

final report

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Proof of Concept development – Ready to Heat extended chilled shelf life red meat products

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Abstract

RTC Foods is a diverse food supply business, incorporating domestic and export meat supply of Australian red meat into Asia, the Pacific, Europe, the Middle East, and North America. The purpose of this project was to develop and test with key foodservice and retail customers, several red meat fully cooked meat concepts using retort processing that use clean “kitchen cupboard” label ingredients that at least double the input value of “secondary beef and lamb cuts”.

A key goal was to demonstrate extended shelf life in chilled storage of 4- 6 months from retort processing and at a desirable quality in place of current frozen supply options and/or alternative proteins where typically prices preclude Australian red meat premium cuts being used in a fully cooked format.

Several Ready to heat meat concepts (Beef Short Ribs, Beef Cheeks, Beef Osso Bucco and Lamb Shanks) were developed that sought to target the convenience mega trends for ready to heat and the lack of skilled labour and time with chefs and shoppers that are limiting red meat being procured – namely, the concepts aimed to deliver consistent eating experience, no need to freeze-thaw and value (by using less common cuts).

Due to the impost from COVID-19, some of the in-market testing and soft launch that was planned had to be delayed.

Executive summary

Retort processing is a well-proven in the food industry in extending shelf life from the combination of pressure and high temperature. Whilst Sous Vide techniques would normally take up to 12 hours to adequately tenderise the meat, with retort, this time is reduced to a mere 2 – 3 hours as pressure and heat are able to be managed more efficiently to produce the same outcome. However, the “army food” style appearance of the offer has often limited its uptake. Retorted can allow for utilisation of a wide range of secondary beef and lamb cuts which are clearly popular amongst consumers, but due to the lack of time or cooking knowledge, are undervalued when overlooked for a more user friendly option.

Whilst there has been recent activity and interest in High Pressure Processing, Sous Vide cooking and Freeze Drying for example to extend shelf life (including shelf stable products) there still remains significant cost advantages in adopting retorting providing blanched appearance and warmed over flavour issues can be addressed. Further, by using a combination of ingredients functionality, technology platforms and better meat cut selection retorted meat products are able to be re-imagined from its original “army food” past positioning and more on-trend to the low-slow cooking basting movement. Further the benefits of delivering convenient ready to heat / go meal solution (centre of plate meat and sauce components, wet dishes) format for the end user who are typically time poor and don’t want a frozen-thawed offer was validated in market as a key “job to be done”. Highlighted also was the benefit of having a ready to heat offer to reduce the risk of markdowns and quality variation for beef and lamb which is often a barrier compared to chicken.

The aim of the project was for RTC Foods to develop 3 – 5 beef and lamb concepts and complete series of customer interview discoveries to partially validate pain/gain points and the overarching value proposition(s) for retorted red meat and utilisation of secondary cuts. RTC Foods is a diverse food supply business, incorporating domestic and export meat supply of Australian red meat into Asia, the Pacific, Europe, the Middle East and North America. Successfully completed was Cooked Beef Short Ribs, Beef Cheeks, Beef Osso Bucco and Lamb Shanks with preliminary product costings, photos and specifications completed along with market feedback for the concepts. A chilled shelf life 6 months was achieved with typically doubling the value achieved for the finished sell price to market from the input raw meat.

Other concepts considered included – Cooked Beef Chuck Roast Pastrami (from Point End deckle off Brisket and Chuck roll), Veal Shanks, Banjo Lamb Shoulder (carvery) and Lamb Shoulder Racks.

RTC were able to establish strong early sales on the Short Ribs and Lamb shanks with limited sales on the Cheeks and Osso Bucco before COVID-19 impost on the foodservice sector stalled market uptake prior to completion of this project. A pivot to retail Hot Box – grab and go category is now being considered to address key Delicatessen trading department pain points for reducing labour costs, safe handling and hygiene risks for cooking raw products in-store.

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1 Background

Overview of the Retort process.

A brief explanation of Retort cooking:

Imagine the simple science behind a classic pressure cooker. It uses steam heat and pressure in a sealed vessel to cook and preserve fresh ingredients making them safe to store in a pantry. Our process is not that different! Our retort uses very hot water and pressure to thermally cook meat items packed in convenient pouches or trays. This thermal processing in a state-of-the-art retort machine eliminates microbial organisms that can cause food spoilage, resulting in custom-prepared foods that are safe to store without refrigeration for the shelf life of the product. With retort processing, there's no need to use any preservatives to seal in flavour, nutrition and quality.



Why Retort is a better option

The advantage of retort processing is the ability to extend shelf life to 12 months without using preservatives while utilising the same packaging to both cook and wholesale in with only a recyclable sleeve or carton as additional packaging required.

Why shelf life is so important to RTC Foods?

*The Government estimates **food waste** costs the **Australian** economy \$20 billion each year. Over 5 million tonnes of **food** ends up as landfill, enough to fill 9,000 Olympic sized swimming pools. One in five shopping bags end up in the bin = \$3,800 worth of groceries per household each year*
<https://www.ozharvest.org/what-we-do/environment-facts/>

A significant portion of this waste is created when product shelf life expires and the food is discarded, either by retailers or consumers.

