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Avocados - an emerging market in New Zealand?

***Avocados –
An emerging market
in NZ?***

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Executive Summary

This sub tropical fruit has been grown in the world for many thousands of years and its existence within the New Zealand (NZ) horticultural market is very much in its infancy.

The Avocado industry is relatively new to NZ with commercialisation of the industry commencing in the early 1980's. There are 2 prominent regions in which the fruit is grown, namely Northland and the Bay of Plenty.

Grower numbers total 1150 (as compared to say the dairy industry with 14,500). The growers are represented by an efficient growers association which has worked hard to ensure that the industry has a sustainable future within NZ.

While the fruit is the staple diet of the South American population, the western world has yet to really appreciate the unique qualities of this fruit and the future opportunities look exciting.

For a primary industry in NZ in its current maturity phase it is challenged by many factors. As an exported primary product, which is largely sent in its raw form internationally, it is affected by foreign exchange markets, commodity price demands and competitors that can, in certain parts of the world produce the product in larger quantities and better quality. Given the fruit has a very short shelf life (in some instances 30 days from picking) logistical transportation remains a major issue for the exporter.

Research and development in any new industry is critical to the future success and the Avocado industry is not different. Given that we are growing a sub tropical fruit in what is not generally known as a sub tropical region, technical knowledge and historical data is critical to its success and these areas appear wanting in this NZ industry. With a very low number of technicians and consultants in NZ, our ability to be competitive and grow this product well has yet to be fully realised.

Outside market factors are impacting on the industries ability to show good yields or return on investment. The "newness" of this industry with many inexperienced entrants and low technical support has impacted the overall yields in recent times. However in balance this industry is also well supported by existing horticultural growers (like Kiwifruit) which have enabled the entry cost to both the grower and post harvest facilities to be lower than would be expected when compared to other new horticultural industries. The infrastructure from the Kiwifruit industry has assisted the Avocado sector and can not be understated in supporting its success to date.

The growing conditions that we are subjecting the Avocado crop to in NZ must be fully understood and technical knowledge gained to ensure local issues receive local solutions.

The future of this market in NZ remains exciting but will require some continued focus, strong vision and strategic direction to ensure sustainable growth into the future.

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Introduction

The Avocado industry, while relatively old in many parts of the world is one of the new primary industries to be introduced to NZ shores. While predominately located in the Northern and Eastern parts of the upper North Island the fruit will grow domestically in other warmer regions as well.

The unique qualities of the fruit and the fruit stock have attracted growers and producers to consider this alternative export industry.

Due to the nature of this fruit it has integrated into the NZ horticulture market reasonably well, enabling existing growers of Kiwifruit and other horticultural crops to grow the fruit while utilizing existing post harvest facilities, equipment like sprayers and existing labour resources to support the emerging growth.

However as the fruit is of Sub tropical origin it does have some peculiarities that require special understanding and technical expertise to manage.

The tree stock is visually appealing and attracts growers looking for a lifestyle and investment in an income producing crop together with appreciating land values.

The unique qualities while having certain attractions are also inhibitors to its investment and while some technology from existing horticultural activities can be utilized it also has specialist requirements of its own.

The Avocado tree and its fruit have unique qualities and growing requirements which demand a technical approach and a very scientific focus which is related to their growing locality – both regional and climatic.

Given that this industry is very new to NZ and given these unique qualities (which we cover further in this report) this overview will look at growth in NZ and identify some issues and benefits to the industry now and into the future.

New growers to the Avocado industry have purchased existing orchards or developed new plantings for many reasons. These include technical expertise or interest in the horticultural industry, a need to divest into another income stream, a need to chase potential or perceived positive cash flow, the forecast of potential capital gain in the land, lifestyle choice, or simply researched and/or strategic reasons for entry.

By world standards the Avocado industry in NZ is small and fledgling and it has many issues that you would expect with such an emerging market, which include:

-  Access to markets and foreign exchange considerations
-  Technology and research (either imported or self initiated)
-  The availability of consultancy and knowledge
-  Availability of suitable land area
-  Climatic diversity
-  Marketing & competitive pressures
-  Lack of NZ historical data and no historical adversity to enhance learning
-  Impacts from the Resource Management Act (RMA) due to undertaking aerial spraying in what are largely semi urban area

It must also be acknowledged early on that unlike other immersing primary industries to the NZ market place, the Avocado industry has a relatively sound infrastructure, grower association and established marketing groups (thanks largely to the other marketing groups from like horticultural industries) together with professional orchard managers.

Given the “newness” of this industry to NZ, large volumes of historical data relative to the NZ market place have been difficult to obtain.

I would like to acknowledge the time and openness of the industry leaders that have assisted me with material, information and guidance in the preparation of this report, these people include:

- 🥑 Dr Jonathan Cutting, Chief Executive Officer – Avocado Growers Association & Avocado Industry Council of New Zealand
- 🥑 Hugh Moore, Chairman and Grower – Avocado Growers Association & Avocado Industry Council
- 🥑 Brian Richardson, Chief Executive Officer – Avocado Oil New Zealand Ltd

This report will primarily focus on the NZ market place with references back to the world market to provide depth and scale. The NZ market place faces some challenges in the writer’s opinion and this report should highlight these and provide an overview of the way forward.

Despite all of the above, the Avocado industry within NZ has shown good signs of growth, enhancement, some maturity and focus in its early stages, whether these are sustainable in the long term, only time will tell. Despite this there are many issues that must be faced and solved in order for the industry to move forward and attract further investment

Given the uniqueness of this fruit some time has been spent in this report to give a comprehensive overview of the industry to enable the conclusions to be better understood.

History of Avocado's

The history of this fruit is extensive and dates back to the Inca period. There are over 100 species of the fruit but the predominant commercial crop is the Haas variety which is well suited toward commercial production.

The following extract gives a very clear and concise overview of the naming of the fruit and a technical background to its origin

The avocado, like corn, fig, tobacco, and sugar cane, is what is known as a "cultigen"; that is, it is a cultivated species which was domesticated so far back in antiquity and has undergone such drastic transformation under prehistoric human selection that its ancestry is unknown. Plant distribution and taxonomic evidence are compatible with the assumption that the avocado did originate in south central Mexico or nearby. The Aztecs knew it well and called the fruit **aoacatl**. Translated into the language of today, the original Aztec name for the avocado is **ahuacatl**. This name is still used in parts of Mexico where the Aztec language has not been entirely replaced by Spanish. Their word for tree is **quahuitl**. So the avocado tree becomes **ahuacaquahuitl**. The journey from aoacatl to avocado is an interesting one.

Conquistadores

"Yaharo is a good port, with good lands, and here are groves of many different sorts of edible fruits, among others is one which looks like an orange, and when it is ready for eating it turns yellowish; that which it contains is like butter and is of marvelous flavor, so good and pleasing to the palate that it is a marvelous thing." When Martin Fernandez De Encisco wrote these lines in "Suma de Geografia" (1519), Florida and California were still undiscovered to Europeans, who were only just starting to explore

the new continent. He gave no name to the fruit which would later become an important horticulture crop in those states.

