

OPPORTUNITIES IN THE NEW ZEALAND BLUEBERRY INDUSTRY

Part of Emerging Growth Opportunities,
Food and Beverage Information Project

DRAFT FINAL REPORT; v1.00; June 2020

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STEERING & GUIDANCE

This project would not have been possible without the strong guidance of our Steering Committee. In particular, we would like to thank Andrew McCallum of MBIE for his tireless energy in keeping this project on track, while at the same time pushing us forward.

Draft versions of this report, including the firm profiles, were distributed to those firms for comment, addition or correction. This was done in the form of emails and phone calls. We thank those that helped us in this process for their time and effort. We also thank those that provided them for their photos.

We are grateful for all of the input we have received, but the report is ours and any errors

are our own.

Finally, we acknowledge the support of the Ministry of Business, Innovation and Employment (MBIE), New Zealand Trade and Enterprise (NZTE) and the Ministry for Primary Industries (MPI). It is their funding that has made this report possible.

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This work is based on secondary market research, analysis of information available (e.g. Statistics NZ), and a range of interviews with industry participants and industry experts. Coriolis have not independently verified this information and make no representation or warranty, express or implied, that such information is accurate or complete. In many cases regional data is incomplete or not available and therefore research includes significant modelling and estimates.

All cross-country international trade data analysed in this report is calculated and displayed in US\$. This is done for a range of reasons:

- It is the currency most used in international trade
- It allows for cross country comparisons (e.g. vs. Denmark)
- It removes the impact of NZD exchange rate variability
- It is more comprehensible to non-NZ audiences (e.g. foreign investors)
- It is the currency in which the United Nations collects and tabulates global trade data

KEY CONTACTS FOR THIS REPORT

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If at any point you are unclear where a number came from or how a conclusion was derived, please contact the authors directly. We are always happy to discuss our work with interested parties.

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EXECUTIVE SUMMARY 01

This report “Opportunities in the New Zealand Blueberry Industry,” was commissioned by MBIE as part of the Food and Beverage Information Project. Blueberries were identified as a growth sector in the related “Emerging Growth Opportunities” report. Blueberries emerged as a high growth sector for New Zealand that has grown on the back of growing global demand for this small, healthy fruit.

WHAT ARE BLUEBERRIES?

Blueberries, along with kiwifruit and avocados, are one of the few major fruit domesticated in the 20th Century.

Vaccinium is the family of all “blueberries” and includes more than 450 plants in the wider family, including Blueberries, Bilberries, Cranberries, and Lingonberries.

“Blueberries” are native to North America and were collected from the wild there by residents for centuries. The blueberry was domesticated in New Jersey by farmer Elizabeth White and USDA botanist Frederick Coville between “around 1900”

and 1916. From there the domesticated blueberry has spread across North and South America, Europe, Australia and New Zealand.

Additional varieties, bred from “lowbush” and “rabbiteye” varieties, have been developed that tolerate more varied climates.

BLUEBERRIES IN NEW ZEALAND

The NZ Department of Agriculture introduced blueberries to New Zealand from the US in 1950 to provide a suitable crop on the acid peatlands of Waikato. This area remains the centre of blueberry production today. In the 1970s improved varieties were imported from the United States. Since then, further introductions have occurred and New Zealand’s capable fruit breeders – at Plant & Food Research and elsewhere – have developed further improved varieties with superior characteristics.

At the same time, global demand for blueberries is growing driven by clear research on their great taste, their health

giving properties and their status as one of a handful of “superfruit” known to consumers.

As a result, New Zealand today has a large and vibrant blueberry industry with 640 hectares of fruit (and growing) creating \$62m in total industry revenue, including \$39m in exports.

The Bay of Plenty, Hawke’s Bay and Waikato are today the primary growing regions, with firm growth and investment in Northland and the South Island.

This research seeks to support the continued growth of this exciting and vibrant industry.

POTENTIAL INVESTMENT THEMES

Four broad investment themes exist for driving export growth in the New Zealand blueberry industry.

1. First, there are opportunities to grow blueberry production.
2. Second, the supply chain can be improved to increase efficiency.
3. Third, the marketing of New Zealand blueberries can be improved.

EXECUTIVE SUMMARY 02

4. Finally, there are opportunities to create value-added products. Blueberries are an extensible platform.

NEW ZEALAND SITUATION

New Zealand blueberry production is a function of area and yield. The amount of area in blueberries in New Zealand has shown solid area growth since the late 90's while at the same time yields have been relatively stable for the past decade at around 4-5 t/ha. As a result, New Zealand blueberry production has been growing since 1997.

At the same time, the number of commercial growers has been declining over the past decade, as the industry consolidates into fewer, larger units. Growing production across declining grower numbers has led to strong increases in average tonnes produced per grower.

KEY MARKETS

Following harvest, blueberries travel to the consumer through various channels (fresh,

frozen or further processed). The total New Zealand blueberry industry, including frozen imports, has an estimated revenue of NZ\$70-80m. The New Zealand blueberry industry needs different strategic priorities for each key market segment.

DOMESTIC MARKET

First, there are continued opportunities for growth in the New Zealand domestic market. Domestic fresh demand appears relatively stable (~1,600t) and exports are absorbing production growth. New Zealanders are consuming more blueberries, but demand growth is coming from imported frozen fruit. With relatively flat domestic demand for fresh blueberries, New Zealand needs to look to exports for growth.

EXPORT MARKETS

Second, there are continued opportunities for growth in export markets. New Zealand blueberry export volumes are highly seasonal. Export seasonality has shifted away from predominantly Dec/Jan to predominantly Feb/Mar. New Zealand's

market share varies significantly by market; it is high in Oceania, reasonable in parts of South East Asia (SEA) and low elsewhere. New Zealand is currently big in small markets and small in big markets.

AUSTRALIA

There are continued opportunities for growth in the Australian market. New Zealand blueberry exports have shown strong growth over the past two decades driven by demand from Australia. New Zealand is effectively the only blueberry supplier currently able to penetrate Australian biosecurity.

New Zealand blueberry exports supply the Australian market counter-seasonally to New South Wales (NSW), but at a similar time to other states. NSW (74%) is the largest blueberry producing region in Australasia, followed by New Zealand (15%).

Australian imports of New Zealand blueberries are growing faster (23%) than domestic Australian production (14%).

EXECUTIVE SUMMARY 03

EAST & SE ASIA

There are opportunities for growth in select East and South East Asian markets. New Zealand's blueberry exports are currently modest beyond Australia and now predominantly go to East/South East Asia.

In many export markets, New Zealand's blueberry exports appear to go through a "boom-and-bust" cycle. In "in-and-out" markets, key competitors such as Chile, Peru and Mexico have achieved growth, while New Zealand has not. The challenge in "in-and-out" markets is the high current landed price of New Zealand blueberries (+50%). Three markets – Thailand, Vietnam and Taiwan – stand out for creating solid growth to date. However, even in these growth markets, New Zealand is under pressure from low cost suppliers.

COMPETITIVE SITUATION

Global situation: the global market for blueberry imports is dominated by North America and Europe, with China as a major

growth region. Global blueberry exports are growing (20y CAGR 18%), driven in particular by Chile and Peru.

Peru – a country that has grown rapidly over the past decade to become the largest blueberry exporter in the world – has clear lessons for New Zealand. Six major factors are driving Peru's strong growth in blueberries (massive irrigation projects, large firms, efficient post harvest, best global genetics, latest planting systems and high yields).

Chile is another growing producer and exporter that has put pressure on New Zealand in many Asian blueberry markets.

FIRM ACTIVITY

As the industry develops firms are integrating across and between the supply chain. Firms are investing in the growth of new farming systems, area and genetics. Large firms like T&G are developing blueberries as a strategic category.

POSITIVE FUTURE

Blueberries are still a young industry, both globally and in New Zealand. To date, New Zealand has achieved success primarily in the domestic market and in Australia, both markets insulated from global pressures by biosecurity. Going forward, the New Zealand blueberry industry needs to transition from this "Walled Garden" into the fast growing, but more competitive markets of East and South East Asia if growth is to continue.

The proven success of New Zealand apples and kiwifruit in highly competitive global markets shows what is possible. New Zealand growers have the skills and resources required to make the required transition and continue to grow.

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Why did the New Zealand government undertake the Food and Beverage Information Project?

WHAT IS THE PURPOSE OF THE FOOD AND BEVERAGE INFORMATION PROJECT?

The project pulls together the available information on the food and beverage industry into one place, in a form which is familiar and useful to business. The reports contain analysis and interpretation of trends and opportunities to materially assist with business strategy and government policy.

The information will be of vital use to businesses, investors, government, and research institutions as the industry expands and diversifies. This industry view will be very useful to government, enabling better dialogue and the opportunity to address issues collectively.

WHAT BENEFIT WILL THIS BRING TO BUSINESSES?

The Project will have many uses for businesses. These include:

- As a base of market intelligence to enable business to be much more targeted in their own market research
- Reviewing and informing offshore market development (including export and investment) strategies
- Assisting in identifying areas of innovation and R&D for the future
- Identifying strategic partners and collaborators

- Enabling a company to benchmark performance with that of its competitors
- Monitoring industry activity
- Gaining a better understanding of their own industry sector
- Identifying internal capability needs or external inputs

HOW WILL GOVERNMENT USE THE REPORTS?

This information will provide much greater insight into the industry, which is useful for a range of policy developments, from regulatory frameworks to investment in science and skills and facilitating access to international markets. In particular, a single source of factual information will enable government agencies to better coordinate their efforts across the system and be more responsive to addressing industry issues. The government can now understand what's what, and also, who's who.

The Emerging Growth Opportunities (EGO) research is part of the wider New Zealand Food and Beverage Information Project

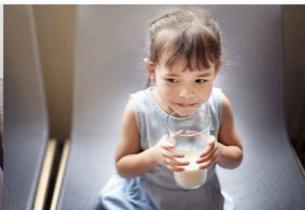
The Food & Beverage Information Project

SECTOR REPORTS



Beverages

The New Zealand wine industry has achieved phenomenal growth, producing world renowned wine varieties.



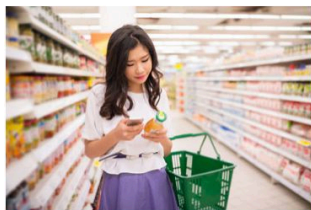
Dairy

New Zealand is a global leader in dairy trade, gaining export market share in the past decade.



Meat

New Zealand is the global leader in lamb and deer meat exports, with a strong position in beef exports and growing chicken exports.



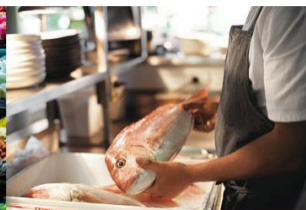
Processed foods

New Zealand has a rapidly growing processed foods sector, leveraging on available raw and unique materials.



Produce

New Zealand is a major producer and exporter of kiwifruit and apples, with significant growth achieved in other categories.



Seafood

New Zealand has a large and sustainable wild catch fishery, with aquaculture showing huge theoretical growth potential.



INVESTOR GUIDES



Investor guides

Our research has identified twenty categories achieving success in strong growing markets.



EMERGING MARKETS



Emerging markets

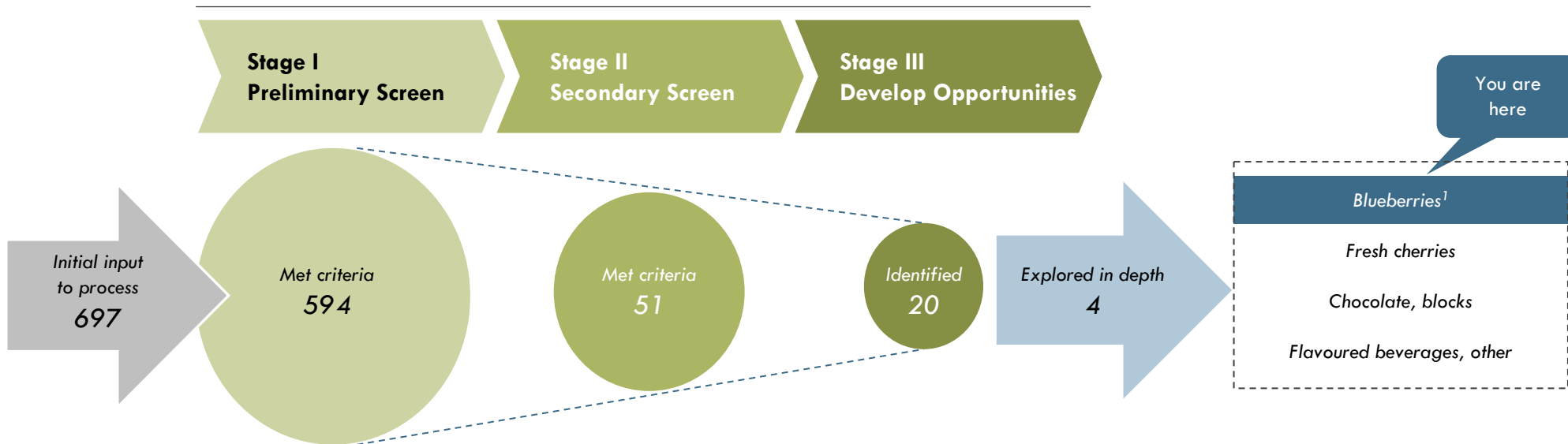
New Zealand food and beverage sector has significant opportunities in Australia, ASEAN and China markets due to FTAs and geographical proximity.



Blueberries emerged in a multi-stage screen designed to identify high potential food and beverage export opportunities



See related document for details available at <https://www.mbie.govt.nz/business-and-employment/economic-development/growing-the-food-and-beverage-sector/food-and-beverage-information-project/food-and-beverage-emerging-market-and-in-depth-reports/>



1. Short list was revised by project steering group to include blueberries [HS081040] (was initially breakfast cereal & muesli bars [HS190410]); see page 28 of above linked document for details

Globally, blueberries consumption is increasing

“New Zealander's growing love for blueberries is seeing rapid expansion in the industry. A record seven million punnets of fresh locally-grown blueberries were consumed last season and that's expected to be topped this summer as the main season gets underway. Latest supermarket sales data shows Kiwis bought an extra one million punnets of blueberries (18.3 percent more) last summer compared to the year before, with total sales now exceeding \$25 million.”

Newshub.

“Consumer demand for blueberries has skyrocketed. According to USDA research, per capita, blueberry consumption in the United States grew more than 600 percent in the past 20 years. Blueberries have become a staple for many. In fact, they're the top berry among American consumers. A staggering 75 percent of consumers are likely to purchase blueberries in the next 12 months, a 10 percent increase from 2013.”

producebusiness
MARKETING • MERCHANDISING • MANAGEMENT • PROCUREMENT

“New Zealanders are now more aware of the extraordinary health benefits so they're choosing to eat blueberries in greater quantities than ever before.”

“We're thrilled that a growing number of New Zealanders are recognising the health benefits and incorporating fresh blueberries into their diets,” Dan [Peach, BBNZ Chair] says. “They're an easy way to improve your mood and the bottom line is they taste delicious.”

RURAL NEWS

“Blueberries continue to grow in popularity. Since May last year, over £400m worth of British blueberries were sold in the UK with shoppers spending 10.5 percent more on the health-boosting berry than in the previous year. In total, 41,000 tonnes of blueberries were sold in the 52 weeks (the equivalent weight of 6,500 elephants), an increase of 10 per cent compared to the 52 weeks up to 14th July 2018.”

Fresh Plaza

Increased consumption is driven by science

“The effect of flavonoid-rich food, such as blueberries, on cognitive function has been subject to a growing amount of research interest in recent years. Epidemiological, prospective, preclinical, and clinical trials have revealed positive cognitive benefits from flavonoid interventions, particularly in relation to the amelioration of cognitive decline in older adults”.

OXFORD
ACADEMIC

“The blueberry, already labeled a 'super fruit' for its power to potentially lower the risk of heart disease and cancer, also could be another weapon in the war against Alzheimer's disease. New research being presented today further bolsters this idea, which is being tested by many teams. The fruit is loaded with healthful antioxidants, and these substances could help prevent the devastating effects of this increasingly common form of dementia, scientists report.”

ScienceDaily®

“Blueberries are rich in polyphenols that may be beneficial to cognitive performance and mood... Eight studies reported blueberry consumption or supplementation... to improve measures of cognitive performance, particularly short- and long-term memory and spatial memory...Based on the current evidence, blueberries may improve some measures of cognitive performance.”

PubMed.gov

“Awareness of the human health benefits of blueberries is underpinned by a growing body of positive scientific evidence...Blueberries contain a large number of phytochemicals, including abundant anthocyanin pigments... Epidemiological studies associate regular, moderate intake of blueberries and/or anthocyanins with reduced risk of cardiovascular disease, death, and type 2 diabetes, and with improved weight maintenance and neuroprotection.”

OXFORD
ACADEMIC

New Zealand's success in blueberries has three key drivers



IDEAL CLIMATE & SOILS

Low production cost

- Temperate climate similar to Washington, Oregon, Italy and France
- Temperature extremes moderated by surrounding ocean
- Isolated location protected by natural barriers
- Further land potentially available for expansion



EFFICIENT PEOPLE & SYSTEMS

Trusted by consumers

- Long history of fruit growing and breeding
- Industry is focused on export markets
- Pool of skilled orchard operators and managers
- Strong systems and support networks
- Advanced capabilities in packhouse systems



LOCATION & MARKETS

High share in key products

- Free trade agreement with Australia (CER*)
- Close proximity to Australia and Asia
- Excellent market access across Asia
- NZ was the first developed country to sign a free trade deal with China (2008)
- Seasonal window into Australia (when NSW is not producing)

* Closer Economic Relationship; Source: photo credit (purchased or creative commons (Dollar Photo Club; freenzphotos.com), Compac)

New Zealand has a strong position in Australia, but this cannot be taken for granted and success elsewhere is challenging

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> - New Zealand track record of success in new fruit development (e.g. kiwifruit) and in breeding of new cultivars (e.g. Zespri Gold) - Strong plant science capabilities at Plant & Food Research and elsewhere - Counter seasonal to Northern Hemisphere in a narrow climatic window only shared by four competitors (Chile, Argentina, South Africa and Australia) - Proximity to bio-secure Australia and fast growing Asian markets - Strong biosecurity; free from many diseases and pests - Good phyto-agreements with key markets - Unsubsidised industry competing successfully in world markets - Industry consolidating into fewer, larger operations at scale - Transition to integrated grower/packer/shipper model underway - Supportive industry structure 	<ul style="list-style-type: none"> - Lack of large supply of “guest workers” like some countries; seasonal labour shortages, accommodation shortages - Limited and expensive air freight availability - Australian market access challenging for organics due to strict phytosanitary requirements - Too much area still in low yield varieties and older planting systems (low average yields) - Higher cost structure than others in seasonal window (e.g. Chile) - Lack of compelling New Zealand IP-Controlled blueberry varieties differentiated to the consumer (where is the NZ blueberry version of Enza Jazz or Zespri Sungold?) - Limited access to new plant varieties, quarantine lengthy and expensive, limited space - Many smaller orchards and farms; benchmarking suggests fewer, larger farms preferable - New cultivar development funding model needs improvement, lack of support by growers - Legal structure of kiwifruit exporting impacts scale of other NZ fruit exporters beyond Zespri, compared with Australia, Chile or Peru
OPPORTUNITIES	ISSUES/THREATS/RISKS
<ul style="list-style-type: none"> - Continued strong biosecurity in Australia - Continued growth of middle-class in Asia - Aging baby boomers focusing on positive living & eating for illness prevention - Continued work on FTAs to develop tariff free markets (e.g. ASEAN); especially focussing on the high volume, high impact products and markets - Growing demand for fresh, convenient produce especially into Asian markets - Continued orchard-level technological innovation and management improvement leading to increased yields, automated pruning, rain protection - Production of New Zealand developed/IP controlled varieties in counter-seasonal regions - Growth of nutraceuticals and functional foods; fruits as “superfoods” - Potential for research into specific health effects of New Zealand blueberries - Potential to utilise waste streams and convert them into high value products 	<ul style="list-style-type: none"> - Growing production of blueberries in Peru and Chile; improving quality, strong marketing - Chile and Peru have signed FTA agreements with Australia and have identified blueberries as being on their short list as an opportunity - Disease outbreaks (cf. PSA) - The risk of disease outbreaks must be balanced against biosecurity retarding or preventing introduction of new genetics and new rootstocks - Foreign phyto-sanitary protocols of other countries limiting extent and speed to market - Time frame for protocols to gain access to new markets - Re-labelling frozen Chilean fruit as “Made in New Zealand” in-market endangering NZ reputation - Changing climatic conditions impacting production rates, quality (e.g. hail damage) - Other global centres of fruit development coming up with better products

Potential Investment Themes

- *Growing production*
- *Supply chain efficiencies*
- *Improved marketing*
- *Value-added products*

01

Four broad investment themes exist for driving export growth in the New Zealand blueberry industry



Significant opportunities exist for industry to work together across these themes to share learnings and ideas, benchmark performance and co-ordinate activity, in particular in export focused regions

First, there are opportunities to grow blueberry production

I. GROWING PRODUCTION	II. SUPPLY CHAIN EFFICIENCIES	III. IMPROVED MARKETING	IV. VALUE-ADDED PRODUCTS
<p>Situation creating opportunity</p> <ul style="list-style-type: none"> - New Zealand is a large country, similar in size to Japan, Italy or the United Kingdom, with a climate suited to temperate fruit - Currently only 640ha (0.003% of area) is planted in blueberries - Many peer group regions have more blueberry area: Georgia 7,416ha, Washington State 5,173ha, Oregon 4,955ha, Spain 3,722ha and France 2,393ha 	<p>Potential investment theme</p> <p>More land</p>	<p>What you would need to believe</p> <ul style="list-style-type: none"> - Additional land suitable for blueberries is available - Land and orchard establishment costs will deliver a competitive economic return - Export market demand exists to absorb more New Zealand blueberries - Increase in domestic demand to absorb non-export fruit 	
<ul style="list-style-type: none"> - Realised, real-world blueberry yields vary for a wide range of reasons, including genetics, management and systems - Yields vary across countries, regions and farmers - While NZ achieves acceptable yields, competing regions achieve as good or better yields - The average NZ blueberry grower achieved 3.8-4.8t/ha - Mature blueberry plantings in Peru achieve 15t/ha - Access to new varieties is limited, the quarantine process is lengthy and expensive (limited space, strict controls) 	<p>Higher yields & new varieties</p>	<ul style="list-style-type: none"> - Yield is not a simple trade-off with quality - Orchard management skills for improving systems can be taught - Higher yielding blueberry genetics exist in NZ or can be brought into the country through biosecurity barriers - New variety able to be bred for superior quality and large size 	
<ul style="list-style-type: none"> - Trend towards increased tunnel house/covered production of berries - Undercover opportunity to extend seasons, reduce fruit damage, increase quality, reduce bird losses 	<p>Increased under-cover</p>	<ul style="list-style-type: none"> - Orchard management, pest and disease management skills can be achieved - Capital available for increased investment - R&D and innovation available to succeed with new system 	

Second, the supply chain can be improved to increase efficiency



Situation creating opportunity	Potential investment theme	What you would need to believe...
<ul style="list-style-type: none"> - Blueberries have a short shelf life relative to some other fruit, for example more than raspberries but much less than apples - NZ blueberries are mostly sold in NZ and Australia - Refrigerated blueberries with controlled atmosphere (CO₂ & Nitrogen) and a well-managed cool chain can last a month+ - Unlike other New Zealand fruit (e.g. kiwifruit, apples), blueberries are primarily air-freighted to Asia at a high cost 	<p style="text-align: center;">Longer shelf life</p>	<ul style="list-style-type: none"> - Airfreight is a significant part of the landed cost of New Zealand blueberries in Asian markets - Controlled atmosphere (CA) shipping can work for NZ blueberries - CA does not impact quality significantly - Post harvest management and systems impact shelf life - Plant genetics can influence shelf life; new breeds could be developed with longer shelf life?
<ul style="list-style-type: none"> - Three major variable costs have the greatest effect on the total cost of packing blueberries: labour, electricity and packaging - Packaging directly impacts both total shipping weight and fruit to packaging ratios, both of which are critical <hr/> <ul style="list-style-type: none"> - New Zealand has a large number of blueberry packhouses relative to crop size - New Zealand blueberry packhouses achieve a low annual throughput relative to leading global competitors 	<p style="text-align: center;">Reduced packing costs</p>	<ul style="list-style-type: none"> - Unit packaging costs are cheaper for larger orders/at scale - Packaging is not purely a trade-off between rigidity/strength and weight; it is possible to be lighter and stronger <hr/> <ul style="list-style-type: none"> - Larger packhouses have lower costs per unit than smaller businesses - Further industry consolidation would improve relative scale economics and competitiveness - Key firms in key regions would be willing to merge
<ul style="list-style-type: none"> - Total freight and logistics costs are a significant part of the final price of blueberries - Airfreight is significantly more expensive than seafreight - NZ fruit are mostly airfreighted to key markets beyond Australia - Key S.H. competitors Peru and Chile, primarily use sea 	<p style="text-align: center;">More efficient logistics</p>	<ul style="list-style-type: none"> - Opportunities exist to improve speed and increase industry coordination to reduce net freight cost per kilogram - Opportunities exist to increase the efficiency of logistics in local trucking (e.g. full trucks, return loads) - For exports, Chile works with shipping lines to (1) reduce shipping times by 5 days (to 22-25 days), (2) have last minute loading and (3) get priority unloading on arrival in Asia; this could work for NZ

