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FUTURE FARMING

EXPORT OPPORTUNITIES FOR THE NORTHERN VALLEYS OF
WESTERN AUSTRALIA

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Future Farming, a Horticultural Perspective

Background

This work has been written by Brett Heather and commissioned by Carolina Brander of the West Midlands Group to build on the work conducted by the team at Coriolis. The report presents a practical real-world operational view of developing a horticultural business in Western Australia. The document has been written to give some practical insights for growers in Western Australia to consider and leverages insights from Brett Heather who has worked with horticultural producers in Europe, US, South America, the Middle East and across Australia. Brett has worked with retailers in the UK and Australia and has a detailed understanding of their supply requirements. This summary touches on three horticultural crops of mangoes, citrus, potatoes and draws some broad insights into driving a compelling business model across horticulture.

Introduction

The first thing with any good business is to put the consumer first and to understand the key attributes they are looking for from the product being offered. In a horticultural context, often this is a balance between price, quality and service (quality being flavour, aesthetics, shelf life, food safety, cooking quality etc). Getting this offer right underpins any strategy to branding as a grower, a grower group or a regional brand. Consumers can often be disappointed with quality which holds them back from further purchases, reducing demand and undermining profitability of the farming enterprise. Price of product is often a simple reflection of **supply** and **demand**. During periods where supply is constrained (ie early season product), prices are often high. Somewhat perversely, as supply builds in the middle of the season, quality often picks up but prices can be greatly reduced due to large volumes becoming available. To help reduce volumes on the local market and to stabilise prices, looking to new markets can help change the demand side of the pricing equation. There are many markets and many different consumer preferences; new market avenues could include sales to retail chains (Woolworths, Coles, Aldi etc), independent retailers, independent fruit and veg shops, the central markets, food services, farmers markets or export markets.

The transition to higher volumes of produce across many sectors is driving lower margins across generally larger farming footprints. Most other industries have marched a long way down this path, look at the car industry, the aerospace industry, computer chips, telephone manufacturers, they are all dominated by large very efficient players. Not many of us walk into a car yard complaining that the Toyota they want is too cheap. We live in a world of competitive markets and “down down prices” across the consumer sphere, including fruit and veg.

“What are the key features of this new horticultural world we are transitioning into” is a question sometimes asked? There are a number of general trends seen across many regions of the world. Firstly, farming is not the “life-style” pursuit it once was. Vast sums of money are being poured into farming from huge multinational companies ranging from broad acre wheat and sheep, to vast intensive horticultural farms. Farming is big business. As such a clear understanding of profitability is critical to surviving and competing in world markets. The three big drivers to profitability are price (influenced by quality and access to markets), revenue (yield) and costs (often labour being the major component). Understanding this profit equation in an environment where margins are being squeezed is critical.

