aimed at raising awareness of the role of plastics in the meat supply chain and to start a discussion as to how the industry can better manage this essential co-product. What is stated in this article is by no means comprehensive or absolutely accurate in detail, but it does indicate the scope of the challenges and offers advice on ways to do things better.

By Deb Andrich

Plastic Used in the Meat Chain

The predominant plastics used in the meat industry are:

- **Vacuum sealed bags** – used by processors for vacuum sealed primals and retailers for smaller cuts
- **Single use bags/carton liners** – for wrapping retail product and as carry bags for customers
- **Meat trays** – stiff and soft trays used for retail packs
- **Cling wrap** – used to enclose products on meat trays
- **Transparent lidding** – as used to seal MAP retail tubs

Plastic – a generic term for a huge range of chemicals

The table shows the range of plastics used in the meat industry is extensive. The chemical composition of plastic varies between final applications. Plastic soft drink bottles are made of PET (polyethylene). Cling wrap is made from PVC and vacuum seal bags from laminated plastics, while single use shopping bags (the type currently under bans at supermarkets) are petroleum or plant based. Few people are aware of the differences.

In theory, the disposal options are known, but in-reality the best practice options are not always available to industry or consumers. The commercial recovery and recyclable logistics industry is in its infancy in terms of servicing small business. Local government options are not yet designed to deal with the increasing number of pathways suggested by best practice.

Australian governments at state and federal level have agreed to a target for packaging to be recyclable, compostable or reusable by 2025, corresponding to similar commitments

continued on page 17



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CRYOVAC



continued from page 15

underway overseas. The Australian Packaging Covenant Organisation (APCO) is charged with overseeing the implementation of the ambitious plan and is actively working with industry to develop plastics that are either recyclable, re-usable or reduce the content of plastics within the product. Multivac, Krehalon and Sealed Air are signatories to the 2025 target.

While the major manufacturers and suppliers may have different product offerings to ensure extended shelf life and food safety, Sealed Air, Krehalon and Multivac all agree that a united approach to the conundrum that is plastic in the meat industry.



Krehalon, heavily involved in the European plastics commitment, are developing products that are termed 'downgauging', which essentially means reducing the thickness of the multi-layers without compromising functionality and still usable within the packaging machinery environment.

Multivac, recognising the issue of black meat trays and cling film are working towards introducing a pigment into the tray that can be recognised by recycling optical systems and introducing more fibre into the tray with a protective polypropylene barrier for food safety and shelf life.

Sealed Air's Cryovac food packaging brand continues to evolve to meet the company's commitment to the Covenant while also ensuring its smart design and functionality addresses future key sustainability challenges being faced by the food industry. It's latest evolution is vacuum shrink technology for the fresh red meat industry that uses less material and addresses rework associated with leaking packs.

AMIC are also well aware that the meat industry needs to take a proactive position on the issue of plastics in the supply and said that they support the adoption of industry best practice in working to reduce plastic waste, increase recycling and minimise the impact of plastic on the environment.

This includes supporting the use of recyclable, biodegradable or compostable packaging where possible.

There are some challenges still to be solved and AMIC welcomes collaboration in the area of plastic reduction across the supply chain.



Coding Plastic

Many plastics look and feel the same despite being made from different chemicals and have very different disposal pathways. To ensure optimal disposal by industry and consumers plastics need to be labeled. As part of the 2025 target, PlanetArk have teamed up with APCO to develop a new set of labels that show consumers how to dispose of packaging.

A three-part label can be used for multi-component packaging – for example a ready meal in a plastic tray, sealed with thermofilms with an outer card sleeve for labeling. The label will indicate that the card sleeve can be recycled, the tray to be disposed of separately and the carry bag to go a landfill bin. The system is underpinned by the Packaging Recyclability Evaluation Portal, which allow member packaging designers to assess the disposal method for the package under design.

What can butchers do?

A starting point for butchers is to learn about the plastics used in their shop. Order plastic products consistent with your technical and food safety needs, your values and those of your customers. Check with you waste contractor what recovery and recycling services are available in your area.

For example:

- Encourage customer to use their cooler bags to take their meat home instead of supplying a shopping bag
- Sell branded canvas/cotton/hemp bags
- Check with your supplier that the meat tray can be sorted correctly or are made from compostable materials

What can processors do?

Work with plastics suppliers to look for thinner plastic options for multi-layer applications. Check if they can be used on your packaging equipment.

Advise your customers how the plastics need to be disposed – too often plastics or either sent to landfill or dumped with material sent to the renderer.

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PLASTICS: USE & DISPOSAL TABLE					
USE/APPLICATIONS	THE PLASTIC	ULTIMATE DISPOSAL	COLLECTION/ DISPOSAL OPTIONS FOR BUTCHERS	DISPOSAL OPTIONS FOR CONSUMERS (Note 1)	NOTES
VACUUM PACKS USED FOR PRIMALS AND RETAIL	LAMINATED PLASTIC	LANDFILL	NOT WORTH IT	LAND FILL BIN	Laminated plastic are too difficult to recycle. Single layer plastics and potentially compostable alternatives are under development.
SINGLE USE PLASTIC Used for wrapping/bagging products and carry bags	BIOPLASTIC MADE FROM PLANT STARCH AND OTHER CARBOHYDRATES	BIODEGRADABLE: Can be composted in commercial facilities. Not suitable for home composting.	CAN BE COLLECTED BY RECYCLERS WHERE AVAILABLE	LAND FILL BIN	Some councils accept compostable packaging in the Food Organics Garden Organics (FOGO) bin. Eg South Australia.
	PETROLEUM BASED Polyethylene terephthalate, (PE or PETE)	LAND FILL (NOT BIODEGRADABLE)	Collect single use bags and recycle at local supermarket and/or join a soft plastic recycling scheme	RECYCLE BIN	Polyethylene terephthalate, (PE or PETE) is the plastic used in soft drink and water bottles and peanut butter jars.
	PLASTIC EPS (Expanded Polystyrene)	CAN BE REUSED OR DISPOSED OF IN LANDFILL	Hard to recycle	LAND FILL BIN	Black plastic can not be recycled because the existing near infra red detection technology used at material sorting facilities can not identify the black trays.
TRAYS	FIBRE TRAYS Plant Based. Made from wood and plant pulp.	CAN BE COMPOSTED but must be to certified domestic or commercial standards	CAN BE COLLECTED BY RECYCLERS WHERE AVAILABLE	LAND FILL BIN	All black plastic ends up in landfill. There are companies now producing a black pigment that can be identified but it is not yet widely used.
	STIFF PLASTIC PET (Polyethylene terephthalate)	Clear PET plastic tray can be RECYCLED locally into virgin grade plastic which and reused again to produce food contact packaging.	CAN BE COLLECTED BY RECYCLERS WHERE AVAILABLE	RECYCLE BIN	
SOFT TRANSPARENT WRAP (Cling Wrap)	PVC	LANDFILL	NOT WORTH IT	LAND FILL BIN	FOOD CONTACT: ASSUME CONTAMINATED PLASTIC CAN'T BE CLEANED.
TRANSPARENT TRAY LIDDING	LAMINATE (Derived from Petroleum)	LANDFILL	NOT WORTH IT	LAND FILL BIN	BREAKS DOWN ONLY SLOWLY (MANY DECADES)
	PLANT BASED PLA (Polylactic acid), STARCHES, CELLULOSE	COMPOSTABLE (Commercial & Domestic)	CAN BE COLLECTED BY RECYCLERS WHERE AVAILABLE	LAND FILL BIN	WILL BREAK DOWN IN ENVIRONMENT QUICKLY. PLA trays can be downcycled into a product of lower value and will ultimately end up in landfill will decompose.
Note 1: The colour coding of waste bins varies between local government areas. Check you local council code for specific instructions.					