The first European to give a name to the fruit appears to have been Pedro de Cieza de Leon, writing between 1532 and 1550, he referred to it under the names "**aguacate**" and "**palta**," a name for the fruit used by the Incas. The Incas had only recently discovered the avocado themselves when they conquered an area where it was being cultivated. "Tupac Inca Yupanqui marched to the province of Canari, and on the road he conquered another called Palta, whence they brought to the warm valley near Cuzco the wholesome and delicious fruit called Palta." This is from the "Royal Commentaries of the Incas," published in 1605 by Garcilaso de la Vega. It is known that Tupac Yupanqui's conquest of the northern provinces took place sometime about 1450-1475.

It seems that all of the early explorers choked on the Aztec name *aoacatl* and it was soon corrupted by the Spaniards to **ahuacate** and **aguacate**.

Spreading it around

Starting with corrupted mainland names, the fruit was carried elsewhere acquiring local vernacular names as it went, most of them derived from **ahuacate**. An English merchant, by the name of Hawkes, whose travels in Mexico were published by Hakluyt in 1589, mentioned having seen this fruit, which, with the usual clumsiness of the early writers in spelling plant names foreign to their tongues, he called **alvacata**. This appears to be the first mention of the avocado in an English publication. The fruit soon appeared in the West Indies, where new varieties developed. It was in these tropical islands that many travellers first encountered avocados, among them

the young George Washington, who wrote in 1751 that "**agovago pears**" were abundant and popular in the Barbados. In Spain it became known as **abogado**. In French-speaking countries, it is **avocatier**. Among Dutch-speakers, **avocaat**. In Trinidad and Tobago, **zaboca**. In Jamaica, it was variously referred to as **avocado**, **avocato**, **avacato**, **avigato**, **albecatta**, or the rather repugnant **alligator pear**.

It is to Sir Hans Sloane that we owe the name avocado. This distinguished naturalist published in 1696 a catalogue of the plants of Jamaica, among which he listed, but did not describe, this tree. "The Avocado or Alligator Pear-Tree. It grows in gardens and fields throughout Jamaica."

Settling on a name

At the beginning of the present century, when avocado growing first began to receive serious attention in the United States, there was a great divergence of opinion regarding the correct name of this fruit. One author had listed over 40 different names for this fruit! In Florida, which received its first trees and name via the West Indies, the accepted appellation was Alligator Pear. In California however, where the fruit had arrived northward from Mexico, the name aguacate was more common. And in both California and Florida, avocado and avocado pear had met with considerable acceptance.

Interested horticulturists felt that it was a mistake to encourage - even tolerate - further use of alligator pear, on the grounds that this name was misleading, ungraceful, and generally objectionable. The American Pomological Society and the U. S. Department of Agriculture - both arbiters of high standing - approved and adopted avocado, but the Californians leaned toward aguacate, and for a time stuck to their guns. They even went

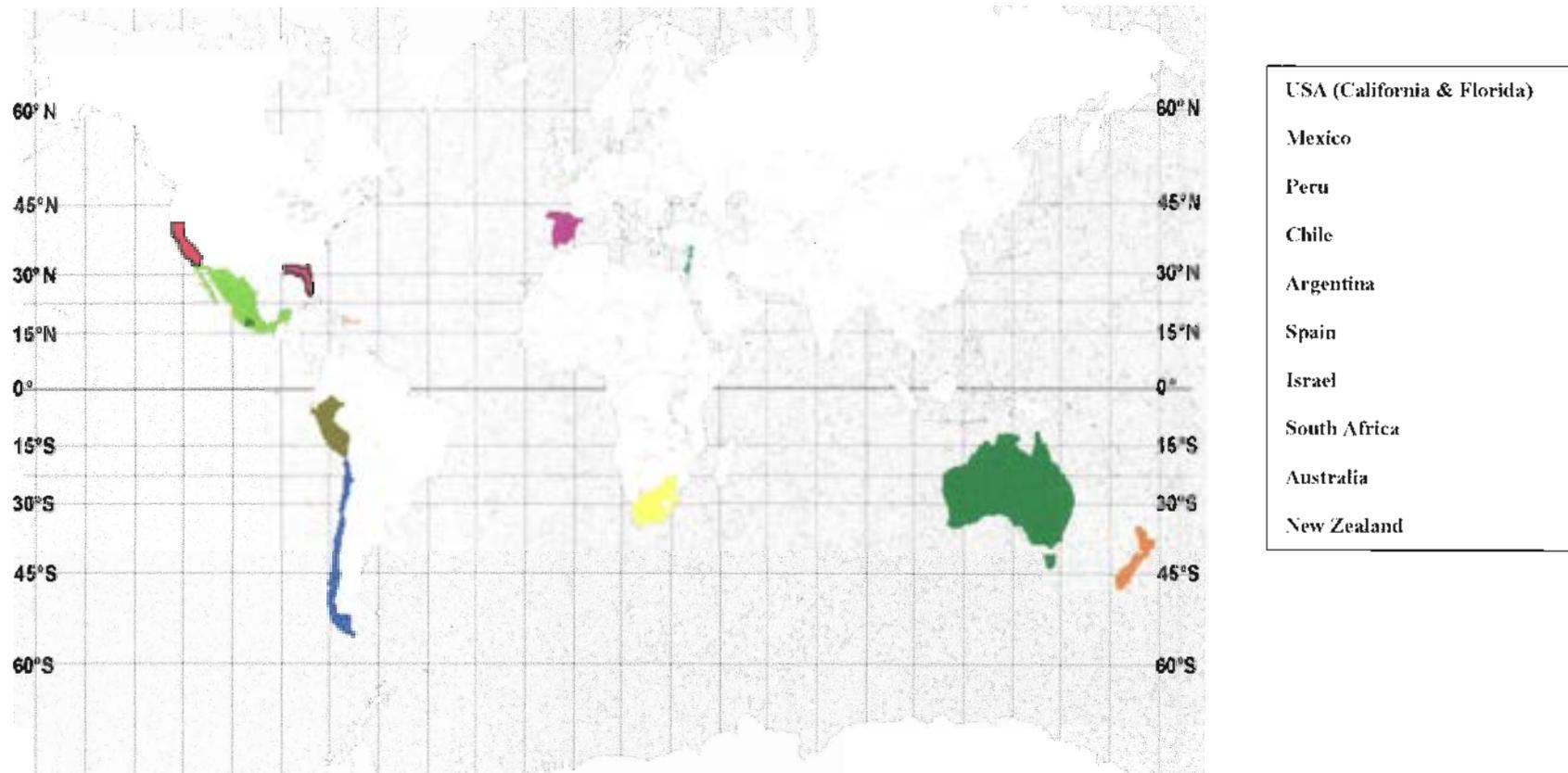
so far as to undertake a return to the purer spelling of ahuacate. It seemed highly probable, at this time, that alligator pear would become the accepted commercial name unless all concerned got together on some other, less objectionable name. So the Californians gave up what appeared a useless fight and joined the Easterners in sponsoring the name avocado. Thus the name **avocado**. (Univeristy of California – Agriculture & Natural Resources: <http://ucavo.ucr.edu/AvocadoWebSite%20folder/AvocadoWebSite/General/HistoryName.html>)

The first plantings in the United States were in Florida 1833 and California in 1856. NZ's first commercial plantings were in the early 1980's, with the first recorded orchards totaling 209 ha's and returning 67 tonnes. NZ exported its first fruit to Japan in 1983 being a huge 28kg's of fruit.

