2015 Kellogg Phase 2 – Industry Applied Project

SUPPLYING COMPLIANT BEEF OUT OF SEASON:

A Case Study on King Island, Tasmania

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Contents

Introduction

Producing beef off grass during spring and autumn is the most common practice for King Island beef farmers. Supplying Meat Standards Australia compliant beef during winter is a common, financially rewarding and challenging system given the environment of King Island at this time of the year.

This case study looks into the supplying of compliant beef during the winter months. By lifting compliancy rates at this time of the year farm revenue will increase as a $0.20-0.40 per kilogram premium is received. Current and future production systems were looked at in an attempt to lift compliancy rates.

King Island

King Island (KI) is located off the North West tip of Tasmania, Australia, in the middle of Bass Strait. The small island has a shrinking population of 1,400 people, three towns, four lighthouses, a school, a hospital and most services required to get by.

Figure 1. King Island Location Map

Source: www.capewickham.com.au

King Island's location results in an oceanic climate with mild summers and wet winters. These factors create an excellent environment for grazing animals, both the 80,000 head of beef cattle and the dairy cows that make the famous King Island Dairy cheese.

Land Classes

The original survey of KI found that there are nine different soil types (Stephens and Hosking, 1932). These nine soil types can be simplified into three. The current farmers of KI refer to these soil types as:

- Coast: This is the land that covers the beaches, sand dunes and coastal bush. This is a Calcareous sand. The fertility is low but the ground remains dry even through the wettest winters. The better part of this land class have been sown to pasture. These pastures are used to graze cows over the winter months so that they don't pug up the heavier ground.
- Semi Coast: This is where the coast meets the heavy ground. In places this soil type can be over the top of a limestone base. The water below the limestone is of the highest quality. Livestock perform well where they have access to this water. Over the last decade this ground has been transformed from low carrying capacity grazing land to productive stands of lucerne. The majority of KI beef farmers don't have access to this type of ground. This land class, especially with lucerne, is an excellent winter fattening land class.
- Heavy: The heavy ground is made up of a number of different dark grey sandy loams. A large percentage of this land is flat which makes draining water off the paddocks in winter an issue. This is the land that is most commonly farmed on KI. There are major two factors that play a role in the limitations to fattening cattle during winter on this land class. One is how wet this ground gets during winter which limits pasture growth. The second is the old grass varieties such as Victoria ryegrass that do not perform well high stocking density.

Production Systems

King Island's pasture growth is similar to that of southern Australia with the key difference being KI having an oceanic climate. This stops KI from experiencing extreme weather conditions. Frosts and days in excess of thirty degrees Celsius are rare.

Figure 2. King Island Pasture Growth Curve

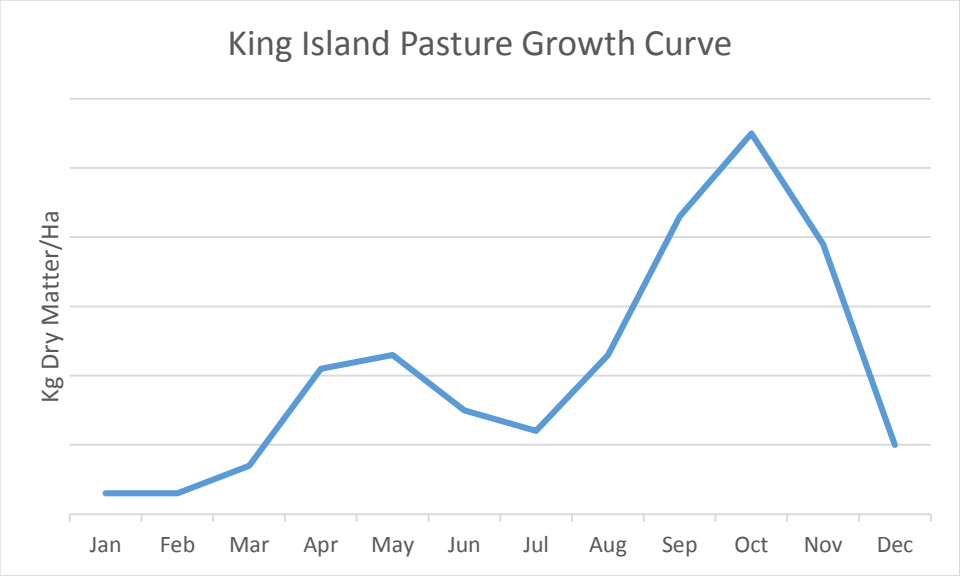


Figure 2 (above) illustrates the majority of KI's pasture is grown in the spring. For this reason a very large proportion of the island's herd is spring calving. My farm, Darlot Downs, has a spring calving herd. The aim, which is successfully achieved most years, is to have 70% of yearling steers sold at 16-18 months of age. The remaining steers are carried into winter and sold as 22-24 month old yearlings.

After both World War I and II, soldier settlement schemes were established on KI, with 50 and 161 farms settled respectively (www.aussiestowns.com.au, 2015). It was during these schemes that the land was cleared of native vegetation and sown to pasture. A limitation to beef production on KI is that large areas of farm land haven't been re-sown to new pastures since this time.

