Bay of Plenty Kiwifruit Industry

Exposure calls for Diversification

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Abstract

This research assignment aims to look at the need for diversification in horticultural crops within regions. This has become evident through the unwanted introduction of Psa to New Zealand. Regions such as the Bay of Plenty are largely exposed to the kiwifruit industry which is concerning when currently the outlook on the industry is still very bleak.

I will look at the regional impact that a downturn in the industry could result in and ultimately relate this back to the need for diversification of the individual grower to ensure that the region by default is diversified. In order to show this I will base some figures for kiwifruit on an actual orchard that is looking to covert some of the kiwifruit area to grow citrus.

At the end we will see the overwhelming reason why the individual kiwifruit grower has not diversified into other horticultural crops. However there is still a strong need that growers look to investments outside the horticultural sector to gain some financial security if the New Zealand kiwifruit industry was not to recover from the Psa epidemic.

Introduction

With the discovery on Psa in New Zealand in 2010 a spotlight has been placed on the levels of exposure to the industry that the Bay of Plenty region may have. With no absolute solution known to control the bacteria the kiwifruit industry is facing a serious down turn in its crop and therefore an uncertain financial future.

Previously the returns for kiwifruit, in particular Gold, have been some on the highest in the world when it comes to horticultural crops. This coupled with the favourable growing conditions in the Bay of Plenty has made kiwifruit the number one horticultural crop. This in turn has lead to the fact that the Bay of Plenty region has a huge dependency on this one crop. This situation has highlighted the need to better manage the spread of risk across horticultural crops which means that growers need to diversify.

This issue has come to the forefront not only on an individual grower level but also at a regional level due to the financial and socio-economic impacts that will be felt if the industry is unable to continue at its current levels. Research into what the forecasted financial losses as published by Lincoln University's Agribusiness and Economics Research Unit outlines just how much could be lost if growers were to do nothing in regards to diversification. This would result in severe impacts to districts and regions as well.

This research paper is proposing that for regions to have more diversification within the horticulture industry then the individual kiwifruit grower must diversify. To be able to look into this hypothesis then I will undertake research into the current situation within the kiwifruit industry to gain an understanding of what the lay of the land is. In order to put it into context I will also look at a current orchard that is looking to replace some of its existing vines with citrus. This is a real life situation that this grower is facing and will put into context the scope of the decisions facing kiwifruit growers who are looking to diversify.

Key Terms:

Zespri-	Zespri International Ltd is essentially a marketing company. The industry runs a single desk marketer by which Zespri is it.
Green-	The Hayward variety of kiwifruit
G9, G3, GK, HE-	Zespri Licensed Gold Varieties currently grown commercially

Research

Research undertaken to look into this issue involved looking into past returns that have been achieved within the industry. This has been done through discussions with growers, information provided by Zespri and Statistics New Zealand. For gathering the information on citrus I spoke with a Grower Liaison who is based in Gisborne. He provided information that was comparable to that of the kiwifruit industry.

Financial figures and returns to growers are based on Zespri's 2011 Annual Report as 93% of the nationally grown kiwifruit crop is supplied to Zespri.

Kiwifruit was introduced into New Zealand by Isabel Fraser in 1904. Originally known as the Chinese Gooseberry the fruit gained increased popularity during the 1930's and 40's. It wasn't until 1956 that the plant become popular and nurseryman Hayward Wright began propagating and grafting what would become known as the Hayward Kiwifruit.