The world Avocado market place

Avocados are grown predominately in 10 major countries of the world. The following world map demonstrates the world layout of producing countries:

Map 1.0



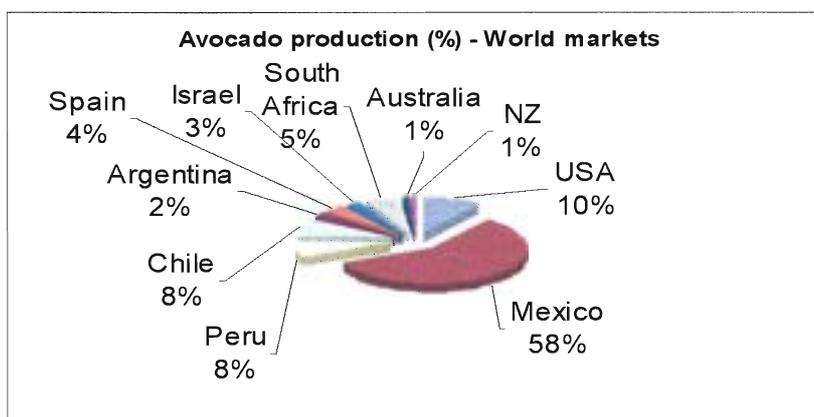
Avocado's – an emerging market in NZ?

Being a Sub tropical fruit it requires warm humid temperatures to grow and large volumes of irrigated water supplies. The NZ, Chilean and Argentinean markets are all 45° South making the NZ market particularly border line in temperature. Avocados need an average mean temperature of 16° C and will not tolerate frost temperatures below minus 3° C.

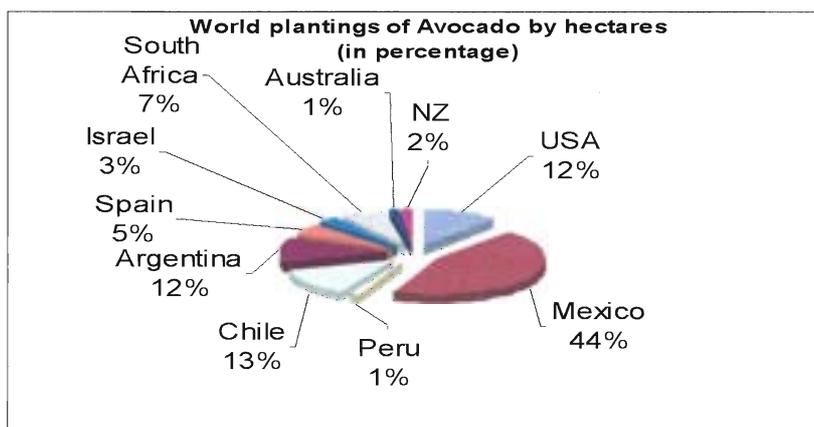
Fruit production is predominately the Haas variety with most countries plantings representing 90-95% of the Haas variety as their prominent crop.

NZ's production in relation to the world production remains very small as illustrated by Graph 1.1 & 1.2¹

Graph 1.1



Graph 1.2



The Mexican market is clearly the largest producer of Avocados in the world with its main exports being to Europe, Japan, USA, Central America and Canada. However given Mexico's large population and the fact that Avocado is part of their staple diet, most of the consumption is internal.

¹ As some of the information used in these statistics can not be verified, some statistical data must be viewed as estimated.

Given the population of these areas's (Peru – 27,483,864, Mexico – 101, 879, 170,)² the consumption of this product has huge upsides to the point that neither Peru nor Mexico can in fact maintain supply to meet demand internally. From world trade tours by Hugh Moore (current Chairman of the AIC) he has observed a major increase in demand for this product by the Espanic populations which would include, ultimately the Philippines (population of 82,814,518)². This large population base will ultimately benefit the NZ market as current South American markets are not sufficient to meet this increased populous demand in Mr. Moore's opinion.

² Populations statistics as at 2001 – Encarta Encyclopedia 2002

What is so unique about the Avocado?

As previously mentioned the tree is a Sub tropical “fruit” and as such prefers to grow in warmer climates providing it has sufficient water irrigation. The trees require very specialised applications of trace elements and fertilizer to enable sustained growth and good yielding crops.

The tree has a very long life span, with plantations in California and Mexico having been planted for in excess of 50 years with trees reaching heights of 17 metres in height with a canopy of 4 metres.

Unlike other horticultural crops of this type the tree acts as a cool store, the fruit is not ripe until picked from the tree. The tree will in fact flower for its next year’s crop while fully laden with last year’s crop. The fruit will effectively keep best while still remaining on the tree, however the feed requirements to enable both growth and nutrition to mature fruit and to process new flower growth are too demanding on the tree for this to be allowed to happen over prolonged periods.

The fruit is very fragile once picked and will not tolerate hard handling and will ripen very quickly once removed from the tree.

Unlike other fruit, Avocado will not keep for long periods under Controlled Atmosphere (CA). Accordingly shipment to markets is required very soon after processing and handling through post harvest facilities. Ideally fruit should be consumed no longer than 30 days from harvest. This can pose difficulty in the logistics of getting produce to potential markets when distance is an issue as it is in NZ. Extensive research is being undertaken in NZ to reduce or eliminate the handling and storage of this fruit to enable access to distant markets while having fruit remain in good marketable condition.

The Avocado tree can be open to many diseases, climatic impacts and which can affect its ability to produce or survive. Some of these impacts are largely dependant on its location in relation to climate, topography position or exposure to local micro climatic conditions. Furthermore handling and understanding of the fruit by the grower is critical.

Fruit yield can vary between orchards within the same region depending on altitude, location, topography, water supply, soil structure and/or micro climate.

The following are some examples of the problems that can impact on this fruit, effecting both its appeal and economic return.

-  Bruising & mechanical damage, the slightest impact handling of this fruit will impact on its quality
-  Uneven ripening, generally caused through “water stress” during growth and development or where ripening takes place in temperatures above 20°C.
-  Flesh discoloration, this occurs where fruit are stored with other ethylene producing fruit (e.g. Apples), Late season fruit stored at too low temperatures or stored for long periods.
-  Chilling injury, this generally occurs as an injury to the skin and can result in making the flesh looking dirty and unattractive.

- 🥑 Rotting – most rot is caused by what is known as anthracnose fungus (*Colletotrichum gloeosporioides*). Stem end rot is also common and is often associated with vascular browning
- 🥑 Root rot caused by *Phytophthora cinnamomi* is one of the most serious factors that limit avocado production in both NZ and places like Queensland. While the condition is treatable, it requires good observation and immediate remedial prescription in order to save the tree.

While this list is not an overall summary of the problems that can occur with Avocado production it does indicate the many issues and technical nature of this industry for any existing or potential grower.

