ZESPRI International Limited
Traceability Implementation Case Study
ZESPRI – Introduction

When New Zealand Kiwifruit hit the shelves of Europe’s supermarkets in 2005, ZESPRI International Limited had completed a project spanning several years designed to ensure they not only have the best Kiwifruit in the world, but the best traceability standards of any fresh produce. This is achieved through application of the Fresh Produce Traceability Guidelines (FPTG), and GS1-128 labels on every carton of exported kiwifruit, and stringent processes throughout ZESPRI’s supply chain.

The changes started in June 2001 when European customers began to focus on Fresh Produce logistics and traceability by asking for GS1-128 barcodes at the pack level. With the European Food Safety requirements for Fresh Produce Traceability becoming a requirement on 1 January 2005 it was clear that ZESPRI’s exceptional traceability at the pallet level needed further refinement. The resulting level of traceability also protected the investments growers were making in even better quality processes, including Euro Retailer Produce Working Group (EUREPGAP) and British Retail Consortium (BRC) certification.

ZESPRI completed significant research with its suppliers in New Zealand and customers in Europe to maximise the benefits of GS1-128 labelling for all supply chain participants. The resources of GS1 New Zealand, GS1 International and GS1 Member Organisations in significant markets around the world were invaluable in developing a win/win for ZESPRI and its supply chain partners.

ZESPRI shipped the first GS1-128 labelled fruit in 2002; and in 2004 over half of all exported green and ZESPRI™ Gold kiwifruit were GS1-128 labelled. For 2005 all ZESPRI export kiwifruit were included, thereby meeting the European Union deadline, and meeting ZESPRI’s own traceability goals.

Why the GS1 System?

In asking the industry to make the investment in bar-coding at the pack level, ZESPRI needed to be sure they were using a standard acceptable to all their major customers, including those in Europe and Asia. GS1-128 was that standard. The advice and support of GS1 staff around the world helped ZESPRI implement GS1-128 in a practical manner without undue influence from any particular customer. The GS1 standard and GS1’s staff became the impartial arbiter to resolve any differences of interpretation that occurred and may continue to occur.

ZESPRI explored other technologies including RFID, magnetic strips and snowflakes. At the time, none of these had widely accepted standards in place, costs were high and most importantly there is no human-readable component in the event of equipment failure. In adopting GS1-128, ZESPRI has ensured that its processes are aligned to adopt RFID when that technology becomes commercially viable. The expectation within ZESPRI is that RFID will always be a complimentary technology rather than one that replaces barcodes.

ZESPRI had used CODE 39 barcodes at the pallet level for many years but with the move to a single standard worldwide in GS1, fewer customers were utilising ZESPRI’s barcodes in their supply chain. The year 2005 saw this change to GS1-128 extended to ZESPRI’s pallet cards.

During their research, ZESPRI focused on a number of key objectives to be met using the GS1-128 barcodes:

- To ensure full traceability of fruit from orchard to final customer through automated data capture.
- To enhance the supply chain processes internally and externally.
- To fully meet the ECC legislative requirements.
• To protect the industry and customers from traceability crises as seen with BSE, Foot and Mouth, Salmonella etc.
• To meet customer requirements as documented in the “Fresh Produce Traceability Guidelines” (EUREPGAP FRESHFEL, CPMA/PMA).
• To leverage barcode technology to provide additional information.
• To explore opportunities for e-commerce, including electronic consignment notes.
• To provide efficient isolation of less stock in the event of a quality or food safety issue.
• To ensure alignment with upcoming technologies e.g. RFID/EPC.

How the GS1 System is implemented

In implementing GS1-128, ZESPRI issued a functional specification for the labels and included two simple business rules:

1. A supplier must be able to identify every orchard whose fruit may be in a pack.
2. Every pack shipped from New Zealand on a particular pallet must be identified against that pallet in electronic records.

The key to the whole process is that every pack of kiwifruit has its own individual batch identifier in the Application Identifier (AI) 10. This number is unique to a season and gives ZESPRI access to information on the orchard the fruit came from, the path through ZESPRI’s supply chain and, where customers practice inventory management as per the European Food Safety legislation, right through the customers supply chain.

Figure 1 Label Key

| A | Class and Class Code |
| B | Variety and Variety Code |
| C | Count and the actual number of fruit in this pack |
| D | Grams and the weight range of fruit in this pack in grams |
| E | Size & size code for the fruit in this pack |
| F | Grower Code |
| G | Barcode |
| H | Barcode Human Readable with Application Identifiers (AI’s) indicate the following: AI 01 (county code, company code and pack code), AI 10 (unique pack batch identifier) |
| I | Packhouse area |
| J | Produce of New Zealand |
| K | Barcode with AI 412 (location identifier) |
While the solution may seem simple, ZESPRI has gone through a complex consultation with stakeholders, and a number of trials both onshore and at its fruit handling operations in Europe. The formation of a steering committee, research, limited trials, a phased approach, site visits etc. have all contributed to the success of this project.

Benefits of GS1-128

ZESPRI is has already seen the benefits of implementing the GS1 System in both its onshore and offshore operations. These include:

- Increased accuracy in labelling of product.
- Identification of product when pallet cards are lost or damaged.
- Improved responses to wholesale customer concerns on fruit quality.

Contact Information

ZESPRI International Limited is the largest exporter of green and ZESPRI™ Gold kiwifruit in the world. The company consists is owned by its 2,500 New Zealand based growers. In 2004, the company recorded net sales of NZ$911 million, up 6% from the previous year.

For more information about Fresh Product Traceability in New Zealand, please contact GS1 New Zealand at info@gs1nz.org
The global language of business.