Third, the marketing of New Zealand blueberries can be improved



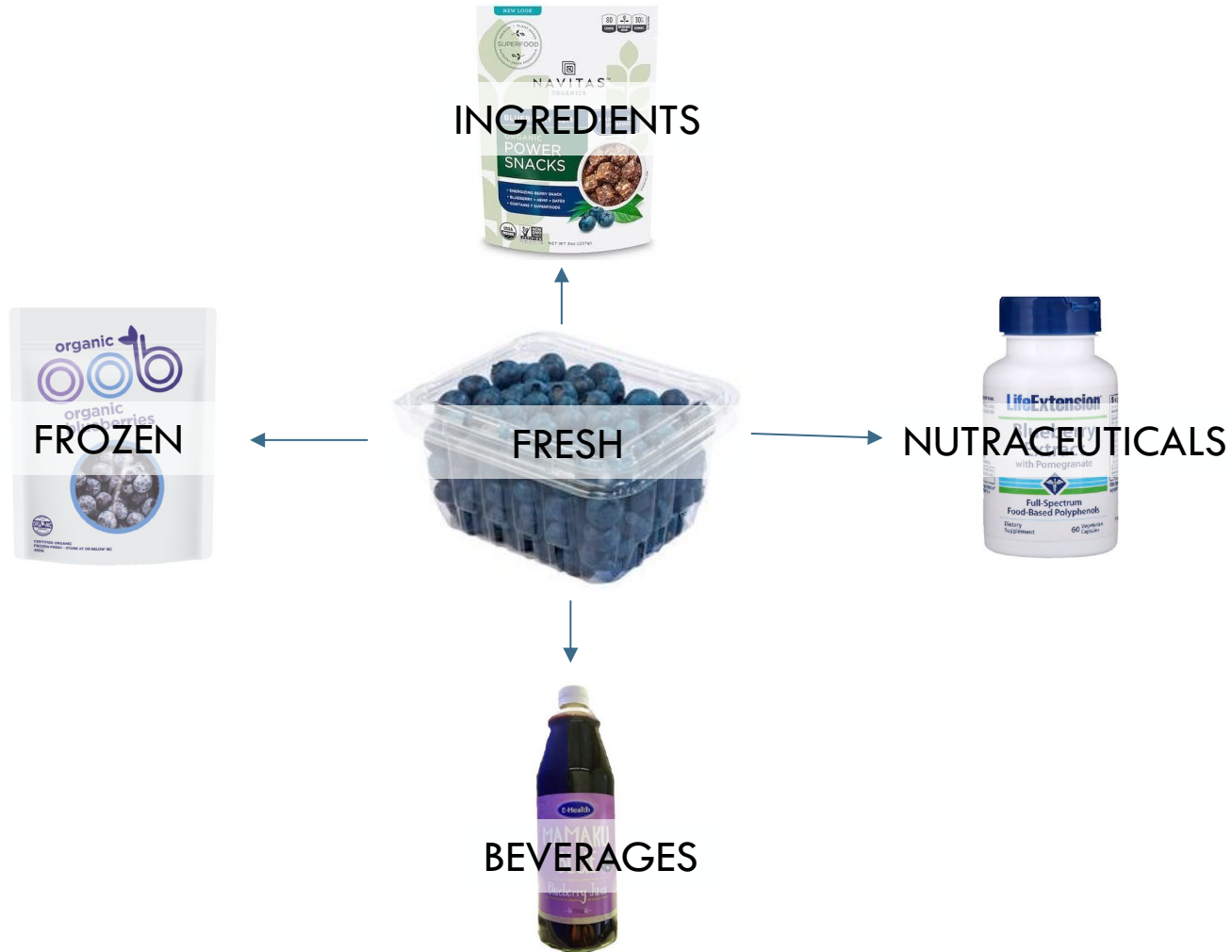
<i>Situation creating opportunity</i>	<i>Potential investment theme</i>	<i>What you would need to believe...</i>
<ul style="list-style-type: none"> - NZ blueberries represent “a drop in the ocean” of total Asian fruit consumption; in this environment, achieving “cut through” and getting the attention of the consumer is very difficult - In Asia, key competitors Chile and Peru have significantly larger market share and in-market presence or “shelf weight” - Current messaging in key markets on NZ blueberries is fragmented with multiple messages - Blueberries can learn from other sectors who show a common industry story, brand, quality mark or slogan 	<p>Consistent messaging</p>	<ul style="list-style-type: none"> - A coordinated “Why New Zealand blueberries?” story with shared talking points would increase prices and sales - It is possible to get all key stakeholders to agree to implement a shared message - Shared messaging could be linked to regional tourism - Shared messaging could be tied into traceability systems
<ul style="list-style-type: none"> - Part of the growing demand for blueberries is driven by its status as a superfood - Superfoods are nutritionally dense foods that are widely recognised as good for health - The concept of superfoods has both strong and growing scientific support and growing consumer demand - While there is no “official list”, blueberries are effectively on every superfood list everywhere - Domestic NZ consumption of blueberries is growing, but most consumption growth is coming from frozen imports 	<p>Embracing “Superfood”</p>	<ul style="list-style-type: none"> - Opportunities exist to better tie NZ blueberries to their status as a superfood - On-going research into developing functional attributes and compounds in new varieties - Opportunities exist to emphasise that fresh NZ blueberries are better in some way than frozen imported blueberries
<ul style="list-style-type: none"> - NZ reputation for clean green suits organic blueberries - Current Australian phytosanitary regulations are severe such that organic exported as conventional, in case of fumigation on arrival - Growing demand for organic blueberries (Countdown and Foodstuffs established organic home brand in FY19) 	<p>Driving Organic</p>	<ul style="list-style-type: none"> - Consumer demand for organic blueberries has potential for further growth in domestic and export markets - Organic blueberries achieve a premium in the market - New Zealand can produce organic berries at competitive prices - Review of phytosanitary regulations allows for organic blueberry exports to Australia

Finally, there are opportunities to create value-added products



<i>Situation creating opportunity</i>	<i>Potential investment theme</i>	<i>What you would need to believe...</i>
<ul style="list-style-type: none"> - There is strong demand across all key Asian markets for New Zealand premium and super-premium foods and beverages - Premium/super-premium foods and beverages are often given as gifts (e.g. French Cognac) - Gift shops, souvenir shops, and duty-free shops are major outlets for super-premium foods and beverages 	<p>Select super-premium foods and beverages</p>	<ul style="list-style-type: none"> - Select foods and beverages that use blueberries as an ingredient (e.g. liqueurs, liqueur-filled chocolates, powdered and freeze dried blueberries) can be made from NZ processing grade/export-reject fruit - Products could be differentiated such that they could demand a premium - NZ firms have the marketing skills to deliver on super-premium items
<ul style="list-style-type: none"> - Often in highly competitive food sectors, successful firms are those that best monetise their waste streams - There is growing demand for natural health products and supplements, both in the Western world and East Asia - Most nutraceuticals are, in practice, value added to existing waste streams (e.g. calcium, green tea) - New Zealand has proven capabilities in nutraceutical science R&D, product development and production (e.g. manuka honey, green lipped mussel extract) - There is a growing body of research linking blueberries to various positive health benefits - The NZ blueberry industry generates a wide range of waste streams, including skins, pits, bark and leaves) 	<p>Select extracts, natural health products & nutraceuticals</p>	<ul style="list-style-type: none"> - It is possible to extract and market New Zealand blueberry extracts as nutraceuticals - Research supports that NZ blueberries are higher in health giving benefits than some other sources - New Zealand blueberry extracts can compete in a global market - New Zealand blueberry extracts can create a point of difference such that they can command higher prices than competitors

Blueberries are an extensible platform



New Zealand

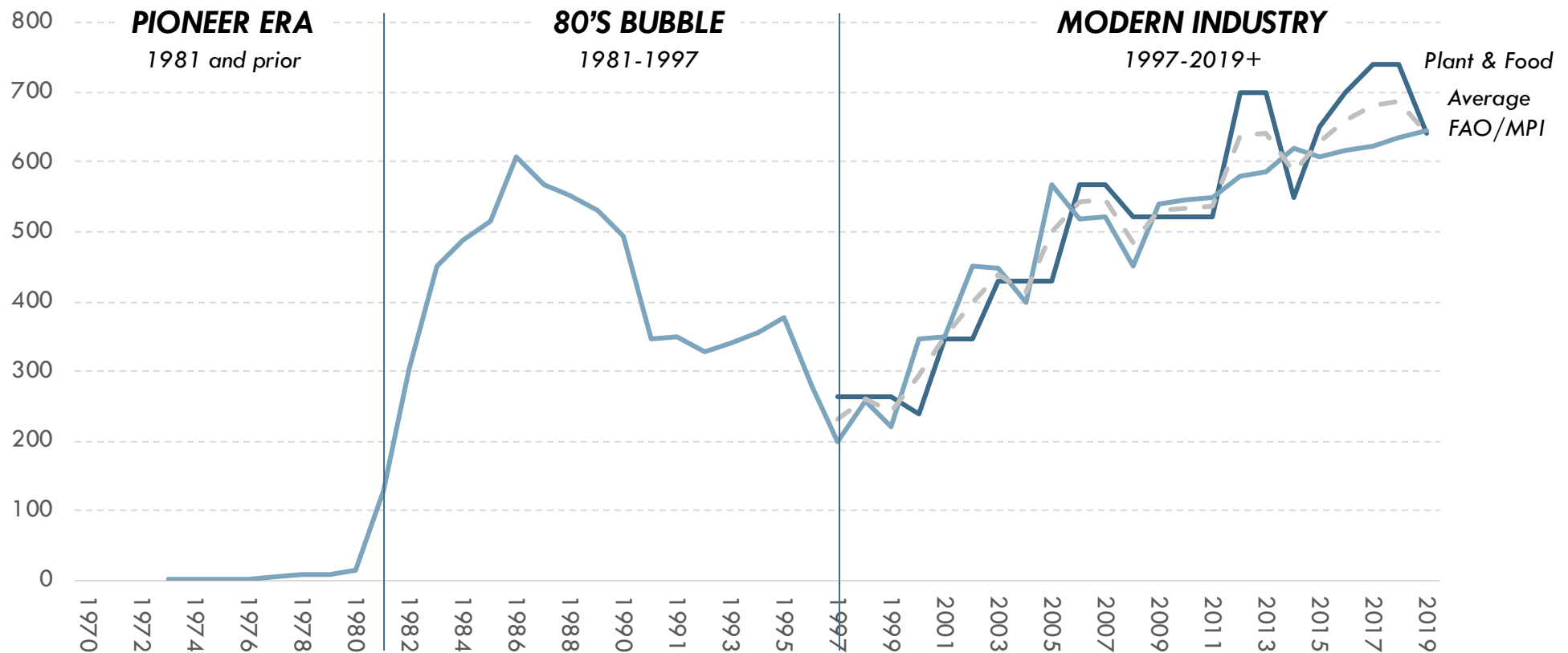
- *Area*
- *Yield*
- *Production*

02

The amount of area in blueberries in New Zealand has shown solid area growth since the late 90's

AREA IN BLUEBERRIES IN NEW ZEALAND

Hectares; 1973-2019

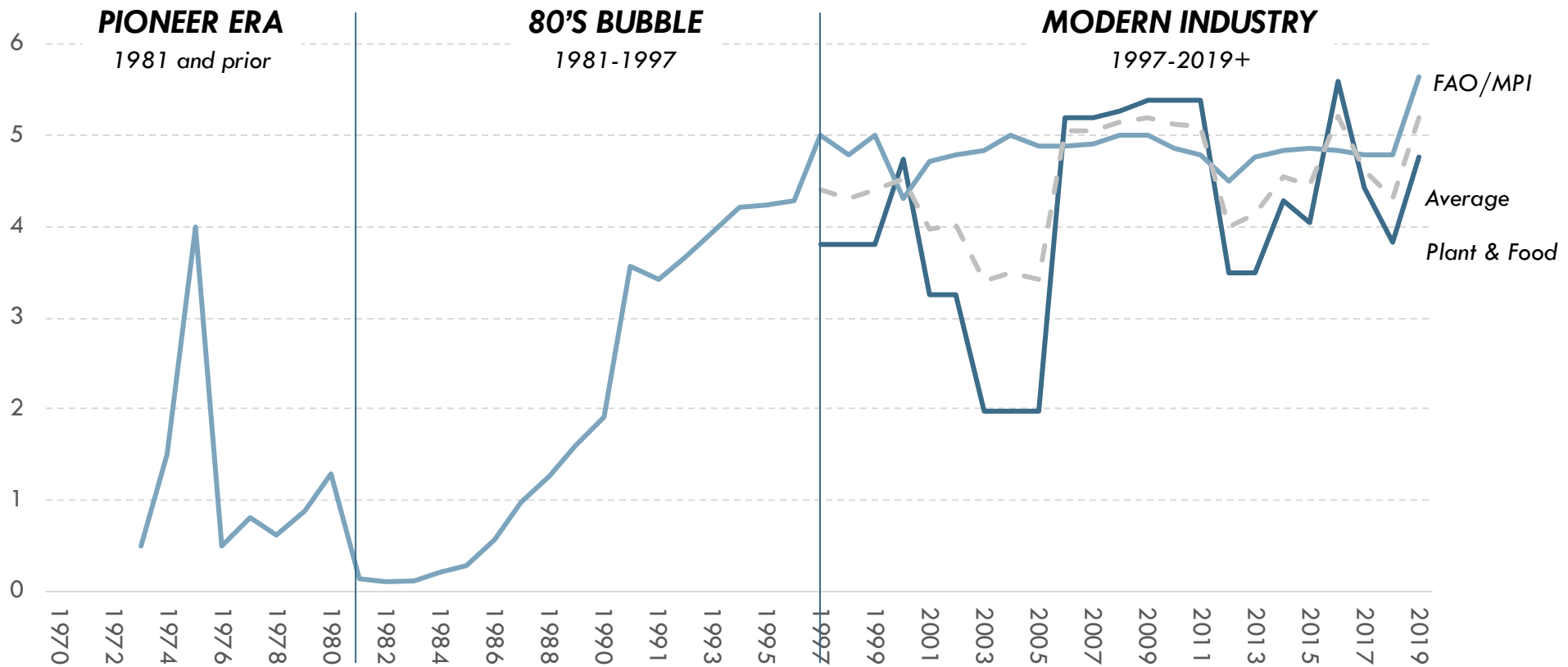


Note: 2019 FAO/MPI is a Coriolis estimate from available data; Source: UN FAO; Plant & Food Fresh Facts; Coriolis estimates and analysis

New Zealand blueberry yields have been relatively stable for the past decade at around 4-5 t/ha

AVERAGE BLUEBERRY YIELD PER HECTARE IN NEW ZEALAND

Tonnes/hectares; 1973-2019

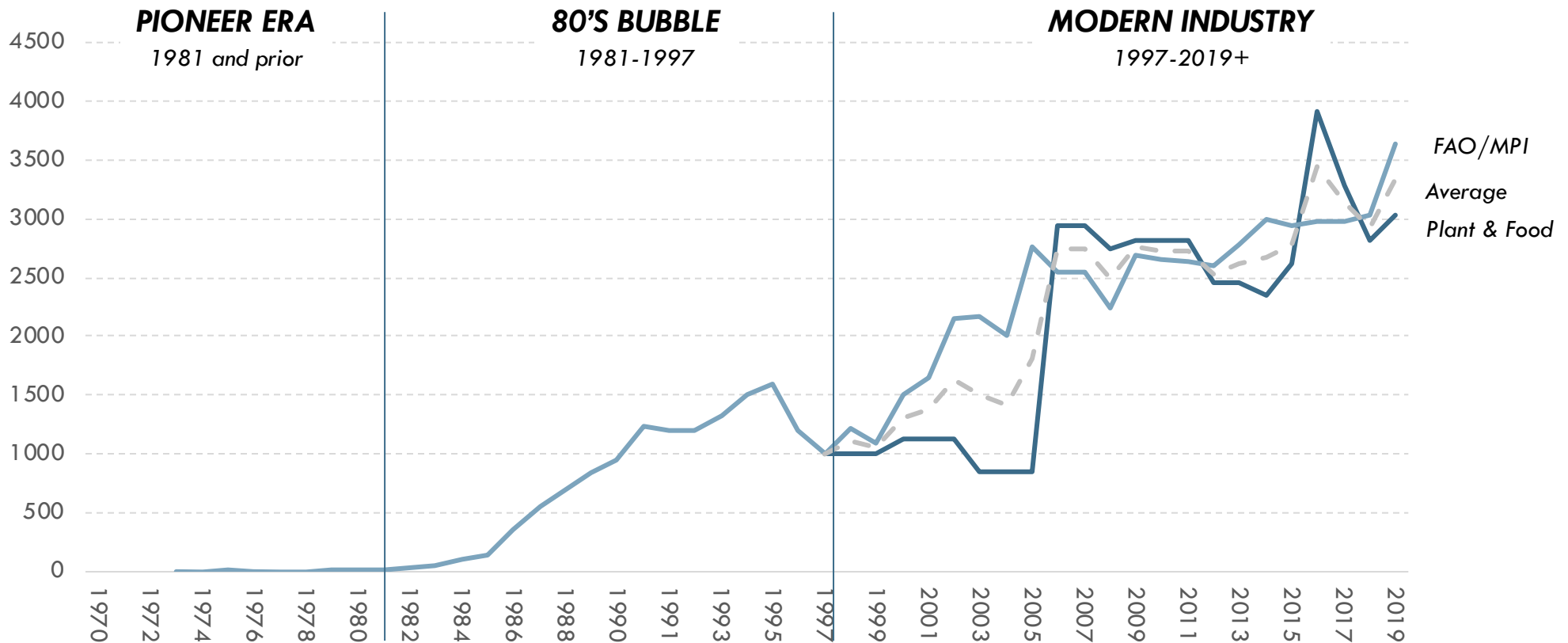


Note: 2019 FAO/MPI is a Coriolis estimate from available data; Source: UN FAO; Plant & Food Fresh Facts; Coriolis estimates and analysis

New Zealand blueberry production has been growing since 1997 driven by growing yields and growing area

NEW ZEALAND BLUEBERRY PRODUCTION IN NEW ZEALAND

Tonnes; 1973-2019

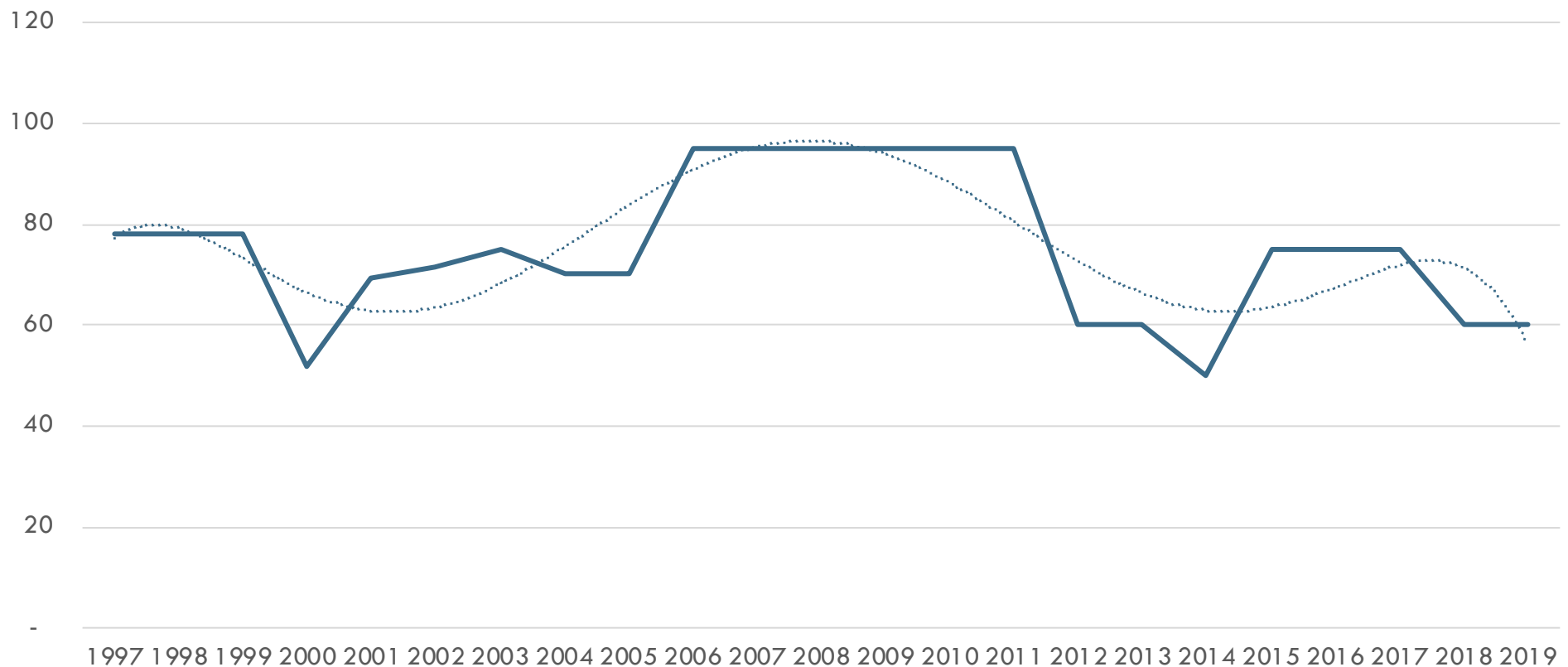


Note: 2019 FAO/MPI is a Coriolis estimate from available data; Source: UN FAO; Plant & Food Fresh Facts; Coriolis estimates and analysis

The number of commercial growers appears to be declining over the past decade as the industry consolidates into fewer, larger units

NUMBER OF BLUEBERRY GROWERS

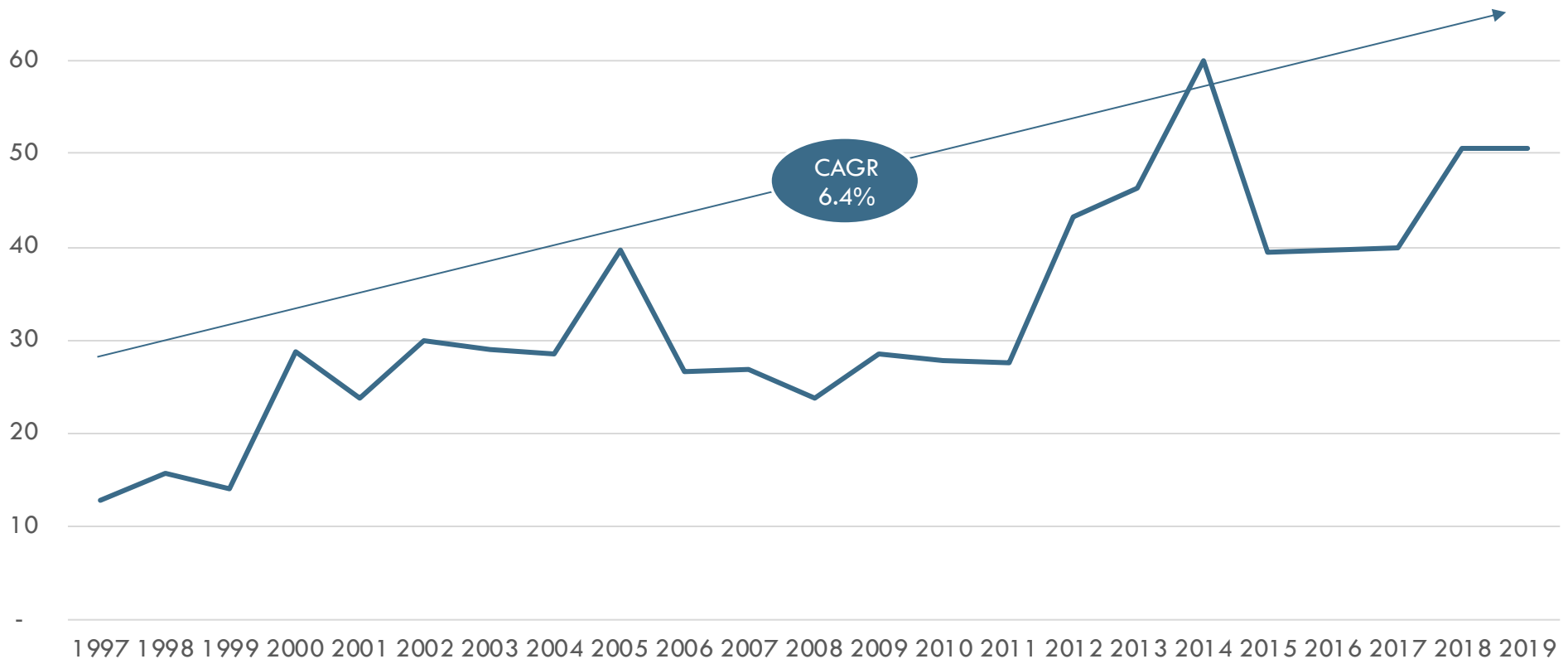
Operational units; 1997-2019



Growing production across declining grower numbers has led to strong increases in average tonnes produced per grower