Apply the PlanetArk logo on your products for instant identification of disposal methods.

Conclusion

There is no doubt that social media has given Australians a greater awareness of the issues around plastic, but for products such as meat, food safety and shelf life must be primary considerations.

At the same time the meat industry must respond to global and local concerns regarding waste and pollution. ■

How much plastic is used in meat retail?

Plastic is an essential element in the preservation, storage and delivery – not to mention food safety – in of retail meat.

The table provides an estimate of the mass of plastic used at the retail level.

The challenge for the meat industry is not to eliminate plastic, but to use it wisely and to encourage consumers to do the same.

The table provides an estimate of the plastic used at retail. The assumptions are included. *Australian Meat News* would be happy to refine it if better data is available.

AUSTRALIA: PLASTIC USAGE RETAIL MEATS

PER CAPITA MEAT CONSUMPTION PER YEAR
(BASED ON ABARES DATA)

BEEF	19 KG
LAMB	7 KG
PORK	20 KG
CHICKEN	40 KG
TOTAL	86 KG
POPULATION	25,000,000
TOTAL MEAT CONSUMPTION	2,137,500,000 KG
MEAT BUYING ASSUMPTION	50% PURCHASED RETAIL
	50% PURCHASED FOOD SERVICE
TOTAL RETAIL PURCHASE	1,068,750,000 KG
ASSUME AVE PURCHASE BY CONSUMER	0.5 KG
TOTAL RETAIL PURCHASES	2,137,500,000 TRANSACTIONS
PLASTIC USED PER PURCHASE	10 GM
OR	0.01 KG
TOTAL RETAIL PLASTIC	21,375,000 KG
	21,375 TONNES



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Lab-grown beef is produced using cells extracted from the foetus of a slaughtered cow.

Photo Credit: Alpb.com

Defining meat in the 21st Century

By Stephanie Flynn

The dilemma of the decade is upon us – when is meat ‘meat’ and when is milk ‘milk’ – and the discussion of its parameters is taking place in the highest regulatory bodies globally.

It is a discussion that will involve Australian protein industry leaders and law-makers in the very near future as cellular food technology companies have already formed an international alliance and launched their Australian website indicating their intended entry into the market within the next seven years.

In April this year, France became the first country in the world to ban vegan and vegetarian food labels using meat or dairy specific terms like ‘burger’ or ‘milk’ reserving them for products of animal origin.

It follows a European Court of Justice decision last year, in favour of the dairy industry, ruling that manufacturers of plant-based products should not mislead consumers by labelling them milk, butter, cheese or dairy.

And the battle is on over definitions in the US with both the nation’s dairy farmers and Cattlemen’s Association respectively lodging petitions with the United States Food and Drug Administration (USFDA) for labelling law rulings and changes.

The dairy industry’s petition, lodged with the USFDA last year requests a new rule on whether plant-based milks can use the term ‘milk’ to market products and, according to reports, the USFDA has recently indicated it will come down in favour of the dairy industry.

This year, the US Cattlemen’s Association (USCA) lodged a 124-page petition to the USFDA’s Food Safety and Inspection Service in the matter of beef labelling requirements.

It petitions for the exclusion of products not derived directly from animals raised and slaughtered from the definition of ‘beef’ and ‘meat’.

According to the USCA, there are currently no labelling requirements applicable to products labelled as 'beef' or more broadly as 'meat' mandated by law in the US.

It argues that products which are not derived from animals born, raised and harvested in the traditional manner, should not be permitted to be marketed as 'beef' or 'meat' products.

By its own admission, the USCA's petition is a reaction to recent major investment by US meatpacker corporations and companies in other countries in creating alternative products that may resemble, in appearance and taste, beef products including synthetic 'beef' and 'beef' grown in laboratories using animal cells known as 'in vitro' meat, 'bio-meat' or 'cultured' meat.

Early this year, Tyson Foods took a minority stake in cellular-meat start-up, Memphis Meats, following Cargill's investment in 2017 joined by billionaire businessmen, Bill Gates and Richard Branson.

The company has raised \$22 million from its funding rounds and revealed the world's first cultured poultry in 2017 after its first cultured meatball a year earlier.

Memphis Meats is one of 16 companies, based in the US, Japan, the Netherlands and Israel, listed behind the Clean Meat Australia website which appeared this year indicating their intention to release lab-grown meat into the country by 2025.

Lab-grown red meats, poultry and seafoods as well as egg whites are among the core business activities of the alliance of international companies.

One route into the country for lab-grown meats will be by importation which is unlikely to be prevented under the terms of Australia's Free Trade Agreements with the US and Japan and, soon, Europe.

A cursory reading of Australia's food safety regulations certainly indicates that lab-grown meat products will be caught under the Novel Food clause and will be required to undergo testing for human consumption before entering the food chain.

Food Standards Australia New Zealand (FSANZ) governs the Foods Standards Code which expressly defines Novel Foods in Standard 1.5.1 and requirements are applied to both the food itself and to foods produced from new sources or by a process not previously applied to food.

The Standard also contains definitions for 'traditional' and 'non-traditional' foods.

The current generation of meat industry leaders and law-makers will now be forced to step-up the legal and public discourse around the introduction of laboratory manufactured meats.

The question, as in other parts of the world, centres on the definition of the term 'meat' and will likely follow suit into labelling regulations.

In Australia, under the Food Standards Code, Standard 2.2.1 deals with 'Meat' and 'Meat Products' and provides an interpretation of the term.

"Meat means the whole or part of the carcass of any buffalo, camel, cattle, deer, goat, hare, pig poultry, rabbit or sheep, slaughtered other than in a wild state but does not include a) the whole or part of the carcass of any other animal unless permitted for human consumption or b) avian eggs, foetuses or part of foetuses."

Further, the Standard defines 'meat flesh' as skeletal muscle of any slaughtered animal.

Laboratory-grown red meat is produced using cells extracted from the foetus of a slaughtered cow.

According to a statement released by Meat and Livestock Australia (MLA) lab-grown meat has the potential to be another competitor for red meat and is a response to two global mega trends 'Health and Wellbeing' and 'Ethics and Sustainability'.

MLA's chief of marketing and communications, Lisa Sharp, said that while lab-grown meat is still in its infancy, it could take some market share from traditional production systems as it asks consumers to accept not a substitute but an artificial replication.

"Studies in the United States show that consumers are willing to try lab-based meat but are not keen to replace farmed meat with synthetic alternatives," Ms Sharp said.

"The good news is Australian red meat producers can also meet these consumer driven trends," she said. ■

Winners of the July 2018 Find a Word Competition

Congratulations to the winners and thank you to our sponsor BUNZL. Bunzl will contact all winners and make arrangements to deliver your prize.



Simitar Steak Knife and Lesnie's Steel

Robyn Freeman, Barraba Beef, Barraba NSW

Victory Narrow Curved Boning Knife

Alicia Wise, Warrnambool Country Meats, Warrnambool Vic

Ken Simpson, My Butcher Duke Street, Gympie Qld

Cameron Polzin, Cam & Sue's Quality Meats, Gayndah Qld

Peter Malone, Malone's Quality Meats, Success WA

Kim Herne, Herne's Butchery, Bangalow NSW

MSA improving eating quality benchmarks



It's been 20 years since Meat Standards Australia brought in a concept of grading meat based on eating quality and during that time, it continues to improve itself and the benefits to consumers, producers and processors.