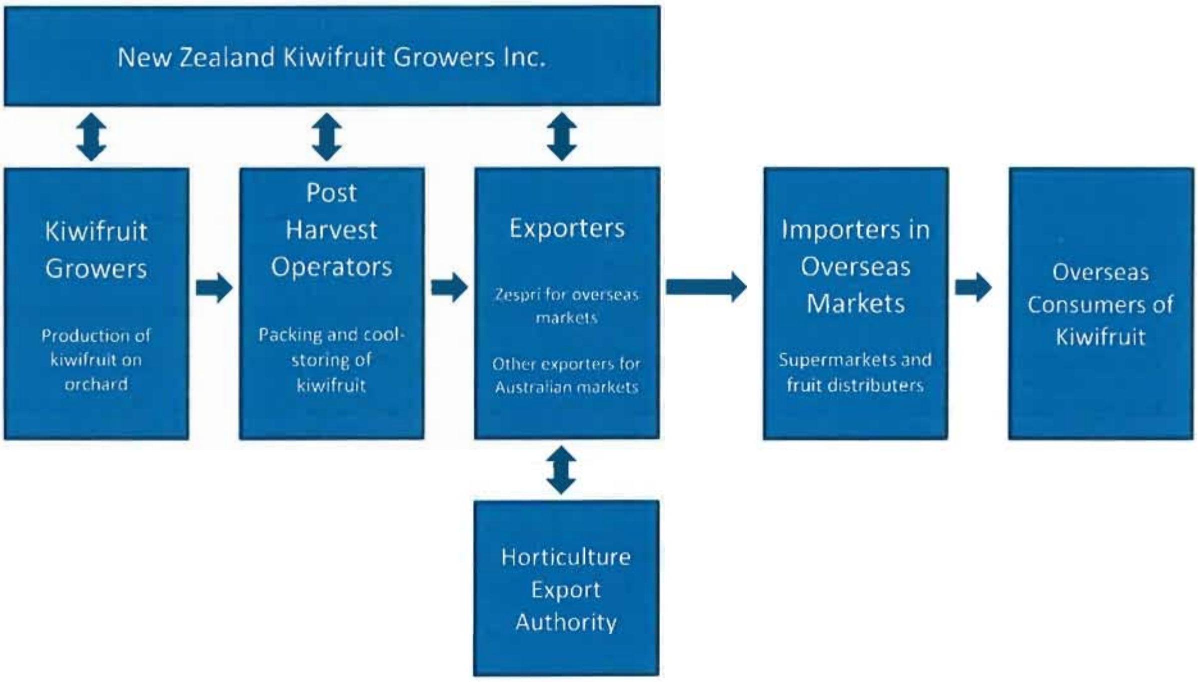
Between 1987 and 1989 the industry went through a crash due to the increasing world supply of the fruit. From here the Kiwifruit Marketing Board was established and the industry became regulated. In 2000 the Kiwifruit Marketing Board adopted the corporate identity that is Zespri Ltd. Since the industry was regulated the number of trays produced and the returns for those trays have steadily increased.

In 2010 kiwifruit was the second highest export earning crop (behind wine) accounting for just under one billion dollars. Currently kiwifruit is predominantly grown in the Bay of Plenty which accounts for 80% of the national crop. Other regions include Nelson, Northland, Auckland, Waikato, Gisborne and Hawkes Bay.

The most commonly known varieties are Hayward (Green), Zespri 16A (Gold), Zespri GA, Zespri GL, Zespri HE, Summer Kiwi and Hong Yang. There are also several other lesser known varieties.

A result of the industry being regulated 12,502 hectares was supplied to Zespri in 2011 of the 13,350 grown nationally. As the most commonly known kiwifruit is the Hayward and Zespri Gold then this assignment will focus on those varieties alone.

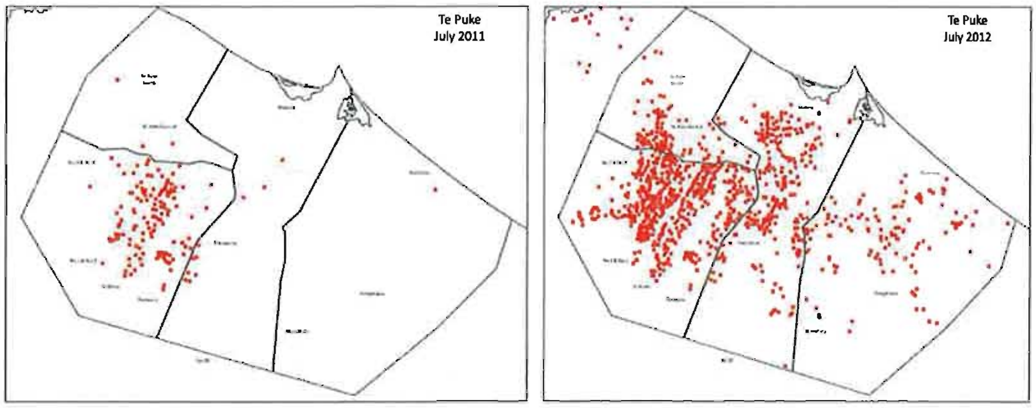
Kiwifruit- the industry



Psa- Pseudomonas syringae pv. Actinidiae

Psa was first identified in Japan in the 1980s and is a bacterial canker of the kiwifruit varieties. Psa causes a range of symptoms from leaf spotting, cane die back through to red or white exudates and is worse cases the plant completely wilts and dies.

