

Final Report

Nuffield Scholarship for those in the Horticultural Industry

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Nuffield Scholarship for those in the Horticultural Industry – BA14002

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Summary

Nuffield Australia awards scholarships annually to those in the primary production in Australia.

Nuffield provides an opportunity for Scholars to travel overseas on a research scholarship relating to their business. It is a 16-week program consisting of both group and individual travel. The objective is to increase primary production knowledge, management skills and techniques and develop leadership skills.

Matthew Abbott was awarded a 2016 Nuffield Scholarship from the horticulture industry under project BA14002. Matthew is a third generation Queensland banana grower. As he became more involved with the family farm business, he saw evidence that change was needed to make the business more profitable for the long-term. This drove his application for a Nuffield Scholarship. He wanted to investigate how the business, and the wider industry, could get a greater return for the product.

He has investigated how to increase value in the Australian banana industry through branding and focuses on four main topics:

1. increasing the value of bananas;
2. branding and product identification;
3. markets for "out of spec" bananas; and
4. export opportunities.

His exact scholarship report title is "Increasing value through branding. Investigation for the Australian banana industry."

While growers often find it easier to focus on the 'growing' side of the business, the need to consider the bigger picture and where the product fits are required. It is not enough to produce, pack and send a product off to market and just hope the returns cover costs and leaving some margin for profit. Producers need to successfully articulate the benefits that the product offers.

While marketing and understanding the consumer may seem like a distant problem and the endless consumer demands overwhelming, it is an essential component of a successful business model.

By understanding how the consumer views, uses and would like to use a product, these products can be better tailored to meet their needs. However, it is only through product branding and marketing that any product can stand out from the rest and be identified by consumers.

The outcome of this project is successful completion of a Nuffield Scholarship by one practicing producer from the horticultural industry.

Matthew reported verbally to his peers at the Nuffield Australia National Conference, held in Darwin in September 2017. He has also submitted a substantial written report which is provided to Nuffield, Hort Innovation, made available to other interested parties and posted on the Nuffield website for wider community access.

The Nuffield Farming Scholarship program is a very targeted and proven way of investing directly into the advancement of Australian agriculture. The benefits of the Nuffield Scholarship do not cease on their return to Australia. Rather, as a consequence of his or her experience, Scholars are generally committed to a life-long involvement in the international Nuffield network driven by a thirst for continued learning.

Keywords

Nuffield Scholarship

Banana

Branding

Fruit

Packaging

Export

Retail

Introduction

If Australian agriculture is to compete and succeed internationally, Australian farmers need to lead the world in best practice. They need to recognize changing consumer preferences, adopt new technologies and production practices, and maintain the sustainability of their operations. Nuffield Australia, through the Nuffield Farming Scholarship Program, is committed to equipping farmers with the knowledge they need to meet this goal.

Matthew Abbott, from Innisfail in Queensland, received a 2016 Nuffield Scholarship supported by Hort Innovation, as part of the across industry program with matching funds from the Australian Government. He studied how to increase value through branding in the Australian banana industry.

Matthew is a third-generation banana farmer. He, his father Robert and brother Ben have been in organic banana production for the past ten years, having previously grown conventional bananas for 20 years prior to the swap to organic farming. With sustainable agriculture being the main driver, their belief in the future of organic farming is underpinning plans to expand production by about 20 per cent per year.

To increase value through branding, Matthew studied increasing the value of bananas, branding and product identification, markets for "out of spec" bananas and export opportunities.

Nuffield Farming Scholarships give a unique opportunity for primary producers to stand back from their day-to-day occupation, and to study a subject of interest. Applicants do not need academic qualifications but need to persuade the selectors that they have the qualities to make the best use of an opportunity that is only provided to 18-24 primary producers per year.

Methodology

Matthew Abbott was selected as a 2016 Nuffield Scholar via a formal and established selection process, which included input from Hort Innovation.

This project had the following activities and timelines:

- 1st April 2015: Applications for 2016 Scholarships opened.
- 30th June 2015: Applications for 2016 Scholarships closed.
- Mid-July 2015: State-based selection panels short-listed applicants by face-to-face interview.
- August 2015: Final selection interviews were held in Melbourne, Victoria.
- September 2015: Scholars announced at the Nuffield National Conference, which included scholarship briefing and Awards Dinner, held in Albury, New South Wales.
- March 2016: Participation in the Contemporary Scholars Conference (CSC), held in Cavan, Ireland.
- June – July 2016: Participation in the "India" Global Focus Program (GFP) with other scholars.
- July 2016 – September 2017: Individual study undertaken (8-9 weeks).
- September 2017: Verbal presentation completed at the Nuffield Australia National Conference, held in Darwin, NT.
- November 2018: Written report finalised and released to industry.

Matthew participated in the 2016 Contemporary Scholars Conference in Cavan, Ireland, from 23 February to 12 March 2016. A full report is available here:

<http://www.nuffieldinternational.org/csc-conferences/2016/2016-csc.html>

Matthew also participated in the 'India Global Focus Program (GFP), travelling to four continents over six weeks. There were nine participants on this GFP, including five other Australians, one scholar from Ireland, one Canadian, one from the UK and one Scholar from New Zealand. These Scholars received a two-day briefing in Singapore on Wednesday 8 June and Thursday 9 June.

Following two days of briefings about global agriculture and trade in Singapore, Matthew travelled to India, Qatar, Turkey, France, Washington DC and Nebraska in the USA, departing Thursday 7 June and returning on Thursday 21 July 2016.

In addition, from July 2016 Matthew participated in eight/nine weeks of individual study, focusing on his study topic of increasing the value of bananas, branding and product identification, markets for "out of spec" bananas and export opportunities. He travelled to Japan, Europe and the USA as part of his research.