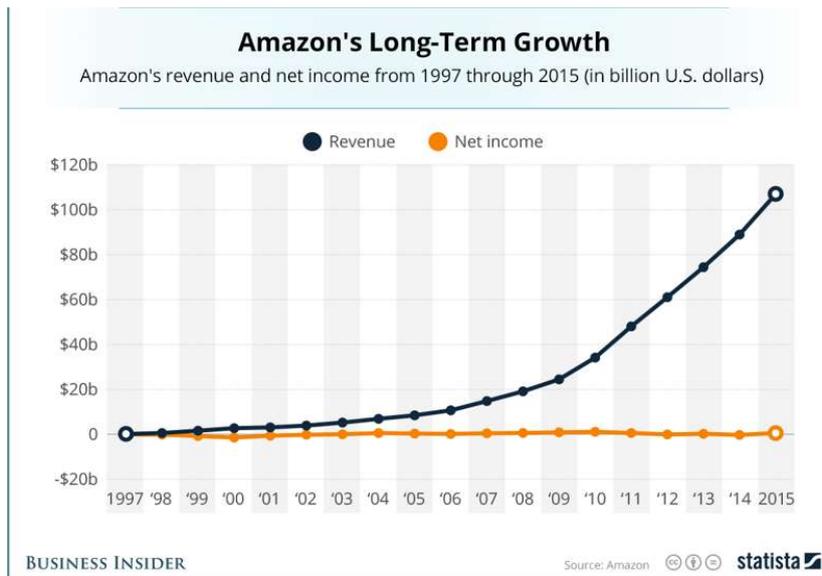


The examination of different on farm profit models might not be a popular conversation at the local pub, but it is critical to ensuring you can cover the tab! Models help to develop a picture of where the “sweet spot” is on farm. Different commodities will have different financial models with different key drivers, but the principles are very similar. Some recent modelling showed a significant jump in profitability through increasing fruit size to a larger in demand profile. Examples also highlighted the significant impact to profitability by increasing class 1 yield. One example showed the more that was produced, the more the farmer lost, because the crop was simply not of the size and quality being demanded by customers. Models help quantify the size of the prize! Understanding how operational changes on farm impact profitability is key to being able to make changes that drive the biggest return on investment.

These models are fascinating tools for those with an inquisitive mind who are driven to succeed. These insights help to focus on process improvements and labour efficiencies, strengthening the bottom line. An interesting case study by the WA Ag Department (DPIRD) showed that if a manager “could increase both prices received and production by 10% as well as reduce the cost base by 10% the farm business’s profit would double (100% increase)”. This astonishing finding would be hard to believe without performing the exercise. This case study also found that “Surveys of some of WA’s top performing farm business managers showed they are focused on the business performance as well as the farm operations”. <https://www.agric.wa.gov.au/generating-more-profit-your-farm-business>. We are often busy on farm with the “doing” and don’t spend enough time on the “thinking” and analysing business performance.

Engaging in on-farm modelling can often “throw up” real world operational targets. If we focus our minds on a 10% increase in production, we may choose to invest in fertigation and soil moisture technology or new crop genetics. Delivering a price increase from the model may open up decisions to export or improve supply chain handling practices. The point here is that if we aren’t measuring these business drivers we won’t be managing them efficiently and no export market will provide a silver bullet. Understanding where best to allocate capital to ensure the greatest return to farm is becoming increasingly important in a world where margins are being squeezed.

Amazon – Business growth with very little shareholder profit.



Amazon is one of the most stunning examples of a business that has chased growth whilst being satisfied with low profits. This is an extreme example that shows how competing businesses are happy to work on slim margins with large volumes, driving prices down. There are many family farms and corporate businesses contemplating whether staying small and making 10% of \$1 million (\$100k), versus growing substantially and making 5% of \$50 million (\$2.5 million) is the right avenue. The reality is, the majority of businesses are expanding and increasing supply, pushing more product into markets, changing the supply / demand equation. Margins are often good on the “frontiers” of new categories or innovative products with limited supply. High margins often bring new entrants, supply expands and margins “normalise”.

A Western Australian Snapshot – Potatoes, Mangoes and Citrus

Looking at a number of Western Australian horticultural industries shows various opportunities and challenges. The Western Australian potato industry is relatively small in comparison to other Australian states, producing approximately 5% by volume (West Midlands Group Potato case study – Carolina Brander). WA has only recently deregulated, and is considered to have lower average yields and higher costs compared to national and international benchmarks. The Tomato Potato Psyllid has also been a major recent constraint to the industry, which has seen significant contraction. Looking at experiences in the UK where a vast number of varieties are available for consumers for almost every occasion, there seems to be an opportunity locally to replicate this. Often though, such opportunities are only realised through retail demand from a large supermarket wanting to differentiate their offer in store to consumers, which encourages and rewards (with strong prices) suppliers to grow new varieties. Retail competition can be painful for producers but can also drive significant innovation, with new product developments and new “tiering” opportunities with the development of “good, better, best” offers to consumers.