At a time when consumers are demanding greater integrity from their food suppliers, it becomes essential to deliver products to market with a small environmental footprint without compromising convenience. Retort provides these two features in spades.

- Reduced cooking times when compared to Sous Vide = *less energy*
- Eliminates the need for preservatives = *clean labels*
- 12 months chilled or ambient shelf life = *less shrinkage*
- Minimal use of packaging materials = *reduced land fill*
- Greater control over cooking technique ensures predictable and repeatable eating experience – *customers can repeat buy with confidence*
- Quality assurance and transparency from data logged processing = *food safety*

Points of difference (FOODSERVICE)

- **Clear focus on the centre of plate without fillers**
- **Packaging and portioning chosen to offer convenience**
- **Extended shelf life to avoid food waste**
- **Product integrity - sustainable food, clean labels, recyclable packaging**
- **Predictable eating experience**
- **tenderness without loss of texture**

Current market offer and how we compare.

Food service range includes.

- Beef Cheeks
- Beef Short Ribs
- Lamb Shanks
- Veal Osso Bucco

How we compare to the competition?

Most competing products are either frozen or Sous Vide in sauce with limited shelf life unless frozen.

Our principle point of difference into the food service market is 'Slow cooked naked protein' with 12 months chilled shelf life.

Our food service strategy is to highlight the advantages of non-flavoured proteins allowing individual venues to stamp their personality on the centre of plate with a bespoke sauce or spice.

We provide proteins of consistent quality, conveniently slow cooked and portioned to eliminate waste and reduce meal preparation, allowing the Chef or indeed kitchen hands, time to add those distinguishing touches that showcase their skills.

We focus on slow cooked low value secondary cuts to satisfy both the quality requirements of fine dining and centre of plate costs conducive to sustainable business margins.

Adding to the above is our extended shelf life, and while no one likes to hold stock any longer than necessary, the advantage of greater shelf life is that it allows smaller users to bulk purchase at a better price in the knowledge they won't be pressured by use by dates or potential food waste.

2 Project objectives

The RTC Foods Cookhouse brand is focused on delivering a superior alternative to the established Sous Vide or Cooked-Frozen products now prevalent in the market.

RTC Foods has leveraged the learnings accumulated from MSA research which identified the potential of secondary cuts as a premium choice for any menu if correct cooking techniques were applied.

The advent of the 'Low and slow' trend currently evident across many of Australia's valued markets is proof of demand for a broadening range of these previously designated 'manufacturing' grade cuts.

As these products have become more popular, the consumer expectation for constant improvement has pushed RTC to look for ways to add value by improving the cooking technique and making these products more convenient to end users.

Why; because RTC saw the opportunity to improve both the processing technique and the convenience of cooked meats as key to growing consumption of these lower values cuts.

If we consider why demand exists for these products, it becomes evident that some secondary cuts are attributed with excellent flavour profiles if the correct cooking techniques are employed.

Food service is particularly vulnerable to rising costs associate with meal delivery, so our goal is to reduce these protein costs by encouraging a wider use of cheaper secondary cuts without compromising quality.

In retail – consumers are increasingly time poor and less skilled than their forebear's so making these slow cooked items more accessible as a pre-cooked item will greatly reduce consumer reluctance to try and ultimately continue to buy from the secondary cut range.

Part of the package we have included with the retail range is to include a sauce, not as a way to increase our margin but as a way to add further convenience.

Significance for Industry.

By making meat products easy to use, eat better and most importantly – predictable, we are able to break down consumer resistance to experimentation with a broader range of Beef and Lamb cuts. This adds significantly to the entire value chain, providing greater carcass value, variety for consumers and value on their plate.

Aim.

Essentially our ability to solve these problems and deliver a predictable eating outcome is the precursor to making customers happy. Red meat needs to remain competitive and relevant to modern dining trends and given the widely accepted fact that kitchen skills are impacting purchase decisions, every effort must be made to add convenience and predictability to the meat items we sell.

3 Methodology

Testing the market

RTC Foods have invested significant time and effort into understanding what are the key differences between all the various cooking methods used in the current range of cooked meats.

We used a series of interviews with our customer base for market feedback as well as equipment experts to identify the most compatible processing technology able to deliver improvements on existing products.

We found that in Sous Vide, the greatest issue for processors was the extent of time this process requires to deliver an acceptable eating outcome.

We also found that the dependence on water alone as the cooking medium was difficult to manage accurately as there is little adjustment available other than time and temperature.

We also looked at cooked Frozen and found the issue is the inconvenience of defrosting for shelf and the quality compromise associated with this defrost process.

Given the variability of meat both within individual cuts and across the wide range of carcass descriptions it is always going to be difficult to produce a consistent product using a generic cooking process like Sous Vide, so having greater processing control and the ability to 'dial in' to suit the individual cut requirements is the greatest point of difference available with retort.

We have worked with our development team to develop several product concepts where the cooking technique and time requirements discourage potential consumers and chef's alike.

These products are predominated by highly aerobic muscle groups with strong connective tissue and a tough texture not conducive to an enjoyable eating experience unless slow cooked or mechanically tenderised.