Particularly in NZ the technical and consultancy resources are very scarce and this is seen by many as a major problem for the NZ industry going forward. It has been stated that there are probably only 4 specialised Avocado consultants in NZ right now which currently equates to 1 consultant to every 287 growers. Of these consultants 1 is the industry CEO, Jonathan Cutting who is considered by some to be one of the best technical people on the Avocado fruit in the world. This is a major positive for the industry to have a CEO with so much technical experience but his administrative duties prohibit him from prescribing his technical expertise to the growers

The fruit and byproducts have some very unique qualities and the following extracts from independent sources highlight this uniqueness:

“Avocados are a great first food for your baby. They are an excellent source of unsaturated fatty acids and have a higher proportion of this "good" fat than any other fruit except the olive. Yes, they are actually fruits, even though they are commonly thought of as vegetables. Try using mashed avocado as a "vegetable butter," a replacement for butter that can be spread on crackers or sandwiches” (Yaron, date unknown, The Super Baby Food Book)

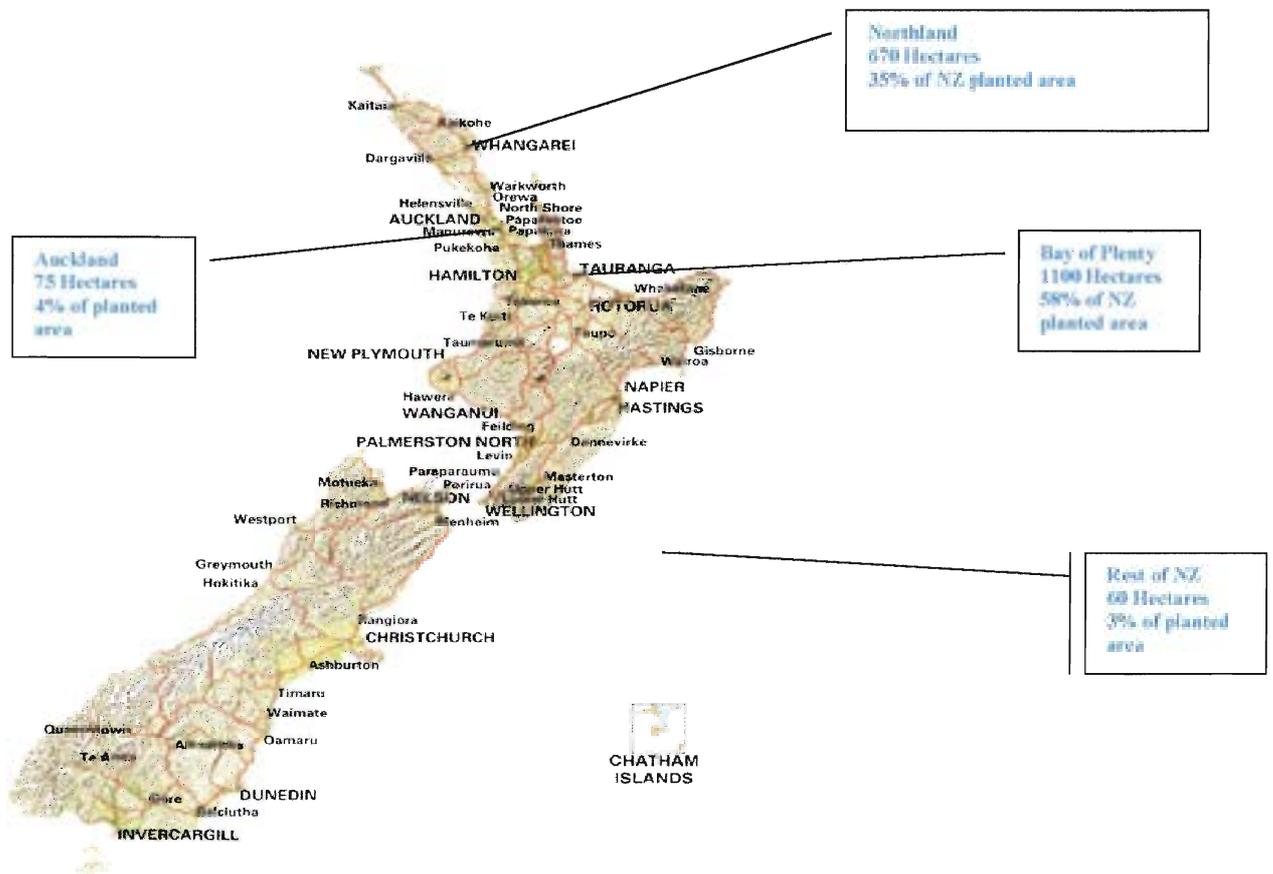
“Avocado oil is threatening to become the next "it" ingredient (according to Jamie Oliver), for both nutritional and practical reasons. Its unique health and cooking properties include a nutty flavour, subtle avocado aroma, distinctive vibrant green colour, a burn smoke point of 255C (higher than traditional cooking oils), being low in 'bad' saturated fats, high in 'good' monounsaturated fats and completely cholesterol free” (Food works, Food, Beverage & Grocery Directory – Website)

“While oil is our primary product we are also undertaking research into the other by products of this fruit. This includes the use of the skin and the stone which are ground up and fed to deer. The mash remaining after pressing being used for other stock food and we are also keen to pursue the research around using the byproducts in dog food. Dogs love eating raw Avocados and this market looks exciting” (Brian Richardson, CEA Avocado Oils Limited. Oct 2003)

The New Zealand Avocado market place

It is clear that the NZ market is very small in comparison to world markets and represents approximately 1% of world production and 2% of total planted world hectares. NZ's production is currently 54% export and 46% domestic consumption. Avocados have been grown in NZ commercially since the early 1980's. Since this time solid growth has been recorded in both tonnages and planted hectares. Avocado are predominately grown in the eastern Bay of Plenty, Whangarei and the Far North of the North Island, with very small numbers in others parts of NZ, which are largely not commercial crops. Map 1.1 reveals the plantings in relation to location and geographical positioning.

Map 1.1



Avocado orchards are predominately planted in or around the existing Kiwifruit orchard regions because of reasons previously outlined, being:

-  The climate and land topography required for Kiwifruit are also ideal for Avocado
-  A number of existing Kiwifruit growers have diversified their crops into Avocado
-  The infrastructure , technical requirements and equipment are similar across both industries
-  The type of growers that enter the Avocado industry are generally previous primary producers and/or horticulturalists

Since the early plantings in the 1980's total planted area is over 3000 hectares with 1890 hectares planted with trees less than 5 years old. New plantings are approximately 500 hectares per annum. As a result of these latest plantings it is expected that a huge wave of new fruit will be coming into the system within the next 2 – 5 years.

The industry is governed by the NZ Horticulture Export Authority which was established under the NZ Horticulture Export Authority Act 1987 (NZHEA). The NZHEA was established to promote the effective export marketing of horticultural products.

The authority has the following functions:

-  To act as a forum for the exchange of information and for the discussion of matters of common concern
-  To encourage market analysis and research
-  To collect, co-ordinate, and disseminate information
-  To liaise with horticultural groups and other interested persons – the fostering and development of coordinated strategy for the export of horticultural products
-  To report to and advise the Government Ministers

Industries must have their products declared 'prescribed product' in this case the Avocado is a prescribed product. The "group" that makes the request to have their product become a prescribed product, then becomes the "recognized product group" in this case the Avocado Export Council Ltd (AEC)

The NZHEA has the following special functions in relation to 'prescribed products'

-  To assist in the formulation of, and approve an export marketing strategy for any prescribed product that is subject to export licensing
-  Where appropriate, to administer the export licensing of prescribed product
-  To promote compliance to grade standards relating to prescribed products and
-  To institute and carry out imposition and collection of a levy on any prescribed product.