He presented the findings of his study at the 2017 Nuffield Australia National Conference, which was held in Darwin, NT, from Tuesday 19 to Thursday 21 September 2017.

Outputs

Matthew has presented the findings of his study to his peers at the Nuffield Australia National Conference, presenting over two conference days. His presentation can be found [here](#).

In his presentation, he highlighted how in Australia, there are multiple options to increase value from banana production and that whilst growers often find it easier to focus on the 'growing' side of their business, they also need to consider the bigger picture and where their product fits.

Specifically, he made the following recommendations:

- Branding is essential to establish a premium return on fresh retail sales.
- To increase consumption, the industry needs to increase 'choice' in the banana category.
- Find ways to brand fresh and value-added banana products which reduce packaging, or at the very least utilise biodegradable packaging.
- There is limited growth potential in the domestic market, so export opportunities are needed.

Matthew's final, 10,000 word written report with recommendations can be found [here](#).

A media profile has also been created and released to rural and regional media outlets, highlighting Matthew's report findings. This is available in **Appendix 1** of this report.

Outcomes

The longer-term outcome of this project is the successful completion of a Nuffield Farming Scholar from the horticulture industry, in this case Matthew Abbott, a banana grower from Innisfail in Queensland. Please find his research outcomes under the recommendations section of this report.

In Matthew's words, taken from the acknowledgements section of his Nuffield Scholarship report:

"Thank you to Hort Innovation and the Australian Banana Growers Council (ABGC) for supporting this scholarship. The Nuffield journey has given me more than I had ever imagined. Through this opportunity I have experienced significant personal development which has enabled me to develop my leadership role at the farm and within the community. My confidence when interacting with people, the ability to negotiate peaceful and fruitful resolutions to problems and my competence at public speaking have all been furthered through completing this scholarship. Through the travel I have gained many valuable insights, ideas and knowledge that I will be able to apply to farming and the business".

"I would highly recommend a Nuffield Scholarship to anyone involved in the agricultural sector. This journey has thrown some very big challenges at me and pushed me far out of my comfort zone. Looking back now I can see how important a part that played in broadening my mind and personal development. I thought I did not have the time to spend away from my business, but I now realise how personally significant the benefit of this scholarship has been, and I am extremely glad I set aside the time to do it.

The beneficial results of this are a significant boost to the horticultural sectors' understanding of the international forces affecting the industry and the need to adopt new technology and management

practices to continue to maintain productivity growth. Other beneficial results include informed leadership in the industry, encouragement for greater participation by younger farmers in the horticultural industry, nurturing of a mindset amongst young farmers to take a global perspective of their enterprises, encouraging an ethos of lifelong learning and membership of an elite group of farmers around the world – an invaluable lifelong network of contacts and information transfer.

Evaluation and Discussion

Matthew has completed his scholarship and has gained knowledge and a greater understanding of the international forces affecting the horticultural industry. He has also gathered knowledge of new technology and management practices that can be adopted in his business to drive productivity growth. He has, and will continue to, disseminate the findings of his study to the banana industry to further enhance productivity.

It has taken some time for Matthew to process and rationalise the information gathered during his scholarship research. Ultimately, there are number of key recommendations to assist growers in increasing the value in the bananas they produce that feature in his final report.

He will continue to grow into a leader in his industry, have an ethos of lifelong learning and encourage greater participation by younger farmers.

The personal growth of Matthew as he has participated in the scholarship process is significant, as he now deploys new findings to great effect in the business environment.

Other learnings from this project include:

- The creation of more leaders in agriculture from within the horticulture industry.
- Producing a network of Nuffield Scholars internationally, to enhance knowledge transfer.
- Providing a direct and immediate understanding of changing consumer preferences and trends.
- Delivering the latest new global innovative, technological advances directly from Scholars.
- Assisting to create a legacy of leaders in agriculture for future generations.

Recommendations

Matthew concludes in his report that there are multiple options to increase value from banana production. Whilst growers often find it easier to focus on the 'growing' side of their business, they also need to consider the bigger picture and where their product fits. Understanding the consumer and marketing to them is an essential component of a successful business model. By understanding how the consumer views uses and would like to use a product, products can be better tailored to meet their needs.

He clearly outlines several recommendations for industry, following his scholarship journey. Four of these recommendations are as follows:

1. Branding

Branding is essential to establish a premium return on fresh retails sales. Only once consumers recognise a brand and the value in that brand, will a producer be able to retain retail space over 'other'

fresh bananas. Otherwise a product is too easily replaced in what may appear a 'commodity' type market. The brand must be owned by the producer rather than the retailer, otherwise the product is easily replaceable. To establish a successful brand, there must be something that sets this product apart, for example something relating to the banana itself, growing practices or packaging.



Banana display at a Japanese retail store. Six Cavendish banana lines with five separate price points. (Source: M. Abbott, 2017)

2. Utilising out-of-spec bananas

Waste bananas need not be 'waste' as the technology is available to utilise out-of-spec fruit and potentially turn it into a premium product more valuable than the fresh market. Bananas are a healthy product with many traits which make them ideal in value-added food products. The banana industry needs to expand the variety for consumers and increase the consumption of bananas beyond the fresh category.

3. Packaging

Find ways to brand fresh and value-added banana products which reduce packaging or, at the very least, utilise biodegradable packaging. This trend may not be significant enough at present to change the way consumers purchase or how companies operate, but it is inevitable and being at the forefront of this technology will prove advantageous.