The New Zealand strain is particularly virulent and is there known as Psa-V. Psa is not known to directly affect the fruit however it does affect the plants ability to carry the fruit through to harvest.



The above pictures outline the spread of infection within Te Puke in the 12 months from July 2011

Psa- the direct impact

Psa was discovered on a Te Puke orchard in November 2010. There is currently no information regarding how long the bacteria had been in the country. Since then we have seen huge levels of infection in Te Puke. It has also since spread into the Bay of Plenty region, Waikato, Franklin, Coromandel and Hawkes Bay regions.

Between the 2011 harvest and the 2012 harvest the national gold crop had reduced by 27% (or 8 million trays) largely contributed to Psa. A number of case studies have taken place over this time that has highlighted some eye opening statistics.

One study in particular was based around 57 Gold orchards in Te Puke. These orchards were all Psa positive by June 2011. By the time harvest rolled around 10 months later only 6 of the orchards were remaining. Out of the original 167.2 ha of producing canopy only 20.2 ha made it through to harvest their crops.

In the 18 months since November 2010 there was a total of 337.34 ha that was removed from production as a direct result of the infection.

As at the 14th November 2012 there were 1,887 orchards nationwide that have some degree of Psa infection visible on them. This equates to 65% of New Zealand's Kiwifruit hectares. It is important to remember that this is within 24 months since the disease was first discovered.

In May 2012 Lincoln University's Agribusiness and Economics Research Unit released a report that estimates what the impact of Psa will be over the coming years. Some key points are as follows;

- Over the next 5 years Psa will cost the industry between $310 m and $410 m in terms of the immediate impact and the cost of responding to it
- In the long term it is estimated to cost the industry between $740m and $885 m in terms of development lost
- Over the next three years it is estimated that 470 jobs a year will be lost as a direct impact of Psa

The report also concluded that the kiwifruit industry and the wider Bay of Plenty region have yet to experience the full impact of Psa. For example at the time of releasing the report there were a total of 1184 infected orchards or 45% nationally whereas on the 17th October there was 1669 orchards or 59%. In five months there has been an increase of 14% or 485 orchards. That is on average 97 orchards a month that are showing symptoms of this disease.

As the industry faces the threat of Psa Zespri released a pathway forward mechanism that allowed all currently licensed Hort 16A growers to take part in a Gold for Gold Tender process. When the tenders closed a total of 1,984 hectares had been tendered for conversion to the Zespri GA variety. At the time of release the Opotiki region was successful in obtaining enough licenses to graft over 30% of its total producing hectares. It is important to note that not all of these hectares will be infected with Psa however production will still be lost for 1-3 years as conversion over to the GA variety takes place. The huge risk involved with this is that there are no guarantees that it will ever produce a crop if the hectares become infected with Psa.

At this stage there is no known variety that is resistant to Psa. All varieties are showing a range of symptoms with some worse than others.

So just how exposed is the Bay of Plenty Region to the Kiwifruit Industry?

- Kiwifruit is by far the main producing horticultural crop in the region
- In 2011 10,043 hectares was located in the Bay of Plenty region (5,118 in Te Puke alone)
- These hectares produced 86 million trays (79% of the national crop)
- These trays generated a return to growers of $417m
- Annually it is estimated that 12,000 people are employed directly through the industry

Kiwifruit in the Opotiki District

- In 2011 there was 856 hectares producing kiwifruit
- These hectares produced 8 million trays
- These trays returned $43.7m to growers
- Currently there are 3 packhouses in Opotiki solely for kiwifruit
- Annually around 2000 people are employed directly by the industry

As a large number of Opotiki kiwifruit growers are solely kiwifruit growers then by default the region is heavily exposed if the kiwifruit industry collapses.

The Average Kiwifruit Grower

Based on industry statistics the average sized kiwifruit orchard is four hectares and is made up of 1 hectare of gold fruit and 3 hectares of green fruit. As you can see below there is a notable difference between green and gold from how many trays per hectare are produced through to the bottom line return to the grower.

	Green	Gold
Average trays/ha	8,882	11,756
Average OGR**/ha	$33,125	$90,911
Average Growing Costs/ha	$24,500	$28,500
Average Net Return/ha	$8,625	$62,411

It is returns like this, especially for the gold variety, that has seen growers reluctant to diversify.