Shelf life testing was completed and food safety checks on the process recorded. A Business Model Canvas tool was used to capture key learnings.

4 Results

Packaging for convenience

Process and Pack design key learnings:

a) Film Material

Lack of flexibility with over pressure management. Overpressure is vital to balancing the internal pressure of the thermoformed pouch as the product is cooked. As the temperature rises the gas produced from the meat causes the thermoformed pouch to expand significantly. If the overpressure does not counter this expansion, the pack will lose its web memory and the resulting pack will include pockets of gas that to the untrained eye, will give the impression that the seal has been compromised (loss of vacuum).

Bone in product

As most products chosen to appeal to the current market included bone in cuts like Short Ribs and Osso Bucco. It was essential to select film capable of withstanding both the cooking process at heat levels as high as 122 Deg C, As well as the inevitable tossing and turning associated with transport and handling.

b) Blanched colour appearance and warmed over flavour

Previous experience had identified issues of odour associated with product cooked in pouches plus a less than attractive appearance.

These issues were addressed through a range of raw product selection and processing age prior to cooking.

The key issue of flavour was addressed by selecting fresh product from recent production dates and sourcing from younger age livestock with lower marbling scores and less external fat.

The blanched appearance is more about customer expectations and need adequate explanation and advice on reheating techniques to ensure it does not affect consumer perceptions.

c) Meat texture/tenderness and yields

RTC Foods identified the full advantage of Retort as opposed to Sous Vide is the ability to exert greater control over the pressure and temperature parameters which lets us make adjustments where needed, to improve mouth feel and retain the moist succulence achieved by fully converting the collagens and elastin's into gelatine without destroying the meats texture.

Having this control is also allowing us to explore a wider range of products which previously were considered low yielding as they required excessive trimming to remove gristle and sinew to make the product eat well, or too old and tough to be used in a fine dining environment.

An added bonus found with some of the tougher meat cuts was the gristle and fibres when converted to gelatine, can add flavour and protect the product from drying. The yield improvement further adds to the value uplift achievable when secondary cuts and older less valuable meat can be utilised without compromising the final quality.

Market feedback.

Market Feedback on the developed concepts from 19 interviews:

1. The Veal Short Ribs are easily understood and fit the current trend for low & slow cooked beef

2. The beef cheeks are considered primarily a winter menu item however can be quite versatile as a centre of plate item or in a burger as a pulled product.
3. The Osso Bucco is not as well understood and we had several comments indicating they did not feel it would suit a Pub/Club menu, however the qualified chefs were on board
4. The larger kitchens are more appreciative of pre-cooked and value the time savings and convenience associated with quality assurance on every meal.

Taste test (Top left to right – Beef Short Ribs, Beef Cheeks, Bottom right- Osso Bucco) at the Longyard Hotel in Tamworth



The Longyard Hotel serves approximately 1200 covers per day on an average weekend and during peak periods like Country Music Week - can serve over 1500 meals, so anything that reduces prep time will save on labour and make customers happy.

Participants involved in these first tastings indicated advantages with precooked portions due to the following;

1. Traditionally require slow cooking overnight.
2. Serve after 15 minutes preparation.
3. Having 2 -4 serves per pack ensures product waste is minimised.
4. Knowing the product is reproduceable by kitchen staff without supervision.
5. Can order in bulk due to shelf life + 6 months.

Our initial program developed 3 Beef and 1 Lamb product -

Record of key yields and costings.

Beef Cheeks –

- Raw material = \$8.50/kg
- Fabrication yield = 98%
- Wholesale delivered price after freight = \$16.00/kg
- Foodservice purchased = \$19.00kg
- Plate sold as \$32 – \$38.00

Beef Osso Bucco –

- Raw material = \$9.50/kg
- Fabrication yield = 95%
- Wholesale delivered price after freight = \$16.00/kg
- Foodservice purchased = \$19.00kg
- Plate sold as \$32 – \$38.00

Beef Short Ribs –

- Raw material = \$6.00/kg
- Fabrication yield = 90%
- Wholesale delivered price after freight = \$15.00/kg
- Foodservice purchased = \$19.00kg
- Plate sold as \$32 – \$38.00

Lamb Shanks -

- Raw material = \$9.00/kg
- Fabrication yield = 90%
- Wholesale delivered price after freight = \$16.50/kg
- Foodservice purchased = \$19.80kg
- Plate sold as \$32 – \$38.00

Specifications.

Beef Cheeks – PR, Pap off, hand graded for size similarity (2 portions /pack)

Beef Osso Bucco – Veal Hind Shank, centre cut. Final cut to 35mil bone in steak (4 portions/pack)

Beef Short Ribs – 8 Rib, 2 muscle, 150mil wide, red bark retained. Final cut 4 Rib x 75 mil wide red bark off and graded for size similarity in the pack. (2 portions/pack)

Lamb HQ Shanks – frenched and weight ranged between 350 – 450 grams (2 x shanks per pack)

Analyse intelligence and insights against jobs to be done.

Lessons learnt in processing.