Limitations

In general KI has a lot of limitations, and that also applies to the beef industry of the island. I have identified four of the biggest physical limitations to the islands beef industry:

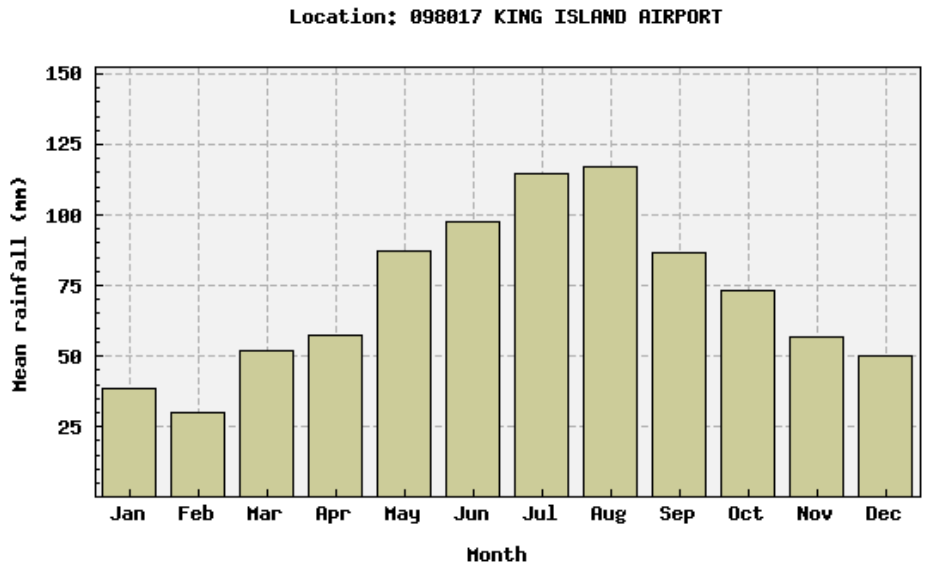
1. *Spring calving*

The large proportion of spring calving herds has an effect when it comes to supplying compliant beef out of season. Most spring herds are run in the same manner as Darlot Downs, meaning the quality yearlings are sold before winter. The challenge of producing compliant yearlings out of season is made harder by having the poorer performing animals in the system. KI is limited to spring or to a smaller degree autumn calving. Spring is the favoured alternative because it's the time when the grass growth and cow's milk production are both at their highest. The limitations with autumn calving leads onto my next point.

2. *Wet winters*

From my own experiences autumn calving is not as productive as spring calving on KI. As the calves get bigger, the paddocks get wetter and the grass growth slows right down (refer to Figures 2 & 3). These calves take about two months longer to reach finishing weight than the spring calving alternative.

Figure 3. King Island Rainfall Chart



Source: www.bom.gov.au

Not only are the wet winters hard on autumn cows and calves, but is also makes conditions difficult for fattening the bottom 30% of steers. These are the poorest performing steers of that years drop.

3. *Cost of Production*

King Island might only be a 45 minute flight from Melbourne but it is very isolated out in the middle of Bass Strait. The cost of sea freight to and from the island is a significant limitation on local businesses. Some of the cattle finishers on KI buy in store cattle from Victoria and incur a cost of 20-25 cents/kg to bring them back to the island. The cost of this practice and the stress it cause on the animals limits the activity of KI farmers in Victorian saleyards. The cost of the sea freight and quarantine regulations also means that buying in supplementary feed from Tasmania or mainland Australia isn't feasible.

4. *Trace elements & minerals*

One of the hidden limitations of beef production on KI is the low levels of essential trace elements and minerals (Munday, M. 1963). The most significant three are:

1. Copper: The biggest mineral deficiency on KI, copper is an essential trace element for growth, fertility and immunity. Serious production losses will occur when copper is not available to the animal (www.farmadvisor.com.au, 2015).
2. Cobalt: Deficient is calcareous and sandy soils, cobalt is important in rumen production (www.coopersanimalhealth.com.au, 2015).
3. Selenium: Like copper, selenium is important for growth and immunity, but is also essential in foetal development (www.coopersanimalhealth.com.au, 2015).

King Island Beef Industry

KI has three major industries, beef production, milk production and Southern Rock Lobster fishing. Beef production is by far the largest industry, also accounting for 22% of Tasmania's cattle population. The yearling beef produced on KI goes into either the King Island Beef label or the Cape Grim label, both of these brands are well recognised in the grass fed beef sector as quality products, both domestically and internationally.

Meat Standards Australia (MSA)

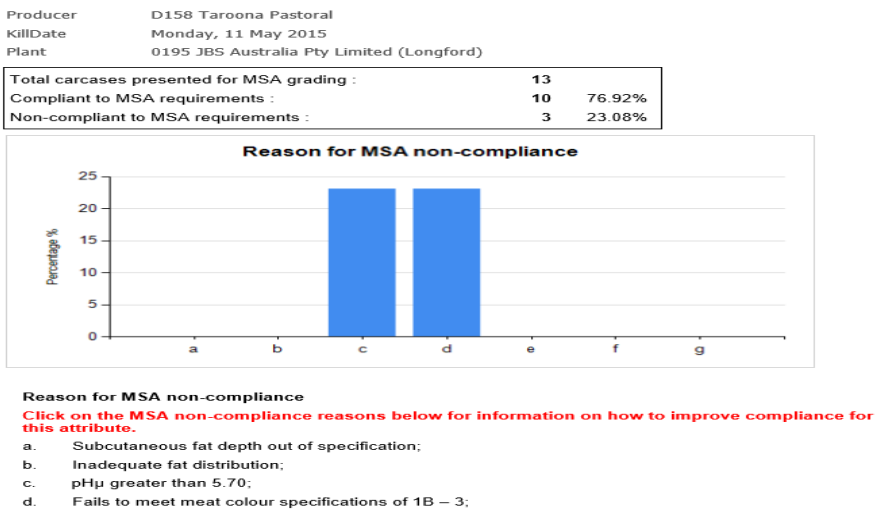
All of the yearling beef that goes into the two beef brands previously mentioned have to meet the specifications of Meat Standards Australia (MSA). MSA is a beef and sheep meat eating quality program designed to take the guesswork out of buying and cooking Australian red meat. MSA involves all sectors of the supply chain from paddock to plate. A wide range of cattle and sheep management practices, processing systems, cuts, ageing periods and cooking methods have been researched to determine the impact each has on eating quality (Meat & Livestock Australia, 2014).