AVERAGE TONNES PER BLUEBERRY GROWER

Tonnes/grower; 1997-2019



Key Markets

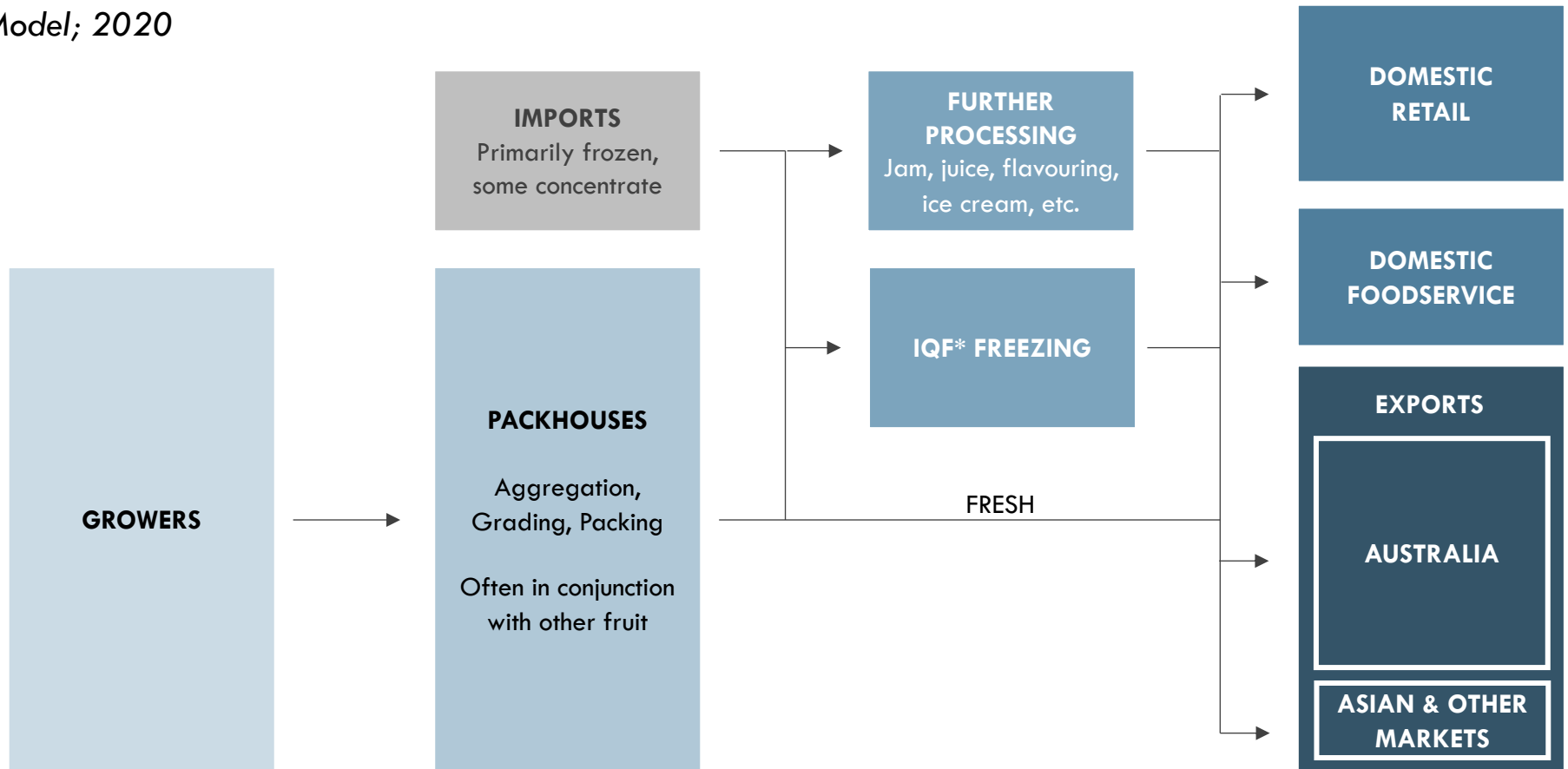
-
- *Market strategy*
 - *Growth*
 - *Market mix*
 - *Market share*
 - *Opportunities*

03

Following harvest, blueberries travel to the consumer through various channels

NEW ZEALAND BLUEBERRY SUPPLY CHAIN

Model; 2020

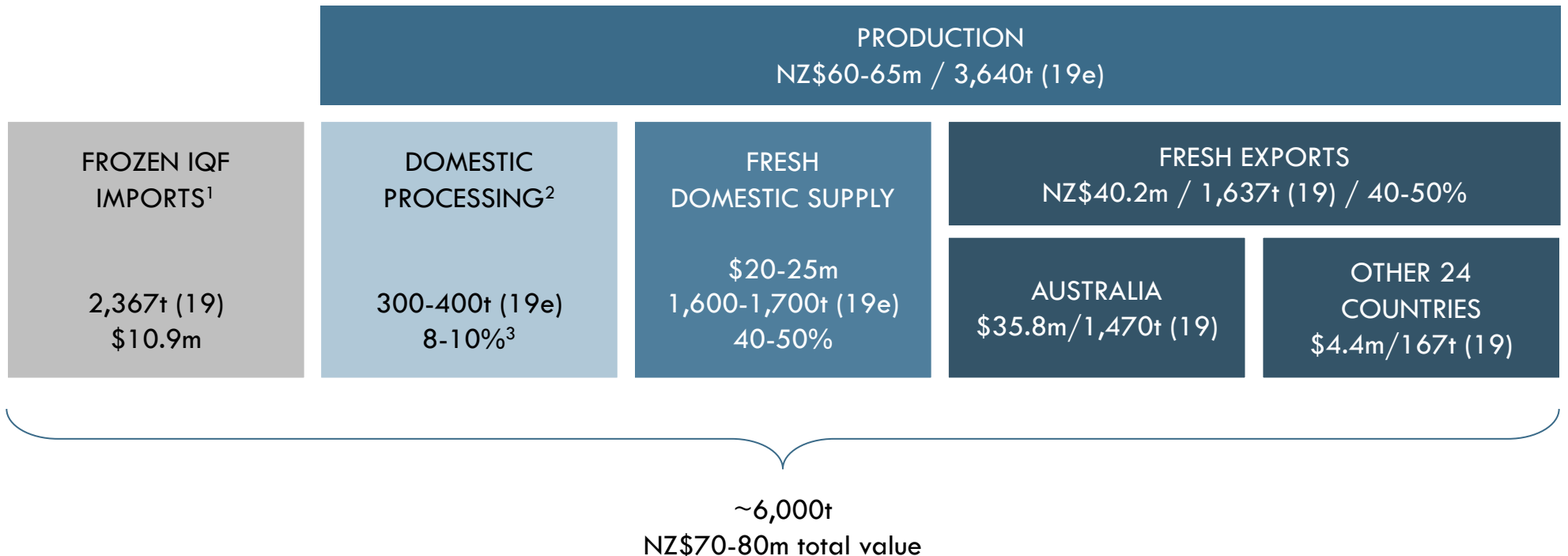


*IQF = Individually Quick Frozen. Source: Coriolis

The total New Zealand blueberry industry, including frozen imports, has an estimated revenue of NZ\$70-80m

NEW ZEALAND BLUEBERRY MARKET SIZE AND STRUCTURE

Tonnes; NZ\$m; 2019



Includes estimates

1. Blueberry concentrate has historically been imported, though not recently; 2. Some amount of this is then exported as IQF berries (35t at NZ\$343k in 2019), jam (no breakout available), ice cream (no breakout available) and other products (no breakout available); 3. estimate; Source: Statistics NZ; UN FAO; Plant & Food Fresh Facts; Coriolis estimates and analysis

The New Zealand blueberry industry needs different strategic priorities for each key market segment



*E/SE: East/South East; **Free Trade Agreements; Source: photo credit (purchased or creative commons (Dollar Photo Club; freenzphotos.com))

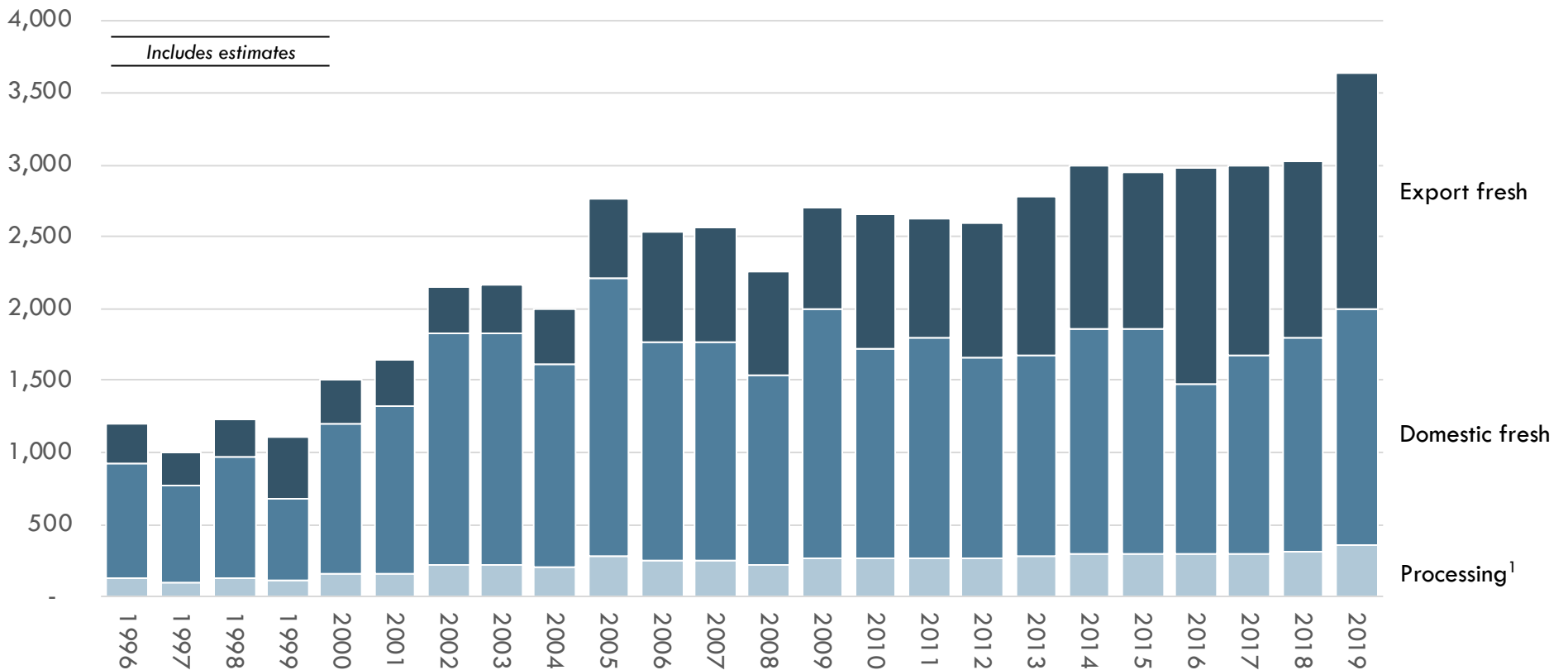
First, there are continued opportunities for growth in the New Zealand domestic market



Domestic fresh demand appears relatively stable (~1,600t) and exports are absorbing production growth

NEW ZEALAND BLUEBERRY CROP DISPOSITION

Model; tonnes; 1996-2019

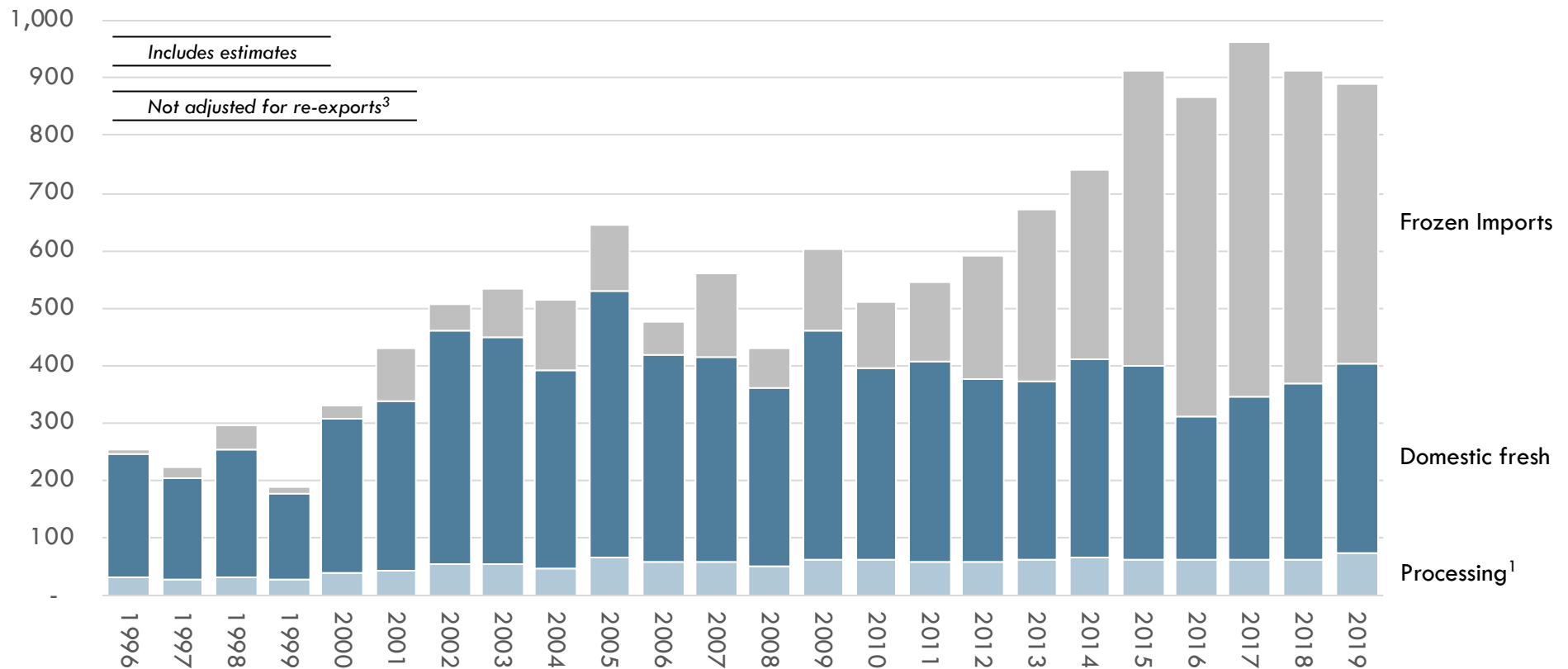


1. Processing assumes a constant 10% of the crop to processing; 2. Calculation is "apparent disappearance" (production less exports); Source: Statistics NZ; UN FAO; Plant & Food Fresh Facts; Coriolis estimates and analysis

New Zealanders are consuming more blueberries, but demand growth is coming from imported frozen fruit

APPARENT PER CAPITA CONSUMPTION OF BLUEBERRIES IN NEW ZEALAND²

Grams per person; 1996-2019



1. Processing assumes a constant 10% of the crop to processing; 2. Calculation is "apparent consumption" (production plus imports); 3. Some unmeasurable amount of this volume will be exported as a processed product; Source: Statistics NZ; UN FAO; Plant & Food Fresh Facts; Coriolis estimates and analysis

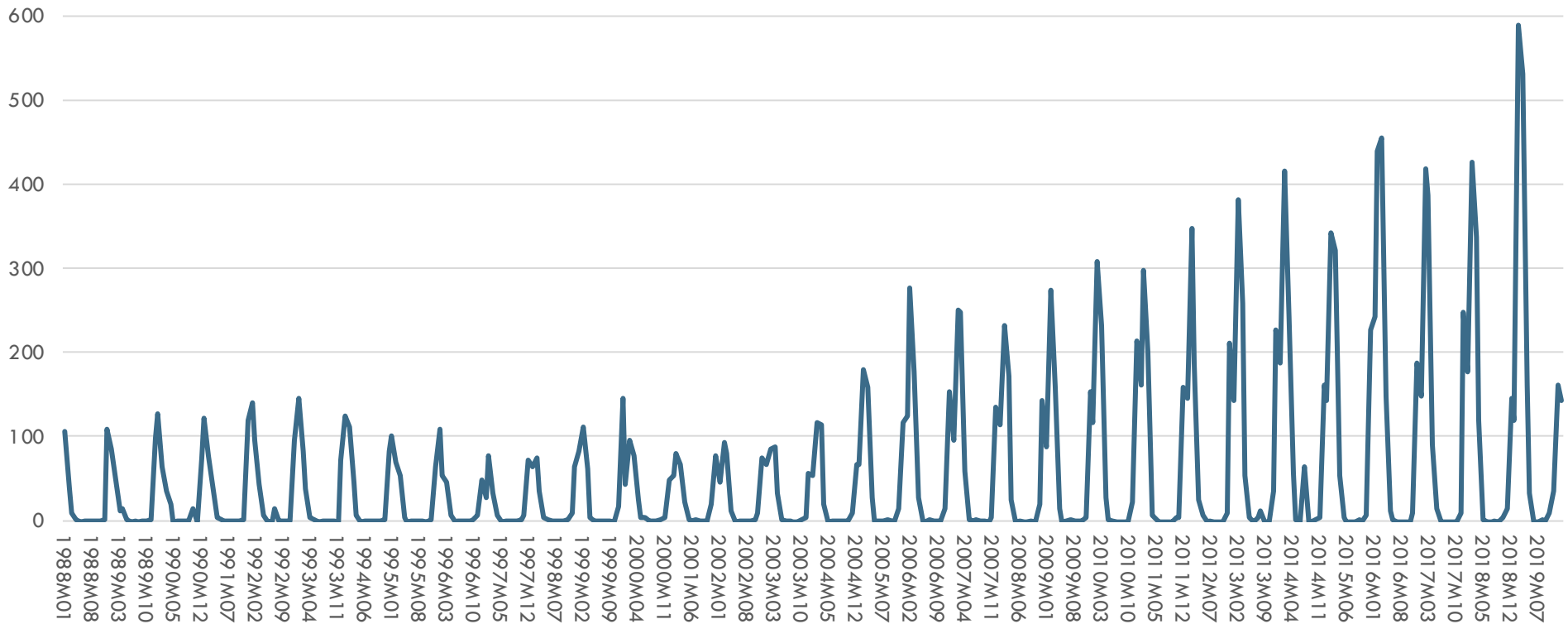
With relatively flat domestic demand for fresh blueberries, New Zealand needs to look to exports for growth



New Zealand blueberry export volumes are highly seasonal

NEW ZEALAND BLUEBERRY EXPORT VOLUME BY MONTH

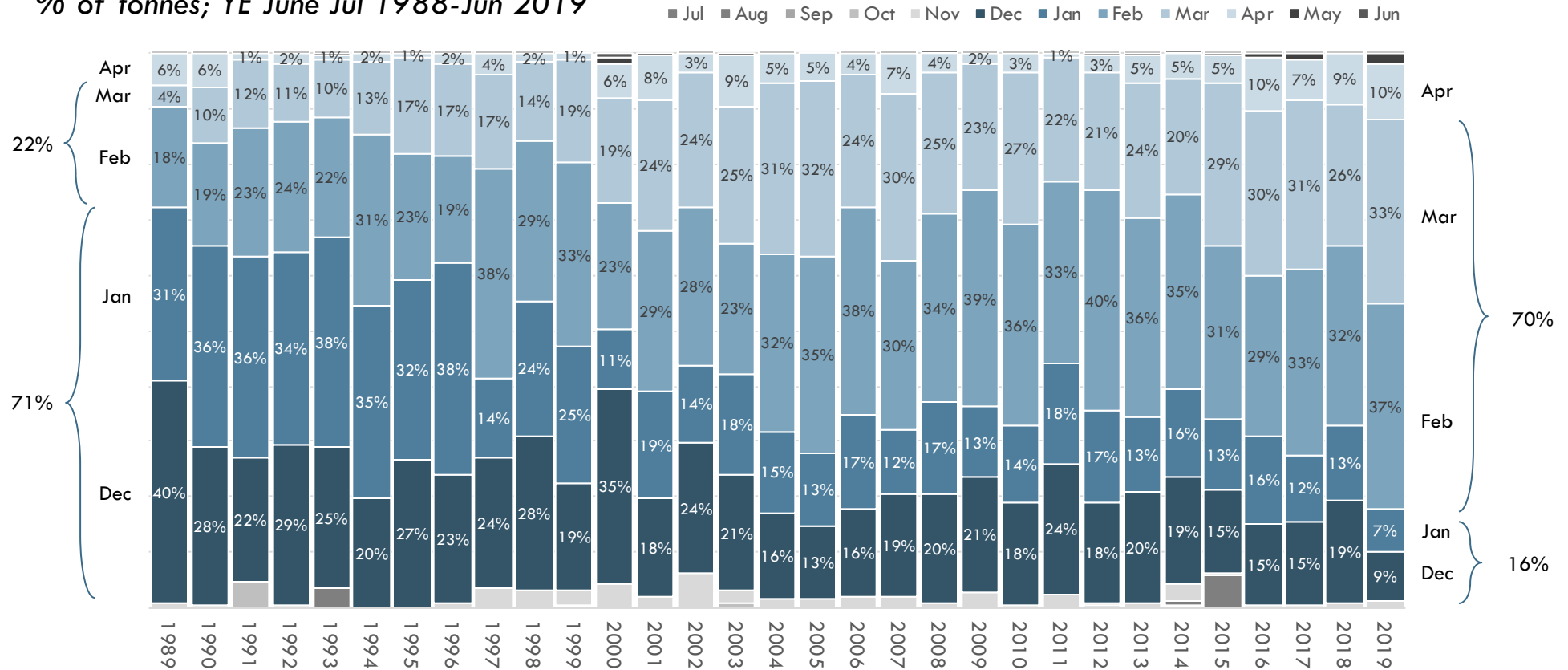
Tonnes; Jan 1988-Jan 2020



Export seasonality has shifted away from predominantly Dec/Jan to predominantly Feb/Mar

SHARE OF NEW ZEALAND BLUEBERRY EXPORT VOLUME BY MONTH BY YEAR

% of tonnes; YE June Jul 1988-Jun 2019



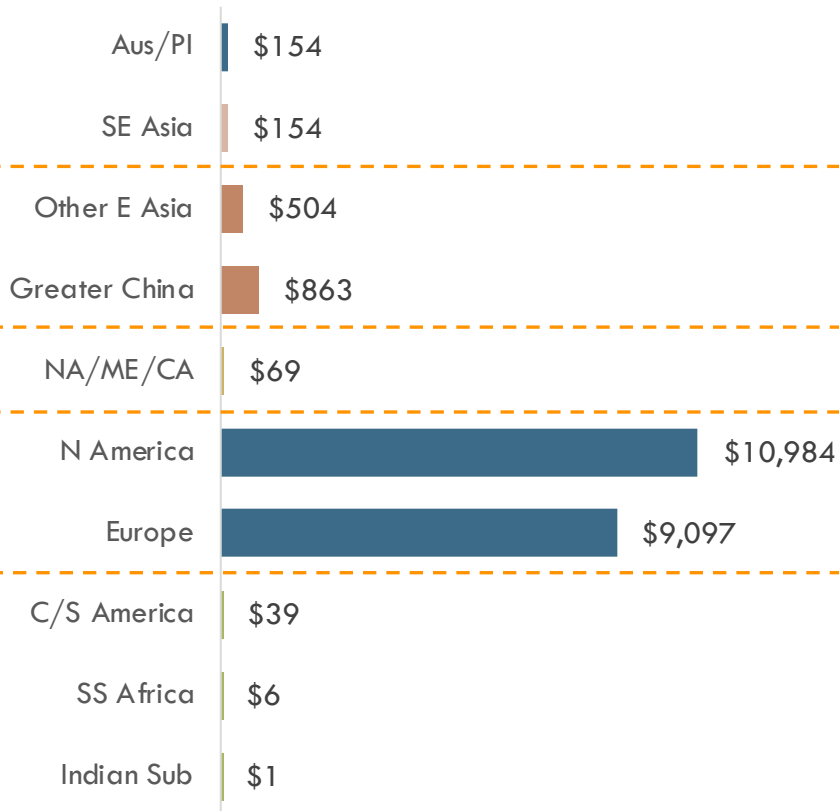
New Zealand's market share varies significantly by market; it is high in Oceania, reasonable in parts of SE Asia and low elsewhere

NEW ZEALAND SHARE OF SELECT COUNTRIES TOTAL BLUEBERRY IMPORTS BY VALUE
 % of import value CIF; as reported receiver; 2018

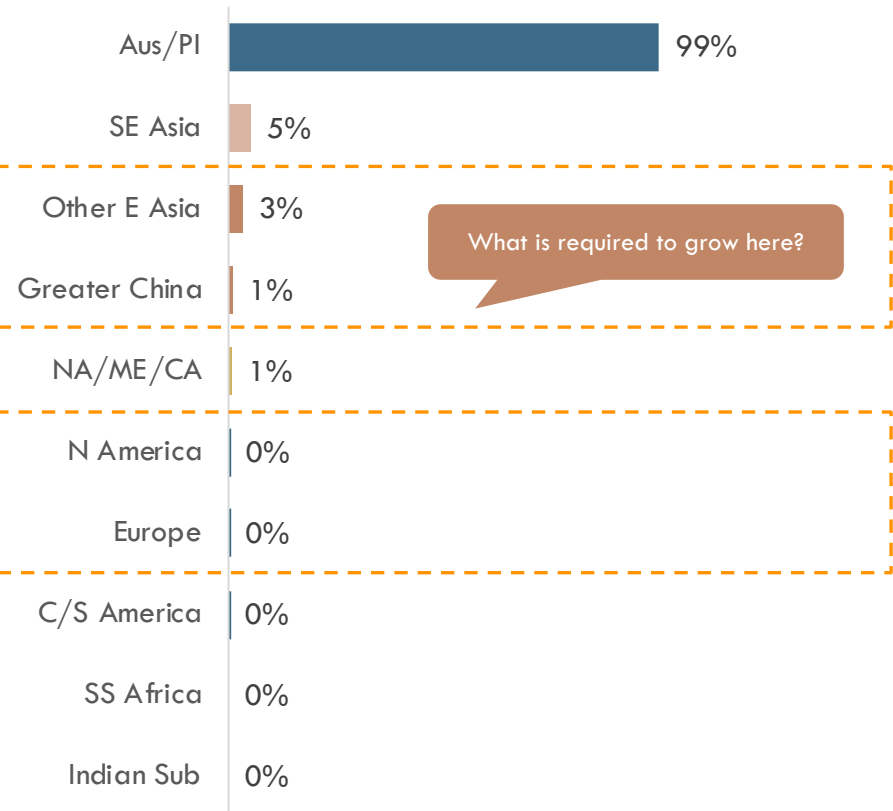


New Zealand is currently big in small markets and small in big markets

TOTAL BLUEBERRY IMPORT VALUE
US\$m; 2018



NZ SHARE OF IMPORT VALUE
% of \$; 2018



What is required to grow here?