Biodegradable packaging used to sell organic grape tomatoes in the USA (Source: M. Abbott, 2017)

4. Export opportunities

The Australian domestic banana market is not large enough to allow significant expansion in sales. We have an extremely high consumption rate per capita compared to other countries, and this is an example of the limited growth potential we have domestically. Exporting our product is the only way our domestic industry can continue to grow the volume produced for our fresh category. Further detail from Matthew's individual study can be found in his written and verbal reports, links above.

Scientific Refereed Publications

Report link: <http://nuffieldinternational.org/live/Report/AU/2016/matthew-abbott>

Intellectual Property/Commercialisation

No commercial IP generated.

References

A full list of references can be found in Matthew's individual, written report and are highlighted below.

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Acknowledgements

Acknowledgements can be found in Matthew's individual, written report.

Investors make a monetary contribution to support each scholarship annually. Nuffield Australia Farming Scholarships acknowledges the generous contribution that Hort Innovation provides to the program to assist in the development of our most important resource in agriculture – human capital – as they are key to ensuring a profitable and sustainable industry in the long-term.

Appendix 1 – Scholar Media Profile

MEDIA SCHOLAR PROFILE

Banana branding: how to boost the farmgate value of Australia's bestselling fruit

The Australian banana industry must capitalise on enhanced marketing and branding opportunities to secure stronger and fairer returns for their fruit and strengthen the long-term viability of the industry.

That's according to a report released today by third generation Queensland banana grower and 2016 Nuffield Scholar, Matthew Abbott.

With support from Hort Innovation and the Australian Banana Growers' Council, Mr Abbott's report looks at avenues to increase the returns available to banana growers through key areas of branding, marketing of "out of spec" products and export opportunities.

Recognising that the high volume of quality banana production was not being reflected in returns to growers, Mr Abbott was motivated to undertake his Nuffield research to work out what growers could do to boost their profitability.

"Bananas are bought by more Australian households than any other fruit. In 2016, over-supply saw sale volumes rose 7.5 per cent, but the value decreased by 7.7 per cent at the same time. Essentially, banana growers are working harder and producing more than ever before, but getting paid less to do so," Mr Abbott said.

Exploring the role of branding in driving banana value, Mr Abbott's report finds that banana growers need to establish brands that set their products apart from the rest.

"Branding is essential to establish a premium return on fresh retail banana sales. The brand recognition might be related to the banana itself, or the way it is produced or packaged, or the story behind it.

"Uncle Matt's Organics in the United States provides a clear example of the power of a strong brand to attract a price premium. Producing and selling fresh organic fruit juices, the brand has developed a narrative around sustainable and low-waste production systems that is attracting a price premium from consumers."

With environmental sustainability becoming an issue of increasing concern for consumers, banana packaging will also be a key value driver for growers.

"New technologies with the potential to reduce packaging and still clearly define a brand are being trialled both in Australia and abroad and being at the forefront of these technologies will be advantageous for our industry going forward," Mr Abbott said.

"In Spain, a company called Laserfoods is using laser printing to change the colour of cells on the surface of the skin of produce. They print the brand or specification on to the product itself, totally eliminating the need for additional packaging."

The report also explores various markets for bananas that fail to meet retailer specifications. Due to defects with peel or size, Australian banana growers estimate that between five and 30 per cent of bananas can be rejected.

"There are limited markets for out of spec fruit in Australia, but these 'waste' bananas don't necessarily need to be thrown away. Technology is available to use this fruit, and there is potential for it to be used in premium value-added products like smoothies, banana crisps and dried fruit.

Exploring export opportunities for bananas, the report also recommends that market research be conducted to determine suitable markets for Australian bananas.

"Our domestic banana market is not big enough to allow significant expansion in fresh banana sales, particularly given the fact that our per capita consumption rate is already very high.

"Exporting our product will be a key volume driver into the future, and with the nearby Asian middle-class growing at a rapid rate, we have a distinct opportunity to increase our banana exports through market research and identification of key markets.

"By increasing the focus on the bigger picture and working to successfully articulate the benefits that their products offer, both here and abroad, Australian banana growers will be able to achieve better returns for their high-quality fruit and ensure the future sustainability of the industry."

Matthew Abbott was supported by

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Final Report Link: <http://nuffieldinternational.org/live/Report/AU/2016/matthew-abbott>

Final Video Link: <https://www.youtube.com/watch?v=2RA1faj9mRs>

ENDS

Increasing Value through Branding

An investigation for the Australian banana industry

A report for



By Matthew Abbott

2016 Nuffield Scholar

November 2018

Nuffield Australia Project No 1615

Supported by:



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Executive Summary

The Australian banana industry has seen year on year increases in banana production (ABGC, 2017). However, the increase in production has not been met with an increase in the value of the product. In 2016, while the banana industry experienced a 7.5% increase in banana production, there was a 7.7% decline in the value of the product produced (Paul, 2017). This is not a sustainable situation for the industry.

With declining profit margins, there is a need for banana growers to be provided a higher return for their product. However, considering the basic economic principles of supply and demand, an increase in supply does not necessarily mean there will be a proportional increase in consumer demand. Therefore, producers need to identify ways to differentiate their product on the market place and command a higher price.

Product branding is a method to differentiate products on the retail shelf. Only once consumers can identify a product are they able to appreciate what distinguishes this product from competing products. There are some important considerations around branding such as what feature is to be highlighted, what message is to be conveyed to the consumer and what packaging will support the product to allow the brand to be visible. The brand, the brand message and product packaging must also align to provide a consistent message.

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Foreword

Growing bananas is in our family and in my blood. The banana industry is an industry I have been involved in ever since I was 'allowed' to help dad up in the paddock. My brother and I are the third generation of our family to be involved in the family farm. All I have ever wanted to do was be a farmer. After I finished school, and following a carpentry trade, I knew all I wanted to do was grow bananas. However, it had to be a business that was profitable.