In essence this translates to the fact that any existing or new grower of Avocado product must register and pay levies in order to be a grower. In fact unless they do register they are not entitled to receive their Property Identification Number (PIN).

This enables all growers to have access through post harvest facilities for processing their fruit and allow sale to local or export markets. This system allows traceability and identification which is very important in today's world where all primary produce is required to have traceability to enable identification in the event of disease or failure

The recognized product group as stated is the AEC (now the Avocado Industry Council Limited (AIC)). The structure of this governing grower is shown in diagram 1.0.

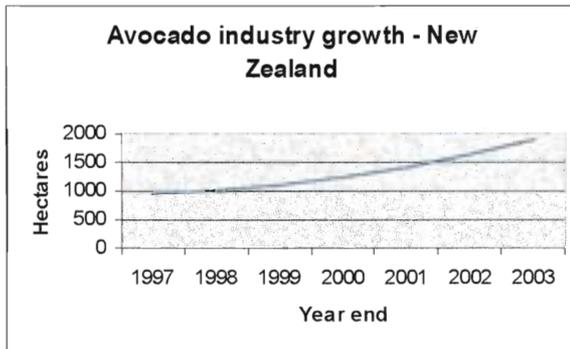
Diagram 1.0



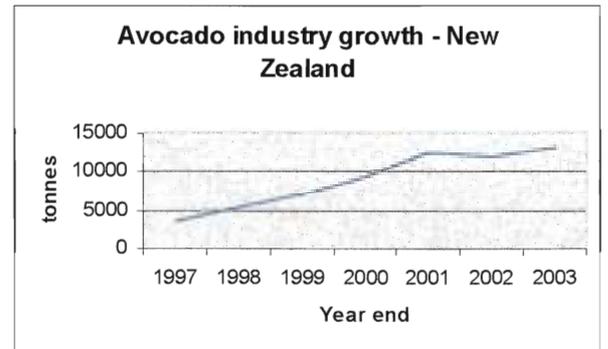
This structure is somewhat unique in that it has two bodies, one overseeing the governance (limited company) and the other representing the grower, both overseen by common Chief Executive Officer and Chairman. It is understood that at the time of writing this report that the structure of both entities may be changing due to taxation and technical intellectual property right issues. The proposed new structure is not known.

There are now 1,150 growers registered with the Avocado Growers Association Inc (AGA) with 3,600 ha planted. Industry growth in NZ has been steady since recorded statistics have been kept and graph 1.3 and 1.4 illustrate this growth.

Graph 1.3



Graph 1.4



Growth equates to a 200% increase in planted hectares in a 6 year period and a 383% increase in total produced tonnes over the same period.

To place this growth in some perspective table 1.0 compares the total hectares of other horticultural crops in NZ as compared to Avocado.

Table 1.0

Hectares planted³

Year	Avocado	Apples	Kiwifruit	Stonefruit	Wine	Citrus
1990	1354	11333	17508	3184	5408	1602
2000	2646	14114	12184	2637	12665	1882
% change	+95	+25	-30	-17	+134	+15

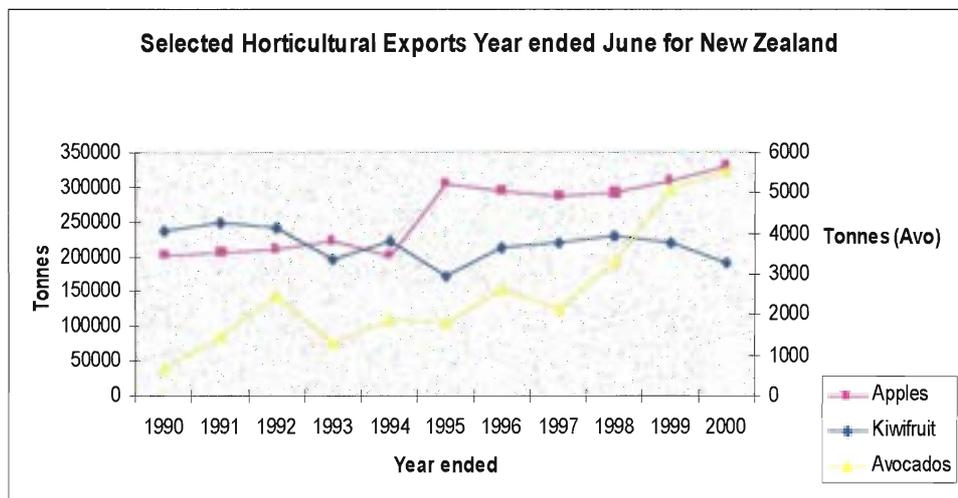
This places Avocados as one of the positive growth industries in the last 10 years. There are many factors that are thought to have driven this very positive change namely -

- 🥑 It has enabled the Kiwifruit grower to diversify from a Kiwifruit crop that was not seen as sustainable due to the lower returns in the last 10 years to a crop that was showing good returns
- 🥑 The Avocado fruit was a “new” trend to NZ and as such had a number of potential growers chase it to be ahead of the competition
- 🥑 The industry has an infrastructure and was showing signs of a potential good returns against its other horticultural competitors
- 🥑 Research revealed that the crop would grow well in certain parts of NZ
- 🥑 It was being driven by potential “lifestyle” owners as a crop which was well suited toward low input farming with predicted good returns, a crop that would enhance the value of land investment over a short time.

³ Source: 2000 Agricultural Production Horticulture Survey Ministry Agriculture & Fisheries. Note: Planted hectares differs from that provided by AGA

This growth is further highlighted in graph 1.5 when we compare exports of horticultural product over the last 10 years. While the Avocado remains small in comparable size, growth remains very good when compared to its competing horticultural products. Some growth has obviously been at the expense of Kiwifruit as this industry have undergone radical change and restructure with many orchards being removed due to the poor financial returns received over late 1990's.

Graph 1.5⁴



As already stated the Avocado industry in NZ is small and more so in relation to its world counterparts (it represents about 1% of the total recorded industry). The growth that it has displayed, while impressive, does reflect an expected trend that many new industries experience in their normal “start up phase”. This is normally driven by a “trendy” demand, lower cost of entry, the need to be first into a new industry, enabling a major stake in the industry and ultimate control, early return on commercial crops income flows and an opportunity to market commercially developed horticultural blocks for later entrants which will return excellent capital gains.