Examination of the mango industry shows that WA produced 3% of national production (West Midlands Group – Mango Case Study – Carolina Brander). Total Australian production for 2015 was 66,087 tonnes worth \$191 million, with 11% going to fresh export, 83% Fresh supply, 6% processing (Mango Fund Annual Report 2016-17). Often gluts in pricing during peak periods can be overcome by exporting. There are a number of export markets such as Honk Kong, Singapore, China, Korea, Japan and the Middle East. There is however, no substitute for quality and getting it right on farm

and ensuring the best post harvest processes are in place. Often the Western Australian industry is challenged with many small growers lacking the volume required to export or the capital required to invest in farm management specialists (agronomists, fertigation specialists, pack shed specialists etc) and in capital items such as large efficient packing facilities, post harvest dipping equipment, cold storage and fertigation set ups. A number of markets also require vapour heat treatment and block registration which needs a level of scale to achieve.

According to the Citrus Australia 2017 annual report, the 2017 citrus season saw 273,232t of citrus exported at a value of \$462 million. 42% of Australia's \$1.1 billion in fresh horticultural exports were citrus. 2017 saw a 19% growth in volume and 32% growth in value; this is a stunning example of an industry that is booming on the east coast. There are not many examples where more production is rewarded with higher prices, this example highlights the China phenomenon and the huge demand from this country driving strong prices back to producers. Again, the statistics highlight Western Australia as a very small player, with around 3% of production, pointing to a significant opportunity for development.

Like any market, Western Australia has a number of strategic advantages as well as challenges. WA has a relatively small market compared to the east coast of Australia, Europe, California or Asian markets. Scale within horticulture brings many advantages to businesses including reduction of fixed and variable costs and allows for significant investments in automation. Scale also attracts high-level skill sets not easily afforded by small players.