Appreciating that consumer meat preference is not easily replicated in a laboratory, MSA has used meat science to measure qualities that have been found to contribute to the eating quality of the product – juiciness, flavour, tenderness and overall liking – and provides an index and grading term that gives consumers simple information about the eating quality of the product.

This index was set up to give a single number, derived from the weighting of various factors on the carcass that is deemed to influence the eating quality:

- **Dentition:** number of teeth which is an indication of the age of the animal
- **Ossification:** the measure of maturity of the carcass where cartilage develops into bone
- **Bos indicus:** tropical breeds such as Brahman reduce the eating quality of their southern cousins, bos Taurus
- **pH:** the pH is an indication of the glycogen in the carcass – high pH is what often gives 'dark cutters' giving tougher meats
- **Marbling:** refers to the percentage of intramuscular fat within the rib eye
- **Meat and fat colour:** influence customer acceptance of the product
- **Carcass weight**
- **HGPs:** hormone growth promotants



Mark Inglis: JBS Australia discussed how MSA was used to create brands.



Peter McGilchrist, University of New England spoke on feedback and benchmarking.

The MSA Index system is simplified further by establishing a cut-off point – anything that is deemed to have poor eating quality will not be able to bear the MSA Graded logo. The terminology on the logo: MSA Graded refers to good, reliable and consistent eating quality and is given a 3-Star rating; MSA Premium is a 4-Star while MSA Supreme is 5-Star. The concept of grading based on boning groups has been phased out.

A voluntary system, processing facilities need to be accredited to have MSA grading performed by qualified meat graders. The information gathered by the graders is then fed back to the producer using the NLIS tags for traceability.

The carcass data and MSA grading enables the farmer to review production, breeding and nutrition practices to improve the overall herd and meat quality.

At the recent International Congress of Meat Science Technology held in Melbourne, the 20 year anniversary of MSA was given its own forum to discuss the progress and benefits of the MSA program. Industry leaders such as Tom Maguire, Teys and Mark Inglis, JBS gave their perspective on MSA, while meat science specialists such as Dr Rod Polkinghorne and Dr Peter McGilchrist gave presentations on the origins and future of MSA. Representing MLA was Sarah Strachan who highlighted the progress the program has made based on an audit of the scheme in 2017.

So many box lids and no brands

Mark Inglis joined JBS some eight years ago, back in the days when carcasses were graded based on boning groups.

The JBS strategy at that time was to create a brand based on the plant the carcass was processed at, which meant every plant had its own brand – or box lid. Each box could contain a variety of qualities – four star cubes mixed with five star tenderloin was not uncommon and the box would be downgraded to the lowest quality. For the end user, it meant sorting through the product to separate the good from the better.

"When I came to JBS in 2010, we had at least 20 brands based on our operations," said Mark. "Someone made an offhand comment that we had a lot of box lids, but no real brand. That was the beginning of the adoption of MSA."



Sarah Strachan illustrated how MSA supports commercial practices.

Using the MSA Index, JBS have now configured their brands to represent the eating quality. Great Southern and King Island have similar Indexes at 61.7 – 61.8, Pinnacle sits in the 62-63 range while Little Joe's represents the top 1% of production at around 65. Hereford Boss sits under Great Southern by a couple of points.

For JBS, the use of the brand is now recognized by consumers as an indication of the eating quality. For butchers, it gives an indication of the



Rod Polkinghorne is an industry leader in the development of MSA.

pricing point and pointers on the best way to cook it. For farmers under the JBS producer program, it gives feedback on how their farm practices are tracking.

Reiterating the point, meat scientist Dr Peter McGilchrist said that the MSA Index was the best way to benchmark how the meat industry is performing. He added that the index is an alternative to individual carcass trait feedback as it can be used to compare breeds, regions and farm

practices such as grass fed compared to grain fed.

Every two years, the MSA has undergone an audit – Australian Beef Eating Quality Audit – which allows the beef industry in particular to monitor the gains in meat quality and uptake of the program.

Sarah Strachan, MLA highlighted the key gains that the audit showed:

- 53,000 producers are registered to use the MSA logo
- 172 Brands are registered
- 43% of all cattle slaughtered are MSA graded
- MSA average Index rising to 58.4 from 57.56 in 2010.

MLA estimates that for those producers not utilising MSA, it may have resulted in lost income to the tune of \$10m through untapped opportunities. By taking on MSA grass fed producers can expect to gain an additional \$60 per head or \$42 per head for grain fed as a bare minimum.

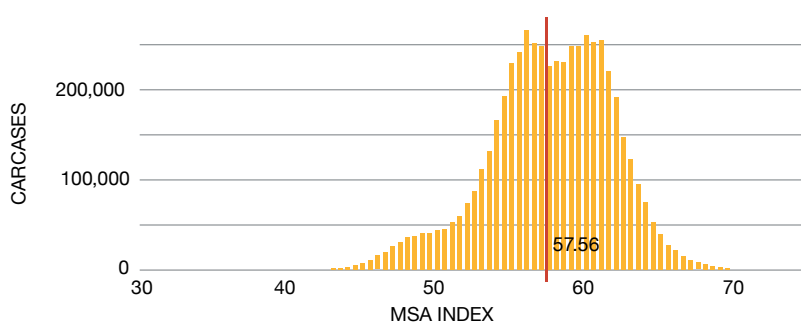
Three trends were identified in the MSA Indexes in the recent audit were that HGPS lowered the grading as did the effect of hump height in tropical breeds and ossification.

If dentition is removed from the grading equation – it made no difference to overall eating quality, suggesting that the number of teeth is not important to the customer, or to the MSA Index.

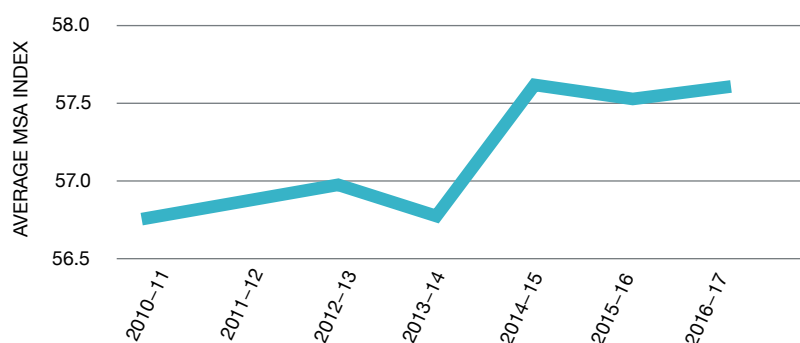
Moving forward then, it is likely that dentition for cattle will no longer be considered. The aim for MSA is to increase the slaughtered cattle under MSA to 50% and to further increase the MSA index cut-off point as eating quality improves. Initiatives to improve MSA for lamb are also under research.

In closing, Dr Rod Polkinghorne commented that customers buy on eating outcomes – what it tastes like, how well it cooks – not necessarily on what the cut of meat is. By continually improving the MSA measures, producers can continue to improve the carcass traits so that consumers can rely on the MSA Grading to achieve consistent, reliable beef. ■

NATIONAL MSA INDEX DISTRIBUTIONS 2015-17



CHANGE IN NATIONAL MSA INDEX SINCE 2010-11



Mobile abattoirs helping the small and niche farmer

Imagine you are a small-scale farmer, turning off 150 yearlings each season. You pay \$35/head to transport them two hours to the abattoir and then \$0.25c/kg chilled freight to a butcher because the abattoir does not cut and box.

There are variations in dressed weight percentages between processors. You are annoyed that the historical pure breeds favoured by smallholders lose to lesser-quality feeder stock due to their better feed conversion efficiency. And you are always worried that, like many other regional abattoirs, your nearest one will go out of business.

