

Delytics Enhances Zespri's Shipping Performance Analysis



The Delytics team's ability to analyse complex data has provided a simple way for Zespri to monitor the performance of the vessels they use to ship their export kiwifruit.

Zespri can now produce easily interpreted graphs at the click of a button that clearly show the air temperature performance of each voyage, and the individual refrigerated holds in each vessel. This allows them to quickly assess how each voyage performed, rank each vessel based on air temperature compliance and rate the overall performance of each shipping company.

The Delytics team made this possible by analysing data from approximately 200 voyages and adding some high level metrics to the quality assurance system that Zespri already had in place. The enhanced system went live in July 2014.

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Zespri ships the majority of their export crop in refrigerated holds on reefer ships. Monitoring the air temperature performance of each voyage is a vital quality assurance process.

Frank says, “The ability to easily view and compare shipping temperature performance is a key quality assurance process for Zespri. It helps us ensure temperature quality specifications are being met and the exported kiwifruit arrives at its destination in premium condition. The Delytics team has automated parts of our system and introduced some better ways of summarising the data than we had before. We can now download voyage data offshore and get results back a lot quicker than before. For the people who have provided the kiwifruit there is an assurance that we are using ships that are fit for purpose and are doing what we require of them.”



Zespri Technical Manager Frank Bollen (left) and Delytics Managing Director Mark Loeffen inspect an export shipment of kiwifruit at the Port of Tauranga.

Zespri ships close to 100 million trays of kiwifruit each season from the Port of Tauranga to Europe and East Asia. Each ship transports about 5,000 pallets of kiwifruit, with an estimated value of \$10 million per voyage.

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Approximately 80,000 temperature readings are generated each voyage, and there are around 50

voyages each season. The Delytics team analysed four years' worth of data.

Franks says, "The thing the Delytics team does really well is to take a complex problem and generate a useful and simple way to understand it. We have tens of thousands of readings per ship and they've managed to condense it all down to basically one little picture per ship and we can get all that we need to know out of that one little picture. The enhanced system they developed for us has made it easier to proactively use our data as an ongoing improvement tool, and will hopefully allow us to have more collaborative discussions with the shipping lines around the performance of their vessels and how their ships are performing with kiwifruit."

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Zespri has very tight air temperature specifications for kiwifruit with minimal margin for error. Air temperature measurements are taken during each voyage by five data loggers in each refrigerated hold. To ensure the data loggers are as accurate as possible



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the Delytics team completely redesigned Zespri's calibration process to international standards.

The Delytics team has been developing decision support systems for Zespri since 2004, covering the full spectrum of the supply chain from pre-harvest colour and firmness prediction, to postharvest storage and shipping.

Delytics Managing Director Mark Loeffen says, "This project has demonstrated our ability to add value across the entire supply chain."

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Integrating Business, Science & Technology

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