Better Business Management

TRACEABILITY MANUAL

Why is traceability so important to our industry?

As consumers demonstrate increased interest in the quality and provenance of their food, many industries are examining their traceability systems to understand how robust and reliable these protocols are.

The egg industry is no different. Consumer expectations and the risks associated with untraced disease outbreaks are combining to reinforce the importance of widespread adoption of traceability systems on egg farms across the country.

Ultimately, traceability is important because it protects the long-term viability and profitability of our industry. Whilst it keeps us accountable, it also protects us and provides egg farmers and their employees with the peace of mind that each egg is traceable, meaning any safety or quality issues can be identified and rectified swiftly.

Having trust in our industry-wide traceability protocols means we can bring clarity to the paths our eggs take and enables egg farmers to prove authenticity of eggs. It also adds strength to the overall value proposition of individual egg farms and of the industry as a whole.

Traceability is simple – it refers to having the mechanisms in place to follow the movement of eggs from lay, through to grading and in distribution. Much of this is already happening with current minimum requirements surrounding egg stamping (under *'Australia New Zealand Food Standards Code – Standard 4.2.5 – Primary Production and Procession Standard for Eggs and Egg Product'*), but it's imperative that the industry continues to evolve its traceability methods to a level of sophistication that matches the expectations of customers and consumers in light of the technology that is available today.

Australian Eggs understands that for many egg farmers, particularly those operating much smaller enterprises, the thought of establishing an on-farm traceability system may feel daunting, costly and complicated.

That's why, in consultation with a group of egg farmers from across the country Australian Eggs has developed a unique tool for the egg industry which enables every single egg farmer around the country to adopt a professional traceability system.

To support the tool a range of resources, guides and fact sheets have also been developed to support egg farmers on their traceability journey.

It is important that extension and adoption of traceability is egg industry-led and voluntary. To support this, we are working with egg farmers who run different types of operations, from smaller through to large scale. With their input, we are designing tools and resources that integrate newly available technology and learnings from other industries into modern egg farming.

This manual outlines the steps that all egg farmers can take to ensure their eggs are traceable. It covers techniques to bolster traceability in receivables, shed, grading, warehouse and in the office.

This manual is just the beginning of a longer-term focus for the industry on providing egg farmers of all sizes with the information, tools and guidance to invest in their own traceability systems.

Ultimately, a safe egg world means that sustainability and safety go hand in hand and Australian Eggs looks forward to working with you on this journey.

Rowan McMonnies
MANAGING DIRECTOR, AUSTRALIAN EGGS

Contents

1

What is traceability?

A traceability system is a series of simple steps which are integrated into existing processes to provide evidence of the path of produce through a supply chain, through disciplined data capture and record keeping.

For the egg industry, being able to trace the path of an egg from lay to sale to consumption ensures the sustainability and profitability of our sector.

What are the benefits of traceability?

ASSET PROTECTION
Flock health issues can be traced to specific production areas or sheds which could reduce the impact if culling is required.

BRAND PROTECTION
Sources of illness can be rapidly identified, you can rule your farm out quicker or instigate an effective recall quicker.

LICENSE TO OPERATE
Demonstrating responsible traceability processes encourages confidence in the industry.

What does traceability mean for the egg industry?

Egg farmers should adopt their own on-farm traceability system that suits their business. Whilst the components of this system may differ from farm to farm, the outcome is the same – the pathways of eggs within Australian egg farms becomes clear and traceable.

✓ **Simple** – On-farm traceability does not require an overhaul of current processes

✓ **Time-saving** – A disciplined traceability system will save time in the long run when records need to be consulted

✓ **In-house** –Traceability is about maintaining your own records, not sharing them with other third parties

✓ **Flexible** – No two farms are the same and farms can design a traceability system that suits them

✓ **Inexpensive** – Traceability should not incur significant costs to a business

2

Traceability tools

2.1 Paper-based data capture

A legacy method for collecting data. Barriers to adoption are close to zero and this method may be suitable for very small businesses.