Last year 80% of the nation crop supplied to Zespri was grown in the Bay of Plenty. This equated to $417 million that was returned to growers throughout the Bay of Plenty. Filtering this down to Opotiki saw that $43.7 million was returned to local growers. These financial numbers are of great importance to each region as they make up a large chunk of the local economy. Also looking at the levels of employment that the industry has offered in the past shows how important kiwifruit is to the region with 12,000 people employed annually in the Bay of Plenty.

If the industry was no able to recover from Psa then not only would there be a direct impact on the growers themselves, regions would feel the impact with less money in the local economy and a large number of people out of work.

With the returns that kiwifruit has been able to deliver to growers it is easy to see how regions have become so exposed and dependant on the industry. At an individual level there is a need for diversification to better manage the risk.

Case Study- Base One Orchard

Base One orchard is located along Paerata Ridge in Opotiki. Currently is has 1.32 hectares of Hayward and 0.5 hectares of Zespri G9 (Gold). The orchard was established roughly 9 years ago. The land use prior to the cropping of kiwifruit included the production of passionfruit and avocadoes.

At this time Psa infection is present in both the G9 and HW. The G9 is showing less tolerance for the infections with several male plants having to be cut out and removed due to exudate being present.

2012 Harvest Results

2012 saw a record year of production for Base One with over 10,000 trays per hectare coming off the Hayward and 7,500 trays per hectare coming off the G9. Once packing charges have been taken into account this produced tray values of $4.54 /tray for the Hayward and $10.40/tray. For Hayward the general rule of thumb is anything over $4 a tray will produce a profit for the orchard whereas under the $4 mark then the orchard viability comes into question. This is particularly important going forward as with the rising costs associated with Psa management and control means there is a strong need to increase the return to growers for Hayward.

The general measure that is accepted throughout the kiwifruit industry is the OGR per hectare. OGR stands for orchard gate return which is the return to grower once post harvest charges have been deducted. Base One has produced impressive OGRs for the 2012 season with $48,073/h for the Hayward and $79,457/h for the G9.

As you can see there is a notable difference between the dollars returned to the grower between the two varieties. The main driver behind this is that the gold varieties are licensed to Zespri which means they can control what is available to the market to help ensure that the supply and demand seesaw remains to the advantage of the grower. This is when there is more demand than supply which will drive the price for the product up. Green is the opposite to this and has a large supply with very little demand.

Psa Impact

Over the last 2 months the Psa has been progressing through the G9 with males having to be removed from the orchard due to exudate. The Hayward blocks are also now starting to show severe leaf spotting in some areas along with cane die back. Going forward the decision needs to be made about continuing with kiwifruit (in particular Gold). The risk lies in continuing with solely kiwifruit on the orchard as that then creates 100% exposure

So what are the options?

Several other horticultural crops have been produced in Opotiki in the past. These range from navel oranges, passionfruit, feijoas and apples. Other crops maybe grown but would need to investigate growing conditions to see whether or not it would be viable.

Base One orchard is looking into citrus due to the nature of the land that may be converted.

Potential Hurdles

Pretty soon after looking into other horticultural crops you start to think about the potential hurdles. These hurdles need to be address as soon as possible as they can cause issues if not thought through early.

Potential hurdles that need to be overcome are;

- Market Access- local, export etc
    - This will dictate what sort of returns will be available to the grower. Generally if markets are well set up off-shore then the returns will be better for the grower than what can be achieved with local market. This is very evident through the kiwifruit industry and in particular with Zespri licensed varieties

- Established supply chain- is there one if not how intensive is it to develop?
    - Supply chain from orchard to market is particularly important. It will also highlight packing facilities that will be able to pack your crop. Key things to look at will be location of orchard versus packing facility vs end point (ie local market or off shore market)
- Packing facility- are you able to self pack or is there an existing facility that can be contracted?
    - If there is no established packing facility then setting one up or location of the nearest one will need to be addressed and thought through
- Flooding the market- if a lot of growers take it up will the returns still exist?
    - If several growers take up the option to grow the same crop is there a chance of flooding the market and therefore reducing the returns that are available to growers?
- Currently no other horticultural crop in New Zealand produces anywhere near the financial returns that Gold kiwifruit has shown.
    - Simple fact is that no other horticultural crop can produce the returns of Gold kiwifruit. This is due largely to the fact that it is a licensed varieties by which Zespri controls. This allows them to ensure that the supply and demand seesaw is always in favour of the returns to growers. No other horticultural industry operates the way the kiwifruit industry does with a single desk marketer.