All industries and products move through a growth curve in their start up, growth, maturity and decline phases. The Avocado industry is no different and this report has already demonstrated the start up and growth phases of the NZ industry. To further reinforce the phenomenon that this industry is moving through it is worth reviewing the Product Lifecycle in Agriculture – Industry Lifecycles (Greer, Greer, Zwart – Impediments to growth of Emerging Industries, December 2000, Agribusiness & Economics Research Unit, Lincoln University)

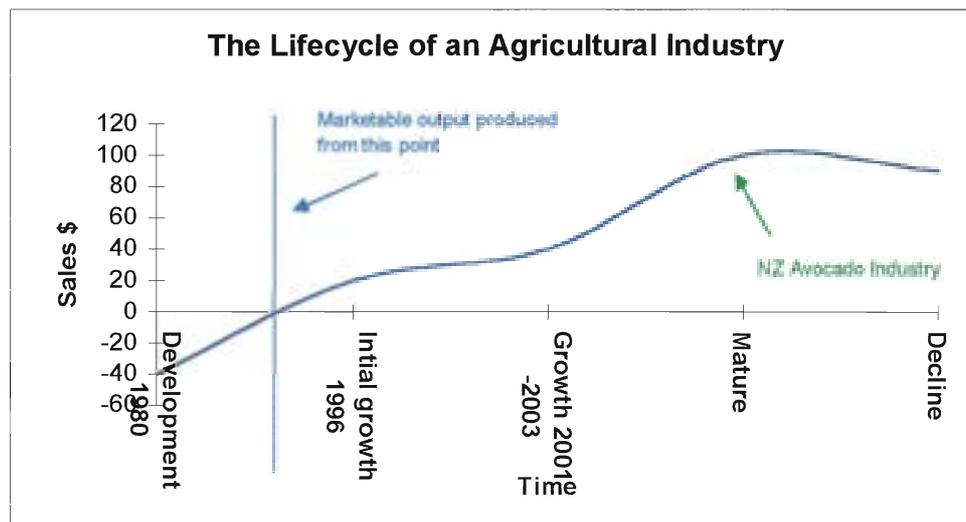
⁴ Source: 2000 Agricultural Production Horticulture Survey Ministry Agriculture & Fisheries

Greer, Geer, Zwart (2000, pp) states:

The generally small scale of agricultural production would imply that dynamics and basic processes of product life cycles will also exist within any new or emerging industry. The nature of the agricultural and horticultural industries, and the basic characteristics of the production processes involved, mean that product life cycles in these industries may have special characteristics. These will have implications for the dynamics of the lifecycle and consequently, the development path expected for any new or emerging industry.....

During my interview with Dr Jonathan Cutting (CEO of AIC & AGA) I asked him to plot where he considered the NZ Avocado industry was in terms of its lifecycle. Graph 1.6 reveals a typical lifecycle of an agricultural industry. In this particular example this industry is in “growth” phase, which supports the factual data to date. Furthermore this industry, given it’s positioning, would appear to have further up side in its growth and potential before any flattening or decline in growth will be experienced. This presents some exciting times for this industry but it will not be without its challenges as revealed in the SWOT analysis that follows.

Graph 1.6⁵



⁵ Extract of The Lifecycle of an Agricultural Industry, Greer, Greer, Zwart (Dec 2000, pg 7, Fig 3)

Economic returns of the industry

The primary driver behind people entering any new business is ideally cash flow (although some are entering for capital gain as well which is entirely separate)

The forecasts from this industry are good for the upper decile operators.

Like many cropping businesses there is an initial start up period before an economic crop is harvested or positive cash flow can be expected. For the Avocado industry this is generally 5 years from planting. Thus a new entrant must have either good cash reserves, off farm income and/or other suitable cash flows. For this reason the Avocado industry has attracted entrants from the Kiwifruit industry due to them having an alternative cash flow and infrastructure, wealthy foreign owners with excellent cash reserves and more latterly cashed up dairy farmers who have excellent cash reserves and are looking for lifestyle options, capital gain and good overall returns without the need for large inputs of time and/or own labour. Unlike many primary industries Avocados and the likes of Kiwifruit have professional orchard managing companies (crop managers) that can take over the day to day crop management from the owners, which eliminates the owners input and expertise from start up phase. While these management companies are quite common in NZ, the actual numbers of technical and scientific consultants are very few and far between.

As already stated it would appear that this industry is suffering from new entrants that are not necessarily entering the industry for solely commercial reasons. They have purchased off the back of a strengthening commodity product, good forecasted returns and excellent perceived capital gains in land value. Other industries have historically suffered from new growers entering for the above reasons and not necessarily focused on the commercial side of the business.

The Deer industry and in the early days Kiwifruit were all examples of new industries that attracted investors that were entering for taxation or trend status and neither understood the industry or had an interest in it to support ongoing development. As a consequence both these industries went through major commodity price corrections, growers exiting the industry, a lack of managed infrastructure and a large number of owners who knew nothing about their investment and took little interest in the grower industry governance and marketing. The consequence is generally an industry that severely shrinks in size, returns crash and the attraction for investors is very low, while they commit to other better returns on investment. This can leave an industry in disarray, usually stagnation resulting in poor structure and an image that is not attractive to investors, potential foreign markets or institutional investors like banks and finance houses. If financiers lose confidence in an industry through the above issues or from research of their long term viability, potential investors will have difficulty in raising finance and investment, this assists in a flattening or shrinkage in growth, until confidence returns.

There is evidence that industry leaders in the Avocado industry have concerns over the existing growers showing some negativity about yields, and taking very little interest in their industry, its infrastructure and governance. One example of the Avocado industry CEO speaking out is from Dr Jonathan Cutting in his monthly article "Cutting Edge" as quoted:

“I hear the cries blaming climate and the lamentations – “it’s been two bad springs in a row” and “export pack outs are really low because of the year” etc. And yes, nationally our yields have dropped by almost 20% in the past two years, and the cause is largely climate (cool springs). However, there are still many orchards that have continued to crop well. In fact there are some record avocado crops around and in some cases right next to orchards that have done exceedingly poorly. There is obviously a lot more to this than climate alone.” (Avoscene, The New Zealand Avocado Growers Journal, June 2003, pg 8)

There is further evidence Mr. Hugh Moore who wants more grower support and interest and from his 2003 annual Chairman’s report:

“The season was marred by a lack of commitment within the post harvest sector and from growers to supply the volumes required during late December and early January, which was the peak of our market window. This action cost growers money, let our customers and exporters down and allowed our competitors an increased market share. There is no doubt that this action came about because the Kiwi holiday attitude, a certain amount of greed from growers and the payment time periods operated by most of the industry. The industry has to have a serious think about how their business should be conducted to make sure we supply the right volumes at the peak market time which happens to be the summer salad season.” (AGA, AIC annual report 2003, pg 8)

It is clear from both these articles and from other data that this industry is clearly one that needs to be based on scientific approach given the nature of the plant and fruit. Furthermore, growers must take a more commercially based decision making process toward their industry. It is clearly not a matter of growing by the “seat of your pants” as the economic returns will not be

evident and as a result growers will get disheartened and ultimately the poorer growers will dilute the overall industry image and over time exit.

Clearly most entrants to industries like Avocados are attempting to make an economic return. The Avocado industry has in recent years shown very good returns in relation to other horticultural crops. Admittedly the foreign exchange rate has been favorable during the few years of good returns but the better growers can still return very acceptable returns despite some of these outside influences.

To illustrate the returns Orchard Gate Return (OGR) has been used on a comparable basis. Table 1.1 compares OGR between Kiwifruit and Avocados and Table 1.2 shows that by a focused approach to the business of growing that a grower can return a very good return per hectare compared to the “average”.