- Raw material specification is crucial to yields and consistency
- Pack unit weights are not necessarily as important as the uniformity of portions
- Presentation requires overpressure management to minimise the air pockets
- Added flavours for retail need to consider the cooked-out fats and how they can be retained and stabilised in the sauce to avoid separation

Lessons learnt from feedback

- First impressions are crucial to initial adoption “*we buy with our eye’s*”
- Majority of the positives were associated with convenience
- Majority of negatives were associated with fat
- Tenderness/mouthfeel and succulence dominate sensory perceptions
- Several comments indicated a concern around the extended shelf life
- The negatives regarding shelf stable centre on a belief that we would need preservatives to achieve this, so it is better to promote as chilled rather than try to argue or educate.
- Smaller carton weights are preferred, and single or double serves reduces waste.
- Clean labels or zero ingredients are a valued feature
- Our best point of difference will be convenience but only if we maintain the quality

Further jobs to be done.

- Improve specifications on raw
- Expand the range to suit seasonal trends
- Marketing requires innovation and maintenance
- We need to secure endorsements to spread the word
- Our development strategy needs to include collaboration with chefs and vested stakeholders
- Our simple marketing strategy is to continuously look at our customers environment and identify what they need to be successful then provide suitable products to meet that demand

5 Discussion

5.1 Market uptake and trends




For our food service items commercial production commenced in 4th quarter of 2019 with a product range that included a range of naked* centre of plate items.


- Beef Short Ribs
- Beef Cheeks
- Beef Osso Bucco
- Lamb Shanks.


Pre-Covid, we established strong food service sales on the Short Ribs and Lamb shanks with limited sales on the Cheeks and Osso Bucco.


It is concluded that the seasonal demand for the latter two was key to the slow start in Cheeks and Osso Bucco, reinforced by evidence of increased enquiries towards Winter.

Food Service Product Description's.

Product & Pricing Information								
SKU No.	SBF10884							
Brand	Cookhouse							
Description	Beef Short Ribs (4 rib portions x 2 portions per pack)							
UOM Size	.900g approximate wgt			UOM Description	Cookhouse Beef Short Ribs			
Units/Ctn	8							
Random weight (Y/N)	Y			Avg weight/UOM (kg)	CATCH WEIGHT			
Storage (Froz/Chil/Dry)	CHILLED			Country of Origin	Australia			
Manufactured Shelf Life	12 MTH			GST Applicable (Y/N)	N			
Packaging Details								
Cartons Per Layer	13		Layers Per Pallet	6		Cartons Per P 78		
Product Image								
								
Additional Information								
Gluten Free (Y/N)	Y		Kosher (Y/N)	N		Halal (Y/N)	N	
Allergens								
Application/Direction of use								
Cookhouse Short Ribs can be as a centre plate option. Re-heatinclude; oven, hot plate, grill.								

Product & Pricing Information							
Sku No.	SBF/10882						
Brand	Cookhouse						
Description	Beef Cheeks (2 x cheeks per pack)						
UOM Size	.780gr approximate wgt			UOM Description	Cookhouse Beef Cheeks		
Units/Ctn	8						
Random weight (Y/N)	Y			Avg weight/UOM (kg)	CATCH WEIGHT		
Storage (Froz/Chil/Dry)	CHILLED			Country of Origin	Australia		
Manufactured Shelf Life	12 MTH			GST Applicable (Y/N)	N		
Packaging Details							
Cartons Per Layer	13		Layers Per Pallet	6		Cartons Per Pallet	78
Product Image							
							
Additional Information							
Gluten Free (Y/N)	Y	Kosher (Y/N)	N	Halal (Y/N)	N	Vegetarian (Y/N)	N
Allergens							
Application/Direction of use							
Cookhouse beef cheeks can be served as a centre of plate option or as a meal component as roll, burger filler, pulled through a salad. Heating methods include; oven, microwave, hot plate, grill.							

Product & Pricing Information							
Sku No.	SBF/10886						
Brand	Cookhouse						
Description	Osso Bucco (4 x35mil steaks per pack)						
UOM Size	1.3kg approximate wgt			UOM Description	Cookhouse Osso Bucco		
Units/Ctn	6						
Random weight (Y/N)	Y			Avg weight/UOM (kg)	CATCH WEIGHT		
Storage (Froz/Chil/Dry)	CHILLED			Country of Origin	Australia		
Manufactured Shelf Life	12 MTH			GST Applicable (Y/N)	N		
Packaging Details							
Cartons Per Layer	13		Layers Per Pallet	6		Cartons Per Pallet	78
Product Image							
							
Additional Information							
Gluten Free (Y/N)	Y	Kosher (Y/N)	N	Halal (Y/N)	N	Vegetarian (Y/N)	N
Allergens							
Application/Direction of use							
Cookhouse Osso Bucco can be used as a centre plate option or as a meal component such as curries/stews. Heating methods include; oven, hot plate, grill.							