Citrus

New Zealand citrus growers have been going through some tough times for a while now. Competition from imported fruit, consumers wanting a cosmetically clean fruit and supermarkets trying to supply their customers the best and cheapest have meant in most cases citrus wholesale returns haven't changed or have actually gone backwards over the last 10 to 20 years. The world economy and a drive by other southern hemisphere countries has meant we are struggling to reach sustainable returns in the international market.

When you add increasing costs through all links from field to market and the affect climate is having on fruit cosmetics the net return in a lot of cases is in the red. There has been a lot of effort gone into developing new markets but our cost of production is a major hindrance.

New Zealand is a marginal area for citrus growing. Citrus grows best in arid climates with hot days cool nights and winter chilling. Cool nights are important for colour development and cool winters are required to initiate flowering. The main production is in Northland and Gisborne with some in the Bay of Plenty. Humidity has a major impact on pest and disease issues leading to more intensive management programs for Northland and Bay of Plenty.

Lemons and Navel Oranges are becoming more and more unsustainable due to rising compliance costs and limited export potential. There is some export mainly into Japan with these varieties but low volumes due to cheaper options from other countries.

Satsuma mandarins have reached a point where the local market is saturated with over 700 ton of fruit a week for approx a month each year. The grower returns at this point is below cost of production. There is a lot of industry discussion about strategies to minimise the low returns but the only real answer is to pull some trees out. Due to the biennial nature of citrus this is a major issue every second year. 2013 will be a very big year with Northland and Gisborne both expecting big crops.

Other mandarins are being planted but are still in their trial stages. They also have to compete with the Australian Afourer mandarin domestically and in export markets. Grapefruit are slow due to medication compatibility issues. Tangelos have fallen out of favour with juicers and have limited domestic sale options

Developing new citrus plantings are a lot more intensive then in the past in an effort to maximise production. Most development will include site levelling and drainage, mounding, sprinkler irrigation, intensive wind protection etc. There is a variety of different rootstocks leading to a range of plant densities to match tree figure. Generally the cost to establish a citrus orchard sits around $20,000-$25,000+/ha.

The cost of production is rising yearly with new compliance demands and more intensive management programs. Growing costs will include Compliance, Pest and Disease control, Weed control, Irrigation maintenance and operation etc. A ball park figure which does vary depending on the individual orchard sits at around $15,000 to $20,000 a hectare.

Most citrus should be capable of producing 35ton/ha. Very few can achieve this consistently. It is important to note that citrus will take 10 years to reach full maturity and 6 years to reach 50%. In 2012 the returns for certain citrus were

- Satsuma's about $0.85 kg grower return
- Navels about $0.55 kg grower return
- Lemons about $0.60 kg grower return

Case Study- Base One

The orchardist is looking to replace the current planting of G9 kiwifruit to citrus which will total 0.5 hectares. After looking through the blocks that may be converted, work is required to allow the best growing conditions to be achieved. One good point is that both crops require adequate shelter which is already established on the property. A best estimate would say around $10,000 to bring the sites up to citrus specs.

As it takes 10 years for citrus to reach full maturity the below figures are based on achieving 50% maturity which sits at being able to produce around 18 tonne per hectare.

- Navels $9,900/h
- Satsumas $15,300/h
- Lemons $10,800/h

On a per hectare basis the G9 kiwifruit is currently returning five times what the Satsuma could produce. Even in 10 years when the Satsuma could produce 35 tonne per hectare it would still only return $29,750. When you start to compare the numbers it becomes even more evident why kiwifruit growers are reluctant to diversify into other horticultural crops. Even if the G9 only produced a third of what it did last year it would still return $26,478.40. This return is the breakeven point so anything below this would result in a financial loss to the orchard.

Conclusion

This research has highlighted the consistent returns that kiwifruit has shown, in particular the licensed varieties. Kiwifruit industry could not diversify without dramatic changes being made to current structures of other horticultural industries. Other crops rely heavily on domestic market sales which do not provide the returns that growers expect. Off shore markets would need to be developed before reasonable returns could be assured for growers. In Kiwifruit this has been successfully done through the Zespri licensed varieties. However this does not take away from the fact that the individual grower is still heavily exposed to the risks of Psa in the Kiwifruit industry.