You have people asking to buy your meat direct, and pay a premium for that provenance. The market gap makes you wonder if there can be an alternative – micro-abattoirs, either as Mobile Slaughter Units (MSUs) or Modular Slaughter Units (MOSUs) may be an answer.

SA sheep farmer and micro-abattoir business owner Michele Lally said livestock producers are in a unique position to capitalise on the niche she says is not addressed by larger processors.

“There will always be the large-volume commodity-type product, the small-scale niche one and people in the middle,” she said. “We can all play in the same space.”

“A micro-abattoir would allow producers to be more mobile and responsive to both pricing and preference changes and generate more autonomy in their supply-chain management.”

She cites organic meat producers, who need to ensure organic certification for their abattoir. She also suggests that a micro-abattoir shared between farmers would validate a regional meat brand. It also allows producers to claim the offal and hide of each beast, a handy earner usually claimed by the processors.

Michele and her husband Phil are developing processing facilities meeting Australian standards and regulatory approval, in an adaptable modular concept. The Clare Valley couple has been receiving calls from other producers since they started operating their pilot abattoir.

She estimates the standard abattoirs nowadays can cost upward of \$10 million to construct and plan. By comparison, her small stock units cost approximately \$400,000 and large stock units cost approximately \$650,000, installed and including all requirements to function as an abattoir – including equipment and yards all to Australian standards and regulations.

However, the model comes with some risks, especially of keeping the unit viable by ensuring guaranteed throughput, regardless of seasonal conditions or price fluctuations.



Michelle and Phil Lally, Clare Valley are looking to set up a micro-abattoir to meet local farmer processing needs.

Rising power costs and skilled staff availability are also two big challenges for abattoirs, especially in regional areas. Apart from the killing floor staff, the operation would need the services of a certified meat hygiene professional and admin staff.

Michele also warns of market pressure from large processors and stock agents, even down to reducing outlets for the meat.

The meat industry, however, is more welcoming, and earlier this year awarded the Lallys the coveted 2018 Meat and Livestock Australia Producer Innovation Award as part of Beef Australia 2018 in Rockhampton.

Another winner in the same space is FarmgateMSU, winner of the 2017 SproutX innovation challenge. Headed by Victorian Chris Balazs, he told Beef Week crowds he anticipated sales starting in 10 months.

The Farmgate MSU arrives on the farm central to supplying farms. Post-processing, the carcasses are refrigeration-transported to a conventional boning room.” He says the idea has backing from farmers, chefs and the RSPCA.

“We eliminate live animal transport while increasing animal welfare and producing the highest quality meat that has not gone through any stress.”

He added: “We expect some competition from conventional abattoirs, but our flexibility, nimbleness and efficiency is going to put us in a great position to take a part in that supply chain.”

A group of farmers around the Victorian Murray region are

hoping to have a multi-species micro-abattoir operating by 2019. Closure of regional abattoirs has led farmers to push for the proposed facility at Barham. "It's time we take matters into our own hands," says Lara English, a multi-species free-range farmer from Cohuna. "We are dedicated, passionate and our launch will be inevitable."

Before any animal goes up the ramp, however, there are multiple considerations of where to build, how to build and how to operate – with each Australian state having different laws. Abattoirs need buffer zones and there are special requirements for water, trade waste and effluent disposal along with security of animals and accessibility for transport, as well as the issues of noise and odour pollution.

What is happening overseas?

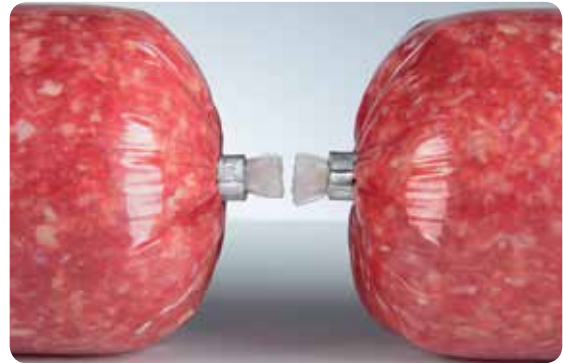
Pilbara grazier Annabelle Coppin studied MSUs in the United States in 2009, seeking a solution to the 2,000 km between the Pilbara cattle station and the nearest abattoir, at Gin Gin near Perth. She found that red tape was the challenge, particularly the meat hygiene regulations.

The MSUs she studied were housed in insulated trailers hauled by a prime mover. Sometimes two units, a slaughter unit and a chilling unit, are operated in tandem. On average, the MSUs she saw could put through 10 cattle in an eight-hour day with two people.

The US has more mobile abattoirs operating than any other country. There are reports of around nine red meat MSUs – mainly handling cattle and 10 poultry meat mobile abattoirs in that country. Washington State is home to the most MSUs and the most successful, the Island Grown Farmers' Co-operative (<http://www.igfmeats.com/>) operates several multi-species units. The 11m base unit handles a daily throughput of eight cattle, 24 pigs or 40 sheep, using two butchers. The on-board freezer holds about 3,600kgs of carcasses. The cost was US\$210,000, the prime mover costs extra. However, in 2016 another local meat producers' co-op in Thurston County surrendered ownership of its MSU, unable to make a profit.

France is borrowing technology developed in Sweden since the 1960s to use for deer. Swedish engineering company Hälsingestintan has a mobile set-up containing offices, changing rooms, a trailer containing the slaughterhouse and a cold store trailer. Purpose-built in Finland, the system uses four people to slaughter up to 30 animals a day.

In Canada, mobile abattoirs operate in two provinces, often established as a response to the closure of smaller abattoirs. ■



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food processor supplies

Carcase measurement under the spotlight

The future of meat grading is gadget-based and the days of solely human assessment are due for the chop.

Instrument-based alternatives has the industry awash with acronyms in the hunt for better objective carcase measurement (OCM) and ways to measure carcase intramuscular fat (IMF) – and all at processing chain speed (PCS).

In June the red meat industry convened with Meat & Livestock Australia (MLA) and endorsed the establishment of an OCM adoption and commercialisation taskforce to help manage industry OCM adoption and commercialisation – dealing initially with DEXA and then subsequent OCM solutions, including eating quality aspects.

Current MLA candidates for objective carcase measurement and intramuscular fat on the processing line are DEXA, ARGA and E+V. Here they are explained:

Uppermost in the Australian marketplace is DEXA, using dual-energy x-ray absorptiometry, and shifting from current price-averaging based on P8 (beef) and GR (lamb) measurements to a system based on carcass meat quantity and quality.

This gives a producer truer reward for effort and allows processors to group carcasses for more accurate and cost-effective bone-outs.

It is the centrepiece of Project 150, a \$150 million industry-wide installation of DEXA to all AUS-MEAT accredited plants by 2020.

Independent reports claim that DEXA and better meeting market specifications would add more than \$270 million annually to the red meat industry while a report commissioned by the Australian Meat Processor Corporation (AMPC) found returns of up to \$420 million a year were possible using DEXA technology.

Leading the research into the project is Dr Graham Gardner from Murdoch University, Principal Investigator of the



ALMTech Project (Advanced measurement technologies for globally competitive Australian meat). The research is partly supported by the Australian Government's Rural R&D for Profit programme in consultation with the Australian Lot Feeders' Association and MLA.

With \$10 million in co-funding from MLA Donor Company, and a matching \$10 million in federal government funding, DEXA has been installed at Gundagai Meat Processors, Frewstal, Wagstaff Cranbourne and Teys Australia.