Every beast that is processed for King Island Beef or Cape Grim Beef is individually assessed. If a beast is not compliant with MSA it is downgraded and the price received per kilogram by the supplier is reduced. As of June 2015, this price reduction is $0.40/kg. For a yearling with a dressed weight of 275kg this equated to $110.

For Darlot Downs and other KI beef farms, the major reason for cattle not grading are pH levels being too high and the meat colour being too dark. Both of these reasons for falling out of MSA are stress and feed quality related.

Figure 4 (below) is actual data from a small shipment of steers sent from Darlot Downs in May 2015. The results show the two reasons for non-compliant animals were too high pH levels and the incorrect meat colour. It is assumed that the cause of 23% of the shipment falling outside of MSA specifications was due to the lack of quality feed pre slaughter. A recent study into MSA compliance carried out in the south-east of South Australia found that growing out MSA steers requires the pasture quality/quantity to remain at 1,500kg dry matter per hectare (Michael Wilkes, 2015). The steers in this shipment would have been on 1,000kg dry matter per hectare. Figure 5 (next page) from July 2014 illustrates this trend of non-compliance.

Figure 4. May 2015 MSA Results



Producer	D158 Taroona Pastoral
KillDate	Monday, 11 May 2015
Plant	0195 JBS Australia Pty Limited (Longford)

Total carcases presented for MSA grading :	13	
Compliant to MSA requirements :	10	76.92%
Non-compliant to MSA requirements :	3	23.08%

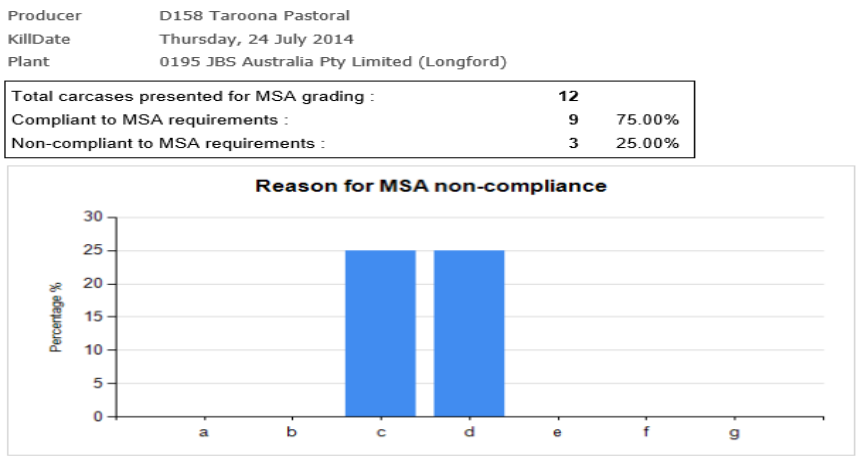
Reason for MSA non-compliance

Click on the MSA non-compliance reasons below for information on how to improve compliance for this attribute.

a. Subcutaneous fat depth out of specification;
b. Inadequate fat distribution;
c. pHμ greater than 5.70;
d. Fails to meet meat colour specifications of 1B – 3;

Source: www.mymsa.com.au, 2015

Figure 5. July 2014 MSA Results



Producer	D158 Taroona Pastoral
KillDate	Thursday, 24 July 2014
Plant	0195 JBS Australia Pty Limited (Longford)

Total carcases presented for MSA grading :	12	
Compliant to MSA requirements :	9	75.00%
Non-compliant to MSA requirements :	3	25.00%

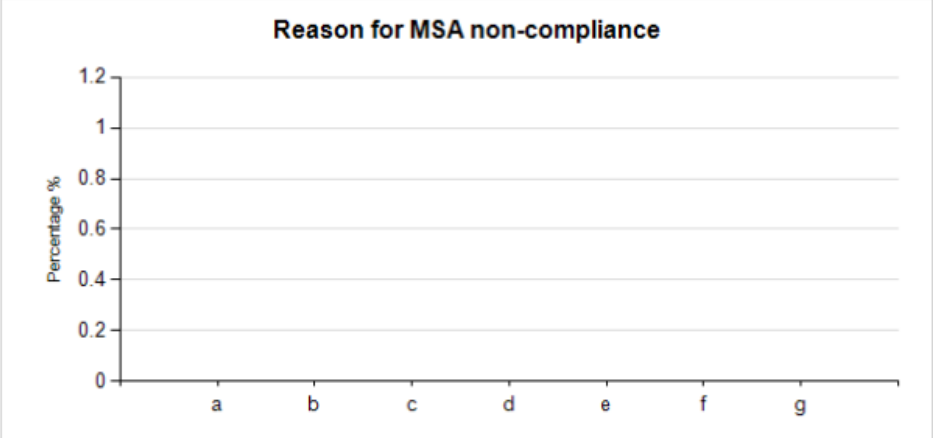
Source: www.mymsa.com.au, 2014

Figure 6 (below) is from a shipment of cattle sent for slaughter in the winter of 2014. The cattle are basically the same as the two shipments detailed in figures 4 and 5. All the cattle have been born and bred on Darlot Downs the same breeding philosophy. There was one major difference between the 2014 and 2015 shipment of cattle, this was feed quality. For the June 2014 cattle, which were 100% compliant, the feed they came off was lucerne and plantain at about 2,500kg dry matter per hectare when they entered. This option is not available to all KI beef farmers as it required the utilisation of a semi coastal soil type, excellent for growing lucerne.