Currently within New Zealand there is no other horticultural industry set up with a Single Desk Marketer. This system benefits the industry in ensuring a certain level of pricing is achieved in overseas markets which ultimately sees a high percent returned to growers pockets. It is easy to see why kiwifruit growers have not diversified into other horticultural crops given the returns for kiwifruit that we have seen over the last 5 years

Growers need to understand their risk profile and look to investments outside the horticultural industry to provide additional financial security while the industry fights this invisible enemy.

Credits

- Jane Ritchie- Zespri International Limited
- Melissa McKenzie- Statistics New Zealand
- David Hansen (Grower Liaison Manager Citrus)- Kaiaponi Farms Ltd
- OPAC Ltd
- Liz Sharp- Tirohanga Fruit Company

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Exposure calls for diversification

Abstract

This research assignment aims to look at the need for diversification in horticultural crops within regions. This has become evident through the unwanted introduction of Psa to New Zealand. Regions such as the Bay of Plenty are largely exposed to the kiwifruit industry which is concerning when currently the outlook on the industry is still very bleak.

Kiwifruit- a brief history

- Introduced to New Zealand in 1904 as the Chinese Gooseberry
- Auckland nurseryman Hayward Wright plants were propagated and soon became the preferred cultivar due to size and taste (Hayward Variety)
- The New Zealand kiwifruit crop has been grown since the early 1900's however has dramatically increased since the mid 90's when the industry was regulated (Zespri International Ltd)
- Since the year 2000 trays submitted has doubled
- Kiwifruit is now the second highest export earning horticultural crop (behind wine) accounting for just under one billon dollars in 2010, coming from a 70:30 split between green and gold kiwifruit returns

Kiwifruit- a brief history

- Kiwifruit is predominantly grown in the Bay of Plenty however other growing regions include Nelson, Northland, Auckland, Waikato, Gisborne and Hawkes Bay
- The most commonly known varieties are Hayward, Zespri Gold, Summer Kiwi, Hong Yang, Zespri G3, Zespri G9, Zespri G14 plus several other lesser known varieties
- As a result of the industry being regulated 12,502 hectares were supplying Zespri in 2011 out of the 13,350 hectare producing nationally

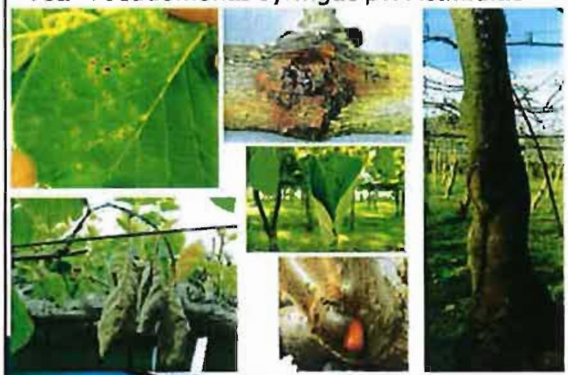
Kiwifruit- the industry

The New Zealand Export Kiwifruit Value Chain

Psa- Pseudomonas syringae pv. Actinidiae

- Psa was first identified in Japan in the 1980s
- Psa is a bacterial canker of the kiwifruit species
- Psa causes symptoms which range in severity from leaf spotting, cane die back through to red or white ooze and in the worst case where the complete plant wilts and dies
- The New Zealand strain of Psa is particularly virulent (this has resulted in it being known as Psa-V)
- Psa is not knowing to affect the fruit however it does affect the vine ability to carry the fruit

Psa- Pseudomonas syringae pv. Actinidiae



Psa- the rapid spread

Te Puke Region - July 2011

Te Puke Region - July 2012

Psa- the direct impact

- In 2010 Psa was discovered on a Te Puke Orchard
- The national Zespri Gold crop saw a reduction of 27% (8 million trays) from what was harvested in 2011 to what was harvested in 2012 - largely due to Psa
- KVH under took a case study based around 57 Gold orchards (167.2 ha) in Te Puke that were all Psa positive by June 2011. Only 6 of these orchards harvested at crop in 2012 (20.2 ha)
- Since the first incursion up to the 2012 harvest (18 months) there was a total of 337.34 hectares removed as a direct result of infection
- As at the 14th November 65% of New Zealand Kiwifruit hectares were on a Psa-V infected orchard (1887 orchards)