The value-add figures range from \$5-\$7/carcass for lamb and \$15 for beef.

The technology for beef boning robots has been slower to develop than that of lamb, because the carcasses are bigger and heavier, and muscle groups are more complicated. At present, beef carcasses have to be broken-up into smaller portions beforehand.

Meat & Livestock Australia Managing Director Richard Norton said more than 90% of Australia's sheepmeat processing capacity had now been costed for the installation of DEXA objective carcase measurement technology, with the tool already installed at JBS Brooklyn and Bordertown.

He said with the initial costing of installing DEXA nation-wide completed, the numbers were now being independently verified, following which a total cost and funding model would be put to each of the industry's peak councils and research and development funding bodies.

The MLA board has already approved up to \$24 million in co-funding to install DEXA technology. Pilot plants were installed in the JBS Brooklyn and Bordertown operations as part of a plan to implement DEXA and OCM in the 90 AUS-MEAT accredited abattoirs, at a cost of about \$150 million.

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DEXA scanning is judged as 88% accurate and that is expected to rise to well above 90% with new data from Teys Lakes Creek plant in Rockhampton. This Plant-Initiated Project – reportedly costing close to \$3 million – and supported by MLA's Donor Company and government funding, started mid-year. It is exploring eating quality traits in a commercial trial where 1,600 carcasses daily are DEXA-tested, with at least 200 boned-out for cross-checking. The trial's progress is slower than expected, reportedly due to a lack of the CT-scanner needed to calibrate and accuracy-check each unit.

Concurrent with this pilot, Teys is also trialling other technologies and robotic saws.

Industry experience to date suggests that DEXA, while ideally suited to lamb, will have market challenges. Sheep industry consultant Dr Jason Trompf said the market, not the machines, could be the determinant. "There is hardly a processor in the country that's going to use DEXA lean meat yield and eating quality signals under the current supply regime," he said. "How we get a return on that investment is differentiation." And he warned that current market signals and a tight supply would not provide that differentiation with tighter specifications.

And beef processors, are less lamb-like; they will have to agree to adopt uniform boning protocols if DEXA is to do its job. Some are riling against this imposition, and the challenging infrastructure needed around the equipment – such as lead-lined rooms to protect workers from x-rays.

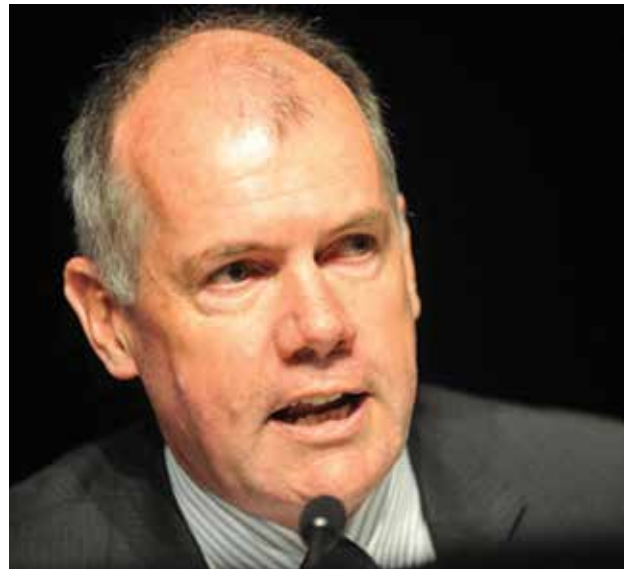
"That's a process we're taking the industry through now," said Sean Starling, MLA's General Manager of Research, Development and Innovation.

Processor pushback was mentioned by Australian Competition and Consumer Commission deputy chairman Mick Keogh said the reactions of some processors were 'interesting'.

"The ACCC's view is that much of the inaction appears to relate to entrenched industry positions and roles, a desire to keep the market opaque, and a lack of bargaining power by producers," Mr Keogh said. "This suggests that the value of market transparency ... is either not well understood or does not suit the interests of those industry participants who are in a position to improve it."

Also a funding model has yet to be determined. "MLA has always said who installs DEXA and who owns DEXA is an industry question," said Richard Norton.

MLA has also been working with high-end engineering firm Wiley to trial another technology. The Augmented Reality Grading App (ARGA) enhances the grader's visual perception. It aims to give a more consistent result on subjective characteristics such as colour and the area of the latissimus



Mick Keogh, ACCC deputy chairman says it is 'interesting' the pushback from industry to introduce new technology.

dorsi muscle, and introduces hands-free scanning of meat sample tickets.

The technology comes as an app for tablets or mobile phones or delivered on a Vuzix m300 augmented reality headset. The researchers have developed the hardware and beta-level software on an Android platform.

Adoption might require modifications to the line. To work effectively, it might be necessary to rotate the carcass on the hook, adapt to light levels or move the scanner.

Brett Wiskar, Wiley's R&D innovation director, said: "What we have seen so far is that the use of AR can give repeatable, reliable results for meat and fat colour, marbling and muscle area. The system is not about removing the meat grader from the processing line, but improving the consistency of grading results." It also promises faster PCS, standardised results between shifts and processors and quicker training for meat graders.

Tey's Australia industry and corporate affairs manager John Langbridge is keeping an open mind. Concurrent to the detailed bone-outs at the Lakes Creek trials, Teys is examining another camera-based technology – the US-developed E+V system. This system – cheaper and less demanding than DEXA – uses stripes projected onto the carcass to assess depth and shape, and is used in the European meat industry.

"It makes sense to examine some of the other technologies," said Mr Langbridge. While they might not match DEXA's accuracy, they might be good enough for commercial use and "the industry owes it to itself to test them."

Processors expect bedding-down time as the E+V system acclimatises to Australian conditions. The system is used in the US for marble grading but it is thought those capabilities could be extended to grade meat and fat colour.

A Japanese-made camera designed by Professor Keigo Kuchida from Obihiro University for Meat Image Japan objectively evaluates marbling, especially aimed at Wagyu carcasses. The camera has the ability to grade marbling beyond the current AUS-MEAT 9+ and calculate fat fineness and rib eye area; meat and fat colour are likely to be included in future models.

The SmartBeef 2017 conference showcased a study of Angus, Hereford and Wagyu-cross carcasses that found MSA graders on average explained 28% of the marbling variation, lower than the 38% of variance explained by the Japan Meat Imaging Camera.

The industry agrees it has outgrown the past 20 years of visual meat grading – using swatches to compare meat/fat colour and marbling alongside basic technical measurements such as temperature, pH and fat depth. Mr Langbridge said: “At the moment the industry’s only way to gauge meat

yield – based on hot standard carcass weight and P8 fat depth – is quite vague. The margin for error is enormous and way too variable for cattle producers to make any realistic management decisions.”

So, who will this boffinry benefit? MLA’s Richard Norton said: “You will always be paid on eating quality. Eating quality enables us to charge three times the amount of our competitors in the global market.”

He added: “MLA wants ... the data and measurements to come back to the producing sector with a lot more transparency than it has in the past.”

However, instrument grading might deliver more than improved verification technology, warns ACCC’s Mick Keogh, who has flagged that new consumer data rights applied to the agricultural sector could force the hand of processors. “If that slaughter data is linked to (data) that is owned by a person, they have the right to demand that information and get access to it,” he said. “Industry needs to be careful - there are bigger forces at work that may, in fact, force their hand in relation to those sorts of issues.” ■



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Resurrecting Cowra from the floor up

The liquidation and subsequent closure of the Cowra abattoir has been well reported, leaving the community with a loss of jobs and no local processing facility.