Pros: Simple and potentially easy to use.

Cons: This method is prone to human error in the recording and reading of data. There are also risks associated with the physical storage of files.

2.2 Simple spreadsheets

Typically refers to the input of traceability data in simple spreadsheets (e.g. Microsoft Excel) following initial recording of data via manual process.

Pros: Digital records are less likely to be degraded or destroyed, particularly if backed up to the cloud.

Cons: This method is prone to human error due to the 'double handling' of data. Generates a lot of data, but further analysis is needed to make meaningful.

2.3 Technology-assisted data capture

Data collection apps are simple, easy-to-use technologies that enable users to build a custom system for the collection of data from anywhere including in the shed, grading floor or office.

Pros: Data is immediately logged in a database reducing the potential for human error at data entry.

This software is typically inexpensive, simple, and easy to set-up. Many systems can also provide additional business information like productivity reports.

Cons: This method does not completely remove the risk of human error at data collection points. Users are bound to operate within the parameters set by the app or form, which can mean there are limitations in terms of flexibility to adapt these to a user's specific or unique needs.

2.4 Track and trace technology

Track and trace tools can utilise elements such as barcodes, labels, QR Codes and RFID tags that are physically applied to the product or packaging.

Most medium-large egg farms will use a barcode or labelling system to provide data throughout egg pathways.

Pros: Digital elements drastically reduce the risks associated with human data entry.

Cons: These systems may not be compatible with the technology available to small egg farms.

2.5 Distributed ledgers (blockchain)

Distributed ledgers are synchronised databases that are stored simultaneously on thousands of computers at any given time. Blockchain technology allows ownership or data regarding a product, such as product origin, batch numbers, factory and processing data, expiration dates and transport details, to be recorded through secure, distributed ledgers.

Pros: With this technology, the data gathering process for product recalls could theoretically be sped up from hours or days, to mere seconds.

Cons: One drawback is that blockchain requires all parties in the supply chain to utilise the one system.

Traceability tools *cont.*

2.6 Summary

Typically refers to the input of traceability data in simple spreadsheets (e.g. Microsoft Excel) following initial recording of data via manual process.

	Pen and paper	Simple spreadsheets	Technology assisted data capture	Track and trace technology	Distributed ledgers
Cost	LOW	LOW	LOW	MEDIUM	MEDIUM
Ease of adoption	EASY	EASY	EASY	MEDIUM	HIGH
Risk of human error	HIGH	HIGH	MEDIUM	LOW	LOW
Risk of data loss	HIGH	LOW	LOW	LOW	ZERO

Launching EggTrace

In collaboration with some of Australia's leaders in technology-led traceability, Australian Eggs has launched EggTrace, a browser based traceability tool that enables egg producers to track their eggs all with the touch of a few buttons.

See Section 3 of this manual for an overview of the tool and how you can implement it on farm.

3. EggTrace – the Australian Egg Industry's own traceability tool

3.1 Overview

EggTrace is a new tool which has been developed by Australian Eggs which enable all egg farmers to implement a professional traceability system.

The tool enables egg producers to track eggs from point of lay, through to despatch with a few clicks of a button on any device.

The tool is browser-based and can be used across most mobile devices, laptops and PCs.

3.2 Getting started with the tool

Access the EggTrace tool for the Australian Eggs Traceability Hub (www.australianeggs. org.au/for-farmers/traceability). The browser-based tool is compatible with most devices. It's also cloud based, meaning no complicated download or set-up is required.

3.3 How to use EggTrace

How to log an egg collection

The first important data collection point is logging egg collections from the shed.

This involves the following:

- Captures when eggs were collected, in which shed and who was responsible
- Captures wastage
- Captures other environmental information along with feed and water use
- Calculates total egg number from eggs collected along with floor egg count

The storage location for the collected eggs needs to be logged. This might be in the shed or elsewhere – for example in the cold store.