Table 1.1 (OGR National income)

Year	Avocado National OGR	Kiwifruit National OGR
1999/00	\$22.101.M	\$473.7M
2000/01	\$25.688M	\$462.1M
2001/02	\$23.306M	\$618.0M
2002/03	\$25.668M	Not available

Table 1.2 (OGR per hectare)

Year	Avocado Average property	Avocado Elite (15 tonnes/ha)	Zespri Green Average	Zespri Gold Average
2001	\$18,052	\$30,563	\$29,748	\$27,415
2002	\$14,176	\$29,371	\$32,455	\$42,857

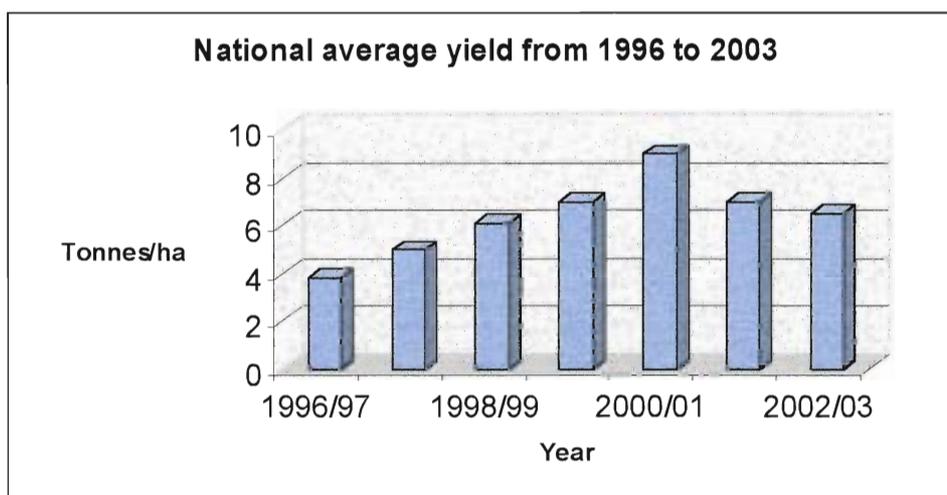
What this comparison reveals is that for Avocados to be a better investment than the likes of Kiwifruit the grower must place themselves in the upper OGR deciles. This also reinforces the issues that the Avocado industry has in relation to its overall returns, which appear to be heavily diluted by “poorer” producers.

The overall return from this industry is falling off. This is thought to be because of the increased new crop coming to commercial maturity and the number of new growers who may not be adopting a “commercial” approach to the industry as already demonstrated.

Graph 1.7 reveals that the national yields have fallen away over the past 2 years.

This is a major issue for this industry going forward and will take some planning and strategic direction to reverse this trend.

Graph 1.7⁶



The other major component that could potentially restrict the numbers of new entrants and the attraction of return on investment is the cost of land, the basis of all primary production in NZ.

It is acknowledged that there are many entrants into the primary sector who are not necessarily entering the market for pure return on investment from producing and selling crop but entering the market to gain some cash flow and effectively take capital gain from the increased land value of a developed block. This form of trading is very desirable in NZ because of the scarcity of land and the fact that NZ does not presently have a capital gains tax on land.

As a result of these factors, land values in NZ over recent years have escalated driven by demand for desirable properties in warmer climates which coincidentally also clash with areas in which Avocados will grow well, i.e. Northland & Bay of Plenty. Research from various well respected land agents⁷ indicates that the availability of land for Avocado development and/or existing orchards are presently very scarce and buyers outnumber sellers by many times.

These agents reported that properties, when available, are being sold for \$230,000 per hectare developed in orchard. One example of a 2 hectare property in the Bay of Plenty planted in 4 year old Avocado trees had a market value of \$650,000 (\$325,000 per hectare)

Due to the size and nature of land that Avocado orchards require, the land prices are being underpinned largely by the “Lifestyle” market, thus pressure on land prices is also coming from the urban dweller looking for their dream rural block and the demand from buyers looking for potential “other” orchard blocks (Citrus, Kiwifruit etc).

Naturally the cost of land purchase has a major impact on true net returns from investment (excluding capital gains). Graph 1.8⁸ demonstrates the overall increase in

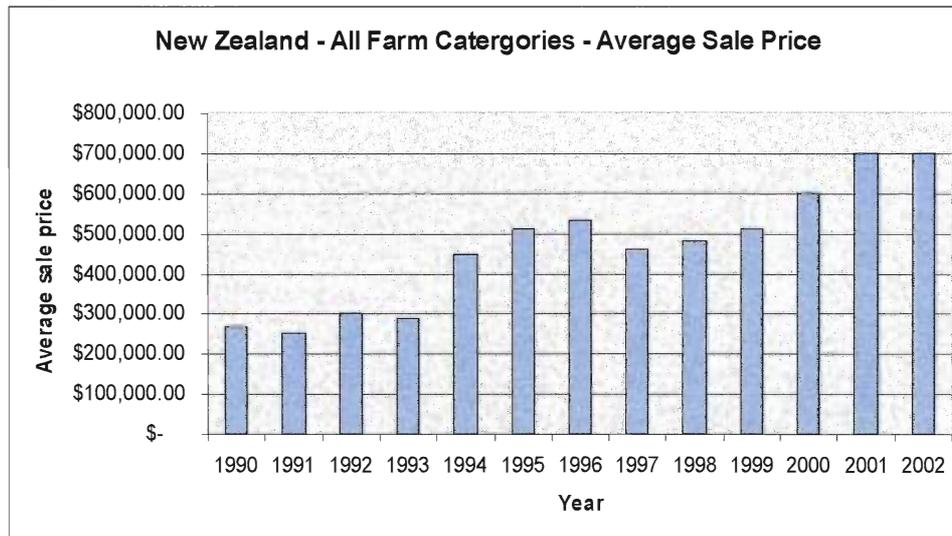
⁶ Extracted from The New Zealand Avocado Growers Journal, June 2003, Page 8

⁷ Lynn Norris, Bayleys Real Estate, Whangarei, and Dickie Burman, Bayleys Real Estate, Tauranga

⁸ Source: Bayleys Real Estate Research, Auckland.

farm prices (in all farm categories) in the last 12 years. This increase equates to a 141% increase on average and naturally our 2 prominent subject areas may enjoy even greater increases/demand.

Graph 1.8



Accordingly new entrants to this industry are being driven to consider purchasing land that is considered marginal for such activities due to its lower price. This price generally reflects location, topography or lack of demand by other likely purchasers.

Sherriff (Country News August 2003, p3), states –

GROWERS are being warned about using marginal land as the Bay of Plenty

experiences a boom in avocado plantings – 350 hectares a year. Avocado Growers

association chairman Hugh Moore said plantings in the Bay of Plenty were not ideally

placed. Growers should avoid low- lying areas prone to winter frosts – the ideal

situation was slightly elevated on a north-facing or well sheltered block.

SWOT analysis

As a result of interviews and research the following SWOT analysis was established to act as an overview of where the NZ industry is at this time.

SWOT analysis is a common tool in marketing to establish a basis for business planning and strategic planning. In all cases I have verified this SWOT with the primary influencers of the industry (i.e. CEO and Chairman).

This list serves as a summary of most of the issues highlighted or touched on in this report. Not all matters listed here are within the industry, growers association or growers control. However some of the major issues that this highlights will require very careful consideration by the affected parties to ensure long term viability of the industry.

