



United Fresh
New Zealand Incorporated

**Sustainable Farming Fund
Project 405482
Effective Produce Traceability Systems**

**Milestone 5 –
Loose Supply Chain Traceability Study –
Using Lettuces as an Exemplar**

Summary of Final Report

20 September 2019

Wider Project Related Milestone Comments

Traceability and transparency are increasingly important in fresh produce value chains, both domestically and internationally. Traceability in the domestic fresh produce supply chain is currently not working to a common standard. Each value chain follows variations of its own to establish **internal** Traceability. **External** Traceability works better in some cases than others and not at all in extreme situations.

This project aims to understand the challenges and barriers that compromise effective Traceability in the domestic fresh produce industry.

The objective of this project is to assist growers, packers, marketers and retailers in the domestic fresh produce supply chain to understand how they can improve their internal Traceability systems while ensuring a more robust streamlined external Traceability framework at the same time.

Milestone 4 – Industry Engagement

Milestone 4 officially concluded in mid-June however the project has continued to be busy with industry engagement activities. United Fresh NZ Inc sponsored and hosted a booth at Horticulture NZ conference in Hamilton. This was a good opportunity to speak with the wider industry about Traceability and also entice participants to complete our Milestone 2 survey monkey. In addition, the Project Director, Anne-Marie Arts, presented at the Fresh Produce Safety Centre Conference in Sydney, Australia.

During August, Anne-Marie Arts also visited MPI in Wellington and spoke with Melinda Sando (Manager Food Compliance Services Group) about national recalls / food safety incidents from MPI's viewpoint. This will help inform the draft industry Traceability Guidelines.

Planning for Future Milestones

The focus shifts to Milestones 6-9 where the majority of work will be in developing and writing the draft industry Traceability Guidelines and seeking industry feedback. The Dairy Traceability Working Group report and guidelines will inform this work along with work undertaken in other jurisdictions. Completion and release of the final Guidelines will occur in Milestones 10 and 11 in 2021.

There are a number of international and national industry speaking engagements we have been asked to present at. This will help share the knowledge gained by the project and ensure the project stays up to date with Traceability advancements.

Executive Summary (from the Milestone 5 Final Report)

Milestone 5 – Loose Supply Chain Traceability Study – Using Lettuces as an Exemplar

During the planning phase of Milestone 5, it was recognised the previous tracking trial (milestone 3) included tracking crates and pallets. We thus reviewed the plan based on our learnings and feedback from industry. The decision was taken not to repeat the pallet tracking exercise for loose lettuces, but to look in more detail at specific parts of the supply chain that were potentially different or where we felt more information was needed. This led to Grower Consultation and Visits (Section 2), Rear Store Assessment – The Last 10 Metres (Section 3), Reverse Traceback Activity – Lettuces (Section 4) and a Review of the Findings from the Dairy Traceability Working Group Report to Government (Section 5).

The grower is the point where visible data collection begins and therefore is the starting point for our analysis. Growers collect a substantial amount of data in order to support their business operations. All growers visited commented on their frustration with the need to use multiple systems to collect the various data elements and information sets required in the course of business operations. In order to achieve a robust degree of Traceability regardless of what product is involved, a disciplined and comprehensive data collection and reporting competency at source is critical. In the case of the produce industry the source has to be the grower.

The rear store assessment looked at the difficulties in tracking crates or cartons in the last 10 metres of the journey, and the processes and behaviours of produce department staff in tracking produce movement at this level. The observed store was entirely relying on staff skill, experience, and training, in order to manage its in-store rotational quality issues, on account of the fact that the team considered crate cards and labels to be unreliable. Given that the data supplied with the product plays such an insignificant role within the rear store environment, and as the product is transferred in and out of the store, as well as the unreliability assessment given, it is difficult to assume that any selected or limited traceback could be supported by crate/carton/outers data labels in their current format.

The reverse traceback activity provided an understanding of the Traceability information available to consumers based solely on the packaging and labelling of the product and supermarket receipt. It is also fairly typical of the information available, if there is a need for product Traceability in the event of a food safety incident or product recall. Achieving a timely traceback of products starting with the retailer is a challenge and needs to be improved. Growers have demonstrated that significant Traceability information is available from the work arising during the on-farm production and post—harvest processes. At times the Traceability information available from growers is compromised as the product moves up the supply chain, due to the wholesaler or retailer driven data management systems being insisted upon.

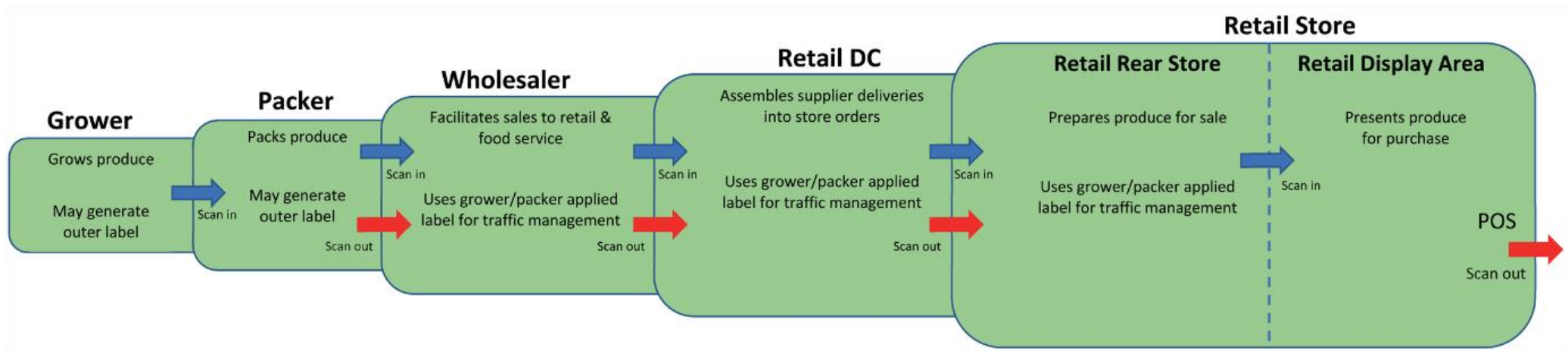
We also identified the need to go back to review the recommendations of the Dairy Traceability Working Group formed to address the recommendations of the December 2013 report of the Government's inquiry into the WPC contamination incident. The critical word describing where the industry needs to head is *interoperability*. The natural question that arises is – how can an industry, and in this case the produce industry, move from many discrete, robust internal Traceability systems, to one equally as robust external Traceability system, with particular reference to the fact that a country with a population of 5 million cannot afford the luxury of too many parallel systems in place?