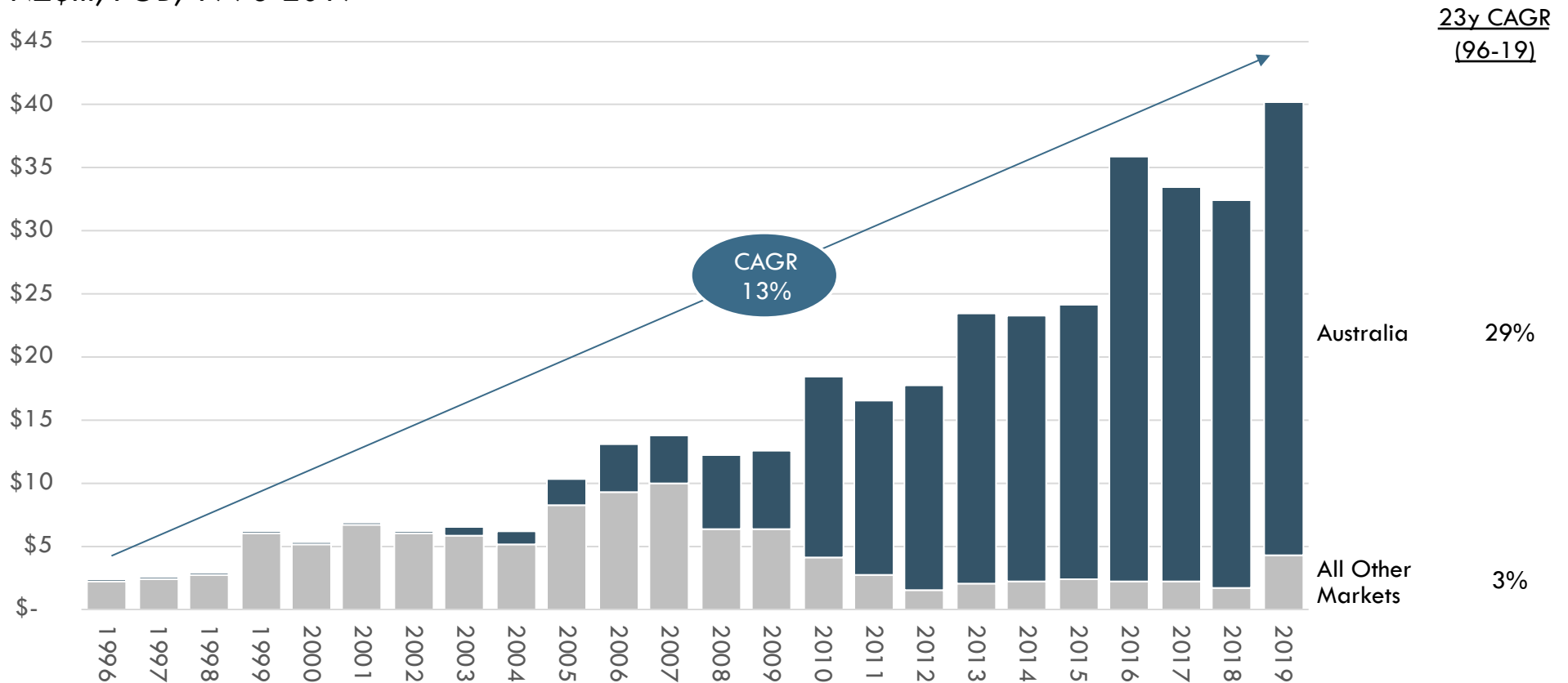
There are continued opportunities for growth in Australian market



New Zealand blueberry exports have shown strong growth over the past two decades driven by demand from Australia

NEW ZEALAND BLUEBERRY EXPORT VALUE BY DESTINATION

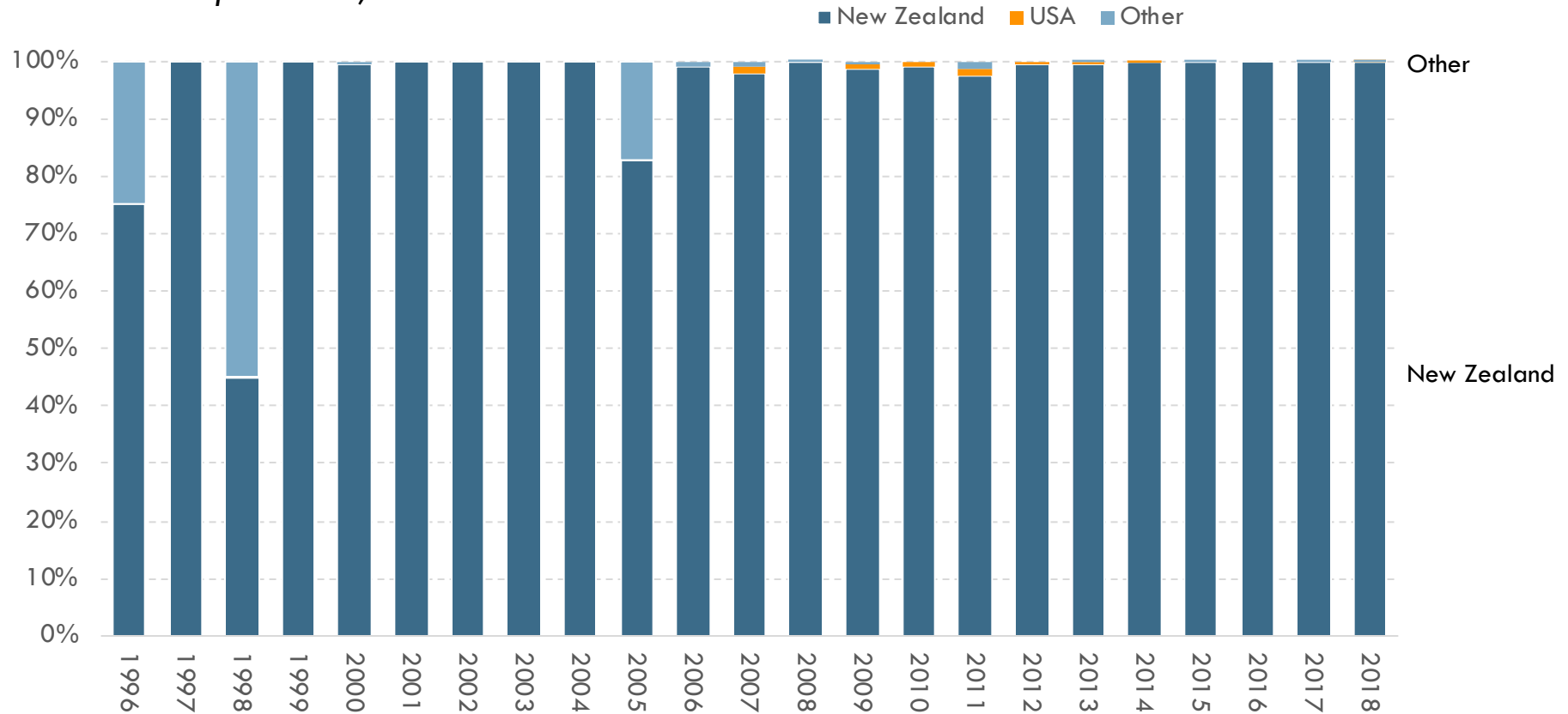
NZ\$m; FOB; 1996-2019



New Zealand is effectively the only blueberry supplier currently able to penetrate Australian biosecurity

TOTAL BLUEBERRY SUPPLY IN AUSTRALIAN MARKET BY SOURCE

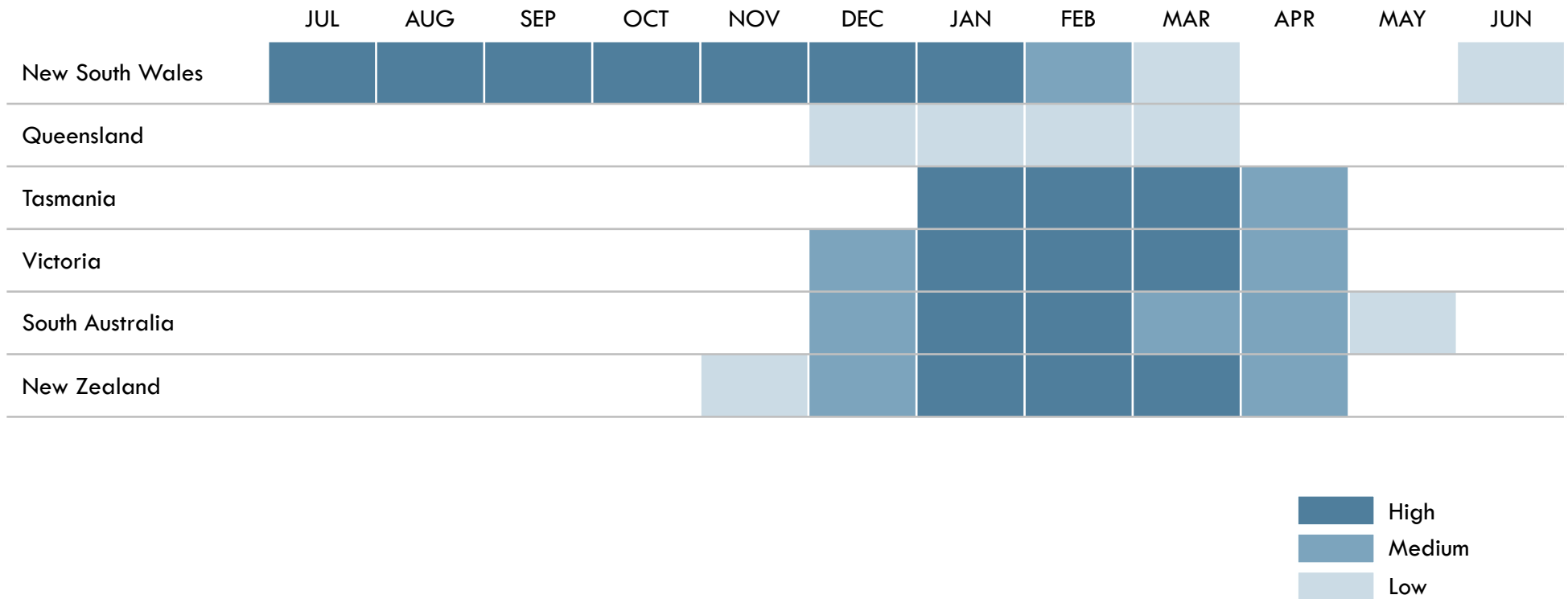
% of total import value; 1996-2018



New Zealand blueberry exports supply the Australian market counter-seasonally to NSW, but at a similar time to other states

FRESH BLUEBERRY AVAILABILITY IN AUSTRALIA BY ORIGIN

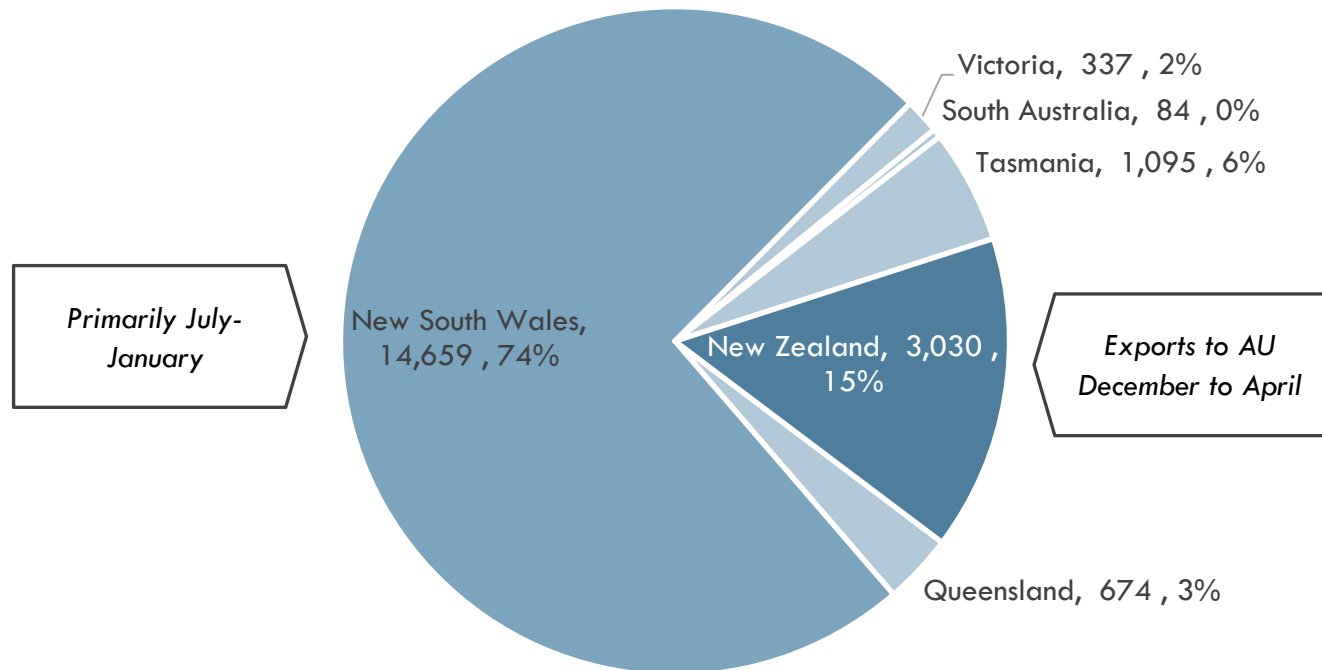
Presence/availability; 2017/18



New South Wales (74%) is the largest blueberry producing region in Australasia, followed by New Zealand (15%)

AUSTRALASIAN BLUEBERRY PRODUCTION BY STATE

Tonnes; 2017/18



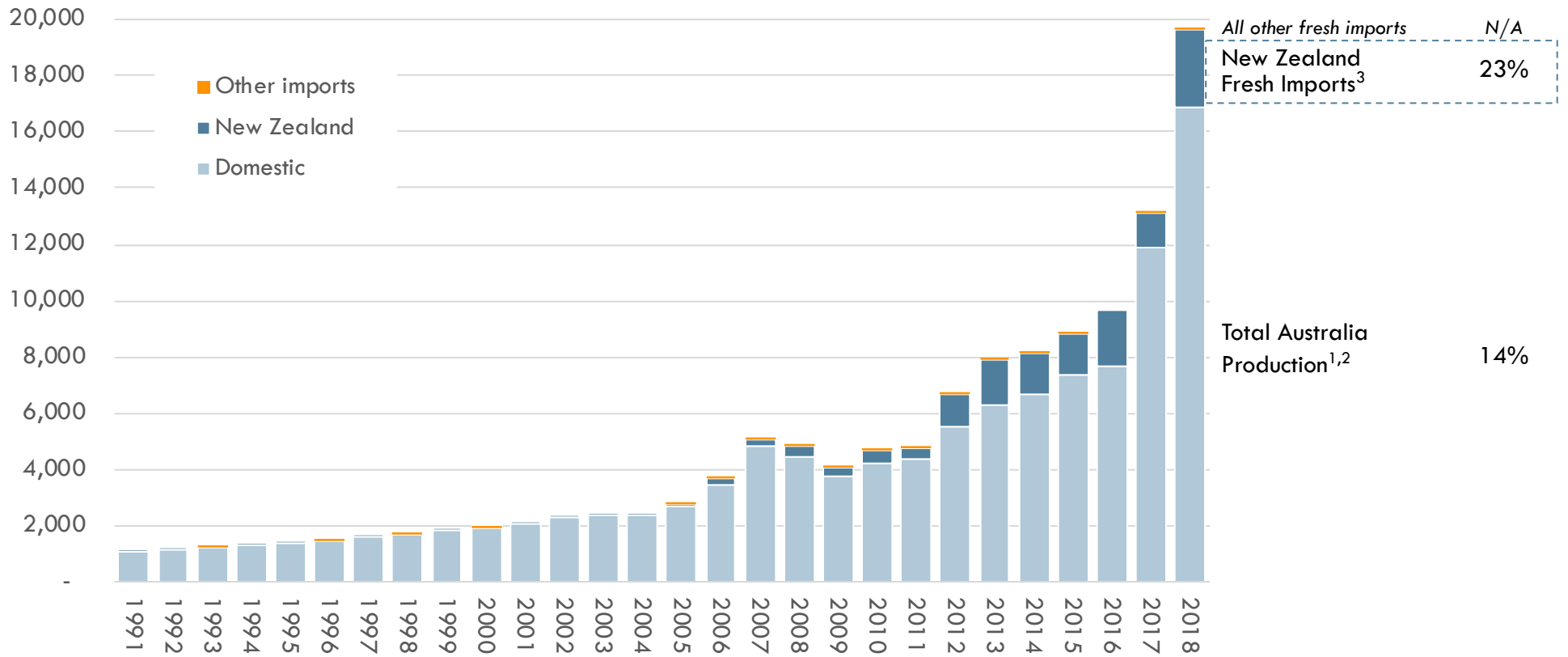
TOTAL = 19,879t of blueberries produced in 2017/18

Australian imports of New Zealand blueberries are growing faster (23%) than domestic Australian production (14%)

TOTAL BLUEBERRY SUPPLY IN AUSTRALIAN MARKET BY SOURCE

Tonnes; 1991-2018

10y CAGR
(2008-2018)



1. Raw production (includes fresh, processing and exports; 2. Hort Innovation AU production data is significantly larger than DAWE/FAO; AU production for years 2002-2012 modelled as 1.5x FAO data to correct; 3. As reported Australia; Source: Horticulture Australia Statistics Handbook (various years); UN Comtrade; UN FAO; Coriolis analysis

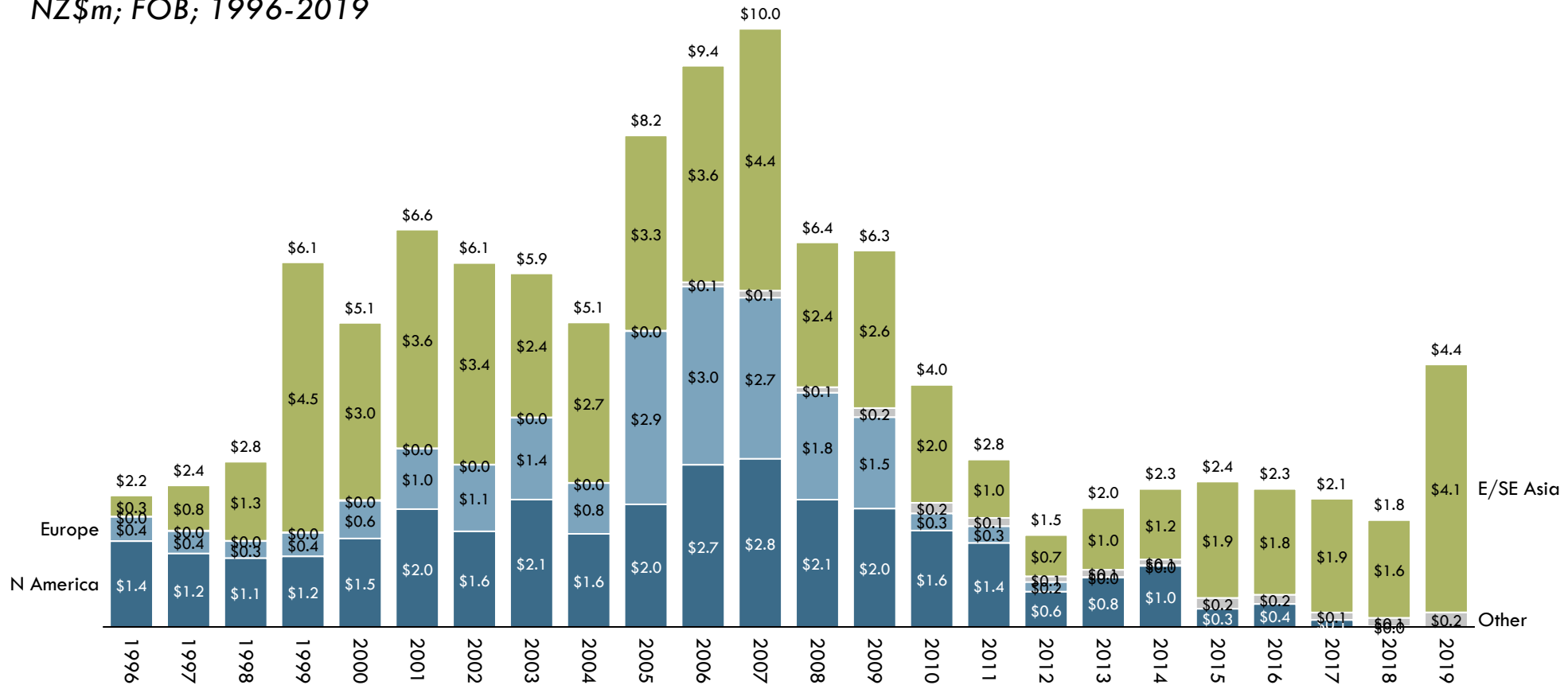
There are opportunities for growth in select East and South East Asian markets



New Zealand's blueberry exports are currently modest beyond Australia and now predominantly go to East/South East Asia

NEW ZEALAND BLUEBERRY EXPORT VALUE BY DESTINATION (EX AUSTRALIA)

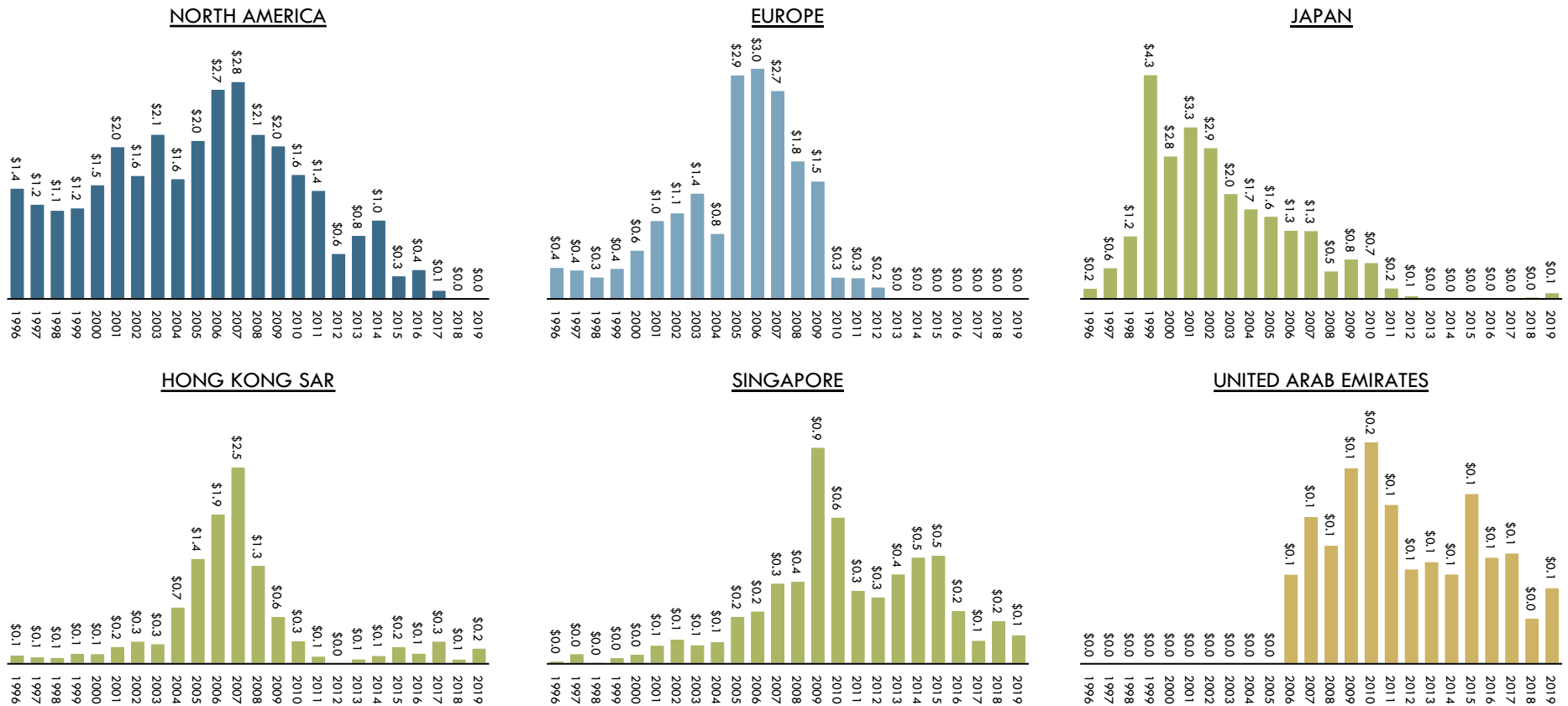
NZ\$m; FOB; 1996-2019



In many export markets, New Zealand's blueberry exports appear to go through a "boom-and-bust" cycle

NEW ZEALAND BLUEBERRY EXPORT VALUE BY SELECT DESTINATION

NZ\$m; FOB; 1996-2019



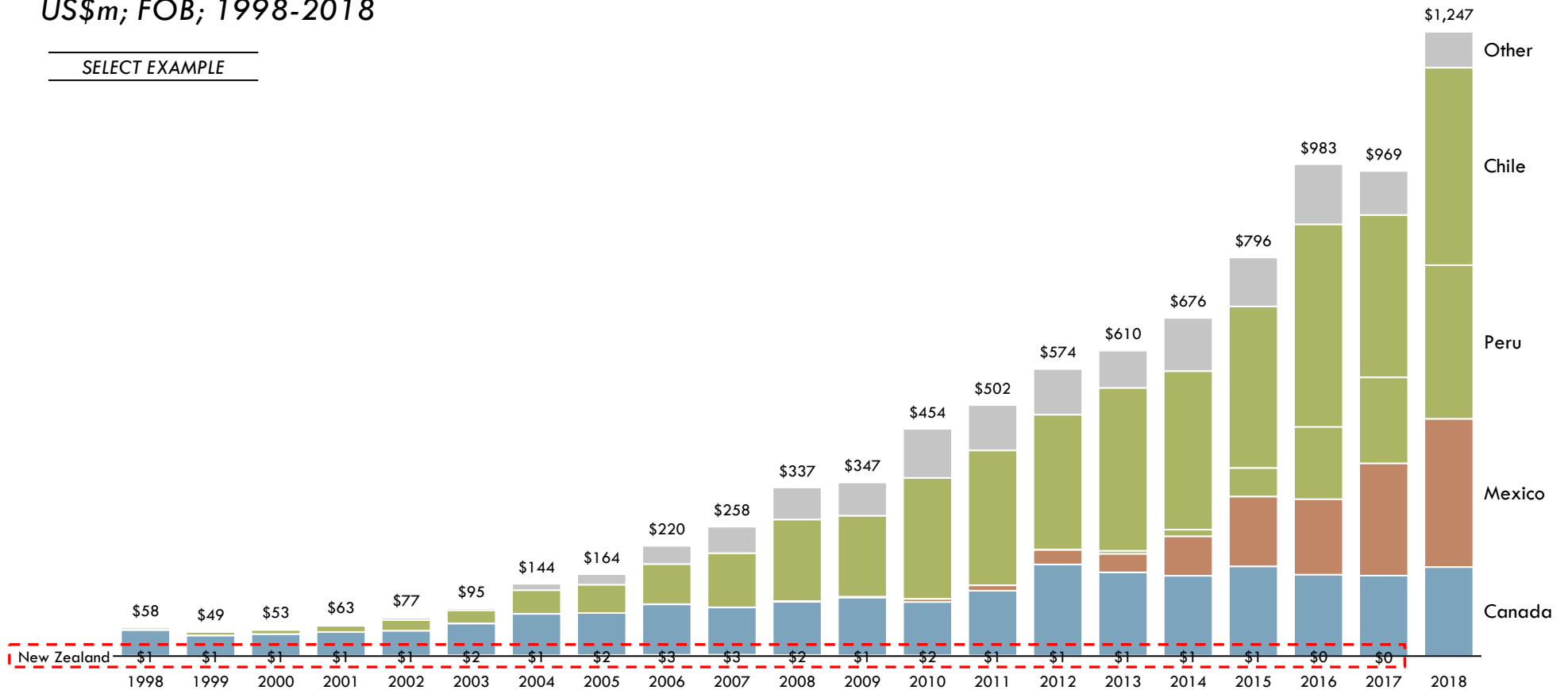
Source: Statistics NZ; Coriolis analysis and classifications