Figure 6. June 2014 MSA Results

Producer	D158 Taroona Pastoral
KillDate	Tuesday, 17 June 2014
Plant	0195 JBS Australia Pty Limited (Longford)

Total carcases presented for MSA grading :	**24**	
Compliant to MSA requirements :	**24**	100.00%
Non-compliant to MSA requirements :	**0**	0.00%



Source: www.mymsa.com.au, 2014

King Island Beef Supply & Demand

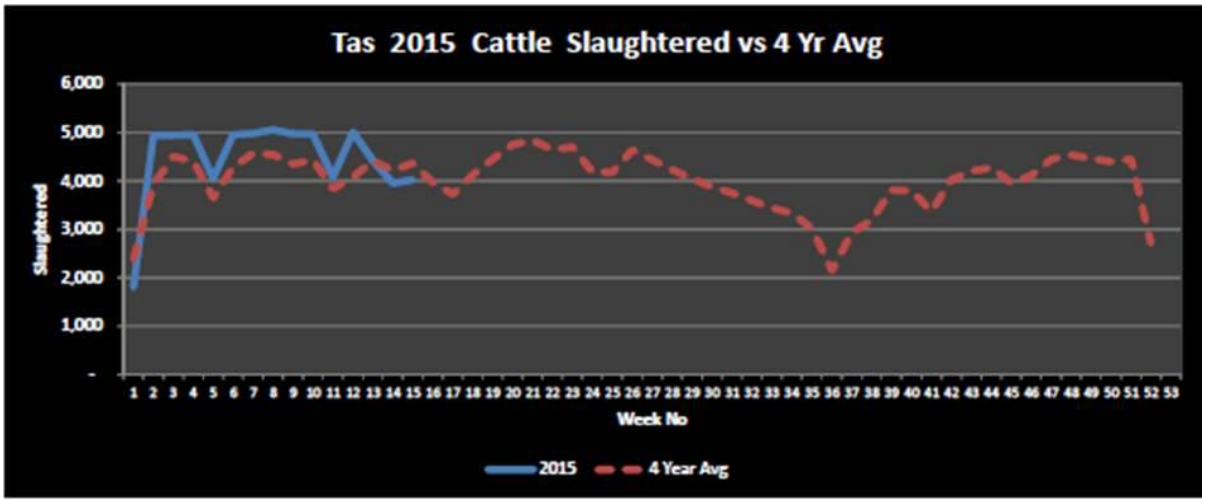
The King Island beef label, 'King Island Beef', is controlled by processor JBS Australia and is vital to the local beef industry, with the brand generating a premium above Tasmanian prices. There is a premium of $0.20-0.40 kg/dwt for selling cattle into the King Island Beef brand which covers the freight costs from farm to processing. Without the premium KI beef farmers would receive commodity prices less freight costs.

King Island Beef deals with consumers and end-users. They demand a product that is available 365 days a year and of a consistent quality all year round. If they don't receive this, they will source alternative products such as chicken or pork.

From a producer's perspective, the cheapest production is off grass. The best times of the year for such production are autumn and spring causing producers to gravitate to these seasons to finish and turn off cattle. This presents an issue in that competing farmers are taking the same approach, with an increase in supply driving down price in those periods. If producers had systems in place to be able to feed animals to turn off in the middle of the year when supplies of animals are limited they would receive a higher price for this period (Inglis, M. 2015)

Figure 7 (below) represents a four year average of the number of Tasmanian cattle slaughtered. A significant decline in cattle numbers from early June to early September is evident. This is the period in which KI farmers need to be able to supply MSA compliant beef to ensure demand for the product is met.

Figure 7. Tasmania Cattle Slaughter 4 Year Average



Source: Mark Inglis, JBS Australia, 2015

Findings & Methods

My Results

As part of this study into supplying compliant beef out of season I tried to step away from the library and the internet and get some on the ground facts. I set up my own fodder crop trail and also got involved with Murdoch University who had been funded by MLA to study a similar topic to myself.

On the 14th of April 2015 a mix of Pasja and an annual ryegrass was direct drilled to use as real time trial for this project. The two species were to be ready to graze in 45-70 days and 40-60 days respectively. Currently this fodder crop has been in for 70 days and my expectations is that it will not be ready for another 30-40 days. I am still optimistic about getting late winter grazing from this crop. I have worked back from the date I need to spray the paddock out to sow a permanent pasture in the spring and this allows 42 days of grazing. The cost of establishing the crop was $390/Ha, the table below illustrates breakeven point. I believe the most likely scenario given the time of the year is the three head to the hectare figure. The sale price was based on the current grid with the assumption that animals would yield fifty percent of live weight.

Table 1. Fodder Crop Breakeven Point

Head/Ha	$/Ha	$ Ha @ Sale $	Required Kg/Day
2	$ 194.50	$ 81.04	1.93
3	$ 129.67	$ 54.03	1.29
4	$ 97.25	$ 40.52	0.96

Meat & Livestock Australia (MLA) Trial Results

Research is currently being conducted into KI MSA compliance by Murdoch University, Perth, Western Australia, on behalf MLA. This includes blood samples being taken from MSA eligible cattle as well as pasture samples from their most recent paddocks. It was expected that findings from this research would assist in drawing conclusions about the relationship between MSA compliance and the KI environment for this report. Unfortunately, results have been delayed due to quarantine issues with the samples entering Western Australia. It is expected the results from this research will now be available later 2015.

A similar research project to the one mentioned above has taken place in the south east of South Australia, conducted by Michael Wilkes from Adelaide University. This part of South Australia has similar mineral deficiencies to KI, so it was interesting to note that their results indicated copper deficiencies in both the animal and pasture being a factor in high pH readings. Zinc, Manganese and Boron levels, along with the amount of dry matter available to the animals were also key factors in poor compliance rates.

Survey Results

As a major component of this study into supplying compliant beef out of season, eight farmers were surveyed. Six of these were local KI beef producers, one local dairy farmer and one beef and lamb producer from the North Island of New Zealand. Below is a summary of the survey results, full versions of the producer surveys can be found in the appendices.