When I was younger, I remember often watching dad struggling to get a decent return for his fruit, regardless of quality. As I became more involved with the business, it became evident that to be viable change was necessary. The need to make our banana business more profitable for the long-term future of our farm has driven this Nuffield Scholarship report. I wanted to investigate how our business could get a greater return for the product we produce.

My passion extends beyond just our family business. I am very passionate about growing healthy, safe, nutritious food that is produced with an environmentally sustainable system. I also believe there is significant potential for the Australian banana industry to expand into products derived from bananas. This would allow the industry to utilise out of specification waste bananas and develop new market opportunities and potentially capturing new consumers.

Acknowledgments

Completing the Nuffield Scholarship has required a significant time commitment away from family and the business. Without the support of my family, farm manager Chris Peterson and all our hard-working staff, I would not have been able to complete these activities. Every one of the farm staff team does a wonderful job everyday doing their part in working together to grow quality organic bananas.

My brother, Ben Abbott, has unselfishly taken over the role of overseeing both of our farms to allow me to complete my studies.

The support of my wife Naomi, encouraging me to travel, her help organising travel arrangements and her unselfish attitude towards lengthy stays away from home have all contributed to my studies.

Thanks also go to my father and mother for their encouragement and unconditional support.

Thank you to Australian Banana Growers Council (ABGC) and Hort Innovation for supporting this scholarship. The Nuffield journey has given me more than I had ever imagined. Through this opportunity I have experienced significant personal development which has enabled me to develop my leadership role at the farm and within the community. My confidence when interacting with people, the ability to negotiate peaceful and fruitful resolutions to problems and my competence at public speaking have all been furthered through completing this scholarship. Through the travel I have gained many valuable insights, ideas and knowledge that I will be able to apply to farming and the business.

I would highly recommend a Nuffield Scholarship to anyone involved in the agricultural sector. This journey has thrown some very big challenges at me and pushed me far out of my comfort zone. Looking back now I can see how important a part that played in broadening my mind and personal development. I thought I did not have the time to spend away from my business, but I now realise how personally significant the benefit of this scholarship has been and I am extremely glad I set aside the time to do it.

Abbreviations

ABGC – Australian Banana Growers' Council

g - grams

kg - kilograms

Out of Spec – Out of Specification

USA – United States of America

Objectives

The Australian banana industry has been in a period of 'oversupply' for most of the last two years. During this period, the cost of production has often been greater than what growers are being returned for their product. This is not sustainable.

Nielson data shows 94% of Australian households buy bananas which is higher than any other fruit (Paul, 2017). In 2016, the volume of banana sales was up 7.5%. However, during the same period, there was a 7.7% decrease in the value of banana sales. Bananas retained their position as the number one item in the supermarket based on volume of sales, however, in recent years bananas have moved back to number two in terms of value of sales behind berries (Paul, 2017). The short of it is, banana growers are growing more, working harder and being paid less for their product.

The objective of this study program focuses on investigating "How to increase value through branding?" This will be discussed in four main sections:

1. Increasing the value of bananas.
2. Branding and product identification/
3. Markets for "out of spec" bananas/
4. Export opportunities.

Chapter 1: Introduction

Australian banana production has increased year on year (ABGC, 2017). Data recently released by the Australian Banana Growers' Council (ABGC) states the 2016/17 financial year is the largest ever production year for the Australian banana industry with 414,000 tonnes of bananas produced which is up from the previous year's record production of 395,878 tonnes of bananas in 2015/16 (ABGC, 2017). The irony of this production peak is it was not matched with an increase in the value of sales. From 2014/15 to 2015/16, while annual production increased by 24,889 tonnes, the value of sales declined by \$161.2 million from \$565.1million to \$403.9 million (Hort Innovation, 2017). This indicates that while supply has continued to grow year on year, demand for bananas has not increased at the same rate.

Australians have consumed between 15.5 kg and 16.4 kg of fresh bananas per year over the last three years (Hort Innovation, 2017). Most households purchase bananas with each shop and their average shopping trip includes 844 g of bananas (Hort Innovation, 2017). These statistics may indicate there is limited opportunity in increasing conventional banana sales in the traditional banana category within the domestic banana market.

There were very small amounts of fresh banana exports from Australia and no imports of fresh bananas into Australia during 2016/17 (Hort Innovation, 2017). Some Australian companies have investigated exporting bananas from Australia. However, to date no Australian company has done this on a large and regular basis.

This report looks at avenues to increase the return on investment for the farmer and gain more value from standard Australian banana farming systems. Product branding and marketing is often overlooked by growers who believe their role ends at the farm gate. However, with a better understanding of what consumers want and then tailoring a product to meet these needs, growers may experience market growth for their product.

Chapter 2: Increasing the value of bananas

Understanding the market and the consumer is critical. Ultimately, when providing a product for consumers farmers need to understand what the customer values. At the 2017 Australian Banana Industry Congress, Fresh Produce Marketing Specialist Lisa Cork (2017) stated in her presentation the need for producers to stop viewing their product with a product centric approach and move towards a consumer centric approach. She emphasised the critical importance of understanding how the consumer 'uses' the product.

Increasing the value of bananas from a grower's perspective may mean increasing bottom line dollar value on returns and increasing demand for their product. However, this is only achievable once the consumer sees the value in the product. Therefore, rather than focusing on increasing returns, growers could benefit from a better understanding of the consumer's wants and then provide a product that meets these needs. An opportunity for increased returns would be created.