Psa- the direct impact

- A report by Lincoln University's Agribusiness and Economics Research Unit report (09/05/12) estimates;
    - Over the next 5 years Psa will cost the industry between $310 m and $410 m in terms of the immediate impact and the cost of responding to it
    - In the long term it is estimated to cost the industry between $740m and $885 m in terms of development lost
    - Over the next three years it is estimated that 470 jobs a year will be lost as a direct impact of Psa
- It also concluded that the kiwifruit industry and the wider Bay of Plenty has yet to experience the full impact of Psa

Psa- the direct impact

- As a result of Psa this year alone a total of 1,984 hectares of GA license has been allocated to the Bay of Plenty
- 255.17 hectares of this is in Opotiki (30% of total producing ha)
- Although these hectares may not be infected they will still have a significant impact on next seasons productions as a large percentage of them have been stump grafted
- At this stage in time there is no varieties that are standing up as resistant to Psa. All varieties are showing symptoms of infection some worse than others (Gold is worse than Green)

Kiwifruit in the Bay of Plenty Region

- Kiwifruit is the main horticultural crop in the Bay of Plenty and Gold Kiwifruit has the best return per hectare of any horticultural crop
- In 2011 there were 10,043 hectares of producing kiwifruit located in the Bay of Plenty (Te Puke alone has 5,118 hectares)
- These hectares produced 86 million trays of Green, Gold and Organic Kiwifruit (79% of the national crop)
- The return from these trays equates to approximately $417m returned to growers
- Annually around 12,000 people are employed directly by the kiwifruit industry (orchard work, packhouse/coolstore)

Kiwifruit in the Opotiki District

- In 2011 there were 856 hectares of producing kiwifruit located in the Opotiki/Te Kaha region
- These hectares produced 8 million trays of Green, Gold and Organic Kiwifruit
- The returns to the growers from these trays equates to approximately $43.7m
- In 2011 three packhouses were operating in Opotiki to cater for the large volume of trays
- Annually around 2000 people are employed directly by the kiwifruit industry within Opotiki and Te Kaha (that equates to 22% of the Opotiki District population)

Exposure - Opotiki District

Due to the fact that a large percentage of Opotiki Growers solely grow kiwifruit then by default the district is heavily exposed.

Photo taken looking over Tablelands towards Opotiki

The Average Kiwifruit Grower

- The average size kiwifruit orchard is 4 hectares with an average of three hectares in Green and one hectare in Gold
- The average cost and returns* for this orchard is shown below

	Green	Gold
Average trays/ha	8,882	11,756
Average OGR**/ha	$33,125	$90,911
Average Growing Costs/ha	$24,500	$28,500
Average Net Return/ha	$8,625	$62,411

- Due to the returns especially for the Gold variety a large percentage of growers within the Opotiki District solely grow Kiwifruit

*based on Zespri's forecasted returns to growers
**OGR is after post harvest charges

Exposure

- 80% of the national crop is grown in the Bay of Plenty region
- For the Bay of Plenty region in 2011 $417m was put into growers hands by Kiwifruit
- In 2011 $43.7m was returned to Opotiki Growers
- 12,000 people would essentially be out of a job within the BOP region (2000 of those in the Opotiki District)
- The average Kiwifruit grower would see no returns and maybe in a situation we they are unable to services the over heads on the property potentially leading to foreclosure or bankruptcy

Diversification

With the individual grower so exposed to the kiwifruit industry there is a need to diversify to better manage the risk.

Orchard-Base One

Location: Paerata Ridge, Opotiki
Total Land Area:
Area planted in Kiwifruit:
Varieties of Kiwifruit: G9 (0.50 h) and HW (1.32 h)
Currently Psa positive- symptoms in the G9 and HW

2012 Harvest Results

Hayward		G9	
Hectares:	1.32	Hectares:	0.50
Trays:	13,032	Trays:	3,820
Trays/hectare:	10,020	Trays/hectare:	7,640
OGR/tray:	$4.54	OGR/tray:	$10.40
OGR/hectare:	$48,700	OGR/hectare:	$79,500
OGR/ha:	$48,073	OGR/ha:	$79,457

Psa Impact

Over the last 2 months the Psa has been progression through the G9 with males having to be removed from the orchard due to exudate.

The Hayward blocks are also now starting to show severe leaf spotting in some areas along with cane die back.

So what are the options

Other horticultural crops that are currently or have been grown in Opotiki

- Citrus
- Passionfruit
- Avocado
- Feijoa
- Macadamia
- Apples
- Ginko

Other crops maybe grown but would need to investigate growing conditions to see whether or not it would be viable.