- Of the eight farmers surveyed, 100% did some kind of winter fattening.
- 88% are winter fattening on a pasture based system.
- 71% farmers are producing yearling beef on the heavier soil type.
- 80% use nitrogen to help with their winter production.
- 90% was the lowest MSA compliancy rate of the producers willing to share this information.
- Good weight gains are possible on heavier soils but at a moderate stocking rate.
- 88% take action to try to achieve the higher winter prices.
- 63% said given their soil type and wet winters an intense grazing system wouldn't work.
- 63% are willing to try a different approach to winter fattening of yearling cattle.
- 50% of producer's initial thoughts of using a fodder crop as a winter fattening tool was positive.
- 75% think that fodder crops have a place as part of a pasture renovation program.
- Surprisingly, only 50% of producers linked animal health with MSA compliance rates, while 88% linked amount of grass available to MSA compliance rates.

Completing the producer surveys generated many insights into the approach taken by beef farmers. In particular, the points below were of particular interest and further evidence was found to support the theories.

- Multi-min is a chelated trace mineral injection for cattle deficient in and or responsive to copper, zinc, selenium and manganese (www.virbac.com.au, 2015). Three of the producers said that the treatment of fattening cattle with Multi-min was an essential part of their animal health program. This practice is supported up by the findings of the study completed by Adelaide University, which identified a deficiency in the copper, manganese and zinc playing a role in the cattle not being MSA compliant (Wilkes, M. 2015).
- The Adelaide University study also found that cattle with access to less than 1,500kg of dry matter were less likely to comply with MSA. The main reason for this was the cattle didn't have access to enough grass to maintain high energy levels, resulting in the animals becoming stressed (stress causes high pH and a dark meat colour). This result corresponds

with the 88% of beef producers surveyed stating that access to a good amount of grass was essential.

- Surprisingly, only one farmer said that good quality shelter was part of their animal health plan. Shelter reduces animal stress associated with exposure to the heat and cold and therefore the amount of energy required for animal maintenance. Consequently, this provides more energy for production (www.dairyfortomorrow.com, 2014). Experience has shown that stressed cattle have less chance of complying with MSA.

SWOT Analysis

The SWOT analysis below is based on all the information compiled during the research into supplying compliant beef out of season for this report.

STRENGTHS:

- The upside to supplying compliant beef out of season is the price per kilogram received being higher than supplying during peak pasture growth times.
- Growing a winter fodder crop means that at the completion of grazing that area can be sown to a permanent pasture, the reliable rainfall of KI makes this a low risk option.
- The current historically high cattle prices should entice producers to try winter fodder crops.
- Forty degrees south runs through the middle of KI, this is why grass productions is reliable. This latitude has the lowest global warming yet produces a small percentage of the world food (A. MacFarlane, 2015).
- KI has a strong position in the Tasmanian beef industry with two beef brands (King Island Beef and Cape Grim) relying on the supply of cattle from King Island all year round.

WEAKNESSES:

- The wet, cold and windy winters of KI makes intense winter grazing options less attractive.
- The current model that most KI farmers use in a cow/calf operation is to sell yearlings as they are ready. This means that come winter they are left with the poorest performing animals to grow out at the lowest grass growing period.
- The quality of KI silage is not better than pasture.
- The costs involved with establishing a fodder crop for winter grazing.
- KI doesn't have a resident agronomist.
- Yearling cattle do not have the required amount of grass that gives them the best chance of complying with MSA.
- The majority of KI's beef herd is spring calving, this creates supply and demand issues.
- Only 50% of producers surveyed rated a good up to date animal health plan as a reason for cattle not complying with MSA.
- Lack of acknowledge of the production benefits associated with shelterbelts.
- KI producers may not be truthful to themselves about their MSA compliance rates, therefore understanding the true cost to their businesses.

OPPORTUNITIES:

- Selecting the right ground, fodder and grazing technique on an individual farm basis will help make winter grazing of fodder crops a more attractive option.
- A longer term cropping program could involve fodder crops and dual purpose silage crops.
- Fodder Beet is an option if the farmer is willing to take a risk using the limited resources on KI.
- Adopt alternative grazing techniques for winter.
- Intensively grazing younger lighter stock on crops during winter, leaving a larger area of pasture for the older heavier winter finishing stock.
- The use of nitrogen for grass production in winter is cheaper than making and feeding silage. (Department of Primary Industries, Water & Environment, 2004).
- Improved animal health plans.
- Over half of the producers surveyed are keen to try a new winter fattening method.

THREATS:

- Climatic conditions present a challenge in ensuring crops are ready at the most appropriate time.
- Poor animal management of cattle on fodder crops.
- If an oversupply of cattle in winter caused the price to drop below break-even point, producers could be locked into supplying cattle at that time despite the price due to having changed their systems.
- The complexity of the MSA program grading system means 100% compliance during winter will be an ongoing challenge, not just on KI but throughout Australia's many different environments.
- Environmental factors in relation to the over use of nitrogen.

Action Plan

Fodder, Pasture or Silage

From the surveys completed and from my beef producing experiences, there are three genuine winter grazing options for supplying compliant beef out of season:

1. FODDER CROPS: KI beef farmers are relatively foreign to the concept of growing crops for winter grazing. I believe that this practice will become more common in the future as cattle need to be coming off a good feed base to have the greatest chance of complying with MSA standards. The consistent message received from the farmers with heavier ground is that our winters are too wet.
2. PASTURE: A lot the pastures on KI's heavy soils are old varieties of ryegrass and clover. Such pastures don't have the production capabilities to grow the grass required for winter fattening. The newer varieties of ryegrass, with the help of nitrogen based fertiliser, have the capability for winter fattening of yearling cattle. One farmer surveyed (farmer E), confirmed this practice does work.
3. SILAGE: The supplementary feeding of silage while winter fattening yearling cattle on pasture can be done successfully if the silage is of good quality. Feed tests show most of KI's silage to be of the same feed value as pasture. The down side of this practice is the use of heavy machinery during the wettest time of the year.