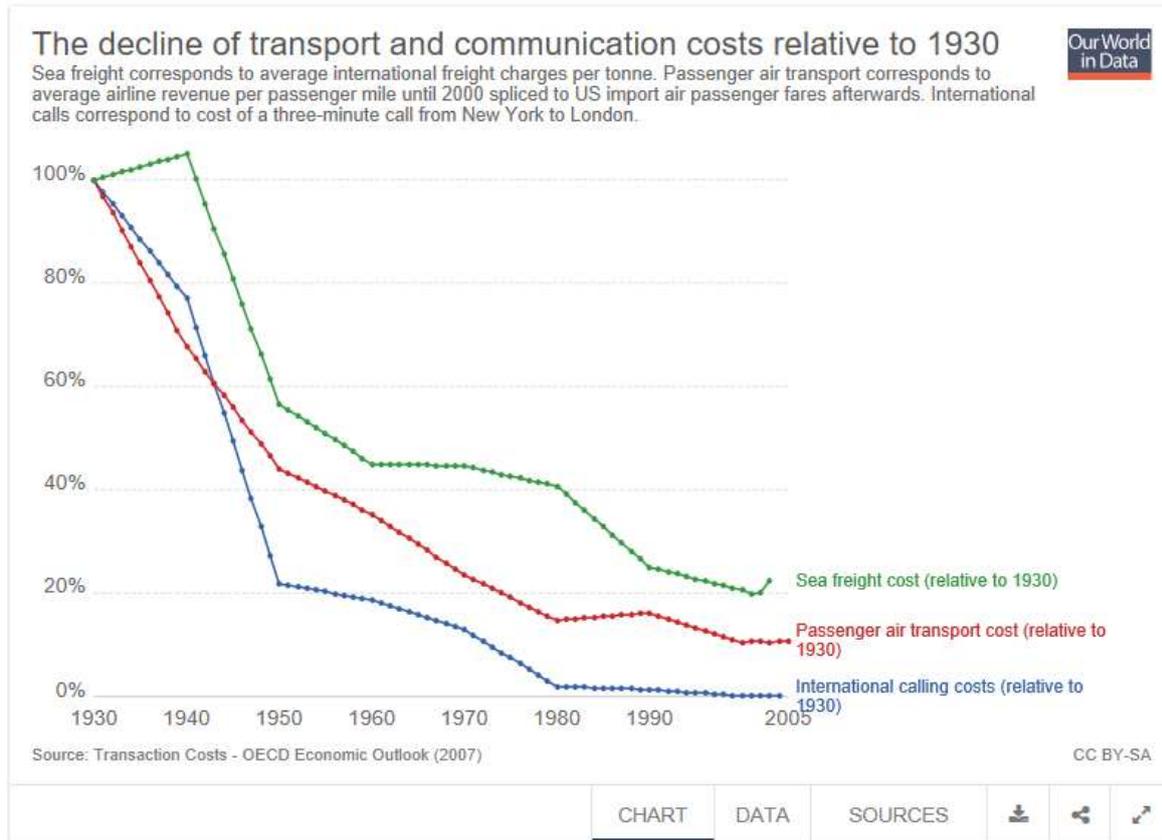
A View from the Coriolis Team

Results from work conducted by the Coriolis team suggests that "Western Australia is poised for agrifood export growth at the beginning of the Asian Century. Agrifood has the opportunity to reposition itself as a key export sector for the state."

The Coriolis research suggests "following a flat period through the mid-2000s, Western Australia's food & beverage exports have grown at a compound annual growth rate (CAGR) of 6% per annum for the last decade, reaching \$6.1b in 2015. The majority of these exports go to Asia (\$4.3b) and the Middle East (\$1b).

Western Australia's competitive advantage in agrifood is built upon multiple layers. Western Australia has a modern food industry that produces safe food from a clean and trusted environment, located in the same time zone as Asia's major markets. Combining these factors with skilled people and a compelling story positions Western Australia favourably against peer competitors." Coriolis Target Market Opportunities in Asia for Western Australian Premium Products 2016.

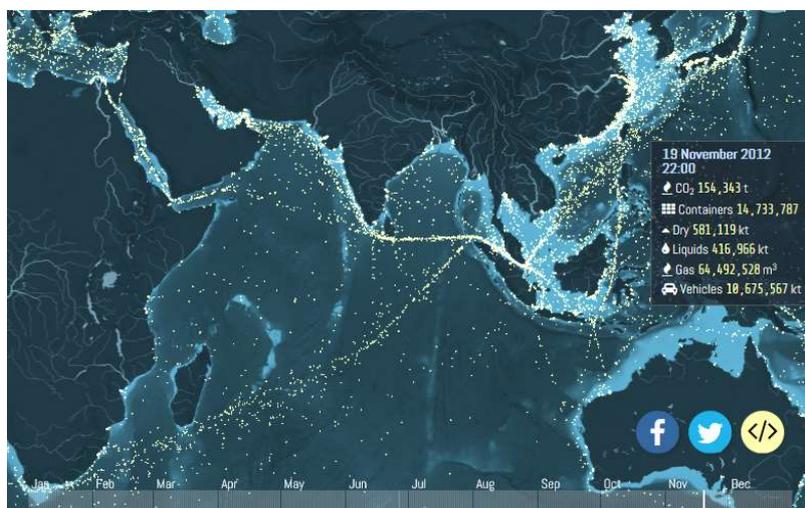
There are certainly some great opportunities highlighted in this work, although the data also points to the significant gap that currently exists in Western Australia with the various challenges horticultural producers face. However if you think horticulture has "got it tough", the next graph from "Our World in Data" shows the incredible pressures faced in other industries that have seen huge changes to their business models. Business costs have altered significantly over time and since the 1930s, a phone call is now 98% cheaper, a flight 85% cheaper and sea freight 80% cheaper. However as seen in Horticulture, many costs have increased in these businesses. Reduced margins have driven economies of scale and innovation, which has been vital to developing new growth areas. Within horticulture, there are examples of like-minded producers working together to achieve economies of scale, good examples of this can be seen around the world including in Australia, South Africa, France and Chile, this may be a good option for small producers in Western Australia.



What does future farming look like – what’s on the next horizon?

Improving prices to producers in markets that are moving from being supply constrained to a position of abundance can come through tapping into export markets, note the citrus story. The picture below from Kiln Digital shows a stunning representation of global trade “happening in an evening”. The lights represent ships moving across the planet with cargo. What is stunning is the huge volume of traffic satisfying an insatiable appetite for goods through South East Asia and particularly China. Far from being an Australian takeover, the map shows a “pouring” of trade into and out of Asia.