From the consumer's perspective, providing a product that meets their needs is vital. Whether the product is environmentally sustainable, convenient, safe, grown under different farming practices, free of certain inputs or just a different price point, these are some of the considerations that influence consumers. So too, when making choices to select one brand over another at the same price point.

On the flip side, growers also need to value what they do. Banana growing businesses need to understand what sets them apart from their competitors. In some cases, they may already have a product that consumers would find more 'value' in. However, without getting this message to the consumer, their product appears no different to other bananas on the retail shelf.

There are examples of businesses that have excelled at meeting consumer needs. Amazon is one example, but even Amazon has experienced challenges created by not fully understanding the consumer. When Amazon decided to move into China, they used the same marketing plan they had used in the United States of America (USA) and Europe. This did not work, and some valuable lessons were learnt. As a result, before Amazon entered

into India, they did considerable background research and the uptake of Amazon in India was then quite successful.

Jeff Bezos, the Founder, Chairman and Chief Executive Officer of Amazon, states there are three factors that continue to drive consumer trends over time; selection, price and convenience (Mossberg, 2016). Applying these themes in the context of the banana industry helps focus where opportunities may exist.

When you consider the above three factors of selection, price and convenience – consider milk production. From this one product, there are many different products of both high and low value that are able to be produced from it. Just within the milk range they have:

- Fresh milk – low fat, full fat, by breed of milking cow and more.
- UHT milk – for longer shelf life in a variety of pack sizes.
- Powdered milk.
- Flavoured milk.

Then consider the other products which are made from milk such as cheese, cream, yoghurt and butter.

There may be opportunities for the banana industry to implement a similar product range to the dairy industry.

Selection

Selection is about providing consumers with choices, whether it be with respect to varieties, quality grades, fruit sizes, growing practices or packaging options. Unlike other products in the fresh category, there are very limited choices in the banana category.

In all markets visited in Japan, Europe and the USA, Cavendish bananas were the most common variety. In the USA, there were also Plantains, Monkey and Red Dacca bananas available. However, the relative lack of varieties is a major difference when comparing bananas to other fresh categories. An alternative variety may present an opportunity for the banana industry.

In most USA shops, the main choice was either organic or conventional Cavendish bananas. They were often separated in the store to differentiate them. However, one store in Japan, illustrated in Figure 1, had as many as six conventional lines of Cavendish bananas. Each banana line was distinguished by traits such as size (Bobbys), sweetness, flavour, ripeness and well selected (quality). The bananas were all placed adjacent to each other on the retail shelf and all had different price points. Some shops had a price variation of up to 75% more for certain fruit claiming to be sweeter and of higher quality.

In both markets, bananas were marketed by farm and provenance. Provenance was especially important in Japan.



Figure 1: Banana display at a Japanese retail store. Six Cavendish banana lines with five separate price points. (Source: M. Abbott, 2017)

Price

Fruit is highly valued by Japanese consumers and is an important part of the Japanese culture. Fruit such as melons, peaches, mangoes and grapes are used as gifts for special occasions. In Japan, most produce was sold by piece rather than weight. On average, the price of fruit in Japan was more expensive than the USA and Europe. The average retail price was around \$1.00 per banana. There was little difference in price between organic and high-end conventional fruit.

In the USA, organic bananas retailed for about 30% more than conventional bananas and niche varieties retailed for about 50% more than Cavendish bananas. Fairtrade bananas

were common in Europe demanding a 40% higher retail price. In all markets, bananas were one of the cheapest lines available.

Convenience

A major trend in most retail stores visited in Japan, Europe and the USA were ready-to-go meals. While in the fresh category, 'fresh cuts' demanded a higher retail price. Most fruits sold as fresh cuts ranged from 50-100% more expensive at the checkout compared to the loose product.

Bananas in their standard form are already convenient, individually wrapped in a single portion size and no preparation is required. The fresh cut approach applied to bananas seems ironic. Fresh cuts would mean increasing packaging and the potential for contamination, while reducing shelf life. However, following the convenience trend it is common to find bananas pre-packaged in plastic bags rather than loose on the retail shelf, in all countries visited.

Convenience could also refer to availability of the product and ease of purchase. Bananas are available 52 weeks of the year which has historically provided an advantage over other products. However, with the development of new varieties and geographical diversification to increase growing seasons and imported products, the seasonal availability of other lines in the fresh category is increasing which is eroding the competitive advantage bananas had over other fresh products.

In respect to ease of access, due to their popularity bananas are often placed in a prominent section of the retail store. With the emergence of online shopping consumers can also purchase from the comfort of their own home. However, opportunities to place bananas at other retail points could be investigated. The banana vending machines launched by Mackays Produce Solutions in Brisbane is an example of 'thinking outside of the box' in terms of how consumers can access bananas.

A Case Study

Uncle Matt's Organics - USA

Uncle Matt's Organics is a company in the citrus industry in Florida that stand out in a very competitive industry. The company grow and sell organic fresh citrus fruit juices, infused-

fruit water, oil products and products made from the citrus rind. A significant investment in branding and marketing was made to deliver a convincing message to the consumer. Uncle Matt's Organic promote their products as being organic and more nutritious. By supplying a consistently high-quality product combined with the customer being able to identify their products on the retail shelf, the company have distinguished themselves from their competitors. Consumers perceive the value in Uncle Matt's products and are willing to pay more to purchase their product.

Ben McClean (personal communication, August 2017) from Uncle Matt's Organics emphasised the importance of quality when sourcing fruit from other growers for juicing. The company pays above market value for fruit that meets their strict product specifications. Another way Uncle Matt's Organics have increased value is by using as much of the fruit as possible and minimising waste. Such an example of value adding to what would typically be waste products is extracting oil from the rind of the citrus skin.