In “in-and-out” markets, key competitors such as Chile, Peru and Mexico have achieved growth, while New Zealand has not

UNITED STATES BLUEBERRY IMPORT VALUE BY DESTINATION (EX AUSTRALIA)

US\$m; FOB; 1998-2018

SELECT EXAMPLE

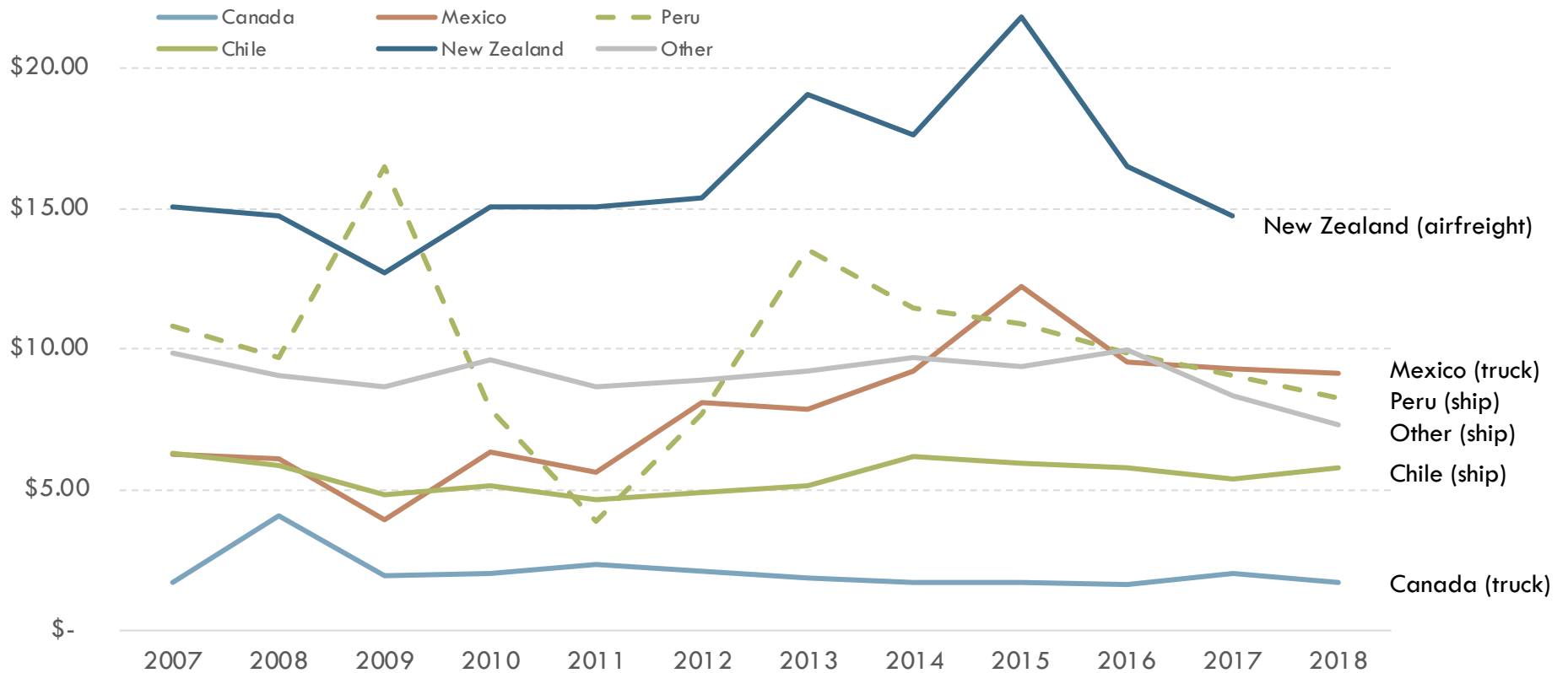


The challenge in “in-and-out” markets is the high current landed price of New Zealand blueberries (+50%)

AVERAGE LANDED CIF* PRICE IN THE UNITED STATES

US\$/kg; 2007-2018

SELECT EXAMPLE



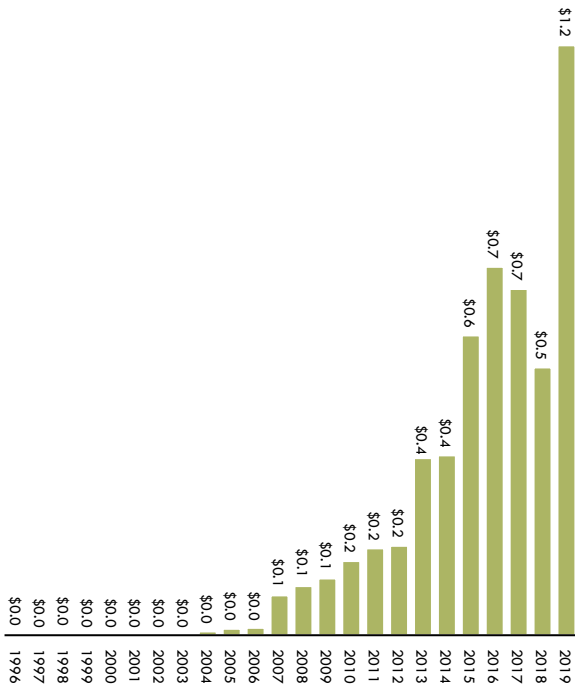
*CIF = Cost, Insurance and Freight. Source: Statistics NZ; Coriolis analysis and classifications

Three markets – Thailand, Vietnam and Taiwan – stand out for creating solid growth to date

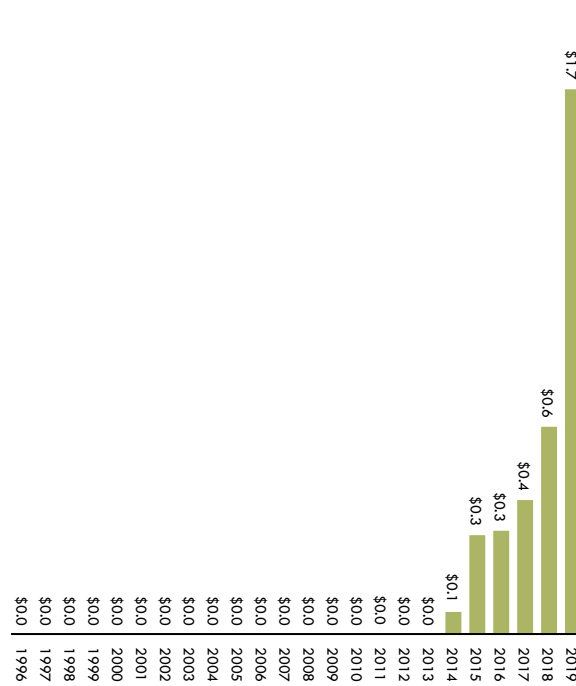
NEW ZEALAND BLUEBERRY EXPORT VALUE BY SELECT DESTINATION

NZ\$m; FOB; 1996-2019

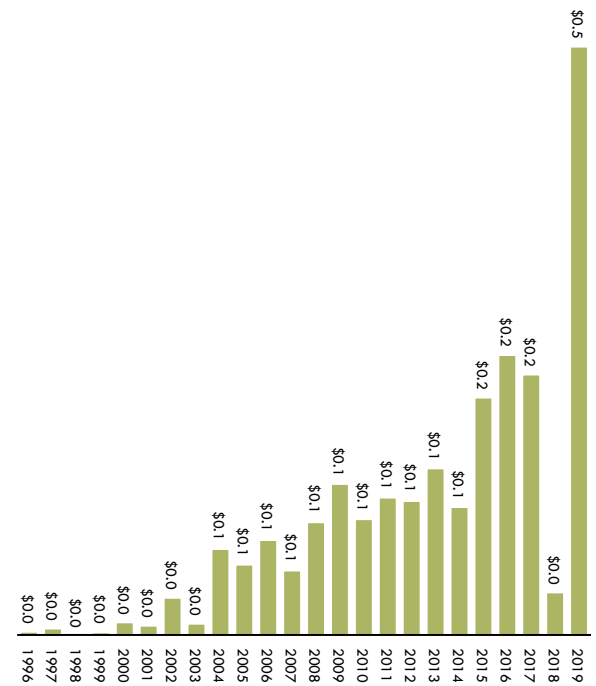
THAILAND



VIETNAM

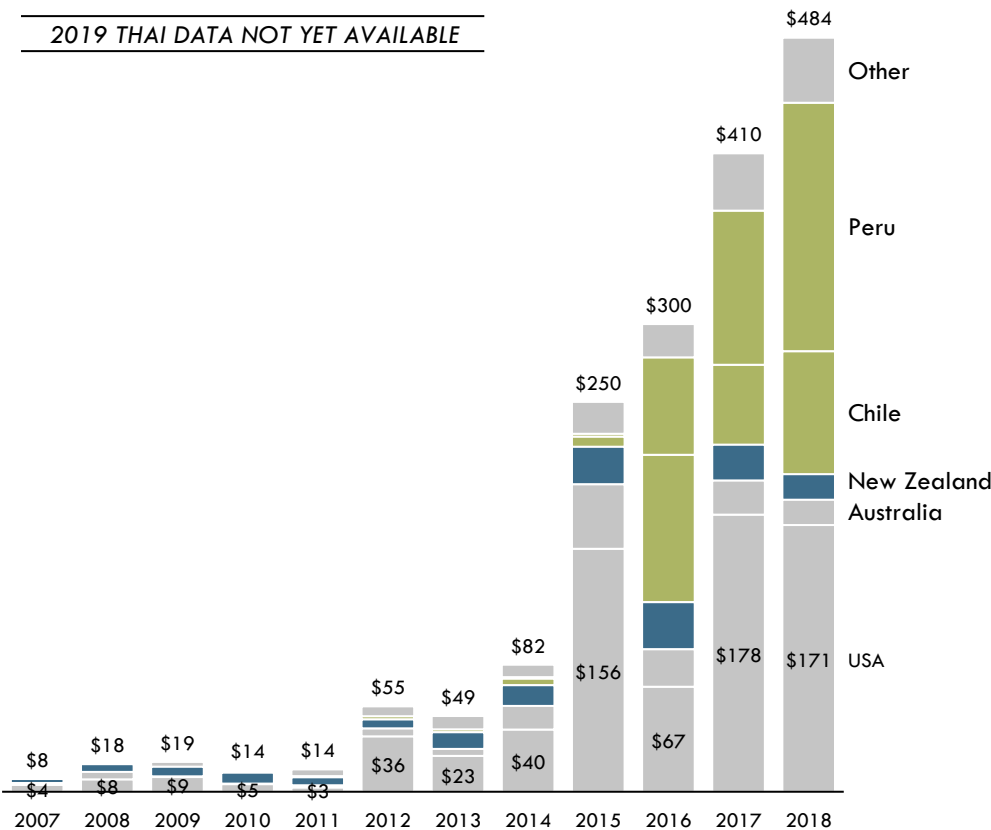


TAIWAN

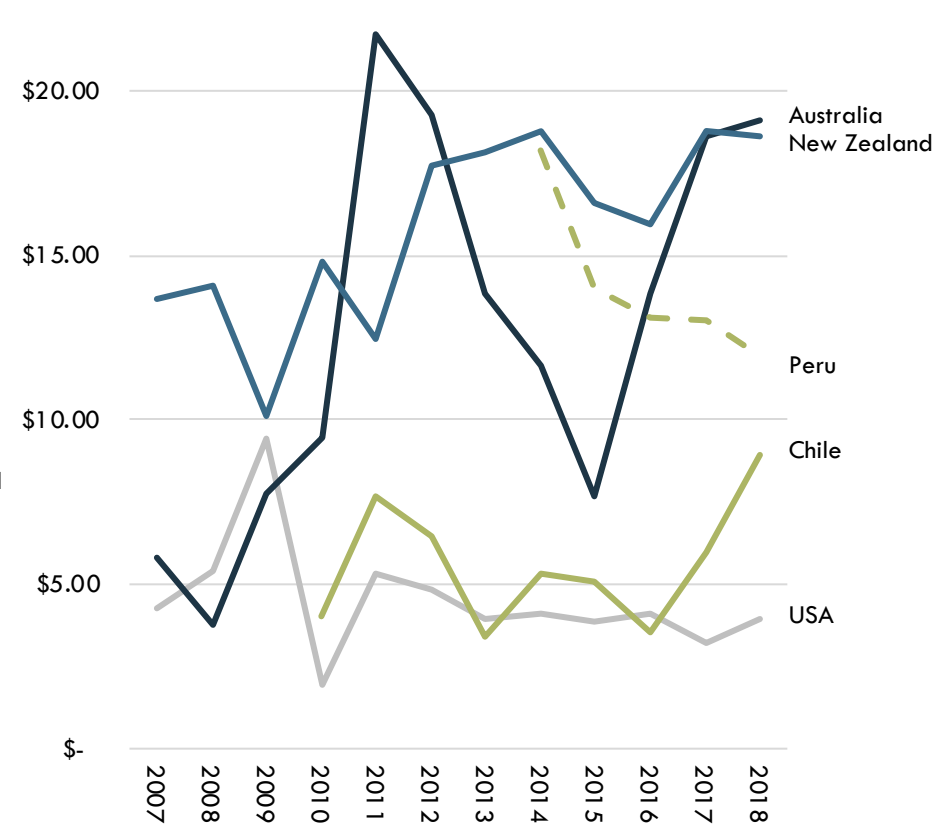


However, even in these growth markets, New Zealand is under pressure from low cost suppliers

THAILAND BLUEBERRY IMPORT VALUE
US\$000; 2007-2018



AVERAGE LANDED CIF PRICE IN THAILAND
US\$/kg; 2007-2018



Competitive Situation

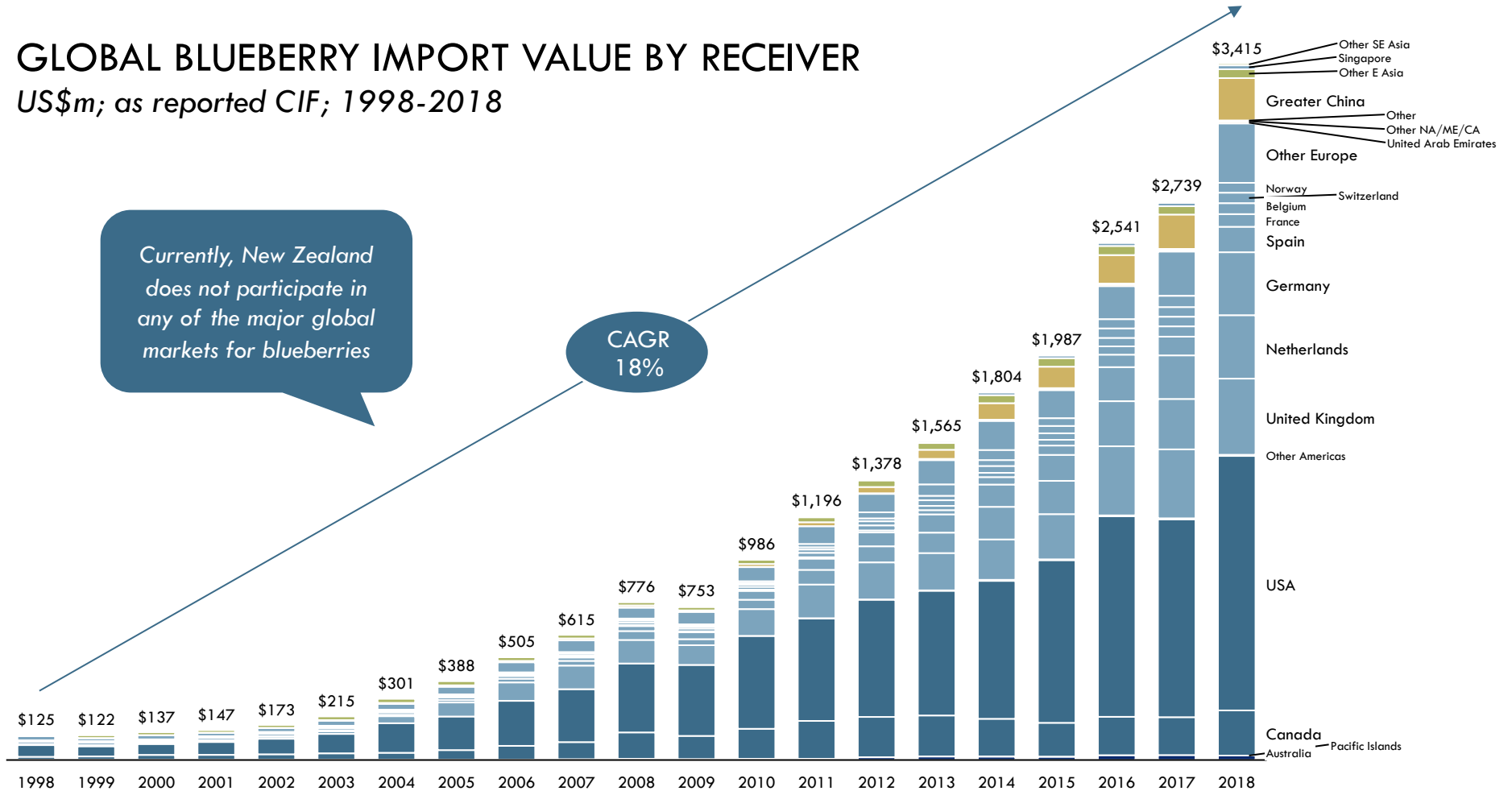
- *Global situation*
- *Key competitors*
- *Peru*
- *Chile*

04

The global market for blueberry imports is dominated by North America and Europe, with China as a major growth region¹

GLOBAL BLUEBERRY IMPORT VALUE BY RECEIVER

US\$m; as reported CIF; 1998-2018

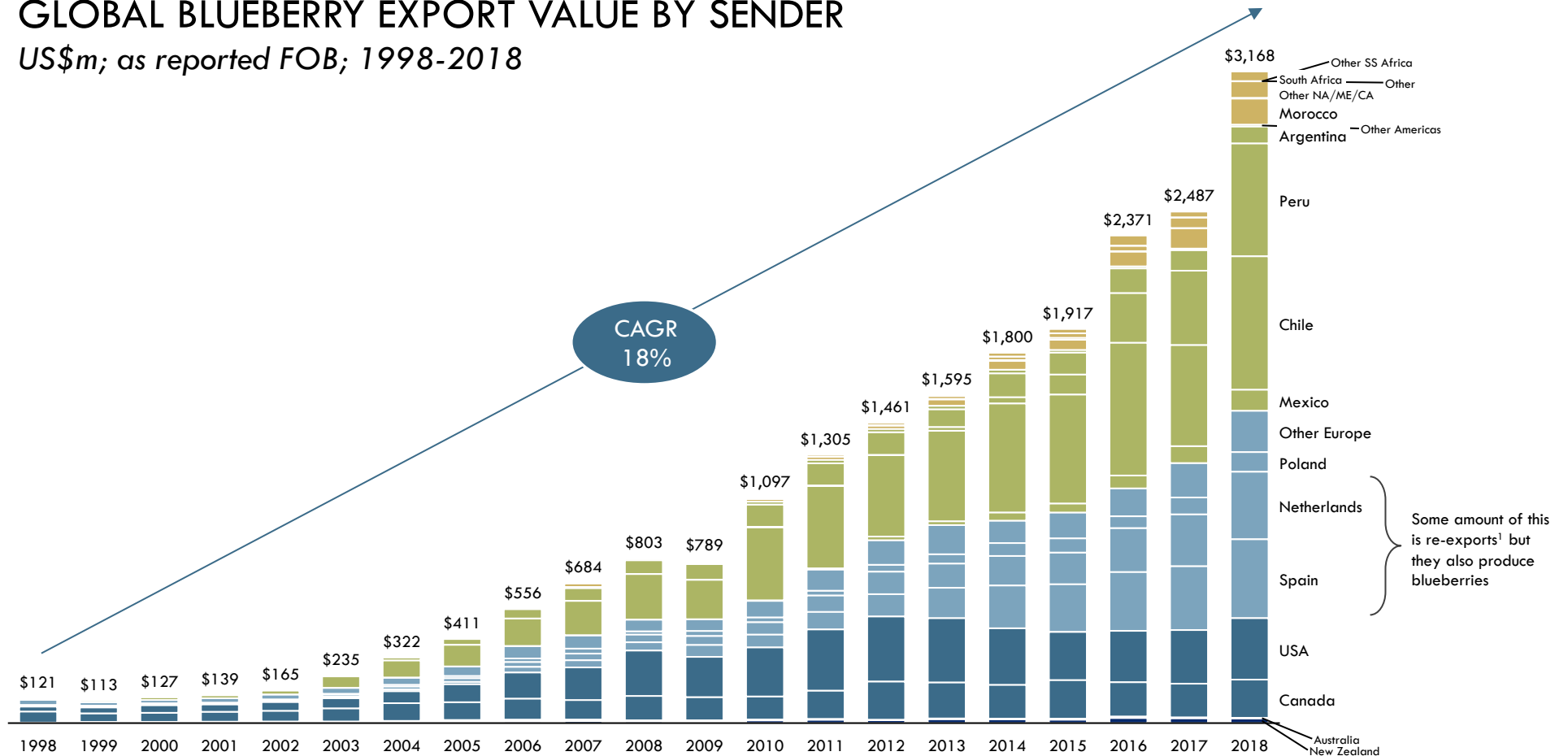


1. However, US demand grew more in the last year (17 to 18) than total Chinese demand has in the last 20 years; Source: UN Comtrade; Coriolis analysis and classifications

Global blueberry exports are growing (20y CAGR 18%), driven in particular by Chile and Peru

GLOBAL BLUEBERRY EXPORT VALUE BY SENDER

US\$m; as reported FOB; 1998-2018



1. Of imported South American fruit inseparable at source; Source: UN Comtrade; Coriolis analysis and classifications

This section looks at the two largest blueberry exporters for lessons for New Zealand; first, Peru...