Since it's re-opening in 2007, Cowra Meat Processors facility has once again become an important part of the local community, providing employment and giving local farmers a facility to process beef, lamb, pork and goat.

Chris Cummins, owner of Breakout River Meats was instrumental in getting the Cowra plant operational. Now the owner of the Cowra plant, Chris is the principle buyer of livestock, with Breakout River Meats the major supplier. Using his extensive buying knowledge, Chris sources the best possible livestock from a wide network of farmers in the region to produce the best possible dressed meat. The philosophy of the buying team is to provide customers with good quality meat every day.

Currently, the facility processes lambs, cattle, pigs and goats, selling into domestic markets under the Watervale Beef, Cowra Lamb and Chiverton Pork brands.

The facility under its previous owners had not been adequately maintained and as a consequence, extensive work was required to bring the premises up to current NSW food hygiene standards.

The floors in particular were becoming increasingly difficult to maintain hygienic standards, with cracks and pitting occurring in the concrete surface.

In a series of progressive works, the plant has replaced the floors starting with the slaughter floor, hallways, 12 chiller rooms, offal room and office spaces. Approaching 1,000sqm, the floors have been installed by Roxset, working within the operational shifts so as not to interrupt work flows.

A further 16 chiller rooms are scheduled to be done in the future. The chiller design is such that the meat can be given a longer chill time with ample refrigeration so that hot carcasses are not placed in the same chiller as chilled meat. The end result is a longer shelf life and freshness compared to their competitors.

"We chose to go with Roxset as they are the best at doing abattoir floors," said Peter Browne, General Manager, Cowra Meat Processors. "The end result looks far more professional and appealing, as well as easier to clean. Roxset has had its challenges to get their product upstairs, but the team has been manually bringing it in as needed to get the job done."



The Cowra abattoir floors had seen better days, the Roxset floor installation ensures that the facility meets HACCP and NSW health regulations.

Since the installation, the team has not seen any slips or falls. It is a lot easier to clean – it has actually reduced water consumption because it needs less water to wash away the byproducts. In addition to the new floors, the facility has installed new wall surfaces to make it easier to clean. Once the walls are done, Roxset extends the floor surface part way up to ensure that there is no floor to wall join crevice that can harbour bacteria.

Roxset recommended the use of the meat grade flooring which is 5-6mm thick to create a seamless, anti-bacterial, gap free coating to give an easy to clean, impervious surface. The surface is non-slip, chemically resistant with a light reflective surface to give a professional look.

"It has been a pleasure to work with Cowra Meat Processors to ensure that their facility is meeting HACCP requirements," said Bruce Willan, director, Roxset. "They have a great facility and it is great to see it is back up and running and supporting local farmers and the community." ■

Drought challenges margins

By Stephanie Flynn

Potential risk is the state of play facing the meat industry as it sits on a precipice awaiting the outcome of Spring rains after what was, according to the Bureau of Meteorology (BOM), one of the warmest and driest Autumns on record.

The feedlot sector is one of the earliest casualties of the dry conditions facing soaring grain costs for feed and the production sector has already felt the impact of declining cattle prices as farmers divested stock in the face of low pasture growth and the costs of hay.

Angus Gidley-Baird, senior analyst for animal proteins with agri-business specialist Rabobank, spoke with Australian Meat News about the current position facing the industry and the potential ramifications of a protracted dry season for each sector.

“There is a lot of upside potential and downside risk confronting the industry at the moment as a consequence of the dry and the outcome is dependent upon what happens, in terms of rain, over August and September not only in Australia, but also in the United States,” Mr Gidley-Baird said.

BOM's latest Climate Summary puts Autumn 2018 as the fourth warmest on record with rainfall totals below average for most of Australia and in the lowest 10 percent of historical records across the southern mainland.

These short-term deficiencies are occurring against long-term deficiencies primarily in New South Wales and Queensland but also in parts of WA, Tasmania and the Gippsland region of Victoria.

At the end of July this year, 100 percent of NSW was declared in drought by Department of Primary Industries NSW and 57 percent of Queensland remains drought declared.

Rabobank's 'Australian Winter Crop Outlook' has predicted below-average Winter crop harvest volumes as very low soil moisture levels across Australia have curbed yield prospects and is likely to result in a drop in the season's Winter crop production and export capacity.

“At the approach of Spring, the situation has not improved, Winter has been average to below average rainfall for most areas in the Eastern States, but above-average is needed to be able to recover from where most areas are at the moment,” Mr Gidley-Baird said.

“So, the effects are already beginning to flow into the industry, we are talking now about crop harvests being affected but also pasture growth. It is rare to find a farmer not hand-feeding at the moment, and they are facing increasing shortages and high costs of transporting hay – some NSW and Qld farmers are transporting hay from as far away as South Australia – as well as high costs of grain.

“There is likely not a lot of black ink on the balance sheets for the feedlot sector as the grain shortage spikes prices, particularly for feed barley, after prices for sorghum have already soared, with some operators in the Darling Downs region of Queensland now paying over \$400 a tonne,” he said.

According to Mr Gidley-Baird the industry has experienced the immediate fallout from the Autumn dry with producers having, apparently, concluded their short-term liquidation indicated by the stock slaughter numbers.

He puts the year-to-date figures for cow slaughter numbers at 18 percent higher than the year before for April and 21 percent higher for May, with total beef cattle slaughter numbers for the first five months at 10 percent higher than the year before in April and 11 percent in May.

Sheep slaughter numbers mirrored those of cattle with sheep slaughter up 18 and 25 percent respectively for April and May and lamb slaughter at 8 percent for April and 10 percent for May.

But Mr Gidley-Baird points out that while the numbers are a major increase on the year before, the key point to note is that 2017 was a time when a rebuild phase was occurring after the 2014/15 dry years.

“If you compare the year-to-date numbers for beef slaughter in 2018 with those of 2015, we were actually down on those numbers, so that gives us an idea of the scale of the current period,” Mr Gidley-Baird said.

“While people have been off-loading more stock, we are not at those high volumes that were experienced in 2015.

“As to what lies ahead, it is all an unknown quantity and very much dependent on what happens with rain, if we do get a

Where to donate to Australia's drought-affected communities:

Rural Aid and Buy a Bale	www.ruralaid.org.au
Aussie Helpers	www.aussiehelpers.org.au
Drought Angels	www.droughtangels.org.au
Lions Club 'Need for Feed'	www.needforfeed.org
Foundation for Rural and Regional Renewal	www.frrr.org.au
Australian Red Cross	www.redcross.org.au
Salvation Army	www.salvos.org.au



Angus Gidley-Baird, Rabobank's Senior Analyst for Animal Proteins, warns the industry sits on the precipice awaiting the outcome of Spring rains given the drought of Autumn and Winter.

good Spring, contrary to what BOM is forecasting, it might prompt Australian producers to hold onto stock and that will tighten supplies here and push prices upwards," he said.

Impacts on Feedlot Sector

Mr Gidley-Baird expects feedlots will continue to see high prices for feed-grains but believes that prices may hover at the current levels if Spring rains come but the sector is likely to see a jump in prices if the season fails to deliver.

He suggests that in terms of feeder cattle, while the sector saw the price fall during the April/May period it may see replacement costs rise if there are not enough feeder cattle at the appropriate weight available, requiring longer feeding periods and further compounding the effects of higher grain prices on margins.

Given that the high proportion of Australia's long-fed product is exported to key markets, most notably Japan and Korea, it is the competition in these markets that will limit whether price rises can be passed through the supply chain.

"The U.S. is also producing increased volumes of beef at the moment and whilst we do know how many cattle are on feed there, we are waiting to see how much production they will be able to get from them," Mr Gidley-Baird said.