This case study validates the fact that consumers are willing to pay more for a brand if they trust the brand to consistently meet their needs. This consumer driven demand in turn assists the producer in converting from a "price taker" to a "price setter" and allows the producer more control over determining the return price.

Chapter 3: Branding and product identification

Branding is a way to connect the consumer to the product. It provides a way to identify a product and deliver the message which supports the product. Branding provides consumers with confidence to repeat buy once they develop trust in a brand. Branding can occur at more than one point in the supply chain of bananas, and the location will determine who in the chain receives the extra value that is returned. A reason perhaps why some Australian supermarket chains choose to use their brand on products.

Being able to differentiate, label or brand a banana so that it can be easily identified by the consumer has its challenges. As bananas ripen their skin becomes softer and hence more fragile. Handling at this stage can significantly affect quality. Therefore, branding the banana while green has a twofold benefit for the grower:

- Ensuring the additional handling is occurring when the fruit is less fragile.
- It helps the grower obtain the value from the supply chain.

The challenge is to find a solution to brand bananas that:

- Does not entail a massive amount of labour and cost.
- Still allows reasonable pack out efficiencies.
- Can work with a curved shape fruit like a banana.

Branding of some form was observed on nearly all bananas sold in the international markets of Japan, Europe and the USA. Branding was done by farm, producer, providence, supermarket, processor or packager and depended on the supply chain and consumer. In Japan it was also common to see a photo of the farmer who produced the product near the display.

Packaging

Often packaging is associated with the product to provide a location to place the product brand. Current ways bananas are packaged or identifiable in Australia include:

- Loose plastic bags.

- Heat sealed plastic.
- Plastic clam shell.
- Styrofoam trays covered in cling wrap.
- Plastic tape.
- Stickers.
- Wax tipped.

There were no additional options to the above in Japan, Europe or the USA. However, Japan wraps singles and clustered bananas in branded plastic bags, allowing the customer to make a choice over which brand to purchase. It was difficult to find bananas in Japan that were not sold in plastic. The amount of packaging the Japanese use has been a part of their shopping practice for a long time. This does not appear to be problematic as the Japanese are very efficient recyclers. In fact, the Japanese recycle 70% of plastic compared to the USA who only recycle 16% (Anonymous a, personal communication, July 2017). The need to brand and identify produce has resulted in considerable packaging. The need to move away from this to a more environmentally friendly way of branding does not appear to be a concern in Japan at present.

In the USA, bananas were branded with the aid of stickers or sticky labels wrapped around the entire cluster. In some instances, a combination of both branding methods were used simultaneously, as illustrated in Figure 2 below. Banana clusters generally consisted of five or six bananas with two or three stickers per cluster.



Figure 2: Bananas in the USA were branded with stickers, sticky labels or a combination of both. (Source: M. Abbott, 2017)

While environmental sustainability is becoming more important to consumers, convenience still seems to override at the retail level. Rabobank Vice President and Senior Analyst Roland Fumasi (personal communication, 18 August 2017) expects a greater shift towards more environmentally sustainable packaging before consumers demand products without packaging.

An example of environmentally sustainable packaging is illustrated in Figure 3. These organic grape tomatoes are sold in biodegradable cardboard punnets. This is a good example of the product's packaging suiting the product's brand message by marrying organic produce with biodegradable packaging.



Figure 3: Biodegradable packaging used to sell organic grape tomatoes in the USA (Source: M. Abbott, 2017)

Technology to reduce packaging

Newer technology with the potential to reduce packaging, while still identifying the product brand, is being trialled in bananas. The challenge for this technology is creating the supporting system and technology to ensure efficient application. The two products are:

- Edible ink (Digital Ink, Australia) - the fruit passes a print head with an electronic eye which prints the desired message on the fruit, as illustrated in Figure 4. The same technology also has an invisible ink.
- Laser printing (Laserfoods, Spain) - it uses light to change the colour of the cells on the surface of the produce's skin, as illustrated in Figure 5.

The challenge for both above mentioned techniques is developing the supporting system to allow efficient processing of the fruit through the system.



Figure 4: Edible ink used to print on to bananas (Source: M. Abbott, 2017)



Figure 5: Laser technology used to identify brands on a range of fresh products (Source: M. Abbott, 2017)

Online shopping is another avenue where the necessity for traditional branding and packaging may become superfluous. The option for online sales could possibly remove the need for physical branding. As the brand is identified in the catalogue and on the online order form, the need and cost of physically branding the fruit itself could be unnecessary.

Another variation in packaging is used by a dairy company called Rosa Brothers, located in California in the USA. Their milk is sold in glass bottles. Glass is a safer storage option because it is reusable, does not pose environmental threats or health risks by leaching harmful chemicals. The customer can return bottles to any store selling Rosa Brothers products and receive a discount on their next purchase. Rosa Brothers then collect, wash and re-use the bottles. This is a good example of a system that supports their own product and provides a recycling solution. From a branding point of view, glass bottles are a means to deliver a higher quality product and this is an integral part of their marketing plan. The consumer purchases with the knowledge that the product is packed in a quality container and that what they are buying is environmentally sustainable.

Further Case Studies

Farmstead

With the power of branding and the potential to capture value a Japanese company called Farmstead set up to offer a service to farmers to do just this. Farmstead specialise in branding and marketing. They spend time visiting the farming business, understanding the people and the ethos behind the business before developing the brand, packaging and promotional campaign. The business was established to sort greater profit for the farmers.

“Farmers are farmers, not marketers. They are good at what they do and our job is to help them get value from that.” (Anonymous b, personal communication, 18 July, 2017).

Farmstead have been successful in Japan and are now working with Asian businesses outside of Japan. The company emphasised the importance of understanding the customer and working from that perspective.