Peru – a country that has grown rapidly over the past decade to become the largest blueberry exporter in the world – has clear lessons for New Zealand

1. Six major factors are driving Peru's strong growth in blueberries; does New Zealand have all of these?

2. To point out the obvious, growing exports requires growing area and growing yields

- Peru has rapidly growing blueberry area and yields, leading to rapidly growing production
- Peru has translated growing blueberry production into growing blueberry exports
- Peru's blueberry exports peak in October, earlier than Chile (or New Zealand)
- Peru's growing blueberry exports have gone to North America, Europe and China/Hong Kong

3. New Zealand needs fewer, larger operators achieving much higher yields

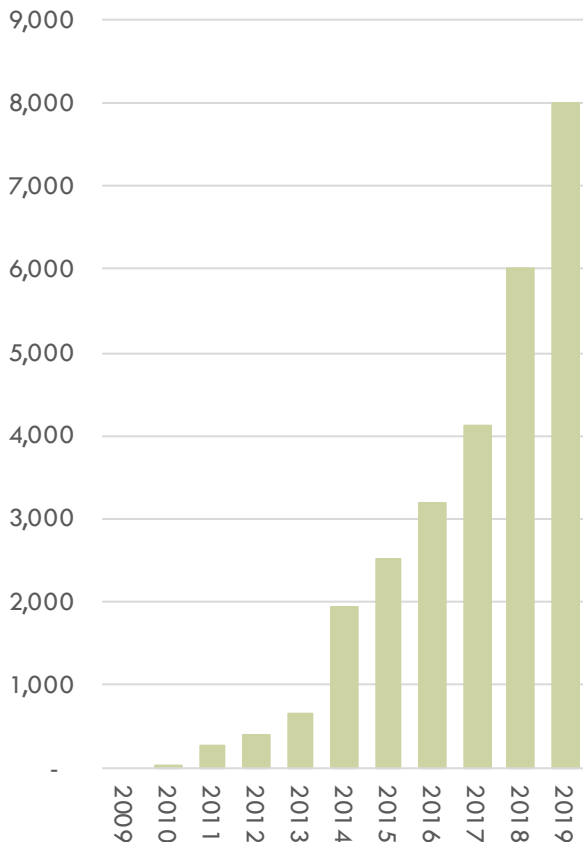
- Peru has a highly consolidated industry made up of large operators at scale
- An examination of the financial results of Camposol shows that Peru's growth is being driven by economies of scale and profit
- Comparing Camposol with the New Zealand blueberry industry, highlights the lack of scale and low yields currently

Six major factors are driving Peru's strong growth in blueberries

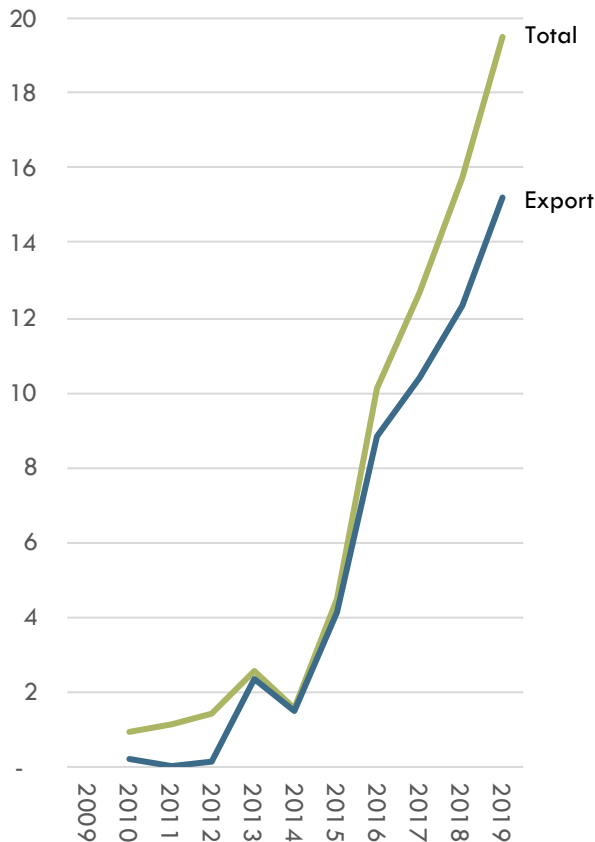


Peru has rapidly growing blueberry area and yields, leading to rapidly growing production

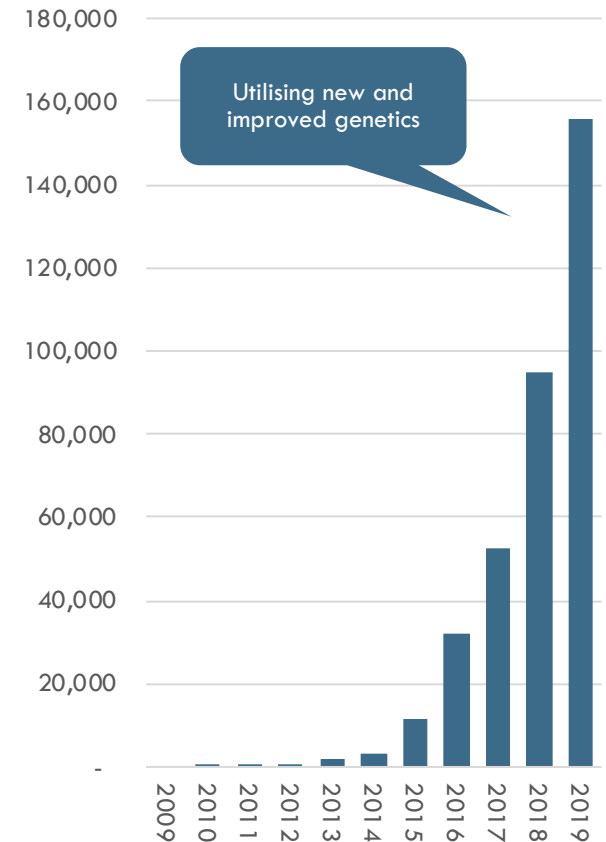
PERU BLUEBERRY AREA
Ha; 2009-2019



PERU BLUEBERRY YIELD
T/ha; 2009-2019



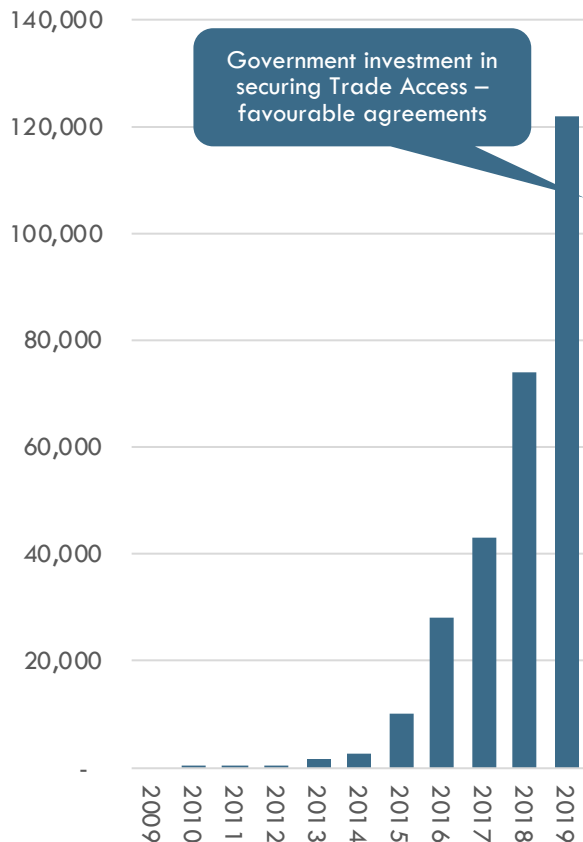
PERU BLUEBERRY PROD.
T; 2009-2019



Source: UN FAO; UN Comtrade; various published articles; Coriolis analysis and estimates

Peru has translated growing blueberry production into growing blueberry exports

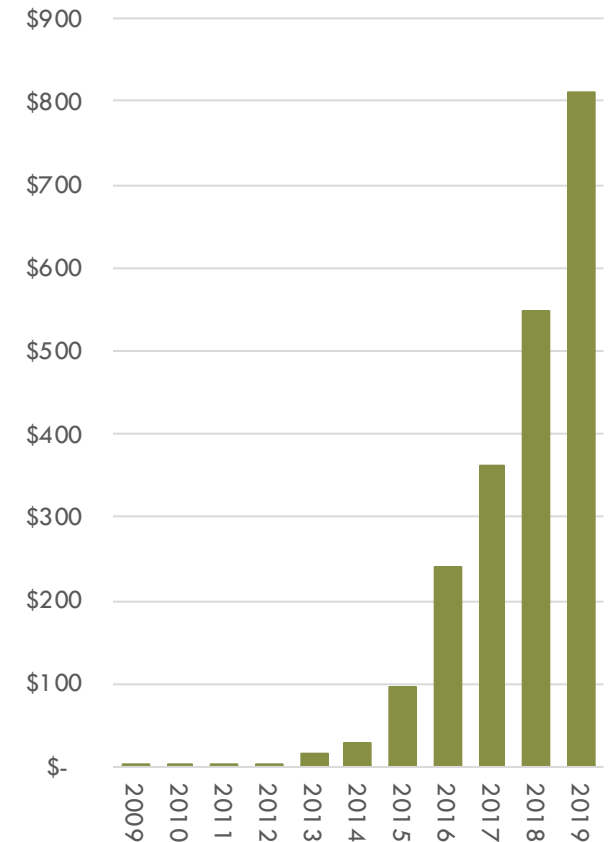
PERU EXPORT VOLUME
T; 2009-2019



PERU AVERAGE PRICE
US\$/kg; 2009-2019



PERU EXPORT VALUE
US\$m; 2009-2019

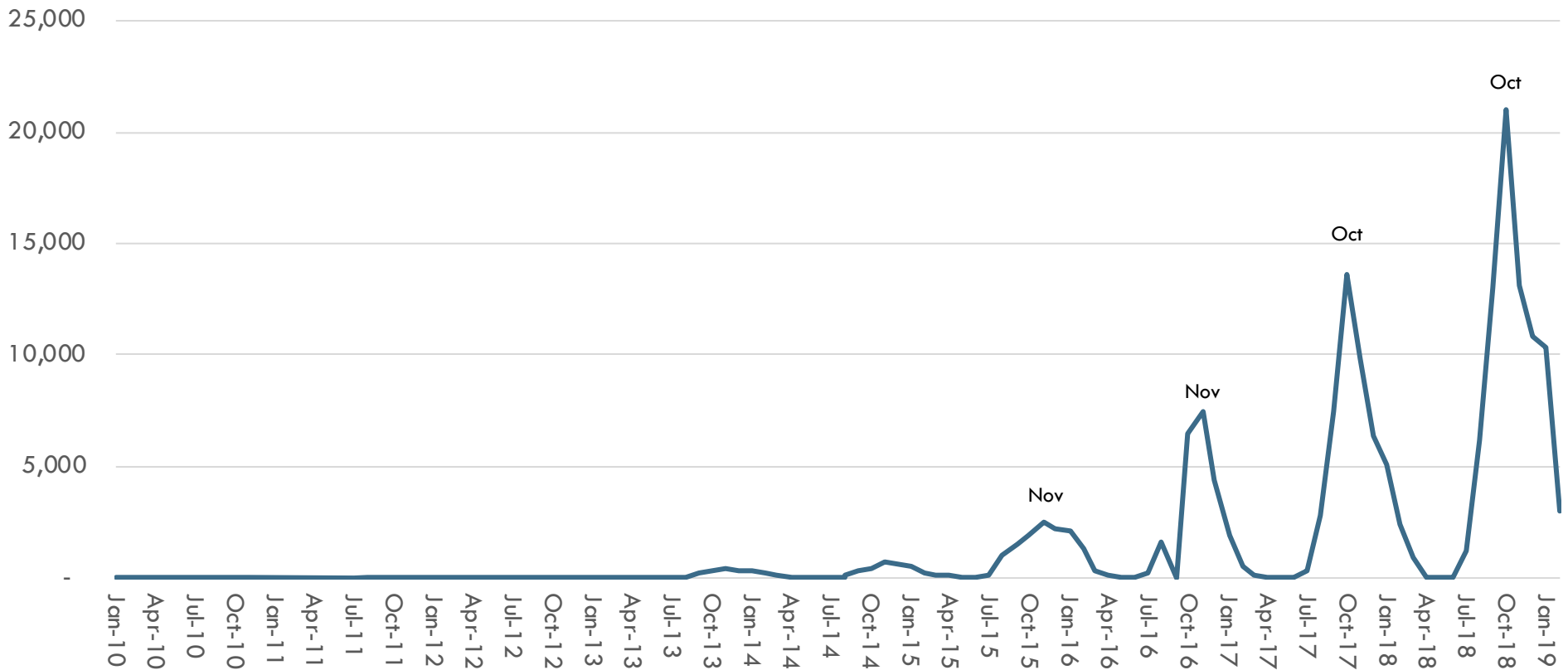


Source: UN FAO; UN Comtrade; various published articles; Coriolis analysis and estimates

Peru's blueberry exports peak in October, earlier than Chile (or New Zealand)

PERU BLUEBERRY EXPORT VOLUME BY MONTH

Tonnes; Jan 2012 - Jan 2020

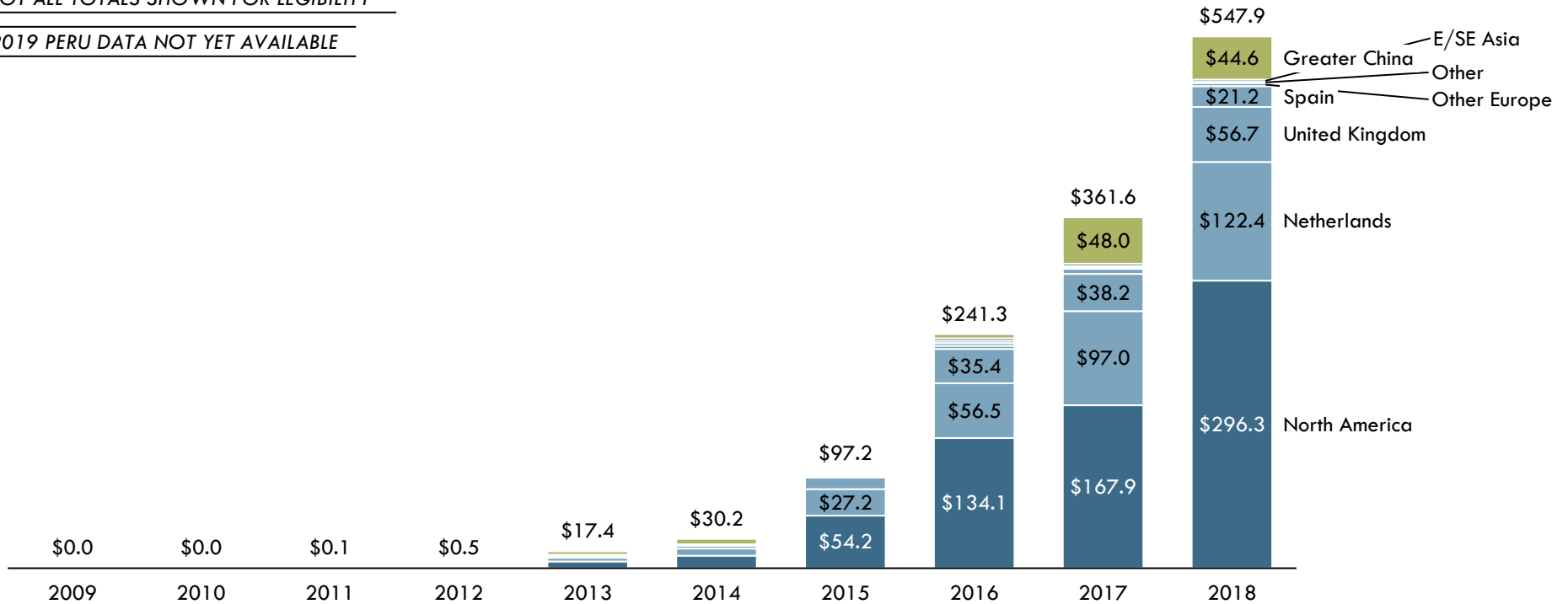


Peru's growing blueberry exports have gone to North America, Europe and China/Hong Kong

PERU BLUEBERRY EXPORT VALUE BY DESTINATION
US\$m; 2009-2018

NOT ALL TOTALS SHOWN FOR LEGIBILITY

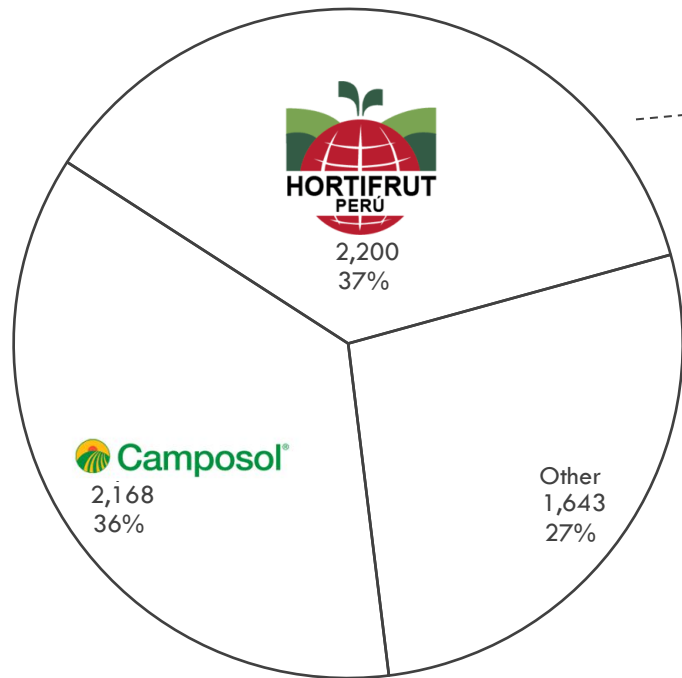
2019 PERU DATA NOT YET AVAILABLE



Peru has a highly consolidated industry made up of large operators at scale

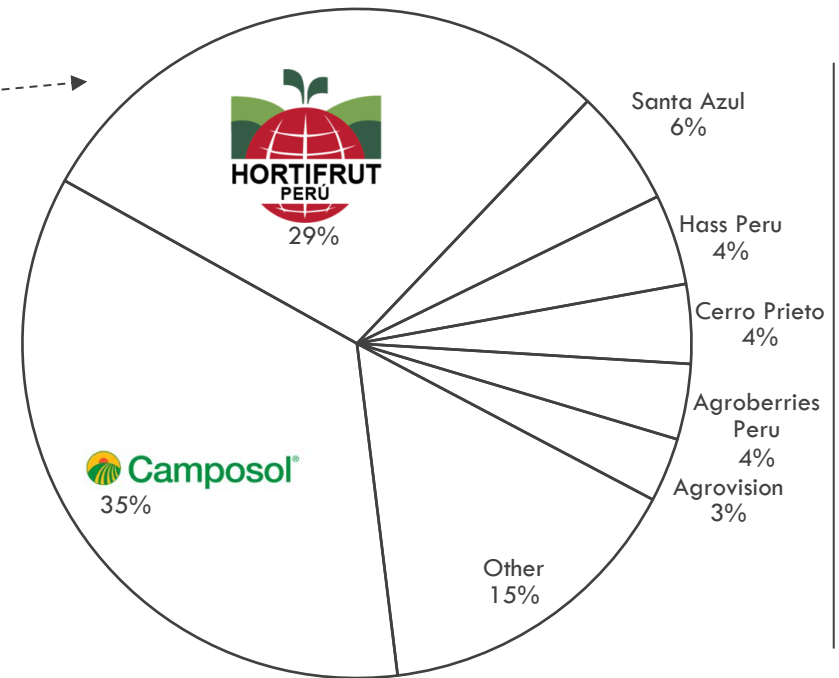
PERU BLUEBERRY AREA BY FIRM

Hectares; 2018



PERU BLUEBERRY EXPORT SHARE BY FIRM

% of export value in US\$; 2018

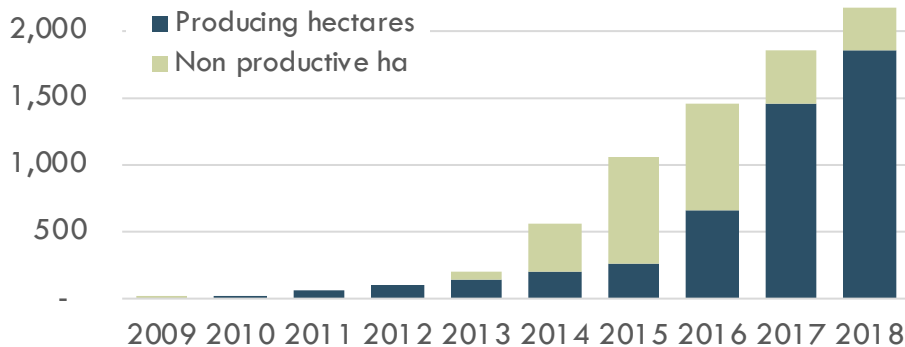


Next 5
21%

An examination of the financial results of Camposol show that Peru's growth is being driven by economies of scale and profit

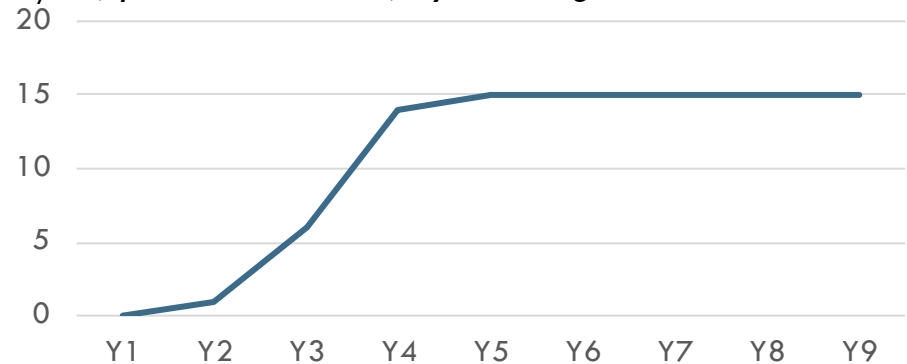
BLUEBERRY AREA

Ha; 2009-2018



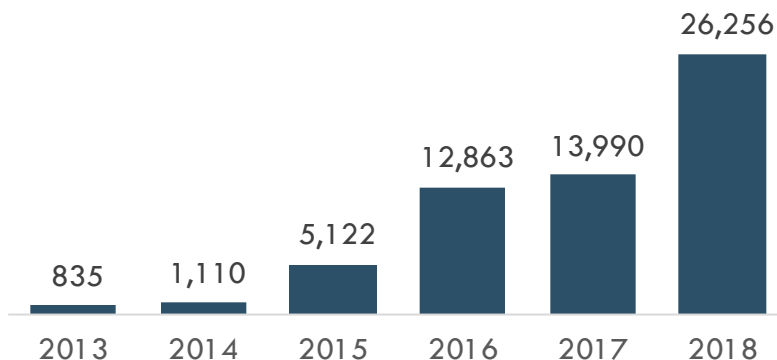
REALISED YIELD BY AGE

T/ha; presented model; by bush age



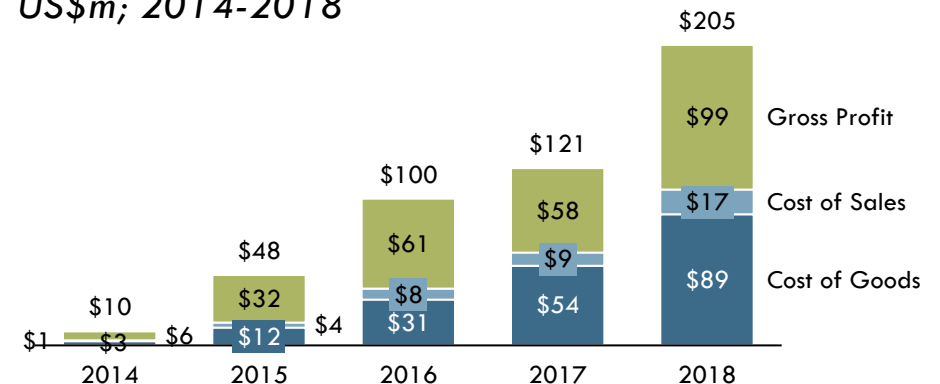
BLUEBERRY PRODUCTION

Tonnes; 2013-2018



BLUEBERRY FINANCIAL RESULTS¹

US\$m; 2014-2018

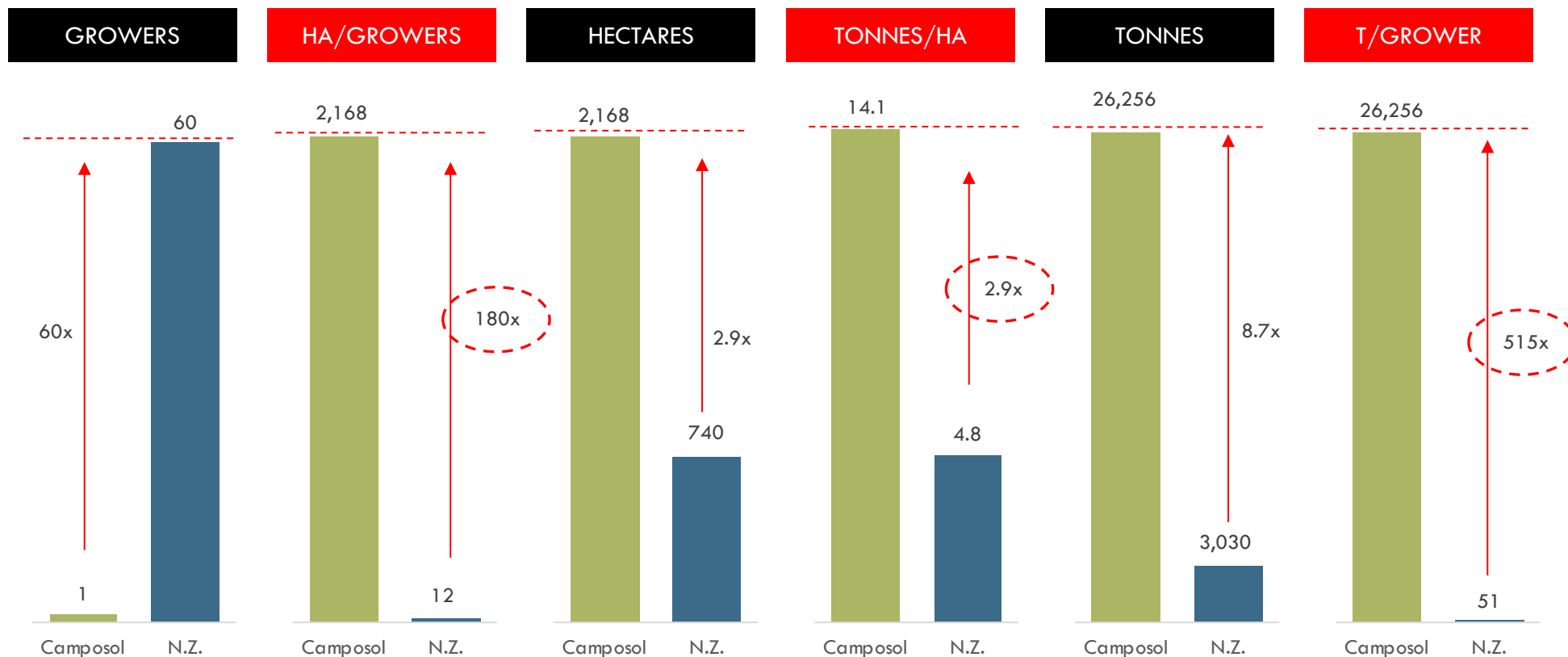


1. At segment/operational level (not total firm); Source: Camposol Annual Reports (2011-2018)

Comparing Camposol with the New Zealand blueberry industry highlights the lack of scale and low yields currently

INDUSTRY SIZE AND PERFORMANCE METRICS: CAMPOSOL VS. NEW ZEALAND

Select variables as given; 2018 or as available



This section looks at the two largest blueberry exporters for lessons for New Zealand; second, Chile...