Product & Pricing Information							
Sku No.	SSH/10305						
Brand	Cookhouse						
Description	Lamb Shanks (2 x Shanks per pack)						
UOM Size	.850gr approximate wgt		UOM Description	Cookhouse Lamb Shanks			
Units/Ctn	6						
Random weight (Y/N)	Y		Avg weight/UOM (kg)	CATCH WEIGHT			
Storage (Froz/Chil/Dry)	CHILLED		Country of Origin	Australia			
Manufactured Shelf Life	12 MTH		GST Applicable (Y/N)	N			
Packaging Details							
Cartons Per Layer	13	Layers Per Pallet	6	Cartons Per Pallet	78		
Product Image							
							
Additional Information							
Gluten Free (Y/N)	Y	Kosher (Y/N)	N	Halal (Y/N)	N	Vegetarian (Y/N)	N
Allergens							
Application/Direction of use							
Cookhouse Lamb Shanks are a traditional feature item on centre of plate. Can be reheated in the oven, on hot plate or Grill.							

Post Covid –

The unfortunate events associate with the arrival of Covid – 19 and subsequent shut down of most food service activities resulted in a complete collapse of demand in late March 2020.

Attempts were made to refocus on retail and online sales however the Thermoform packaging as a shelf ready pack did not work as it was lacking aesthetic appeal without an external cardboard pack with suitable artwork and descriptions.

This refocus towards a shelf ready retail packaging format provided the motivation to progress a previously considered concept we had partially developed to suit the Hot Box – grab and go category which has been identified as a fast trending category for supermarkets.

After researching the in-store environment associated with this category we identified several key areas requiring attention to improve on the current format.

Discussions with supermarket staff, both in store and at senior management level – indicated a reluctance from Deli managers to expand this category due to the high level of added labour and risk.

Principle to their concern was the need to reduce the OH&S risks associated with the cooking or reheat needs of existing products and secondly the requirement for multiple clean-up’s associated with existing products.

Our discussions with Deli staff and category managers helped us profile where we could solve most of the issues currently preventing expansion.

The work flow needed for existing Hot Box products requires several steps where deli staff are having to decanter raw meat, load into ovens for cooking, then repack into suitable packaging for both temporary storage in the Bain Marie and subsequent relocation to the customers home.

Workflow for hot box - current

1. Remove raw meat from cryovac
2. Clean up workstation and utensils
3. Load in the oven for cooking
4. Clean up oven between cooks
5. Repack for sale
6. Clean up workstation used for repacking

Workflow for the proposed Cookhouse option in the hot box

1. Unpack and remove cardboard sleeve
2. Peirce lidding film to release steam
3. Place in oven for reheating
4. Replace cardboard sleeve and place in the hot box

Our solution was to develop a range of fully cooked, fully contained, re-heat able meat in sauce products which eliminate or at worst, drastically reduce handling requirements as identified above.

This system will reduce OH&S risk to staff, reduce risk of cross contamination while handling and most importantly to the Deli staff, significantly reduce clean-up time.

Initial trials were conducted using foil trays with an epoxy coating able to withstand the retort process however supply issues and concerns over the damage caused in transport and subsequent shelf presentation led us to investigate other oven ready trays with recyclable materials.

The chosen packaging system includes a recycled plastic oven ready tray with an oven ready lidding film able to be retorted to a temperature of 220Deg C during cooking and also able to be quickly reheated in an oven or microwave at up to 220 Deg C.



CPET Trays made from recycled materials and able to be retorted for 6 months chilled shelf life

The obvious convenience of this system is unique in the Australian market at a time when the heat to eat category is exploding, and with the potential to broaden the range to include restaurant quality wet dishes and recipe combinations from around the world - we see the opportunities are boundless.

Importantly this category is almost entirely suited to secondary cuts and trim so the contribution to demand and market scale will add value to these previously designated commodity beef and lamb items.

From a production point of view, retort is far more efficient than Souse Vide greatly increasing production capacity which reduces the cost of production and makes the products very price competitive.

Retail range (in development for hot box and chilled shelf) includes.

- Beef Cheeks in BBQ sauce – prototype completed
- Beef Short Ribs in smoky BBQ sauce – prototype completed
- Lamb Shanks in Harissa sauce – prototype completed
- Lamb Shanks in pear and Brown sugar – prototype completed
- Veal Osso Bucco in Gremolata sauce – in development
- Smoked Beef brisket roast or pulled – in development



Lamb Shanks in a Harissa sauce in the foil tray which has now been upgraded to CPET



Oven or microwavable without any need to clean up afterwards

Progress to date.

We are currently finalising sample production on a small range of tray products that will be used to further test the market. Feedback will then be analysed to establish where we are on track and what can be improved to make the offer better. Once this feedback has been correlated and we feel confident with the items shortlisted, we anticipate a soft launch program with independent supermarkets and butcher franchises.