JK Farming

JK Farming in the USA grow organic grapes and cherries, conventional almonds, pistachios and lucerne (alfalfa). Being mainstream and a smaller producer, at times it was found that demand for the produce was low and hence it was difficult to get a decent return (Kosareff, personal communication, 21 August, 2017). The business did not have a market presence and were grouped in with all other table grapes as a ‘commodity’ (Cork, 2015). Three years ago, they decided to create a brand to market their table grapes.

A marketing consultant was engaged to work with the business to better understand the consumer and where the product was best suited. A brand was developed which associated 'fun and energy' with the product and displayed this message on newly developed paper and plastic bags (Cork, 2015). The plastic bags for retail stores and the paper bags for home delivery were developed. The home delivery was a new market identified through market research. This brand and packaging provided a way to differentiate their product. Since launching this new brand along with the supporting packaging, JK Farming representatives report demand for their product has significantly increased (Kosareff, personal communication, 21 August, 2017). This increased demand is coupled with a 10-15% increase in returns which was achieved within the first few weeks of launching the product (Cork, 2015). This is an example of a conservative marketing budget achieving real gains for the business. JK Farming are about to start selling cherries and manager Joe Kosareff (personal communication, 21 August, 2017) said the business is so satisfied with the results achieved in the grape category they will follow the same research and marketing approach for their cherries.

Chapter 4: Markets for “out-of-spec” bananas

Australian producers pack to the retailer’s required specifications which are aimed to please consumers. Bananas that do not meet these specifications are called “out-of-spec”. Often this fruit has no further value and is returned to the field as mulch. Anecdotal reports from Australian banana growers is waste at farm level due to fruit not meeting specification, varies from 5-30%. The main defects relate to sizing or marks on the peel, therefore, the fruit inside is unaffected. Some growers say they are in the business of selling skins and the fruit is a bonus.

Alternative fresh markets

There are limited markets for out-of-spec fruit to be sold on the fresh fruit market. Harris Farms (www.harrisfarm.com.au) own many specialty fruit and vegetable stores in Australia. They have an “imperfect” line where they sell several commodities, including bananas, at a discounted price due to the fruit not meeting product specifications. Woolworths has a similar line of products called the “odd bunch”, however bananas are not included. The challenges around discounted lines for products such as bananas are:

- Developing a method to identify the fruit at the check-out ensuring it is charged correctly.
- Avoiding higher production costs in packaging and branding.
- Not adversely impacting on the sales of the standard lines of fresh bananas.

Processing options

Processing bananas has both green and ripe options. Banana flour coming from green bananas has recently been developed by the Watkins family in North Queensland. Other ripe options include: dried – whole and sliced, frozen – whole and pieces, fried into chips, and puree. These can be consumed in these forms or used as bases in other products such as baby food, fruit drinks, milk, yoghurt and banana bread. These options create both high and low value products.

Processing also opens opportunities for new markets. Bananas sold fresh require an efficient supply chain and temperature control to maintain fruit quality. This limits the businesses and

supply chains that can be involved. Through processing there is an option to increase the stored shelf life of a product:

- **Frozen product** - Freeze the peeled/pulped flesh. When using this system for freezing a product, the steriliser or the aseptic filler (which are expensive components) are not required.
- **Aseptic filling** – Product for aseptic filling is first pulped, pasteurised (sterilised) and then it can be stored in an air-tight aseptic bag at ambient temperature for 12 months.
- **Cold pressed** – More commonly referred to as cold pressed but also known as High Pressure Processing (HPP). Products can be stored for 30-45 days. The product can be in its natural form (unprocessed). The HPP process takes away the need to sterilise/pasteurise a product.

An Italian company, Bertuzi, manufactures fruit processing equipment and provides various systems offering end product diversity. Bertuzi specialise in equipment for tropical fruit processing. This type of processing equipment varies depending on what type of end product is required. Whether it be pulp to store at ambient temperature, pulp to store frozen or a freeze dried product the processing system varies significantly.

Another company, Hyperbaric, produce cold press machines which allow products to be kept in their natural state and use water pressure to sterilise. It is commonly used in real fruit juices. The benefit of this process is the pathogens are killed without the need for heat, allowing the product to retain its original nutritional value. The machine goes up to about 6,000 bars for two to three minutes and then the product can be stored for 30-45 days. This kind of pressure is six-and-a-half times higher than what would be found at the deepest part of the ocean. This process results in food which is less processed than alternative methods and able to be consumed in a more natural form which is a trend driven by consumers. The product after HPP is claimed to be higher in quality and better tasting. An opportunity arises for bananas in which they can be used to form the base of many types of fruit juices and “smoothie” products.

Another issue raised when processing bananas is hand peeling. As labour is not an issue in developing countries hand peeling is still the dominant process to remove skins. However, in

Australia with high labour costs automation may prove to be more financially viable. An Italian company, Indelicato, have developed a machine to peel bananas. The machine and process are quite simple. Bananas are cut off at the stems, so each banana is a single fruit. Fruit is placed into the peeler and the pulps are cut into pieces, leaving the machine in one direction while the peels go in a separate direction. This has about a 50% recovery. The pulp is then passed through another machine to remove any small pieces of skin that end up in pulp.

Technology exists that allows fruit to be frozen, so that when it is defrosted it is like the day it was picked. Simply, the fruit is slightly dehydrated, just enough so when it is frozen the cells are not destroyed from the expansion of water inside the fruit. A company in Spain called Nice Fruits has been using this technology.

Considering the extra cost involved in processing and packaging, any value-added banana products must achieve a suitable retail price. Linking this consideration back to the first chapter, consumers will ultimately dictate which products have the highest value.