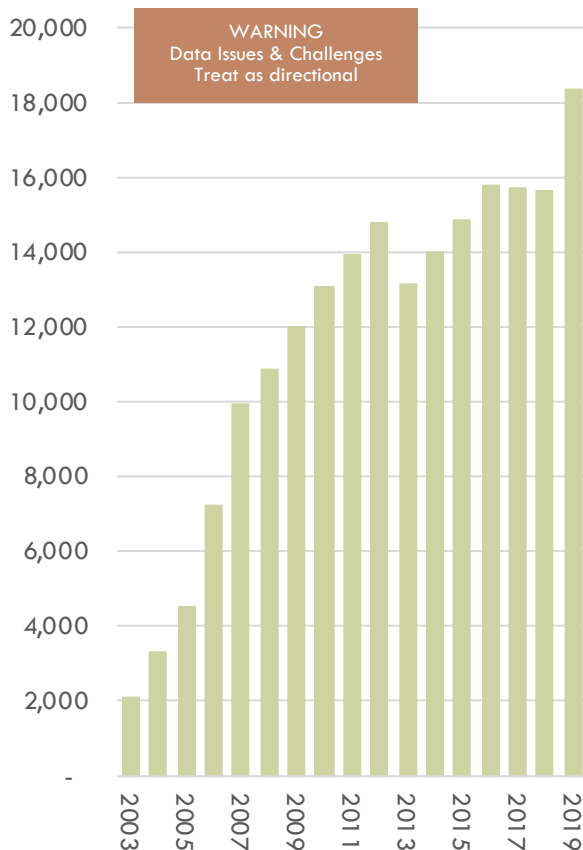


Chile is a growing producer and exporter that has put pressure on New Zealand in many Asian blueberry markets

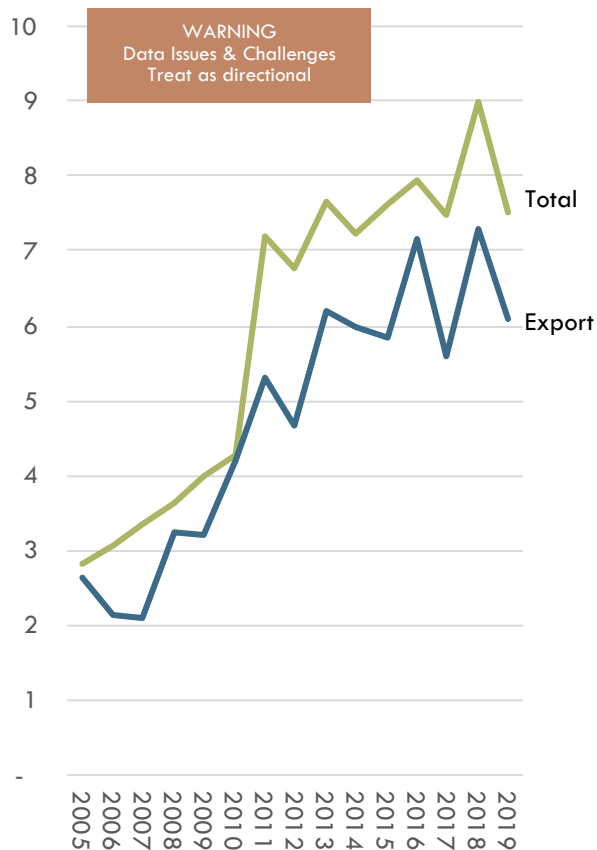
- Chile is growing blueberry area, yields and production
- Chile has growing blueberry export volumes and values
- However, the growth of Peru has put pressure on prices
- Similar to New Zealand, Chile's blueberry exports peak in the Southern Hemisphere mid-summer (Jan)
- Chile's growing fresh blueberry exports have gone to North America, Europe and China/Hong Kong
- Chile has a relatively consolidated blueberry industry

Chile is growing blueberry area, yields and production

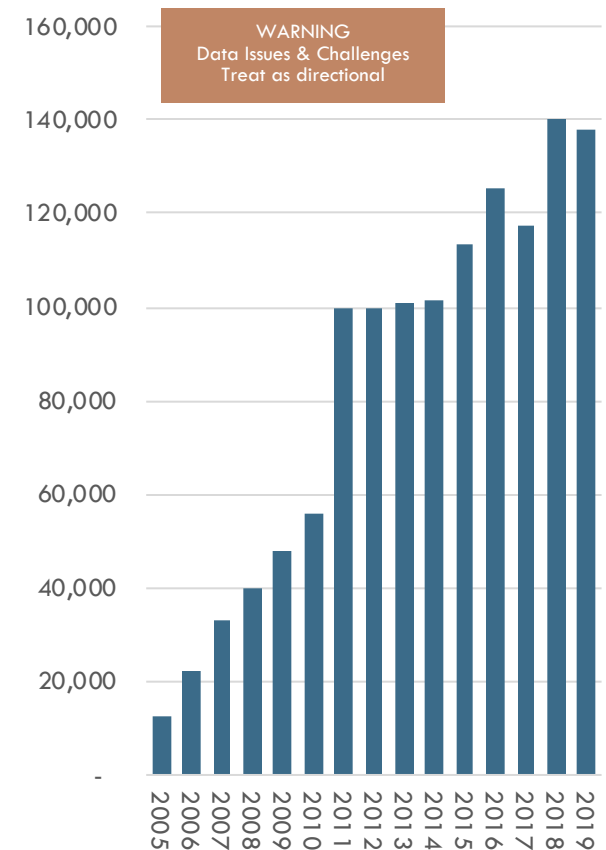
CHILE BLUEBERRY AREA
Ha; 2003-2019



CHILE BLUEBERRY YIELD
T/ha; 2005-2019



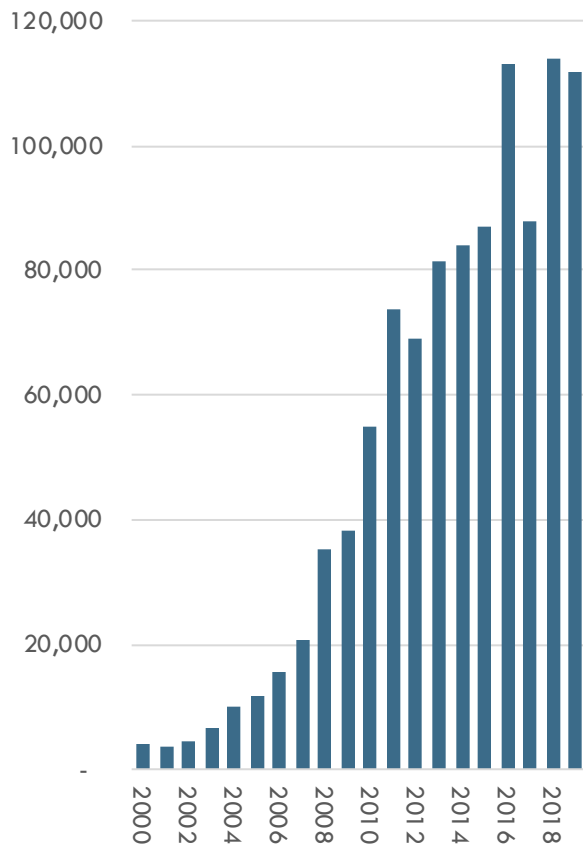
CHILE BLUEBERRY PROD.
T; 2005-2019



Note: Chile does not report fresh "production" to the FAO; what is here is a synthesis across a wide range of sources (which are inconsistent and disagree in places); this does not fully account for total production including frozen blueberries (effectively "export grade"); Source: various published articles; Coriolis analysis and estimates

Chile has growing blueberry export volumes and values; however, the growth of Peru has put pressure on prices

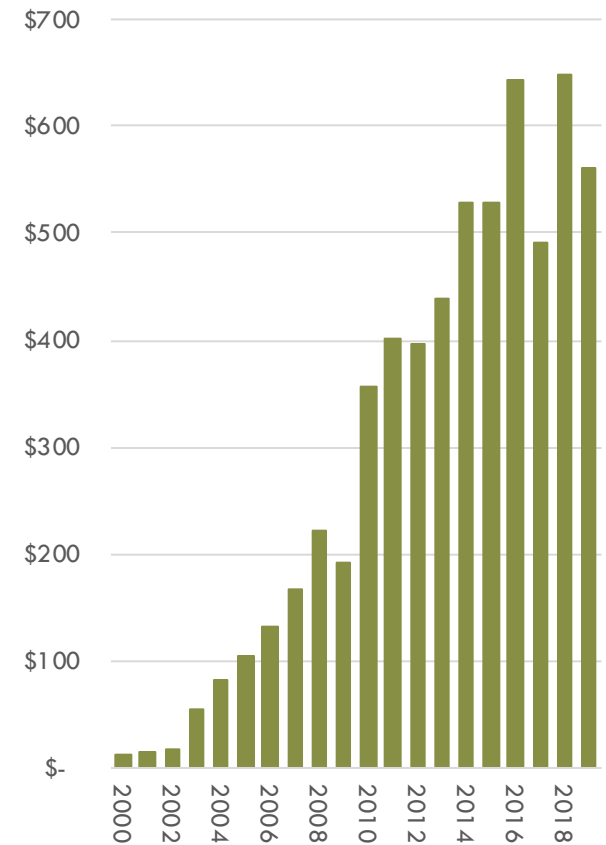
CHILE EXPORT VOLUME
T; 2000-2019



CHILE AVERAGE PRICE
US\$/kg; 2000-2019



CHILE EXPORT VALUE
US\$m; 2000-2019

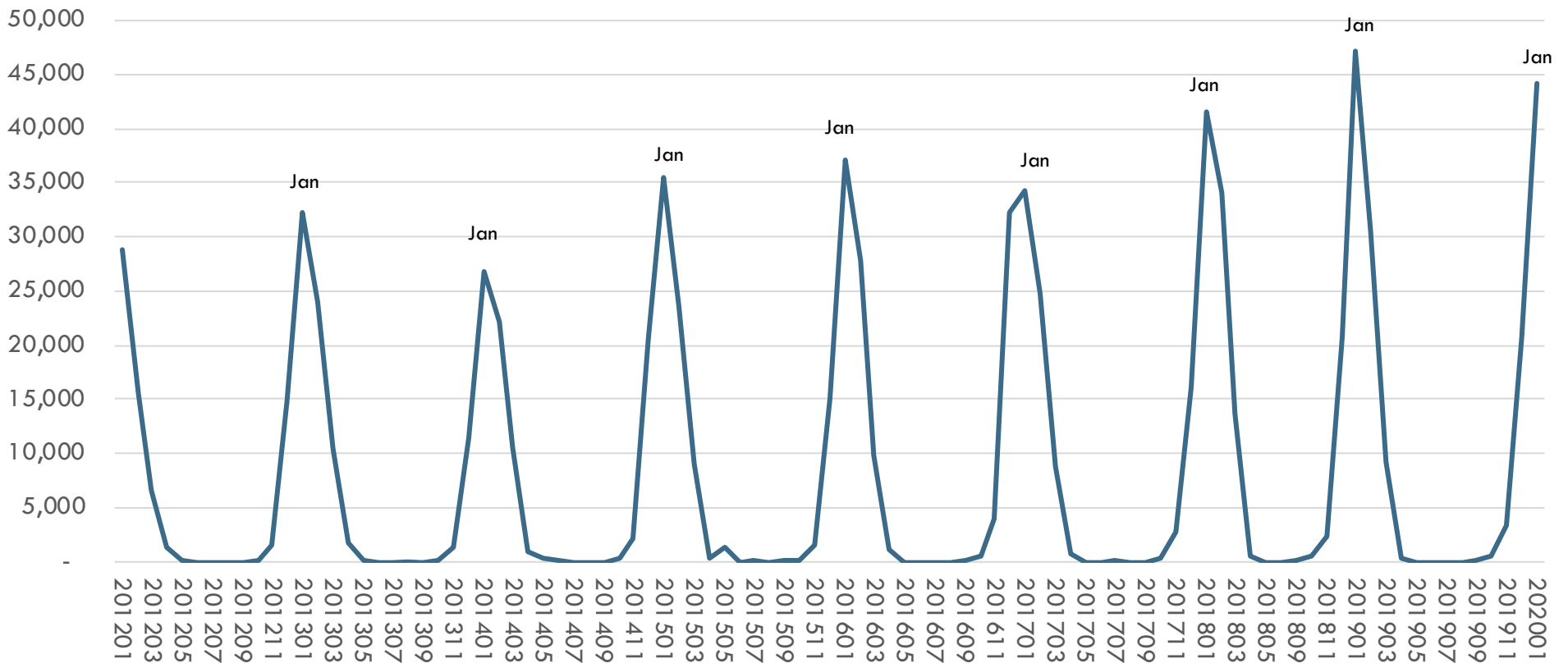


Source: UN FAO; UN Comtrade; various published articles; Coriolis analysis and estimates

Similar to New Zealand, Chile's blueberry exports peak in the Southern Hemisphere mid-summer (Jan)

CHILE BLUEBERRY EXPORT VOLUME BY MONTH

Tonnes; Jan 2012 - Jan 2020

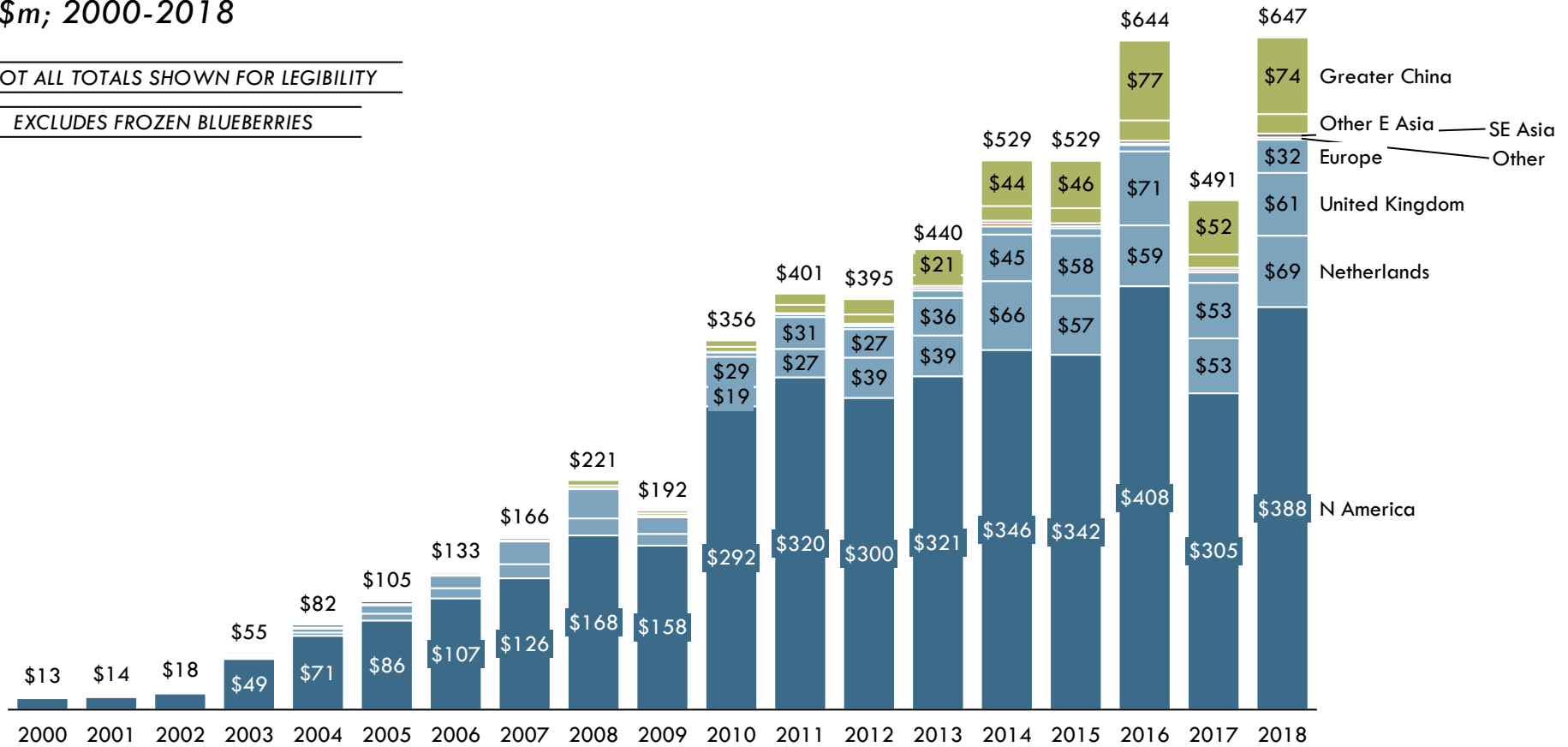


Chile's growing fresh blueberry exports have gone to North America, Europe and, more recently, Asia

CHILE FRESH BLUEBERRY EXPORT VALUE BY DESTINATION

US\$m; 2000-2018

NOT ALL TOTALS SHOWN FOR LEGIBILITY
EXCLUDES FROZEN BLUEBERRIES

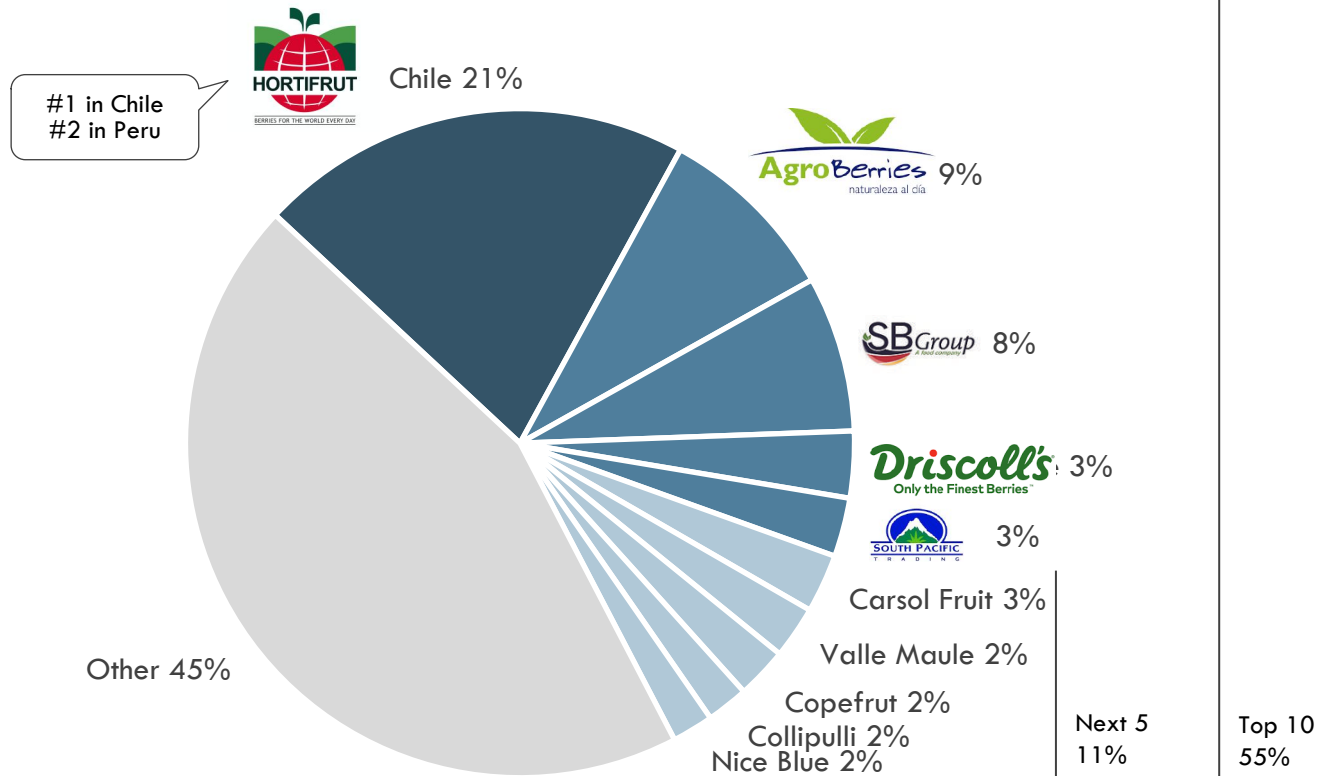


Source: UN Comtrade; Coriolis analysis and classifications

Chile has a relatively consolidated blueberry industry

SHARE OF CHILEAN BLUEBERRY EXPORTS BY FIRM

Share of tonnes; 2014



Firm Activity & Profiles

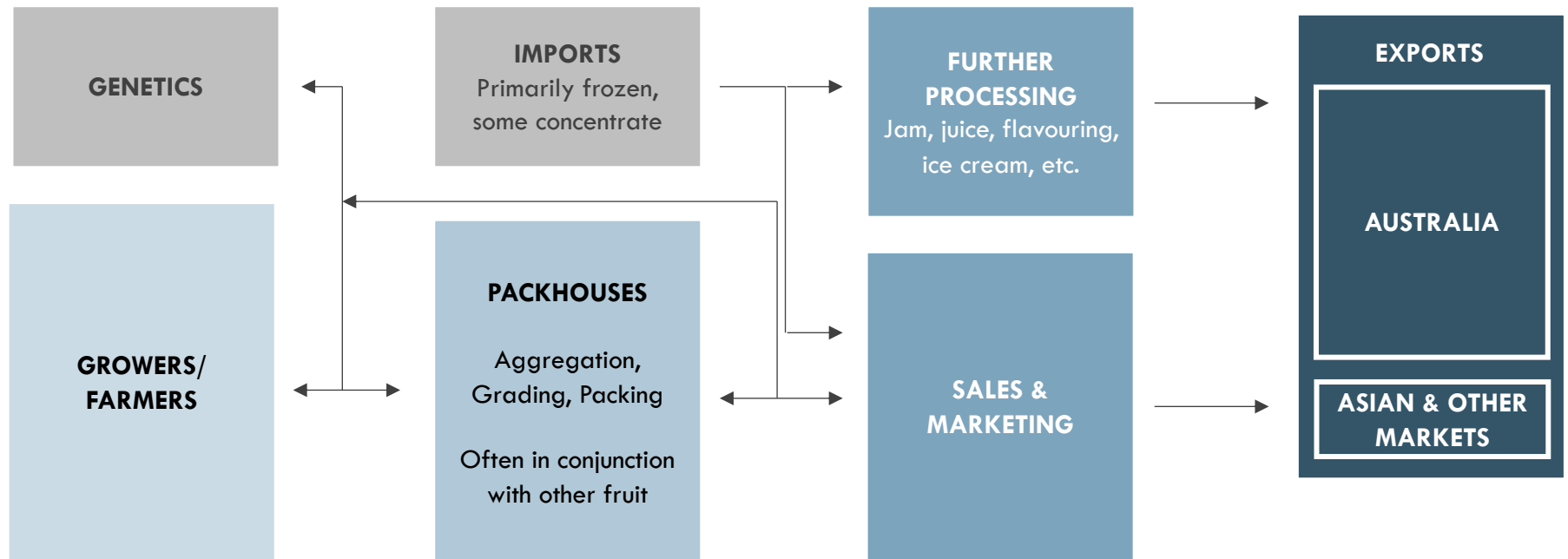
- *Firm Themes*
- *Key Firm Profiles*

05

As the industry develops, firms are integrating across and between the supply chain





INVESTMENT ACROSS THE BLUEBERRY SUPPLY CHAIN

Model; 2020



Firms are investing in growth across the supply chain

BLUEBERRY INVESTMENTS: EXAMPLE

ORGANISATION	DETAILS
	<ul style="list-style-type: none">- Developing 220 ha farm in Southland orchard, over time land being developed and production increasing; in 2019 40% acreage in grass- Adding to existing 160ha acreage in North Island
	<ul style="list-style-type: none">- 2011-2013 planted 30ha of blueberries in Kerikeri, 55,000 plants will produce +300 tonnes of fruit when in full production in 2021; invested in dedicated packhouse facility, planted four new varieties and launched ENZABlue Brand- 2017 license holder of 16 proprietary blueberry varieties in Australia; agreement between T&G and P&F Research- 2020 new partnership with P&F Research to breed new blueberry varieties- 2020 new JV relationship with CarSol (worlds largest berry producer), enabling year-round supply into Asia under “Orchard Rd” brand
	<ul style="list-style-type: none">- 2015 began investing in hydroponic berryfruit (raspberries, blackberries)- 2019 invested in 4ha of hydroponic blueberries in Northland- Received Provincial Growth Fund funding (\$2.37m) to further develop hydroponic berryfruit opportunities in Northland, and develop training resources in Northland. Looking to expand orchard a further 20ha.
	<ul style="list-style-type: none">- Investing in new plant varieties to: improve yield, disease resistance, taste, early and late season fruit

Large firms like T&G are developing blueberries as a strategic category

BACKING BLUEBERRIES

“Emerging categories have a strong future, with the strategic goal of maintaining an advantage over global competitors and supplying high quality, premium blueberries and grapes 365 days of the year in key markets around the world... This year, the Company made great progress with its emerging blueberry category, bringing together genetics, growing, partnerships and the aggregation of its markets and brands. Discussions commenced with potential grower partners in the United States, Australia and South America, with the view to establishing strategic sourcing partnerships. The Company’s Orchard Rd brand was successfully rolled out to new markets across Asia, including Singapore and China. And in June 2019, T&G was one of the first companies to service the newly opened Vietnamese market out of the United States, with its Orchard Rd blueberries. The Company has continued to commercialise its blueberry genetics as part of its partnership with Oregon-based Fall Creek Farm & Nursery, and Plant & Food Research in New Zealand. This programme is looking to provide Australian consumers with high quality, locally- produced blueberries at different times of the year – thereby helping extend the availability of blueberries in Australia. In 2020, T&G will continue to build- out its blueberry category with further partnerships throughout its supply chain.”