Product Title	Lamb Shank in sauce (retail)	Slow cooked Harissa Lamb Shanks
New manufacturing process or existing?	New	
Ingredients List: As per the labelling requirements of the FSANZ Food Standards Code (Allergens to be bold)	Lamb Shank (64%), Sauce (Pear Puree (50%), Brown Sugar, vinegar, tomato paste, molasses, worcestershire sauce, tapioca flour, salt, spices (paprika, cumin, pepper), oregano.	Lamb Shank (87.5%), crushed chilli (4%), tomato paste, sherry vinegar, sugar, crushed garlic, tapioca flour, herbs, spices and liquid smoke.
Percentage of characterising/major ingredients	Lamb Shank (64%) Calculations base on input	Lamb Shank (87.5%), crushed chilli (4%)
Allergens:	none	-
List of Additives and their source (Natural, Nature Identical, Artificial)	-	
Key Nutritional Information	Per 100g	Per 100g
Serving Size		
Energy(KJ)	687	751
Protein (g)	18.4	18.0
Fat, total (g)	4.4	12.0
- saturated (g)	1.6	5.0
Carbohydrate (g)	10.9	2.0
- sugars (g)	10	1.5
Fibre (g)	na	
Sodium (mg)	414	150
insert other relevant nutrients as required	na	
Product Title	Beef Cheek in sauce (retail)	Slow cooked Smokey BBQ Beef Short ribs
New manufacturing process or existing?	New	
Ingredients List: As per the labelling requirements of the FSANZ Food Standards Code (Allergens to be bold)	Beef Cheeks (64%), Sauce (Pear Puree (50%), Brown Sugar, vinegar, tomato paste, molasses, worcestershire sauce, tapioca flour, salt, spices (paprika, cumin, pepper), oregano.	Beef short ribs (85%), Brown sugar, pear paste, tomato paste, vinegar, molasses, worcestershire sauce, tapioca flour, salt, herb and spices and liquid smoke (0.05%).
Percentage of characterising/major ingredients	Beef Cheeks (64%) Calculations base on input	Beef short ribs (85%), liquid smoke (0.05%).
Allergens:	none	-
List of Additives and their source (Natural, Nature Identical, Artificial)	-	
Key Nutritional Information	Per 100g	Per 100g
Serving Size		
Energy(KJ)	1800	611
Protein (g)	8.1	18.4
Fat, total (g)	39.6	5.9
- saturated (g)	16.6	2.1
Carbohydrate (g)	10.9	4.9
- sugars (g)	10	4.2
Fibre (g)	na	
Sodium (mg)	388	165
insert other relevant nutrients as required	na	

Projected uplift value from boning room to the retail shelf

PRODUCT NAME	SIZE/WEIGHT (g/ml)	PROTEIN DESCRIPTION ONLY	HEALTH CLAIM/Statement (e.g. 50% less sugar, vegan, etc.)	PROVENANCE 100% Australian	SHelf LIFE	RAW MATERIAL COST \$/SERVE	CENTER OF PLATE PRICE PER UNIT	UNITS PER CUSTOMER PER WEEK	PROPOSED DISTRIBUTION (CUSTOMER)	ESTIMATED ANNUAL VOLUME	UPLIFT VALUE/P/A
Beef Cheeks (FS)	800G	PR, Pap off, hand graded for size similarity (2 portions /pack)	Just meat no sauce or spices	Grass Fed, HGP Free, GMO Free,	12 Months	\$ 3.57	\$ 7.20	160	15	124,800	\$ 453,024.00
Beef Short Ribs (FS)	1kg	Veal Short Ribs, Red bark off, cut into 2 portions of 4 ribs each	Just meat no sauce or spices	Grass Fed, HGP Free, GMO Free,	12 Months	\$ 4.29	\$ 9.25	160	15	124,800	\$ 619,008.00
Veal Osso Bucco (FS)	1.2kg	Veal HQShanks, cut 35mm thick, 4 steaks per pack	Just meat no sauce or spices	Grass Fed, HGP Free, GMO Free,	12 Months	\$ 6.05	\$ 11.40	160	15	124,800	\$ 667,929.60
Lamb Shanks (FS)	800g	Lamb HQShanks, weight ranged 350 -450g frenched, 2 x shanks per pack	Just meat no sauce or spices	Grass Fed, HGP Free, GMO Free,	12 Months	\$ 3.67	\$ 7.80	160	15	124,800	\$ 515,174.40
Slow cooked Beef Short Ribs in BBQ Sauce (RETAIL)	700g	Veal Short Ribs, Red bark off, 4 ribs (av 500g) portion per tray	1 serve of veg per person (140g total) to be included where recipe allows	Grass Fed, HGP Free, GMO Free,	6 Months	\$ 4.68	\$ 7.50	20	150	156,000	\$ 439,920.00
Slow cooked Veal Osso Bucco in Red Wine Jus (RETAIL)	700g	Veal HQShanks, cut 35mm thick, (av 500g) 2 steaks per tray	1 serve of veg per person (140g total) to be included where recipe allows	Grass Fed, HGP Free, GMO Free,	6 Months	\$ 5.40	\$ 7.75	20	150	156,000	\$ 366,600.00
Slow cooked ORANGE AND MAPLE LAMB SHANKS with mint sauce	700g	Lamb FQShanks, frenched, (av 300g/shank) 2 shanks per tray	1 serve of veg per person (140g total) to be included where recipe allows	Grass Fed, HGP Free, GMO Free,	6 Months	\$ 5.40	\$ 9.60	20	150	156,000	\$ 655,200.00
Slow cooked Harissa Lamb Shanks (RETAIL)	700g	Lamb FQShanks, frenched, (av 300g/shank) 2 shanks per tray	1 serve of veg per person (140g total) to be included where recipe allows	Grass Fed, HGP Free, GMO Free,	6 Months	\$ 5.40	\$ 9.00	20	150	156,000	\$ 561,600.00
Smoked Beef Brisket (RETAIL)	700g	PEDONG Brisket, (500g av)	1 serve of veg per person (140g total) to be included where recipe allows	Grass Fed, HGP Free, GMO Free,	6 Months	\$ 3.75	\$ 7.50	20	150	156,000	\$ 585,000.00
											\$ 4,863,456.00