Fodder Crop Options

My research has led me to selecting four crops that I believe could play a role in winter fattening and therefore increasing MSA compliance rates. With the exception of fodder beet (refer to Table 2) the establishment cost of each crop is $400-$550/Ha.

Rye Corn

Forage rye corn is a flexible cropping option with a higher winter growth rate than pasture. After three to four grazings it can be used as a silage crop. In a pasture renovation program, it can be used before a summer crop and a permanent pasture (PGG Wrightson Seed, 2014).

Turnips

Late maturing varieties of turnips can provide good late autumn early winter feed. The crop also stores well in the ground for later use (PGG Wrightson Seed, 2014). It is a safe crop for the KI location when sown in the early summer, unlike rye corn it is a single grazing option.

Triticale

Like rye corn, a triticale crop if managed well can be grazed and then used as a silage crop. I have done this in the past this with excellent results (weight gains of 1kg/day plus).

A preferred option by a number of the farmers surveyed was to direct drill new higher performing mix of ryegrass and clover. Farmer E has done this successfully and with two hits of nitrogen through the winter is turning off MSA compliant steers in the high 90% compliancy rate.

Fodder Beet

Currently there is a lot of hype around the use of fodder beet as cattle feed. While I am not doubting the quality and quantity of fodder beet, I don't see it being a viable option on KI. The reason for this being we don't have the precision equipment available on island and on the ground agronomic support that is required when investing in a high cost fodder crop.

Table 2. Fodder Beet Establishment Cost

	Rate	Unit	$/Unit	$/Ha
Round Up	2	Litres/Ha	$ 6.10	$ 12.20
Hammer	40	ml/Ha	$ -	$ 9.00
Round Up	2	Litres/Ha	$ 6.10	$ 12.20
Spray Seed	1	Litres/Ha	$ 10.00	$ 10.00
Tramat	2	Litres/Ha	$ 86.00	$ 172.00
Lorsban	1.5	Litres/Ha	$ -	$ 13.50
Tramat	2	Litres/Ha	$ 86.00	$ 172.00
Bentanal	4	Litres/Ha	$ 93.50	$ 374.00
Select	400	ml/Ha	$ -	$ 12.00
Uptake	500	ml/Ha	$ -	$ 4.00
Fodder Beet	1	Box/Ha	$ 473.00	$ 473.00
Contract Discing	1	Ha	$ 85.00	$ 85.00
Contract Discing	1	Ha	$ 85.00	$ 85.00
Contract Power Harrowing	1	Ha	$ 130.00	$ 130.00
DAP	250	Kg/Ha	$ 847.00	$ 211.75
MOP	100	Kg/Ha	$ 689.00	$ 68.90
Urea	100	Kg/Ha	$ 620.00	$ 62.00
Urea	100	Kg/Ha	$ 620.00	$ 62.00
MOP	50	Kg/Ha	$ 689.00	$ 34.45
Total				$ 2,003.00

Source: Elders, King Island. 2015

Conclusion

In conclusion KI beef producers should be able to lift there MSA compliancy during winter with a well thought out management plan and a more efficient use of grass could change the direct of my farm.

Through this research, two conclusions have been reached. The first was the desired objective of this report, to find out in the best way of supplying compliant beef out of season. The second is a complete shake up of my farms current production method.

Initial Conclusion

The initial purpose of my research was to seek the best way to supply both King Island Beef and Cape Grim brands with MSA compliant yearlings during the winter months. Selling yearlings in winter has always been attractive for KI beef producers because of the premium received per kilogram. There was a common theme in the results of the producer surveys completed, they were:

- It is too wet during our winters to intensively graze 450-550kg yearlings on fodder crops.
- Pasture based winter fattening systems work when used in conjunction with nitrogen fertiliser, good drainage and quality animal health program.
- New variety pasture systems will give a better response to nitrogen and increase production.
- Moderate stocking rate are the key to MSA compliance on the heavier soils during winter.

I agree with the results of the producers surveys. The farmers I surveyed have years of experience and are some of the best finishers of cattle on KI. This is a system that has been used for years and for a business to go forward it needs to revolve and lift productivity and researching that is how I came to the second conclusion.

Secondary Conclusion

The second conclusion reached was a surprise and will cause significant changes to be made to my current production plan. To lift my pasture use efficiency I will run more weaners through winter than run my poorest performing yearlings through their second winter. I now intend to trial growing fodder crops for weaners to graze during winter. They would therefore hit spring at heavier weights and be ready to utilise the spring flush. This would leave larger areas of pasture for the winter fattening of left over yearlings at a moderate stocking rate. Two reports challenge the direction of my initial research and encourage me to use pasture more efficiently by finishing a larger portion of yearlings before taking them into and maybe through their second winter. *Efficient Conversion of Pasture to Beef* by David McCall and *Faster Finishing on Fodder Beet* by Sandra Taylor have been real

eye openers for me and made me reconsider how I produce beef. My plan now is to run a larger percentage of small animals during winter, a smaller animal growing at 1kg/day is a more efficient user of grass then a larger animal growing at 0.5kg/day. The small animal uses a greater percentage of the grass for growth while a larger animal uses a greater percentage of it grass for maintenances (McCall. D, 2005). 50% of an animal's growth happens over 25% of the year, mid-September to mid-December. If an animal is 400kg in September then it should reach its final weight of 550kg by December (Taylor. S, 2015) and for my beef production program this would be an excellent result.

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Appendices

Farmer Surveys

Farmer A

A New Zealand cattle and sheep family farming business.