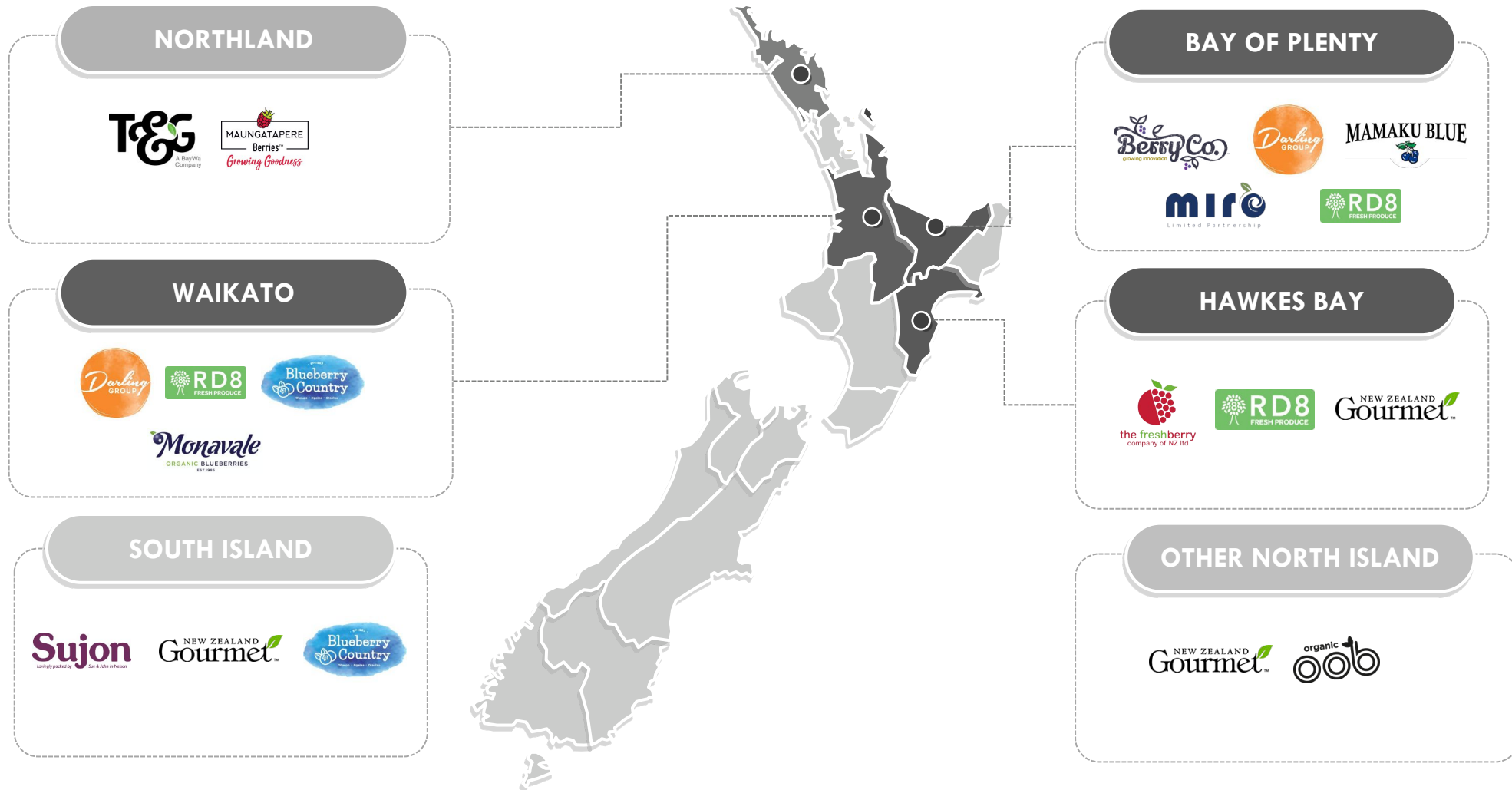
T&G Annual Report, 2019, pg20



“Harnessing our vertical model strengths to develop two new categories – blueberries and grapes... We see a strong future for these emerging categories.”

Gareth Edgecombe (CEO)
T&G

Bay of Plenty, Hawke's Bay and Waikato are the primary growing regions, with growth in Northland and the South Island



<p>BERRYCO</p>  <p>General Manager</p>	<p>DARLING GROUP</p>  <p>Andrew Darling Managing Director</p> 	<p>THE FRESH BERRY COMPANY/RD8 FRESH PRODUCE GROUP</p>  <p>Craig Hall* Managing Director</p> 	<p>MIRO LP</p>  <p>Liz Te Amo Chief Executive Officer</p>
<p>DESCRIPTION: Blueberry company, JV between Southern Produce (BOP) and Valleyfresh (VIC) own IP for Mountain Blue Orchard (AU), large early market fruit, packers and marketing; 11 varieties</p>	<p>DESCRIPTION: Growing, packing, marketing and distribution of fresh fruit globally; Global Fresh Australia trading as JH Leavy & Co, Just Avocados 3rd largest avocado exporter in NZ; Blueberries grown in Waikato and BOP; supplying Dec-Apr</p>	<p>DESCRIPTION: Integrated global supply company, trading berries; exclusive agent for Driscoll's in New Zealand; Berry Farms NZ grows berries in Hawkes Bay plus contract growers; owned by RD8 a fresh fruit export company</p>	<p>DESCRIPTION: Collective of Maori food producers, plans to develop berry orchards, plus post-harvest operations. Partnership with BerryCo NZ</p>
<p>KEY PRODUCTS: Blueberries. Brands: Eurkea and iLuv</p>	<p>KEY PRODUCTS: Kiwifruit, avocados, berries, apples, citrus, mangoes, tomatoes, vegetables</p>	<p>KEY PRODUCTS: raspberries, blackberries, strawberries, blueberries (brands: Driscoll's, Blue Pearl, Oakberry Farms, Monavale (organic))</p>	<p>KEY PRODUCTS: Berries</p>
<p>OWNERSHIP: JV Southern Produce 50%, Valleyfresh (VIC) 50%</p>	<p>OWNERSHIP: Darling Family</p>	<p>OWNERSHIP: RD8 Fresh Produce Group Ltd</p>	<p>OWNERSHIP: 20 Maori trusts, iwi and collectives (27 shareholders)</p>
<p>COMPANY NUMBER: 5547685</p>	<p>COMPANY NUMBER: 5798616</p>	<p>COMPANY NUMBER: 5100061</p>	<p>COMPANY NUMBER:</p>
<p>ADDRESS: 37 Newnham Road, RD4, Tauranga, Bay of Plenty</p>	<p>ADDRESS: 54 Woodland Road, Katikati, Bay of Plenty</p>	<p>ADDRESS: Unit 2/2 Picton Street, Ponsonby Auckland</p>	<p>ADDRESS: PO Box 7051 Tauranga, Bay of Plenty</p>
<p>PHONE: +64 7 552 6878</p>	<p>PHONE: +64 7 549 3027</p>	<p>PHONE: +64 9 969 1522</p>	<p>PHONE: +64 7 571 1551</p>
<p>WEBSITE: www.berryco.co</p>	<p>WEBSITE: www.darlinggroup.co.nz</p>	<p>WEBSITE: www.freshberrycompany.co.nz, www.rd8.co.nz</p>	<p>WEBSITE: www.miroberries.com</p>
<p>YEAR FORMED: 2019</p>	<p>YEAR FORMED: 2000</p>	<p>YEAR FORMED: 2014</p>	<p>YEAR FORMED: 2017</p>
<p>STAFF EMPLOYED: N/A</p>	<p>STAFF EMPLOYED: 30</p>	<p>STAFF EMPLOYED: N/A</p>	<p>STAFF EMPLOYED: N/A</p>
<p>REVENUE: N/A</p>	<p>REVENUE: \$80-\$90m[^]</p>	<p>REVENUE: N/A</p>	<p>REVENUE: N/A</p>
<p>COMPANY HIGHLIGHTS: Partnership with Miro Ltd (based in Tauranga) collaboration of Maori businesses and horticultural leadership. Establishing orchard in BOP with orchard training</p>	<p>COMPANY HIGHLIGHTS: Acquired Brisbane based J.H. Leavy & Co, produce wholesaler and distributor, in 2016; investment in new facilities for Just Avocados</p>	<p>COMPANY HIGHLIGHTS: Changed name from BerryFresh. Partnership with Driscoll's 2016; Berry Farms NZ growers started planting Driscoll's blueberry varieties; new genetics into NZ every 12-18 months</p>	<p>COMPANY HIGHLIGHTS: Orchard development, tunnel houses. Indicate a 5ha crop in tunnels could return \$104,000/ha over the first eight years from an investment of \$300,000/ha.</p>

* Photo permission required; [^] Coriolis estimate

<p>JP EXPORTS / J&P TURNER</p>  <p>JP EXPORTS J & P TURNER PRODUCE SINCE 1983</p>  <p>Peter Turner* Managing Director</p> <p>website</p>	<p>NEW ZEALAND GOURMET</p>  <p>Paul Martin Chief Executive</p>	<p>MAUNGATAPERE BERRIES</p>   <p>Dermott Malley Managing Director</p>	<p>BLUEBERRY COUNTRY</p>   <p>Jerem Wylie* Chief Executive Officer</p> <p>linkedin</p>
<p>DESCRIPTION: JP Exports partner with growers and buyers to market fresh produce domestically and globally; source blueberries from North and South Islands; 5 varieties November to March; own produce farms via J & P Turner</p>	<p>DESCRIPTION: Blueberry farms in Hawkes Bay (Gourmet Blueberries Ltd), grow fruit over 79ha producing 600t (Nov-May); expanded into Auckland and Otago; grows and markets produce from 6 key operations across NZ; multiple farms across USA, Mexico and Peru</p>	<p>DESCRIPTION: Kiwifruit & Berryfruit growers. 37ha operation in Maungatapere, Northland. Also owns Onyx Horticulture - horticultural contracting, orchard management and consulting company. Co-founders of Dataphyll Ltd - horticulture software development company.</p>	<p>DESCRIPTION: NZ largest blueberry grower; Blueberry farms located across three locations in Ngatea (40ha), Ohaupo (120ha) and Otatautu (220ha); firm operations: grow, harvest, process and pack</p>
<p>KEY PRODUCTS: Fruit, vegetables (5 blueberry varieties)</p>	<p>KEY PRODUCTS: Strawberries, blueberries, tomatoes, capsicums, chillies, cherries</p>	<p>KEY PRODUCTS: Raspberries, Blackberries, Solberries (Own brand), Blueberries (Eureka brand), Kiwifruit (Zespri brand), Frozen berryfruit (Own brand)</p>	<p>KEY PRODUCTS: blueberries (commercial and retail) fresh and frozen, puree, mince, jam, chutney</p>
<p>OWNERSHIP: Private; NZ (Turner Family)</p>	<p>OWNERSHIP: Gourmet Group (Lawler, Martin, Lineen, others) 73%; NZSF Horticulture 27%</p>	<p>OWNERSHIP: Onyx Capital Limited (Owned by Malley family trusts)</p>	<p>OWNERSHIP: Private NZ; Furniss and MacDonald</p>
<p>COMPANY NUMBER: 671446 / 643531</p>	<p>COMPANY NUMBER: 489762/1522263</p>	<p>COMPANY NUMBER: 398167</p>	<p>COMPANY NUMBER: 200213</p>
<p>ADDRESS: 27 Clemow Drive, Mount Wellington, Auckland</p>	<p>ADDRESS: 83 Pukaki Road, Mangere, Auckland</p>	<p>ADDRESS: 162 Pukeatua Road, RD9, Maungatapere, Whangarei, Northland</p>	<p>ADDRESS: 397 Jary Road, RD 1, Ohaupo Waikato</p>
<p>PHONE: +64 9 5734 100</p>	<p>PHONE: +64 9 275 3415</p>	<p>PHONE: +64 9 434 7438</p>	<p>PHONE: +64 7 823 6923</p>
<p>WEBSITE: www.jpexports.co.nz; www.jpt.co.nz</p>	<p>WEBSITE: www.nzgourmet.net www.gourmettrading.net</p>	<p>WEBSITE: www.maungatapereberries.co.nz</p>	<p>WEBSITE: www.blueberry.co.nz</p>
<p>YEAR FORMED: 1994</p>	<p>YEAR FORMED: 1983</p>	<p>YEAR FORMED: 2011 (2015 for berry fruit)</p>	<p>YEAR FORMED: 1981</p>
<p>STAFF EMPLOYED: 500 + 500 seasonal (group)</p>	<p>STAFF EMPLOYED: N/A</p>	<p>STAFF EMPLOYED: 45 (180 peak)</p>	<p>STAFF EMPLOYED: 45-180</p>
<p>REVENUE: \$200-220m (parent)</p>	<p>REVENUE: \$20-50m^</p>	<p>REVENUE: N/A</p>	<p>REVENUE: N/A</p>
<p>COMPANY HIGHLIGHTS:</p>	<p>COMPANY HIGHLIGHTS: Often JV and partner with other companies and organisations; NZ Superfund acquires 27% stake, Jun 2018</p>	<p>COMPANY HIGHLIGHTS: Supreme winners '19 of NLD Ballance Farm Environment Awards & NLD Westpac Business Excellence Awards Use technology growing solutions like Dataphyll (employee performance management and product traceability) and Autogrow (hydroponics fertigation and mngt). PGF awarded to help develop NLD into soft berryfruit growing capital of NZ '19</p>	<p>COMPANY HIGHLIGHTS: Currently developing 220ha orchard in Southland (Otatautu); developed BBC Technologies to test and sort fruit and pack by weight; 70-80 commercial seasonal workers needed for Southland</p>

*Photo permission required, ^Coriolis estimate

<p>T&G</p>   <p>Gareth Edgecombe Chief Executive Officer</p>	<p>ValleyFresh Global</p>  <p>Anton Masutti</p>	<p>Southern Produce</p>   <p>Tony Ponder* CEO</p>	<p>Fresh Produce NZ</p>   <p>Russell Faulkner* Managing Director</p>
<p>DESCRIPTION: Global grower, seller, marketer and distributor of quality fresh produce; 1,100ha farmed; 32 global locations. Blueberries grown in Northland, Waikato and Hawkes Bay; 11ha and 73t of owned and leased land, grown globally</p>	<p>DESCRIPTION: Produce company sourcing fruit globally; trading, packaging, fumigation and ripening services; part of the Freshmax Group (one of 6 units)</p>	<p>DESCRIPTION: Produce marketer; domestic and export; based in Bay of Plenty; JV partner in BerryCo with Valleyfresh (AU); Exports blueberries direct to Australia and across Asia; Supply Nov-May</p>	<p>DESCRIPTION: Sourcing and exporting New Zealand produce and seafood; Source organic and conventional blueberries from Hawkes Bay and Waikato, 6 varieties available from Nov-May</p>
<p>KEY PRODUCTS: Pipfruit, table grapes, asparagus, citrus, tomatoes, kiwifruit, cherries, berries (Orchard Road brand) and other fresh fruit and vegetables</p>	<p>KEY PRODUCTS: NZ Blueberries (4 varieties, Oct-May)</p>	<p>KEY PRODUCTS: avocados, blueberries, apples, kiwifruit, kiwiberries</p>	<p>KEY PRODUCTS: Berries, vegetables, seafood</p>
<p>OWNERSHIP: (TGG:NZX) BayWa Aktiengesellschaft (FWB:BYW6) 74%, Wo Yang Limited 20%, others</p>	<p>OWNERSHIP: Freshmax Group</p>	<p>OWNERSHIP: Fresh Produce Group Holdings (AU) 30%, Young 30%, Ponder family 30%, Young 10%</p>	<p>OWNERSHIP: Private NZ: Faulkner, Moffatt, Tavendale, Dineen</p>
<p>COMPANY NUMBER: 41406</p>	<p>COMPANY NUMBER: 1842723</p>	<p>COMPANY NUMBER: 827509</p>	<p>COMPANY NUMBER: 2383256</p>
<p>ADDRESS:1 Clemow Drive, Mt Wellington, Auckland</p>	<p>ADDRESS: PO Box 41533 St Lukes, Auckland</p>	<p>ADDRESS: 37 Newnham Road, Te Puna, Bay of Plenty</p>	<p>ADDRESS: 114 Grace Road, Tauranga, Bay of Plenty</p>
<p>PHONE: +64 9 573 8700</p>	<p>PHONE: +64 9 436 0713</p>	<p>PHONE: +64 7 552 6880</p>	<p>PHONE: +64 7 543 2839</p>
<p>WEBSITE: https://tandg.global</p>	<p>WEBSITE: www.valleyfresh.group</p>	<p>WEBSITE: www.southernproduce.co.nz</p>	<p>WEBSITE: www.freshproducegroup.co.nz</p>
<p>YEAR FORMED: 1897</p>	<p>YEAR FORMED: 1997</p>	<p>YEAR FORMED: 1996</p>	<p>YEAR FORMED: 2009</p>
<p>STAFF EMPLOYED: 2000 + 2,500 seasonal</p>	<p>STAFF EMPLOYED: 700 worldwide</p>	<p>STAFF EMPLOYED: N/A</p>	<p>STAFF EMPLOYED: 4</p>
<p>REVENUE: \$1,188 (FY19)</p>	<p>REVENUE: N/A</p>	<p>REVENUE: N/A</p>	<p>REVENUE: N/A</p>
<p>COMPANY HIGHLIGHTS: Positioning itself for growth in blueberries with it's own farms (11ha, 73t); recent acquisition of domestic horticulture of Freshmax for \$30m; investing in genetics; 16 proprietary varieties in Australia (Fall Creek,(USA) and Plant & Food (NZ) varieties); JV with CarSol Fruit (one of the worlds largest berry firms)</p>	<p>COMPANY HIGHLIGHTS: Freshmax NZ sold to T&G (did not include Freshmax plant IP (Innovar))</p>	<p>COMPANY HIGHLIGHTS: JV partner in Avanza; AVOCO; Team Avocado; part owners in Southern Apples, Prendo Prepack, others</p>	<p>COMPANY HIGHLIGHTS:</p>

* Photo permission required, ^Coriolis estimate

<p>SUJON MARKETING</p>  <p>John Molyneux Chief Executive Officer</p>	<p>MAMAKU BLUE BERRIES</p>  <p>Harry and Anne Frost Owners</p>	<p>OOb FOODS</p>   <p>Robert Auton Chief Executive Officer</p>	<p>MONAVALLE BLUEBERRIES</p>   <p>Marco de Groot* General Manager</p>
<p>DESCRIPTION: Supply and marketing of quick-frozen berries, frozen fruit and powdered berry products to retail and food service channels; Importer and exporter</p>	<p>DESCRIPTION: Blueberry and gooseberry farm, orchard and winery with function centre; first established orchard in 1980's; producing blueberry wine</p>	<p>DESCRIPTION: Grower of organic blueberries, processor of organic frozen fruit, manufacturer of organic ice cream; domestic and export markets; processed berry products; 15 blueberry varieties grown on Omaha orchard (Oct-Mar)</p>	<p>DESCRIPTION: Organic blueberry farm over 44 hectares supplying fresh, powdered and processed blueberry food products, cafe onsite; 30 varieties harvest November to May</p>
<p>KEY PRODUCTS: Frozen berries, berry powder supplements, smoothie mixes, and frozen fruit</p>	<p>KEY PRODUCTS: Blueberry juice, wine, sauce, jam, fresh, frozen, dried, powder, chocolate bar</p>	<p>KEY PRODUCTS: Fresh and frozen organic berries and fruit; ice cream, sorbet, ice blocks, juice, smoothie mixes, organic vegetables</p>	<p>KEY PRODUCTS: Fresh organic blueberries, pure juice, beverages, powder, jam, chutney, sauce, wine</p>
<p>OWNERSHIP: Private (NZ); Gibb Holdings</p>	<p>OWNERSHIP: Private (NZ); Frost family</p>	<p>OWNERSHIP: Chuck Investments LP 60%, Omaha Blueberries (Auton family) 40%</p>	<p>OWNERSHIP: Private (NZ) Banks and DeGroot</p>
<p>COMPANY NUMBER: 2210354</p>	<p>COMPANY NUMBER: 1054606</p>	<p>COMPANY NUMBER: 5888090</p>	<p>COMPANY NUMBER: 1241909</p>
<p>ADDRESS: 17 Bullen Street, Tahunanui, Nelson</p>	<p>ADDRESS: 311 Maraeroa Road, RD 1, Rotorua</p>	<p>ADDRESS: 89 Jones Road, Omaha, Auckland</p>	<p>ADDRESS: 178 Turkington Road, Monavale, Cambridge, Waikato</p>
<p>PHONE: +64 3 546 4101</p>	<p>PHONE: +64 7 332 5840</p>	<p>PHONE: +64 9 974 3242</p>	<p>PHONE: +64 0800 4 23774</p>
<p>WEBSITE: www.sujon.co.nz</p>	<p>WEBSITE: www.mamakublue.co.nz</p>	<p>WEBSITE: www.ooborganic.com</p>	<p>WEBSITE: www.monavaleblueberries.co.nz</p>
<p>YEAR FORMED: 1969</p>	<p>YEAR FORMED: 2000</p>	<p>YEAR FORMED: 2016</p>	<p>YEAR FORMED: 2002</p>
<p>STAFF EMPLOYED: 25</p>	<p>STAFF EMPLOYED: N/A</p>	<p>STAFF EMPLOYED: 25</p>	<p>STAFF EMPLOYED: 12 (+150 seasonal)</p>
<p>REVENUE: \$10-20m[^]</p>	<p>REVENUE: N/A</p>	<p>REVENUE: \$20-25m[^]</p>	<p>REVENUE: \$10-20m[^]</p>
<p>COMPANY HIGHLIGHTS: Won 'Best New Individual Brand Award' at the Asian Branding & Franchising Association Awards (ABFA Awards), in Hong Kong Oct 2018</p>	<p>COMPANY HIGHLIGHTS:</p>	<p>COMPANY HIGHLIGHTS: 20% ownership in NZ Ice cream products (with Chuck and CLY NZ (Yuan, Hou, Huang)</p>	<p>COMPANY HIGHLIGHTS: Australasia's largest certified organic blueberry grower</p>

*Photo permission required, [^]Coriolis estimate

A broad range of organisations support the blueberry industry



- Represent the entire supply chain from seed producer to consumer on pan-produce issues
- Funding from voluntary membership fees, 5+ A Day logo user fees and sponsorship

- www.unitedfresh.co.nz

Industry Advocacy & Advisory



- Represent 5,000 growers
- Commodity Levy (FruitFed and VegFed) Order 2007
- 21 product groups pay levy (including blueberries)
- Annual Industry Conference

- www.hortnz.co.nz

Grower Support & Advocacy



- Represent the blueberry industry (60 growers, 4 propagators, 9/13 registered exporters)
- Primarily fees funded
- BBNZ exclusive licensee in NZ for 12 P&F owned varieties

- www.blueberriesnz.co.nz

Blueberry Industry Direction & Advocacy



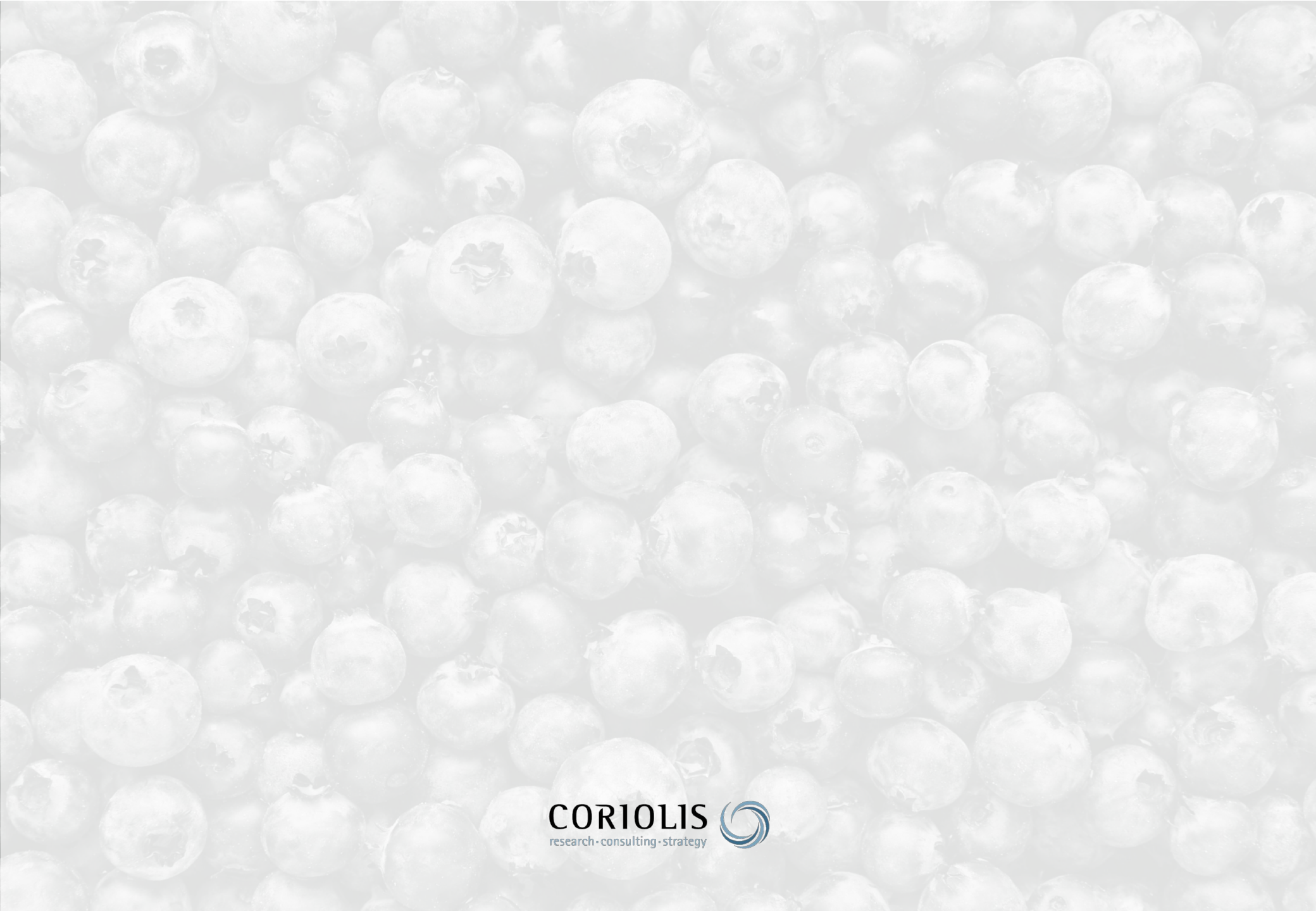
- Science company providing research and development that adds value to fruit, vegetable, crop and food products
- NZ government owned, Crown Research Institute
- Blueberry breeding programme

- www.plantandfood.co.nz

Industry Science & Research

GLOSSARY OF TERMS

A\$/AUD	Australian dollar	n/a	Not available/not applicable
ABS	Absolute change	N. America	North America (USA, Canada)
ANZSIC	AU/NZ Standard Industry Classification	Nec/nes	Not elsewhere classified/not elsewhere specified
AU	Australia	NZ	New Zealand
Australasia	Australia and New Zealand	NZ\$/NZD	New Zealand dollar
b	Billion	Pac Isl or PI	Pacific Islands
CAGR	Compound Annual Growth Rate	R&D	Research and Development
CN	China	S Asia	South Asia (Indian Subcontinent)
CRI	Crown Research Institute	SE Asia	South East Asia
E Asia	East Asia	S.H	Southern Hemisphere
FAO	Food and Agriculture Organisation of the United Nations	T or t	Tonne
FY	Financial year (of firm in question)	US/USA	United States of America
HK	Hong Kong	US\$/USD	United States dollar
JV	Joint venture		
m	Million		



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