Strengths

-  The Avocado industry is proven and established overseas
-  NZ appears to have a good infrastructure with passionate people
-  The fruit has major health benefits
-  NZ is building good relationships with Australia, USA & emerging export markets in countries like Japan
-  Ability to use existing post harvest facilities to process crops
-  The focus by the industry to technology based information, pest control methods, grower data input and data capture for research
-  The desire to move to more lead, lag indicators for export predictions
-  Investment in value added products like oil
-  NZ fruit quality on export markets seen as superior in western regions
-  Management groups to professionally manage all facets of crop
-  Majority of Research & Development is owned by the growers association
-  The fruit maturity time is long which can mean you can spread harvesting time

Weaknesses

-  Distance from export destinations
-  Restricted growing regions (Bay of Plenty & Northland)
-  Strong land prices and availability of suitable land
-  Numbers of growers entering the market for “lifestyle” choice as opposed to commercial grower focus
-  Low number of experienced people in the industry (consultancy & technical)
-  Lack of scale compared to other world markets
-  Trees and fruit are susceptible to higher numbers of disease
-  The fruit maturity period is long – affecting harvest times and grower decision impacting export timings
-  Low investment in research and development in NZ
-  Declining Orchards Gate Returns (OGR)
-  Grower lackluster attitude
-  New planting numbers increasing with no planning
-  Inability to “own” all research & development
-  No industry brand relating to a NZ product

- 🥑 Resource Management Act – impact on aerial spraying in urban areas and water availability for irrigation
- 🥑 Export standards as relate to local market fruit may be an inhibitor of fruit quality for local market value
- 🥑 Low Government acceptance of industry to import technologies, research and root stocks.
- 🥑 The grower organisations appear to be duplicating some overheads and resource

Opportunities

- 🥑 Increased relationship with major markets like Australia & California
- 🥑 Increased opportunity in added value products like oils
- 🥑 Upside in relation to marketing of potential health benefits for both NZ and export markets
- 🥑 Further grower education
- 🥑 Continued research & development (disease, genetic engineering, spray programmes etc)
- 🥑 The Grower organizations working more effectively for their growers and the industry as a whole
- 🥑 Greater grower interest and a willingness to support the industry
- 🥑 The industry could differentiate itself by focusing on sustainable/environmentally friendly strategies
- 🥑 Legislative structure to better enforce policy
- 🥑 Strong strategic vision and planning
- 🥑 Potential for vertical integration within the industry, but requiring a major restructure to achieve this
- 🥑 Global warming may increase the overall mean temperature of the North island of NZ, effectively increasing the macro climate for Avocado growing.
- 🥑 Foreign investors may seek a safe and secure lifestyle in NZ, bringing with them expertise from other Avocado growing countries (as has happened from America already).

Threats

- 🥑 Bio security risks and contamination of fruit
- 🥑 Climatic conditions changing, impacting on the regions in which fruit will grow. Climate cooling impact fruit quality
- 🥑 Increasing land values ultimately discouraging new entrants, negatively impacting return on investment
- 🥑 Lower support by Government and other political agencies given the small economic and lobbying size of industry
- 🥑 Inability to invest in research and development and not keeping pace with foreign progress
- 🥑 Foreign ownership of land that would normally be ideal for Avocado growing
- 🥑 Private ownership of a total Avocado growing business with strong vertical integration to enable export of fruit or valued added product. Ultimately cutting out the grower associations and NZ structure.

- 🥑 Entry by high value cashed up “lifestyle” owners overcapitalizing land and orchard values – not necessarily have a real interest in the industry
- 🥑 Potential high valued fruit (normally destined for export) being enticed by secondary processors for oils, canning etc. This could ultimately dilute the export volumes but satisfy the grower who ultimately wants cash flow
- 🥑 Vulnerability to foreign exchange rate. Size of industry does not allow maximum use of hedging facilities for foreign exchange
- 🥑 New entrants and management lacking in experience
- 🥑 Older trees receiving international management techniques when trees are exposed to unique NZ conditions and require a NZ solution (in most cases not yet thought to be found due to low level of consultants/technicians)

Conclusions

The Avocado fruit has existed in the world for literally thousands of years. It is primarily a sub tropical fruit and as such is not that well suited to this part of the world although we have proved it will grow here quite successfully.

New Zealanders by nature are curious, ingenious and given our pioneering disposition we will try anything, particularly where agriculture and primary production is involved.

We have entered into the Avocado market and in terms of our overall primary production Avocado's are the "new boy on the block" and represent a very small percentage of our overall horticulture production at date.

We appear to lack the skills and expertise to really apply good scientific practices to NZ conditions and its unique growing conditions. For NZ to become an outstanding grower of quality fruit it would appear we must focus on this aspect of the industry.

Avocado crops by their nature need very special consideration as to soils, climate and topography. The type of land required is also in demand by other users, particularly in the lifestyle, urban and other horticultural industries such as Kiwifruit. Thus the supply of good quality land while available in certain pockets will come at a premium and impact on overall returns in investment for potential and existing entrants.

For such a relatively new industry, the infrastructure is in relatively good shape, with the necessary protections in place and good grower associations which will act as effective watchdogs and owners of existing and future intellectual property rights. The association will also act as grower representatives to Government agencies, marketers, and foreign entities in focusing on improved relations and potential joint ventures and partnerships.

Falling yields and concerns around grower interest in the overall industry must be addressed for this industry to grow and become a sustainable entity in the future. Continued strategies around information, databases and grower "ownership" of the industry are welcomed and supported to ensure a differentiation in the market and place the NZ industry in a competitive advantage to major markets

There are major opportunities in the local markets as consumers become more familiar with the properties of this unique fruit and develop various preparation techniques for consumption. The added value markets from oils, by product and other processed products are exciting and will add a vital dynamic to this market that perhaps other competing primary commodities do not enjoy. This will ultimately add value to the industry and furthermore to the grower returns at days end. NZ must focus on this area of the industry to differentiate itself from its competitors

Without the benefit of a vertically integrated marketing approach (which would appear this industry will most probably never adopt) the challenges will remain with entrants to the industry, marketing, export opportunities and overall control of the industry. As such the responsibility of the growers association becomes ever more important. This association should consider building stronger relationships with all interested parties to this industry, not only the grower but the post harvest facilities,

marketers (domestic & foreign) and the immerging value added industries (like oils) to ensure a more consultative approach. This should ultimately ensure that NZ as a whole works in a collaborative manner to further enhance the industries long term sustainability and competitive positioning in relation to world markets.

History tells us investment in research and development is imperative to any new or existing business success and survival, the Avocado industry is no different. As highlighted in this report the Avocado product is unique and NZ's ability to grow this fruit is challenged. The industry presently uses Ag Research predominately to assist with much needed research. Focus should continue on this area ensuring that the industry gets NZ solutions for a NZ conditions and that this information is disseminated for all growers to benefit from. Furthermore technical expertise by way of consultants and technicians should be introduced to the industry and if not available locally then import it. This would appear vital for an industry that has shown such dramatic growth in a very short period with a product which is not a native of this country or this part of the world.

In terms of the SWOT analysis there are many other area's which could be argued as requiring focus, however most of these are ultimately out of the control of an industry which is largely deregulated or controlled. Collaboration and focus by the industry and the growers will ultimately ensure this industry remains profitable and will attract genuine commercial growers.

Overall this industry is exciting, supporting a product which is unique and offers consumers a very balanced and enriched consumable food. The benefits and ingredient of this product should ensure its long term survival with future products and health benefits giving the industry strength and a solid basis in which to grow and prosper.

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