



**Going for Gold:  
Snapshot of the kiwifruit  
industry to support  
the use of SOPI in  
schools**

Ministry for Primary Industries  
Manatū Ahu Matua



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# NEWSFLASH



Gold orchards are now reaching mature production levels following the transition to the Gold3 cultivar due to the bacterial vine-killing disease Psa. Production growth is particularly strong for gold kiwifruit due to higher productivity and land area. Combined with further Gold3 licence releases, the total area producing gold kiwifruit is over 4400 hectares.

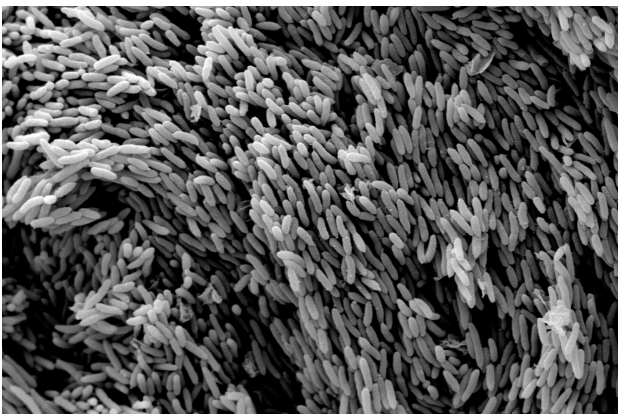
Situation and Outlook for Primary Industries  
(2016).



## FIVE YEARS ON

Five years on from the incursion of the Psa-V bacteria that devastated New Zealand Gold kiwifruit production in 2011, kiwifruit exports have returned to pre-Psa levels.

Our billion dollar kiwifruit industry has learnt many lessons from the outbreak. The Ministry for Primary Industries (MPI), Plant & Food Research, and Kiwifruit Vine Health have developed their combined expertise to find solutions to the spread of this disease and measures to prevent further biosecurity breaches in the future.



## THE NEW GOLD

New varieties of kiwifruit are being grown in a “Secret Food Playground” at a Plant & Food Research facility in the Bay of Plenty region. Tens of thousands of experimental varieties are being developed naturally by scientists, using a method called grafting. A range of flavour sensations and colours are being trialled to appeal to the growing export market. These new varieties also feature improved qualities, such as higher levels of vitamin C and increased disease resistance.



## CAREER OPTIONS IN THE KIWIFRUIT INDUSTRY

Students Aroha and George recently took part in the Bay of Plenty's [PriorityOne](#) careers programme, where they gained first-hand experience learning about careers in the kiwifruit industry.

George is keen to find out about career options involving physics, business studies, and materials technology. He spent the day at Zespri exploring the career path of a [supply-chain manager](#). This included learning about all aspects of jobs within the supply chain, ranging from packing to transport, logistics, and sales and marketing.



He also spent time learning about the kiwifruit industry at [Robotics Plus](#), the ultimate experience for a person with a passion for physics and materials technology. This award-winning team aims to create technological solutions that lead to the kiwifruit industry becoming more efficient and sustainable.



Aroha spent her time at [Plant & Food Research](#), learning about the varieties of kiwifruit they are developing and then at Zespri learning about their [Sustainability](#) programme. She was reassured that her beliefs about kaitiakitanga were acknowledged and valued by the industry.

Aroha's whānau are kiwifruit growers so she knows first-hand what it is like to have vines destroyed by Psa-V disease.

The leaves on our gold kiwifruit vines started to turn black and some died. We had to cut the rest of the gold vines out to stop the disease spreading. Luckily, we still had some green Hayward kiwifruit vines left. They got a bit sick too, but we did get some fruit. Then this guy from Plant & Food Research came to our orchard and said he had a new Gold3 cultivar that looked like it could handle Psa-V. Now we are almost back to the production levels before Psa-V and making money from our orchards again.



# INTERVIEW WITH DR IAN FERGUSON – Departmental Science Advisor at MPI

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Aroha also had the opportunity to talk to Dr Ian Ferguson, the Departmental Science Advisor for MPI and the former Chief Scientist at Plant & Food Research.

**Aroha:** Once it was clear that the kiwifruit industry was in crisis, how were the growers supported?

**Dr Ian Ferguson:** There were a variety of things that were done by different people.

The government declared the incursion was a biosecurity event and then provided a package of financial and social help for growers who had lost their crops. The kiwifruit industry organisations worked in different ways. For example, they worked with scientists to look for methods to prevent the disease spreading to other parts of New Zealand where kiwifruit are grown and to control and kill the bacterium affecting the Bay of Plenty kiwifruit orchards. They worked with scientists to speed up the development of more resistant varieties and to quickly save kiwifruit germplasm to protect the future of the breeding stock. They also worked hard to reassure our export markets that the disease was not carried on fruit so it didn't have a negative impact on our other

horticultural exports. Economic and social advice was provided by the banks, which responded by helping growers who were in financial difficulties.

**Aroha:** What lessons have been learnt from the Psa-V outbreak?

**Dr Ian Ferguson:** There have been many lessons learnt from this crisis. We need to be really focused on building resistance to Psa when we are breeding new varieties. The diversification of crop varieties will help reduce damage from disease outbreaks.

New Zealand's biosecurity system needs to be continually improving to meet the demands from increasing volumes of passengers and goods now entering the country. We need to be working with international partners on pests and diseases that are potential threats to New Zealand primary industries (for example, fruit fly and foot and mouth disease).

The partnership between the government and industry has been an important step in working together to plan for biosecurity into the future. Of course this means New Zealand needs to retain scientists with expertise in a wide range of plant diseases.

**Aroha:** How do you think the Psa-V incursion has impacted on the decision of growers to introduce new cultivars to their orchards?

**Dr Ian Ferguson:** Growers need disease-resistant varieties of kiwifruit, so introducing the new Gold variety was for many simply a matter of financial survival. Having more than one cultivar with different tolerances to pests and disease provides some insurance against disease outbreaks.

**Aroha:** Why do you think agrobiodiversity is so important for New Zealand's primary industries?

**Dr Ian Ferguson:** Diversity of crops and varieties increases resilience against pests and diseases, provides products over a wider seasonal range for markets, and provides some insurance against a drop in profitability for any one crop or variety. However growing a variety of crops on too small a scale is probably not going to be viable for export production, where scale is important. These days, too small means low profitability because of relatively high costs. A wider range of crops or varieties can mean greater production costs. In the end, the choice of crops and varieties depends on the market.

## SUPPORTING RESOURCES

- [Zespri Annual Review 2012-2013](#)
- [ANZ Research Report: Kiwifruit revival](#)
- [Zespri record-breaking 2015/16 kiwifruit season: Article in Scoop \(2016, 25 May\)](#)
- [Video from Plant and Food Research: Breeding Psa resistant kiwifruit](#)
- [Case study: Breeding for PSA resistance](#)
- [Fresh Facts](#)