Map Showing World Trade via Sea Freight.



<https://www.kiln.digital/>

Developing an export capability requires a disciplined approach, utilising sound business practices. World markets are competitive and competing countries in the southern hemisphere such as New Zealand, South Africa, Chile, Brazil and Argentina generally have a compelling offer when it comes to price, quality and reliability. Moving from supplying a central market to export markets brings a greater expectation of storage life, particularly when sending product sea freight.

Critical to exporting horticultural crops are strong in field agronomic practices, including fertigation practises ensuring the crop receives the right nutrients in small regular doses. It includes a strong focus on irrigation management (not over / under watering) and ensuring the right genetics are being farmed. Quality and a focus on post-harvest practices such as picking, packing, cooling (time temperature management), fungicide applications become critical. Large infrastructure investments are often needed, particularly in cooling and packing.

The Next Horizon - Future Farming Themes Improving on Farm Efficiencies.

- There will be a continuing array for digital hardware that can be utilised to make informed real time decisions in the orchard, such as soil moisture probes, evapotranspiration sensors, dendrometers for trees, stems and fruit, camera systems to capture crop health (stress factors and pest presence). All of which will continue to make their way into mainstream horticultural businesses with convergence from many software platforms to a few platforms that integrate with an array of hardware and data sources such as BOM. Miniaturisation and lower costs are driving tech into mainstream farming.
- Improved predictive capabilities of agronomic practices including soil moisture / fertigation scheduling based on crop intelligence (run through Artificial Intelligence type insights that understand crop phenology), as well as detailed 24hr forecasts. Improved crop scouting for pests / weeds that can be conducted in a more automated way with cameras and different light spectrums.
- A developing presence of Artificial Intelligence, that is able to utilise big data sets coming from on farm sensing equipment that can be used to make informed decisions on how best to manage the crop for profitability. Using large data sets of historic numbers may help to drive improved trend analysis and ultimately profitability.
- A greater call for IT skills as industries move into automation in packing / processing facilities as well as on farm robotics to harvest crops. Robotic technologies are being closely looked at in crops such as mangoes, kiwi fruit, citrus and apples.
- A more sophisticated understanding of tree structures and growth habits will be needed as new orchards are planted for mechanical harvesting.
- Greater on farm capital requirements as we move to more covered cropping to de-risk investments, maximise class 1 yield and respond to climate change and increased climatic risks.
- A great focus on people management skills, as successful businesses will need to attract and retain talented people.
- An increased focus on new genetics to drive improved yield, reduced picking costs, crop robustness (responding to climate change), pest disease pressures and a desire to ship produce across the planet. New genetics will improve aesthetics and eating quality, think about the gold kiwi fruit, red kiwi fruit, new apple varieties, stone fruit and grape varieties. New genetics will help open up new production regions where varieties may not have grown traditionally before. New differentiated varieties will allow companies to drive exclusive marketing campaigns and to develop sophisticated marketing and branding opportunities.

Conclusions

There are some exciting opportunities across agricultural sectors. As with many industries, Agribusiness is becoming more competitive, with margins being squeezed as costs go up and prices received go down in real terms. Retail buyers push to extract cheaper prices from suppliers to pass on to their customers, in an attempt to outdo their retail competitors. The thought bubble “come to my shop as I’m cheaper than the competition” is often a compelling customer message. Competition can be a good thing in driving greater depths of innovation both on farm and in the retail / export space. Great agribusinesses are often highly “technically” led, with a balance of strong financial management and an ability to manage the operational grind. The Coriolis report paints a picture of growth opportunities across many Agricultural sectors for those businesses that have the desire, finances and business skills to expand. One of the clear options is for like-minded small to medium producers to form a “coalition of the willing” and work together to achieve the outcomes discussed in an environment that is continually squeezing profit margins. Exporting to global markets can be competitive, requiring sophisticated capital allocation (where to spend a dollar) and investments in very efficient capital equipment. The next horizon of innovation is exciting and challenging at the same time, but will no doubt bring great opportunities for technically led businesses.