1. Is winter fattening part of your management plan? Yes or No Yes, but it is winter feeding of yearling replacement heifers and in-calf rising-2-year-old heifers.
   If "no" then why not?
   If "yes" then what winter fattening methods have you tried? Electric fence feeding of Kale, with hay supplement. Using Fodder Beet to supplement rising 1-year-old sale bulls on grass, is being tried this year.
2. What is your preferred method of winter fattening? Electric fence feeding of Kale, with hay supplement.
3. How effective is your preferred method (in terms of weight gains, carcass compliance and profitability)? Very
4. What were the results of the other methods? Not good enough.
5. Have you got any other ideas of methods that you think are worth trying?
6. What are your initial thoughts on using fodder crops as a winter fattening tool? We use them storing dry matter and for growing young cattle over winter (not for finishing).
7. Have you put any thought into using winter fodder crops as part of a pasture renovation program? Yes or No, elaborate on this. Yes, they are an important part of this.
8. What do you believe the key is to fattening compliant yearling beef during the winter? We don't use them for fattening/finishing.
9. Why have you reached this conclusion?
10. Is there any other information on winter fattening of yearlings that you think I should know? Probably heaps. I don't know what you know or don't know.

Farmer B

A large family farm that has been under the same ownership since 1892.

1. Yes. Farmer B has only tried pasture with silage supplement in a low key rotational grazing system to supply compliant beef out of season.
2. Given the scenario of the project being based on the heavier soil types he has only tried the above.
3. When asked if his preferred method was effective in term of profit the farmer answered with “say, yes”. In terms of being effective in yielding the appropriate weight gains the answer was yes.
4. No other method have been tried.
5. Farmer B said fodder crop could work but was unsure of what type. The use of nitrogen based fertiliser in the current rotational grazing system is something Farmer B believes would work. He would also like to try adlib feeding of silage and hay with feed quality test done on the supplements, once again Farmer B was worried about the cost of this practice.
6. Farmer B’s initial thoughts were if it’s viable and somebody can show me that it works I would be interested in this system.
7. Yes.
8. Farmer B had always thought if he was to grow fodder crops it would be as part of a pasture renovation program so it would spread the costs and help control weeds.
9. Low stress stock handling, stock on a rising plane of nutrition for a long period, not just a few weeks before going to be processed and don’t
10. Experience from previous results.
11. N.A

Farmer C

A family farming cattle fattening operation with experience in mainland Australia dairy and cattle finishing.

1. Yes, Farmer C has tried both rotational grazing and set stocking.
2. Set stocking in large paddocks at 300kg live weight per acre. Farmer C has two farms, one where newly purchased steers are run until 450kg and a finishing farm where the target live weight is 600kg.
3. Farmer C has a long term MSA grading average around 95%, rarely does a shipment of cattle go under 90%. Winter weights gains are 0.75-1kg/day. Selling yearlings in late winter/early spring before the supply of yearlings is high has been a profitable systems for Farmer C for decades.
4. Rotational grazing didn't work on Farmer C's property, he found it to be too wet and as a result too much pasture was trampled into the ground by the cattle. He also found that moving cattle all the time restricted the amount of time he had for other jobs on the farm.
5. No. Just grass and fertiliser.
6. Again Farmer C thinks his property is too wet to be strip grazing fodder crops during winter.
7. Yes.
8. Farmer C prefers to direct drill new pasture rather than use a fodder crops as part of renovation program.
9. Mobs to stay in there purchased groups as long as possible for sociability reasons. If you have to split mobs do it at least 4 weeks prior to sale. Keep the minerals (Multi-min) up to the animals, always double drench (a white oral and a pour-on) new animals. Don't put the animals through the yards in the last 4 weeks prior to sale.
10. Farmer C experiences make him believe that the cattle fret in the yards which results in weight loss and then the grading results will be down.
11. Use phosphorus fertilisers, phosphorus helps the cattle grow. Only use nitrogen fertilisers if you really have too. Make sure winter fattening cattle always have enough feed and look after your sale cattle.

Farmer D

Conservative family farming business, very focused on previous benchmarking experiences.

1. Yes, Farmer D has tried both short and long rotations of grass fed and also grass fed with a silage supplement.
2. Grass fed with the use of nitrogen. Low stocking rate, low intensity rotational grazing with big paddocks. Farmer D takes the yearlings into winter in good body condition and put more emphasis on maintaining that body condition then weight gains.
3. Farmer D's MSA grading levels are high enough and he is getting small weights while maintaining body condition. He winter fattening because the price per kilogram is good and it creates winter cash flow. His previous benchmarking figures suggest that the margin for winter fattening of yearlings is marginal.
4. The intense rotational grazing systems doesn't work, too much fed gets wasted and the paddocks get ploughed up by the cattle.
5. Farmer D would like to try supplementary feeding with a high metabolisable energy (ME) silage, he suggest if it was done it would be on a small trail lot of steers.
6. Farmer D has tried using turnips but it wasn't overly successful due to not doing enough research into what supplement were required outside of the turnips.
7. Yes.
8. When Farmer D was growing turnips it was as part of a pasture renovation program, he was talked out of this practice by a consultant. He think a fodder crop might be tried again one day.
9. Lower stocking rates, a good feed wedge in front of the steers and enough length in the grass that it can catch the sun light.
10. Experience.
11. Shelter to keep the animals warm and protected in the cold, wet and windy winter weather.

Farmer E

Large progress family farming cow and calf finishing operation.