Business model template

Key Partners <ul style="list-style-type: none"> - Collinsons RH & Co - Adelaide Food Solutions - Oakdale Meat Co - PFD - Coles - Pro Seal - Direct foodservice customers 	Key Activities <ul style="list-style-type: none"> - Further processing of raw material - packaging/sealing raw material - retort cooking / manufacturing raw material to cooked end product - supply chain (logistics throughout) - Sales 	Value Proposition <ul style="list-style-type: none"> - Minimising product wastage (improving inventory / stock control / stock turnover) saving \$\$ - Consistent / high quality product all year round - Time saving (convenient process, streamlined for ease of use) - Products can be handled by all kitchen goers (junior/senior chefs) - Adding value to secondary cuts, becoming more user friendly 	Customer Relationship <ul style="list-style-type: none"> - Sales team marketing the benefits of product - Site / customer visits, cooking demonstrations / samples with chefs - Continual market research / product development – talking with chefs in field 	Customer Segment <ul style="list-style-type: none"> - Pubs/Clubs/Restaurants - Time constraint or Kitchen constrained customers (e.g small cafes /takeaway shops) - Retail (Large supermarket chains / independents / small groups)
Key Resources <ul style="list-style-type: none"> - Financial (investment in R&D – production) - seal/packaging machines - Retort cooking machines - IP (surrounding retort machine and seal machine capabilities) 	Channel <ul style="list-style-type: none"> - Direct customer visits - Exhibiting Trade/Food shows - Working with distributors to pull product through 			
Cost Structure <ul style="list-style-type: none"> - Operations are contract / outsourced – no fixed cost (only identifiable FC NPd continual investment) - Variable costs – these only arise when we run production, variable costs include, raw material, packaging, retort cooking (manufacturing) process, freight (supply chain). 		Revenue <ul style="list-style-type: none"> - Price Penetration strategy for initial launch (lower cost price for consumers who are more price sensitive but are still interested in the product) - Priced within the market, however still taking into account the value add component. Price can't outweigh the added value - Purchasing products in season/peak production to minimise fluctuations where applicable 		

6 Conclusions/recommendations

6.1 Conclusion

RTC Foods have found there is growing demand for cooked meats suitable to foodservice and retail markets both domestically and internationally.

Value adding needs to be tangible specific to the user and that might not always be an end user in the traditional sense, it is often the procurement manager who has the final say and his interests may not relate to quality on the plate.

Value add features need to provide solutions, be it shelf life, carton weight and units, portion size or simply a cost saving on yield. It needs to measure up clearly as a better option.

6.1.1 Recommendations

Cut selection is key to this category for the following reasons.

- Retort is simply a faster and more cost-efficient way to slow cook meat
- Slow cooking only benefits cuts with less tenderness due to higher connective tissue

- Connective tissue is traditionally considered a negative, but it becomes a positive when the cooking technique used can effectively tenderise sinew and gristle enough to release the gelatinous and flavoursome features appreciated by meat enthusiasts.
- Menus reflect the seasons so cut selection needs to match the prevailing demand of BBQ in summer and comfort in winter

Convenience drives demand in the heat and eat category

- Portion weight and serve per pack are a convenience factor that must be appreciated as it relates to meal cost and waste prevention.
- Carton weights are best kept below 10kg as this will be particularly attractive to foodservice customers who often do not have storage to spare for bulk buys on a single item.
- Food service customer prefer to buy naked of sauce, which allows them to differentiate the centre of plate from competitors
- Sauces are often used as filler to reduce the unit price – food service now see this as a red flag representing lower quality product.
- Retail requires a sauce as this provides convenience in meal preparation for consumers
- Sauces are as important as the protein quality, so care is needed to develop stable flavours for the extended shelf life
- Chilled rather than frozen is valued highly by both markets as not only does it reduce meal preparation time, it also reduces waste and protects the product quality and food safety from damage when defrosted badly of in an inappropriate environment

Price will affect initial uptake however consistent quality will build patronage

- The initial price needs to consider the fresh or frozen alternative on entry to new markets as the key to ongoing success depends on customer experiencing the product
- Consistency, quality, and convenience will drive repeat sales as customers recognise the tangible value
- Brand equity is built on trust and if this is achieved, price becomes a lower consideration

Product cycles

- Food is fashion so it is essential to stay abreast of the latest trends
- Identify when the lifecycle is waning and ensure a replacement is ready to go
- Seasons and demographics need to be recognised when refreshing the product offer

Branding

- Maintain core brand principles with everything you do, consumers need to be invested in your **why**, as brand association is a strong influence in purchasing decisions
- Niche marketing built on integrity requires total transparency and interaction with your tribe otherwise you will be quickly replaced

7 Market research

The Global Ready Meals market is expected to reach \$146,247million by 2023 growing at a CAGR of 10.6%. <https://www.alliedmarketresearch.com/ready-meals-market>

Within this category of Chilled and Frozen Ready Meals, we can expect to see niche channels develop – targeted at health conscious consumers who desire better quality than a standard issue meat and veg or casserole, or simply co-branded with a variety of Iconic or celebrity endorsed concepts.