"If the expected production increase is realised then they will push that onto export markets which, in turn, will keep Australian exporters limited in terms of pricing," he said.

Impacts on Processing Sector

According to Mr Gidley-Baird, it will be the key period of August and September before we know how many cattle have been lost from the system in Australia and, therefore, whether normal levels of production are possible.

The Australian domestic cow price compared to the US import price is, according to Mr Gidley-Baird, a key indicator that processor margins are, currently, in-line with the 10-year average.

But dry conditions in the U.S. may force breeders to off-load cows resulting in less demand for our lean trimmings product in the U.S. market and lower prices which will affect the margins of Australian processors.

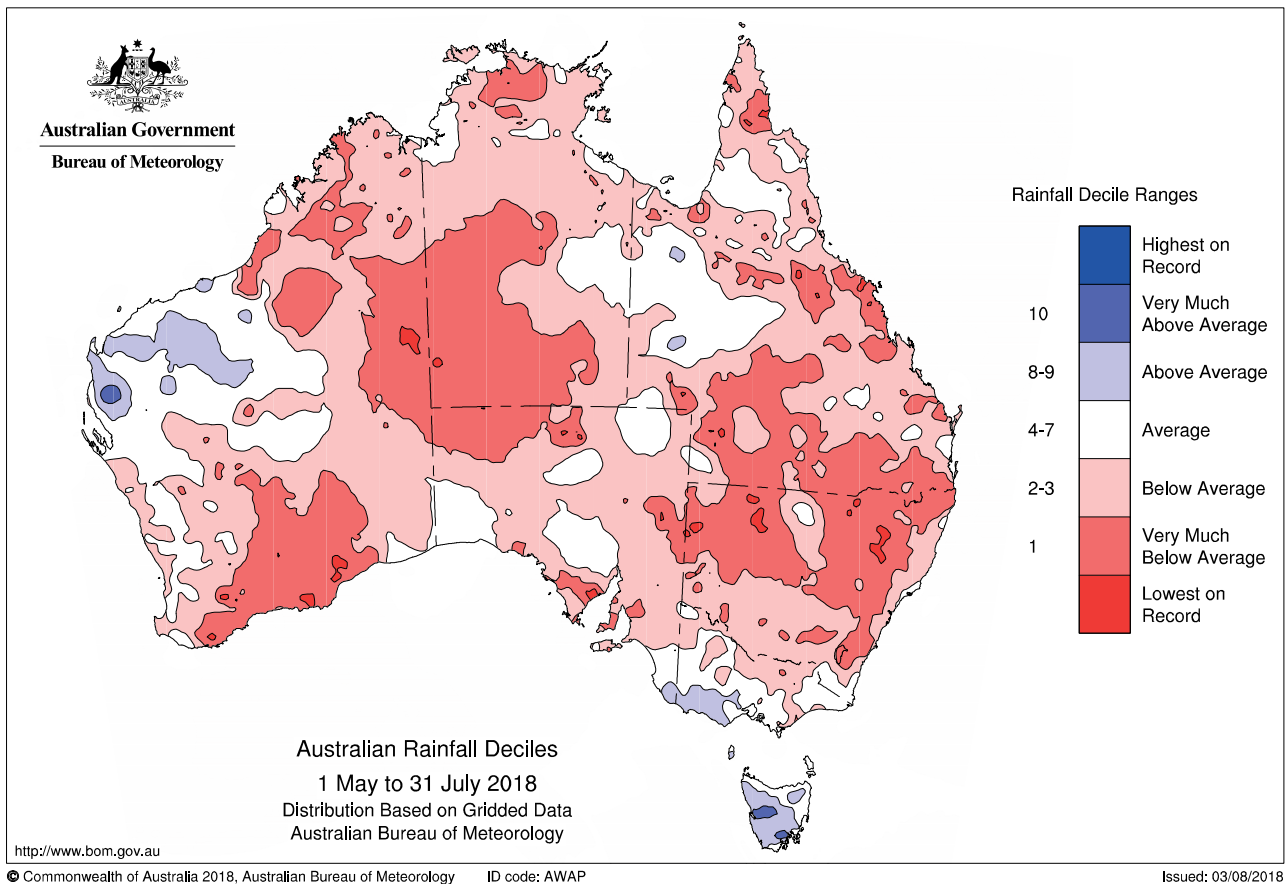
"If Australia has a good Spring, producers are likely to hold onto stock and that will tighten supplies here and push prices upwards," Mr Gidley-Baird said.

"Conversely, if we have dry conditions we might see another off-loading of stock and prices of cattle will fall which would

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The severity of Australia's rainfall deficiencies over Autumn and into July this year



support processor margins, however, the question will be how many cattle are available for slaughter.

“With relatively low cattle inventory at the moment and the sell-off early in the year, there is a risk that we may see slaughter numbers fall to levels that impact plant efficiency,” he said.

Impact on Retail Sector

The retail sector is also facing limitations on passing on any pricing pressures most notably from consumers’ preparedness to pay higher prices for beef and lamb against the alternative and cheaper proteins of chicken and pork.

Retail prices have risen dramatically from \$15 a kilo in 2013 to \$19 a kilo for beef and from \$12.50 a kilo to \$15 for lamb.

“Generally, retail prices should remain pretty stable as I do not believe we will see the same pricing pressures we have seen over the last three years to push the price higher,” Mr Gidley-Baird said.

NSW’s agriculture minister has recommended that consumers use independent butcher shops as a way of offering drought support.

Niall Blair said one of the ways is to “go a little bit deeper and further into that back story of production”.

Speaking on 2GB he said: “One of the easiest ways to do that is to go to an independent butcher. I’m not knocking the supermarkets, they are still supplying plenty of our beef and lamb. But the butcher is able to tell you the whole back story and give those other tips. The butcher is the one who can give you some recipe ideas and they can tell you the type of supply chain they’re using. When we’re talking about supporting our farmers, it’s not just our farmers – it’s the abattoir that might be in the local community and it’s the truck driver that might be picking it up from the abattoir to take it to the butcher shop.

“We’re supporting that broader supply chain and that can all be underpinned by that simple conscience decision.” ■

Timely data: the key to greater efficiency

Modern digital technologies offer meat processors – from slaughter floors to retail meat packers, not to mention smallgoods makers – a powerful tool to improve processing efficiency and product flow management.

The manual collection of processing, inventory, traceability and regulatory compliance data is inefficient, costly and subject to error. The digitisation of data collection saves time and money and provides a basis to improve the management of existing processes and systems.

But more significantly, integration and evaluation of the data collected across the whole enterprise provides the foundation for better business planning – meeting the demands of a changing market, improving efficiency and lowering costs.

CSB-System specialise in customised management software for food-based enterprises. This includes designing and installing cutting edge systems for new facilities and installing data collection and analytical systems in existing facilities.

Markus Witor from CSB Australia and New Zealand said the company was typically approached for an “integrated solution” – to help measure and manage boning and cutting or inventory or dispatch problems in an existing business.

“While we can solve the immediate problem, by monitoring and measuring and recommending a course of action, the greatest potential benefits to the business come from collecting and using data from the whole operation to plan and manage future production.

“Adopting state-of-the-art digital technologies will deliver major benefits to all categories of meat processors,” Markus said.

Measure Everything

CSB software enables the full monitoring and quantification of the business processes by connecting hardware such as scales, scanners, processing equipment, packers and conveyors and reporting and sharing throughput, quality and inventories in real time.

Given the growing complexity, demands and tracking and reporting requirements – of even small business – humans using paper based manual systems can hardly keep pace. The lack of critical data and human error can lead to production inefficiencies and more serious food safety, animal welfare and regulatory incidents.