1. Yes, winter grass finishing only the preg tested empty heifers and the tail end steers.
2. Farmer E's preferred method is to grass finish, the pasture receives a nitrogen based fertiliser twice between May and August, the cattle are stocked at 1.6 head/hectare and the end target is a 550kg animal.
3. Farmer E was the 2014 JBS King Island Farmer of the year, for that given year he had a 96% MSA compliance rate. The cattle average 0.5kg/day during winter, the cattle go into winter in good body condition. Farmer E normally has the luxury of deciding when he wants to sell his cattle, the nitrogen fertiliser means he has enough grass to keep them going.
4. No other methods have been tried in recent years.
5. Farmer E would like to get his hands on some semi coast ground and winter fattening yearlings on lucerne.
6. Good idea, what is the costs involved? The majority of Farmer E's properties have been sown to new varieties of ryegrass and clover, he believes feed the high preforming pastures nitrogen is a better option for him.
7. Yes.
8. Farmer E would only did it if the paddock was extremely rough. His normal practice is to direct drill new pastures.
9. Plenty of grass in front of them, keep the minerals (multi-min) up too them.
10. Experience.
11. For cattle to show their true genetic performance they need to be fed, make sure they have enough grass. Don't have too many cattle on and do the job probably.

Farmer F

Large family farming business, a cow calf operation with opportunistic trading of steers. Very experienced and open to trialling new ideas.

1. Yes. Farmer F has try many different grazing systems and believes if you are going to try and winter finish yearling on the heavier soil types then they need to be set stocked over winter at 750 kg of live weight per hectare.
2. The preferred method for winter fattening is with lucerne on the semi coastal soils.
3. This method has been very effective with winter weight gains of 2kg/day, this will only occur once some ryegrass has established itself in the lucerne. Prior to this Farmer F only expects 1kg/day, the MSA compliance rate for Farmer F during winter is 95%.
4. Farmer F said that rotational grazing during winter destroys both the pasture density and soil structure. He uses the heavier soils on his farm for grazing weaners until they reach a weight where they are join the fattening operation.
5. Farmer F said if you want to fattening on the heavier soils you need to use nitrogen to get a good feed base, he believes the newer pasture aren't necessary to achieve a good response from the nitrogen just a good plant density.
6. Too time consuming, I've tried it and wouldn't do it again was Farmer F response. He was happy to put weight on them on the heavier ground and finish them with lucerne on the semi coastal ground.
7. Yes.
8. Farmer F tried it years ago and was put off by the amount of pest and weed control that was required.
9. On the heavier soil class Farmer F believes the key to growing enough grass to give the greatest opportunity to comply with the MSA system is drainage, copper and nitrogen.
10. Years of experience.
11. Farmer F said our Dads and Grand Dads were growing more grass in there time then we are today, their animals were also healthier. Over the last couple of years we have been going back to practices they did. For example copper is being put on the pastures through fertiliser and this has had a good impact on legumes and animal health. Farmer F said to talk to other producers especially the older ones and pick their brains.

Farmer G

Family KI dairy farmers & agricultural contractors. This survey was done on winter milk production rather than beef production.

1. Yes, winter milk production has been tried with perennial, Italian and annual ryegrass with the help of nitrogen based fertilisers.
2. The preferred method is high performance perennial and Italian ryegrasses but on the lighter soil rather than the heavier soil. Lucerne and ryegrass is grown on some of the lighter soil, lucerne can create its own nitrogen but nitrogen fertilisers are still used as Farmer G see lucerne playing a secondary roll to ryegrass.
3. Winter milking on the lighter country producers 30% more milk than the heavier soil.
4. Winter milking on the heavier country doesn't work as it's too wet, the pastures get destroyed and the cows get lame if they are in the mud too often.
5. Farmer G believes it's just too wet to try any other winter grazing options.
6. It's not a bad idea but again it would have to be on the lighter soils.
7. Yes.
8. If Farmer G was to use a fodder crop for winter milking it would be turnips, he believe other fodder options will rot away if stored in the ground until winter. Farmer G isn't interested in Fodder Beet as he lacks the precision machinery and agronomic support required to grow the crop.
9. Take cows into winter in good condition. Have a good feed wedge. Take advantage of the natural grass growth period from July to Nov, that's when Farmer G puts out most of his fertiliser as believe you can really set yourself up for the next 12 months. Rotations have to be a minimum of 30 days and graze everything at the three leave stage.
10. Experience and a lot of trial and error.
11. Don't always do what the "expertise" say as not one farm is the same. Have a well-planned rotation plan, grazed winter pastures every 36 days and spring pastures every 18 days if you can. Don't let the young stock graze their pastures too short.

Farmer H

500 Cow family beef farm on all heavier soils and local stock buyer for a processing company.

1. Yes. Farmer H has tried fodder crops and annual ryegrass with nitrogen fertilisers.
2. The preferred method is a light rate of a nitrogen based fertiliser on new variety ryegrass and clover. The winter fattening steers are run in front of the weaners to get the best feed, the weaners then clean up the rest.
3. Farmer H hits about 90% MSA compliance during winter and achieves weight gains of 0.7kg/day. Farmer H sell all of his steers that are under 400kg in November/December, he doesn't like to carry underperforming steers into winter. By on keep the tops of his steers Farmer H has all the top performing steers gone by the end of July. With the steers gone 6-8 weeks prior to calving it gives him a chance to build up some feed.
4. It gets too wet to successfully strip graze turnips with 500kg steers during winter, with the annual ryegrasses Farmer H doesn't believe that they are value for money in a winter beef production systems.
5. No. Farmer H wants to get more new variety permanent pasture sown and use them for fattening.
6. It was tried and the soil types and wet winter made it too hard.
7. Yes.
8. Farmer H needs to do it to break up the root matter in his soils. Farmer H is trying to work out the best way of incorporating a fodder crop into a pasture renovation program.
9. A good amount of quality grass in front of them and an up to date animal health plan.
10. Farmer H's job as a stock buyer entitles him to see all types of production systems and how yearling comply with MSA.
11. Talk to other producers and see what works for them and study that information to see if it could work for you.