Convenience food will continue to drive this category; however food trends and product cycles will demand continuous improvements and innovation to meet consumer expectations.

We are already seeing the evolution of meal component ranges where a consumer can select their meal choice from a dedicated category for individually cooked meats, vegetables, and carb’s.

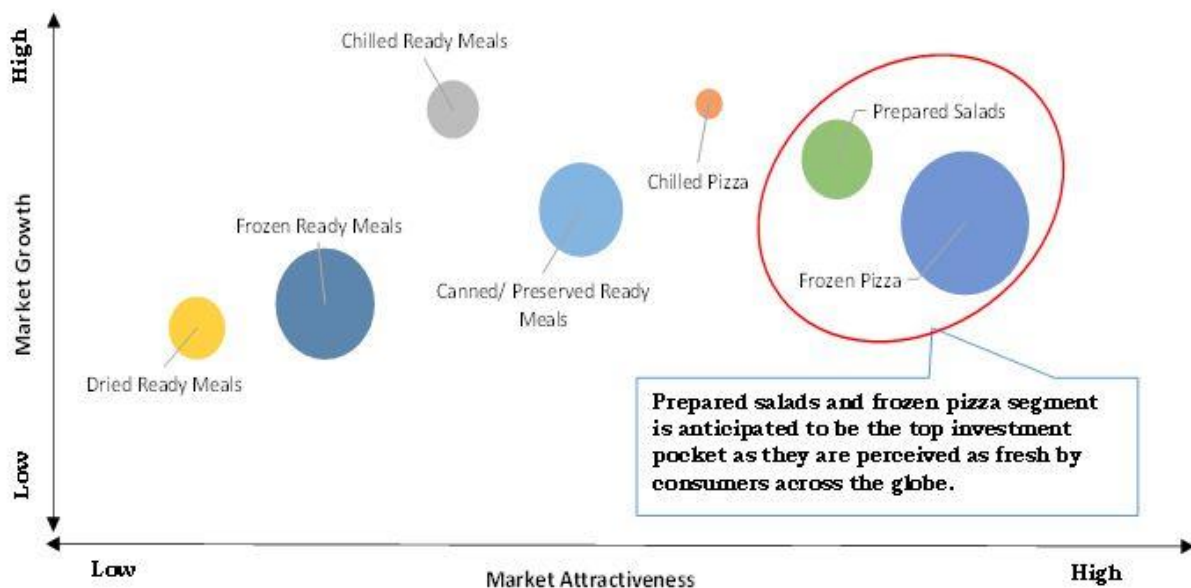
David Jones and BP have invested \$100 Million jointly to develop their DJ’s Food partner stores, while **Woolworths and Caltex** have invested together to roll out their “Metro at the servo” stores.

<https://insidemcg.com.au/2019/11/20/first-david-jones-bp-opens-in-melbourne/>

David Jones food managing director Pieter de Wet "You've got to position a convenience offering that's the best quality, the most convenient, and the healthiest, and it's got to be accessible," he said.

<https://www.smh.com.au/business/companies/david-jones-and-bp-ink-deal-to-bring-fancy-food-to-petrol-stations-20190827-p52l2z.html>

In order to shield themselves against the intensifying competition from dinner mixes (meal kits), major supermarkets have been looking for ways to add more convenience to their offering. **Coles** is speeding up its strategy to offer more ready meals, expanding its products with 75 new items ranging from breakfast to dinner, with most of the items specifically made for on-the-go consumption. <https://www.euromonitor.com/ready-meals-in-australia/report>



7.1.1 Relevance to industry

What does this mean to our industry?

Manufacturers of ready meals and convenience focused foods need to consider the total value proposition when targeting the growing demand for heat and eat.

Convenience needs are not simply single step reductions in the total process, they are about improvement of the value chain holistically.

Paddock to plate pathways have many stakeholders whose requirements demand attention as they represent the opportunities to add consumer value.

Each stakeholder must be considered a gatekeeper to the next and the goal must be to reduce resistance along the channel to market.

The least resistance will provide the greatest benefit and the greater the benefit the greater the rewards available.

What are the likely benefits for our industry?

The meat industry must stay relevant to the market demands and right now this is being tested to some degree by the emergence of meat alternatives and changing dietary habits, particularly in the demographics who like to make a noise via social media.

RTC Foods have committed to a strategy of innovation and niche marketing which we believe will fortify our role in the coming years.

Targeted products built on delivering solutions and continuous improvements to our customers, not just trading a price point to generate sales.

The Australian meat industry cannot always compete on price, but we can compete on quality, so it is essential we make our products consumer friendly if we are to build sustainable supply chains and add value to the whole industry.