Potential hurdles

Potential hurdles that need to be overcome are

- Market Access- local, export etc
- Established supply chain- is there one if not how intensive is it to develop?
- Packing facility- are you able to self pack or is there an existing facility that can be contracted?
- Flooding the market- if a lot of grower take it up will the returns still exist?
- Currently no other horticultural crop in new Zealand that produce anywhere near the financial returns that Gold kiwifruit has been.

Citrus

- Competition from imported fruit, consumers wanting a cosmetically clean fruit
- Supermarkets trying to supply their customers the best yet cheapest
- The world economy and a drive by other southern hemisphere countries has meant we are struggling to reach sustainable returns in the international market.

When you add increasing costs through all links from field to market and the affect climate is having on fruit cosmetics the net return in a lot of cases is in the red.

Citrus- the growing climate

- New Zealand is marginal for growing citrus due to its climate
- It grows best with hot days and cool nights
- Needs a high number of winter chilling hours (hours spent below7°) to induce flowering
- Humidity has a major impact on pest and disease issues especially in Northland and Bay of Plenty

Citrus- the varieties

- Lemons and Navel Oranges
  - Currently small amount exported due to cheaper options from other countries. Can be unsustainable
- Satsuma Mandarins
  - Have reached the point where local market is saturated meaning at peak times grower returns are below cost of production
- Trial Mandarins are also being produced but limited information is available at this time
- Grapefruit
  - Slow due to medication compatibility issues
- Tangelos
  - Limited domestic sale options

Citrus- establishment

Common development programme for sites include
- Site levelling
- Drainage
- Mounding
- Irrigation system
- Intensive wind protection (shelters)

Depending on the varieties grown will dictate the level of intensification of plantings

Establishment cost are estimated to be between $15,000 - $20,000 per ha but can be higher depending on the site.

Citrus- growing costs

The cost of production is rising yearly with new compliance demands and more intensive management programs.

Growing costs will include Compliance, Pest and Disease control, Weed control, Irrigation maintenance and operation etc.

Cost $15,000-$20,000+/ha

Citrus- production

- Citrus takes 10 years to mature (6 years to reach 50% maturity)
- Most fully mature citrus should be capable of producing 35ton/ha
- Navels should average about $0.55/kg return to grower
- Satsumas should average about $0.85/kg return to grower
- Lemons should average about $0.60/kg return to grower

One key element to note is that like to any horticultural industry the largest influence is the weather which we cannot control. Not only should the time to reach full maturity be taken into account but also the risk of weather patterns that will hinder growth or crop load.

Citrus- Base One

Citrus Development: 0.5 ha (effectively replacing the gold kiwifruit)

Figures based on citrus at 50% maturity (6 years)

Navels
Producing: 18 ton/h
Returning: $9,900/h

Satsumas
Producing: 18ton/h
Returning: $15,300/h

Lemons
Producing: 18 ton/h
Returning: $10,800/h

Kiwifruit Vs Citrus

Solely Kiwifruit Returns		Citrus and Kiwifruit Returns	
G9:	$79,457/h	Satsumas:	$15,300/h
HW:	$48,073/h	HW:	$48,073/h

When you start to compare the numbers it becomes even more evident why kiwifruit growers are reluctant to diversify into other horticultural crops.

Even if the G9 only produced a third of what it did last year it would still return $26,478.40. This return is the break even point so anything below this would result in a financial loss to the orchard.

Conclusion

This research has highlighted;
- consistent returns that kiwifruit has shown, in particular the licensed varieties.
- Other crops rely heavily on domestic market sales which does not provide the returns that growers expect.
- Off shore markets would need to be developed before reasonable returns could be assured for growers.
- As the single desk marketer Zespri has been able to grow and control supply into markets and therefore control the returns that the product can achieve

Conclusion

However this does not take away from the fact that the individual grower is still heavily exposed to the risks of Psa in the Kiwifruit industry.

Growers need to understand their risk profile and look to investments outside the horticultural industry to provide additional financial security while the industry fights this invisible enemy.

Credits

- Jane Ritchie- Zespri International Limited
- Melissa McKenzie- Statistics New Zealand
- David Hansen (Grower Liaison Manager Citrus)- Kaiaponi Farms Ltd
- OPAC Ltd
- Liz Sharp- Tirohanga Fruit Company

Questions?