Chapter 5: Export opportunities

Using branding to highlight the attributes of Australian bananas; high quality, sustainable production practices and stringent levels of food safety creates potential export opportunities for a varied range of banana products. When growers take advantage of these additional avenues in which to market fruit and related products the prospect to increase value is present. Export offers the potential to do this.

Although official government documents, such as the Horticulture Handbook (Hort Innovation, 2017), state there were no bananas exported from Australia last financial year, 17 tonnes of Australian bananas were exported from Australia to Japan in this period (Anonymous a, July 2017). The Australian brand is well recognised as being of high quality and safe. With the relatively small size of the industry in comparison to other banana producing countries, Australian producers may benefit from working together, rather than as individual entities, to develop an Australian banana brand.

With the Asian middle-class economy growing at a rapid rate and being in close proximity to Australia, the Asian markets present an opportunity for potential customers. Every year there are more new millionaires in China than people in Australia. With market research to identify where our product is best suited new export markets may open for fresh bananas.

Conclusion

Increasing more value from the product produced sounds simple but as this report outlines, it is a multilayered issue with many possible solutions. Essentially, it is like the chicken and the egg. What comes first, the product or the consumer desire for the product?

While growers often find it easier to focus on the 'growing' side of the business, the need to consider the bigger picture and where the product fits is required. It is not enough to produce, pack and send a product off to market and just hope the returns cover costs and leaving some margin for profit. Producers need to successfully articulate the benefits that the product offers.

While marketing and understanding the consumer may seem like a distant problem and the endless consumer demands overwhelming, it is an essential component of a successful business model.

By understanding how the consumer views, uses and would like to use a product, these products can be better tailored to meet their needs. However, it is only through product branding and marketing that any product can stand out from the rest and be identified by consumers.

Recommendations

It has taken some time to process and rationalise the information gathered during this scholarship. Ultimately, there are number of key recommendations to assist growers in increasing the value in the bananas they produce:

- **Branding** – Branding is essential to establish a premium return on fresh retail sales. Only once a brand is established and consumers recognise the brand and the value in that brand, will a brand of banana retain retail space over ‘other’ fresh bananas. Otherwise a product is too easily replaced by other products in what may appear a ‘commodity’ type market. For the producer to gain the value, the brand must be owned by the producer not the retailer, or once again the product is easily replaceable from another producer. There must be something that sets this product apart to create a successful brand. It may relate to the banana itself, the growing practices or the packaging which supports the product. Whatever it is, there must be something that differentiates the product from its competitors.
- **Utilising out-of-spec bananas** - Waste bananas need not be ‘waste’. Technology is available to utilise out-of-spec fruit and potentially even turn it into a premium product more valuable than the fresh market. Bananas are a healthy product, with many traits such as the creamy texture, which make them ideal in value-added food products. In order to increase consumption, the banana industry needs to increase the ‘choice’ in the banana category. For example, frozen bananas for the breakfast smoothie, dried banana for the mid-morning snack, banana crisps as an alternative to potato chips and chocolate-coated bite sized frozen banana pieces for a late night treat. Expand the variety for consumers and increase the consumption of bananas beyond the fresh category.
- **Packaging** - Find ways to brand fresh and value-added banana products which reduce packaging or at the very least utilise biodegradable packaging. Depending on the product the packaging needs will vary. However, in each instance consider how to reduce the impact on the environment. This trend may not be significant enough at present to change the way consumers purchase or companies operate, but it will happen and being at the forefront of this technology will be advantageous.

- **Export opportunities** – Australia’s domestic banana market is not big enough to allow significant expansion in fresh banana sales. The already extremely high consumption rate-per-capita in Australia, compared to other countries, is one example of the limited growth potential in the domestic market. Exporting banana products is the only way the domestic industry can continue to grow the volume produced for the fresh category.

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Plain English Compendium Summary

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| Project Title: Increasing Value through Branding: Investigation for the Australian banana industry | |
| Nuffield Australia Project No.: | 1615 |
| Scholar: | Matthew Abbott |
| Organisation: | BARAMA Investments Pty Ltd 929 Utchee Creek Road Mena Creek QLD 4871 |
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| Objectives | The objective of this study program focuses on investigating “How to increase banana value through branding?” This considered 4 main topics: <ol style="list-style-type: none">1. Increasing the value of bananas2. Branding and product identification3. Markets for “out of spec” bananas4. Export opportunities. |
| Background | The Australian banana industry has seen year on year increases in banana production. However, the increase in production has not been met with an increase in the value of the product. Producers need to identify ways to differentiate their product from the conventional banana ‘commodity’ and command a higher price. |
| Research | Retail businesses in Japan, China and the USA were visited to investigate how bananas were marketed. This included examining the range of banana lines available to consumers, the price premiums, branding/packaging and utilisation of ‘waste’ banana material. Successful case studies in other produce lines were also visited to identify what these respective organisations did to achieve a price premium for their product. |
| Outcomes | There were three key areas identified where banana producers could gain more value: <ol style="list-style-type: none">1. Branding and product identification2. Developing new product lines from ‘waste’ bananas3. Export opportunities |
| Implications | An increase in banana product ‘options’ for consumers could potentially lead to consumers placing higher value on branded, value added or new banana varieties. The potential to access new export banana markets could assist Australian banana producers in receiving more ‘value’ for their banana products. |
| Publications | Abbott, M., 2017. Nuffield Presentation, Presentation ABGC AGM, South Johnstone (29 November, 2017). ABGC, 2017. Nuffield Scholar Matt Abbott, Australian Banana Growers Council video, https://www.youtube.com/watch?time_continue=220&v=eG1Tykw0u2g (June, 2017). |