The project team proposes that the initial step on this journey needs to be a paradigm shift in the way we view our industry, and ourselves as participants within the industry. Naturally, there will be differences of opinion as numerous as there are industry participants. So, looking at the findings of this study, as well as findings related to previous Milestones, here are some of the key issues:

- Growers are having to respond to multiple demands for maintaining records and performing tasks related to several supply chain management / Traceability systems on a daily basis.
- Different parts of the supply chain use different barcode generating standards, which leads to multiple identifiers being used on crates and cartons of produce as they travel through the supply chain.
- Traceability at best currently ends in the rear store of a supermarket produce department, when loose product is removed from its crate, e.g. loose lettuce when they are removed from their crate in order to be trimmed.
- When a food safety event does occur, tracing affected product that may still be in a supply chain is often so difficult that the only solution is to withdraw all potentially affected product from all suppliers at the retail level, as it is not possible to differentiate between suppliers.
- The country had a wakeup call with the far-reaching implications of the Fonterra Whey Protein concentrate contamination, both in terms of the comedy of errors that led to the Botulism scare related to the issue, and the financial consequences for Fonterra and others. MPI as the regulator, is expecting other primary industries to examine the lessons learnt, and address the recommendations that the investigation into the events has generated.

What we can hopefully all agree on is that the Japanese Kaizen principle of the 'need for continuous improvement' based on small ongoing improvements leading to large rewards applies to our industry, and that the industry overall is keen to maintain and grow its 'share of the plate' in consumer households in New Zealand and around the globe. With this in mind, we want to conclude this Milestone Study by introducing a different conceptual diagram that more accurately reflects the need to improve our external Traceability, than the plethora of supply chain diagrams already available in the literature. The working title of this diagram is the 'interoperability spyglass tool'.

The Conceptual Interoperability Spyglass Tool



The Interoperability Spyglass Tool

The core function of all produce supply chain participants is getting produce from the grower to the consumer. Any non-core requirements, regardless of how critical they are, are ideally performed by an automated process. Given we live in a time of rapid technological advancement, achieving degrees of automation should not present a problem. The project team therefore puts forward for consultation the following concept that:

- The produce industry moves to a spyglass format view of the produce supply chain, as the spyglass diagram more accurately reflects the connectivity between the various value adding produce supply chain components.
- The focus of improving supply chain performance shifts from the activities carried out within each supply chain element or spyglass section, onto the line where the spyglass elements join and interact.
- The data that is shared in the process of moving produce through the supply chain is captured electronically, via handheld scanners as the produce moves from the grower bookend to the retail equivalent.
- An additional virtual separating line is drawn between the retail rear store and the retail display area, with produce being scanned across the line at crate/carton level.

Clearly, not all produce travels from a grower's property to a retail store via packers, wholesalers, and retail DCs. In some instances, growers supply directly to store; some packers grow and some growers pack. Wholesalers are not a feature in every produce supply chain, and not every retailer operates their own DC. But as long as a common data standard is employed, the length of the spyglass and the number of components utilised to move the produce is not relevant. Naturally, individual supply chain elements will need to ensure that their internal Traceability activities are compatible with the overarching external Traceability requirements. By moving to one data standard across the entire supply chain, and therefore achieving interoperability, the question on how individual supply chain components are meeting their Traceability requirements within the regulatory and standards driven constraints becomes less of an issue.

The project team would like industry to consider this conceptual proposal to be a contribution arising from this project towards the debate on how we can achieve increased external Traceability and interoperability. It is the intent to publish this study as an industry paper, and widely consult within the framework agreed upon within this Sustainable Food and Fibres Future project. The final model settled upon may well differ from this conceptual model, but as an industry we need to start somewhere in taking responsibility for operating to one common underpinning data standard, as failure to do so will limit growth opportunities for the industry at large in the years to come.

In light of our learnings and feedback from industry to date, we have concluded the need to provide more information to industry is urgent. As a result, we have decided to bring forward the development of a draft industry guideline.

Concluding Comment

“Effective and efficient **Traceability** can only be based on a high degree of **Interoperability** between supply chain partners, which is fast becoming a baseline necessity to achieve the **Rapid Reactivity** increasingly expected by regulatory authorities.” *(Dr Hans Maurer, Chair, United Fresh Technical Advisory Group)*

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We also need to thank the members of our informal focus group who helped us placing the learnings generated through the observational rear store visit into a wider produce retail context.