Using the latest digital technology, systems can monitor the whole production process. Livestock can be sorted on arrival, carcasses can be graded and sorted and each directed to its optimal use. Online monitoring systems can compare actual production with yield and quality targets. This data can be used to adjust supplier input specifications and/or evaluate the boning or cutting performance of individual employees.

Use Data to Manage

When raw materials arrive, all relevant data can be entered electronically so input product availability can be supplied to cutting, production, packaging and inventory planners. This increases quality of information and delivers transparency across the entire operation and allows for more accurate production and dispatch planning.

Studies show electronic processing of purchase orders, deliveries and invoicing can save about two thirds of the costs of paper-based order processing. CSB has numerous case studies that quantify the benefits in terms of product quality, timely production and delivery, and cost.

The collection of data using existing equipment can be challenging. Older equipment may require an operator to manually enter data into a terminal. Most modern equipment has adequate digital capacity to interface with CSB hardware to automatically report captured data. CSB software can be interfaced with most existing systems.

ERP – Enterprise Resource Planning

As stated above, collecting data at points of difficulty in the process chain will solve an immediate problem. The CSB experience is that scaling-up data collection and analysis to cover the whole enterprise will vastly increase the rate of return on IT hardware and software expenditure. In an analogy with road safety; there is little benefit in fixing the brakes if there is no tread on the tires.

Further, given the power and flexibility of modern software, a digitised data overview of the business provides a powerful tool for planning for the future.

Historically ERP systems monitored the chain of production; procurement, processing, inventory, distribution and sales.

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Modern systems also monitor and link, traditionally harder to measure and quantify business functions such as customer service and human resources. Regulatory compliance can also be monitored and related to overall business performance through accounting processes. On a wider corporate level, ERP systems can be used to monitor corporate governance and asset management.

This in-depth understanding of the business can then be

used to respond in a timely manner to short-term changes in supply, demand, customer preferences and the regulatory environment. A quantitative understanding of the business provides a essential foundation for long-term strategic planning.

Summing up, Markus Witor explained, "Digital solutions are no longer theoretical concepts. They are already being successfully used across the food industry." ■

Charcuterie for the modern age

CHARCUTERIE, the Craft of Salting, Smoking and Curing (Revised and Updated)
by Michael Ruhlman and Brian Polcyn.

Charcuterie is about "repositioning" charcuterie. Charcuterie is seen in America and Australia as an element of French Haute Cuisine. The authors have identified the essential basic elements of the tradition and adapted them to modern tastes, kitchens, equipment and lifestyles, while capturing the essential magic of the techniques and outcomes.

First published in 2005, this book subdivides charcuterie into its component parts. Starting with the curing of meats, fish and vegetables with salt and smoke then the making of sausages, pate and confit.

In the authors' words: "Understanding the culinary mechanism that cause these great transformations - a plain piece of pork belly becomes bacon or pancetta, ground pork and salt becomes soucisson sec, pork shoulder and liver become a country pate - is a reward in itself."

And: "The sausage ... involves craftsmanship in the kitchen, care from the cook and devotion from the eater ... There may be no finer package of protein, fat and seasoning than that which resides within the transparent and resilient hog casing - and none more humble."

To demystify the process for domestic cooks, and encourage them, the authors say the recipe for "... a fancy-pants galantine de canard, is scarcely more difficult than your average made-from-scratch meatloaf."

"Pates and terrines are broadly speaking, essentially big sausages cooked in some sort of mold, either earthenware or porcelain, in dough or in skin.

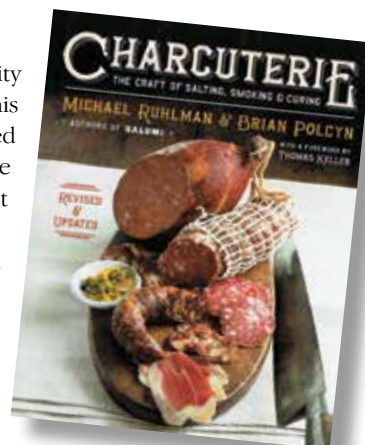
"Without a mold they're meatloaf."

A chapter is devoted to confit, a traditional method of low temperature poaching of meats in their own fat. Originally a method of cooking and preservation, confit was mostly associated with duck and goose. The confit cooking method

is no longer need for its capacity to preserve foods, but this cooking method is fully justified on the basis of flavor and the special eating experience it provides.

Charcuterie includes many recipes but importantly a discussion of the key aspect of the inputs and processes involved. A feature of the book are the hand-drawn images.

CHARCUTERIE, the Craft of Salting, Smoking and Curing (Revised and Updated) by Michael Ruhlman and Brian Polcyn
Is published by W W Norton and Company Ltd New York/London. RRP A\$49.95 ■



WIN WIN

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Last issues winners see page 21

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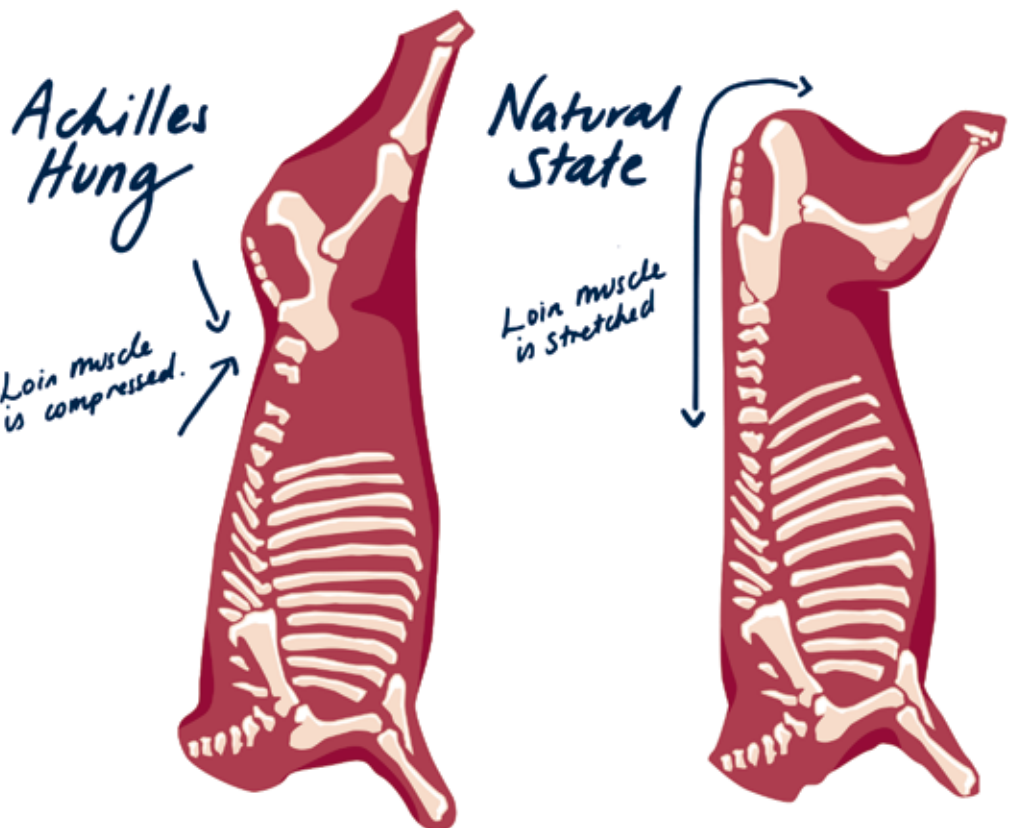
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