The notes section can be used to add any additional information that may be of use.

3. **EggTrace** – the Australian Egg Industry's own traceability tool *cont.*

Understanding Collection History

The collection history page shows the history of all collections.

This can be viewed through a number of graphs along with detailed information in tabular form.

The user can choose the period they want to see information for.

The graphs show historic information for

- Shed performance (number of eggs)

- Water intake
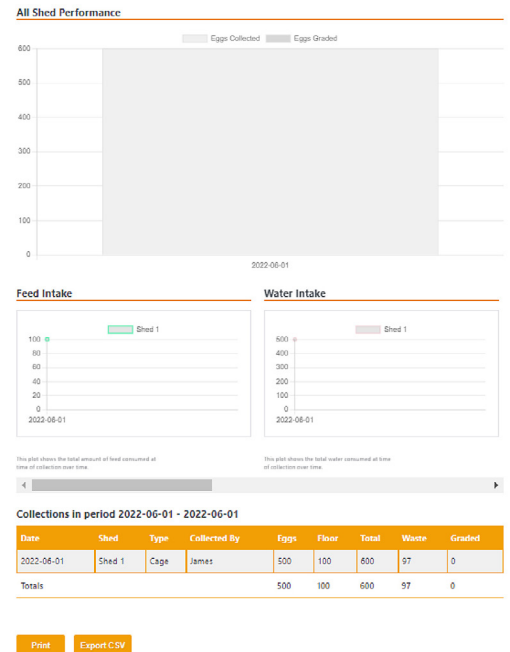
- Food intake

- Shed temperature

- Deceased birds

HINT: The data selected can also be printed or downloaded as a csv for use in excel. This information can then be used to identify the variables that may have affected eggs collected on any given day.

Grading your eggs

The tool enables you to capture grading sessions.

At grading the following data is important to capture:

- Julian date

- The date and time of the grading session

- The person responsible for the grading session

- Which eggs (brought in or collected previously) are being graded

3. EggTrace – the Australian Egg Industry's own traceability tool *cont.*

The eggs that have been recorded in a previous collection session will automatically populate the grading session. Users can choose the amount of these eggs which are being graded. The remainder is retained and will be kept in the tool for a later grading or transfer log.

Eggs packed represents the final graded eggs. The brand, quantity and grade of the eggs can be captured.

To achieve mass balance the incoming eggs and the graded eggs quantities MUST be equal with the balance equalling 0. If the incoming/packed eggs balance is not 0 the session cannot be completed.

Grading records are available in the 'Grading History" section.

Transferring eggs

This page allows the user to record the transfer of eggs around and between properties.

This is a critical component of the tool, as it ensures that the path of eggs through the business is accurately recorded.

The user can record:

- The transfer date

- The person responsible for the transfer

- The type (on farm, between farms etc)

- Source

- Destination

- And if required, the pallet ID

- The user can also add rows of information about the product being transferred

The transfer history page allows for users to review all previous transfers.

Transfer

Enter the details of the transfer below.

Date (required)
Enter the date and time that the transfer was made.

01/06/2022

Operator (required)
Who is responsible for the transfer?

n/a

Transfer type (required)
What kind of transfer is this. Choose from the options below.

On Farm

Transfer From (required)
Enter the transfer point of origin, e.g. Shed, Cold Store, Grading Floor etc.

n/a

Transfer To (required)
Enter the transfer destination, e.g. Shed, Cold Store, Grading Floor etc.

n/a

Pallet Identifier (required)
Enter the identifier for the pallet if applicable

n/a

Shed (required)	Type/Size (required)	ESA-Compliant (required)	Quantity (required)	Unit (required)
Shed	AAA	Yes	0	Eggs

Add row

Total: 0

3. EggTrace – the Australian Egg Industry's own traceability tool *cont.*

Sales

This page is used to capture sales, enabling you to identify where collected and graded eggs headed to once off your farm

This is the final component of on-farm traceability, enabling you to trace eggs from collection through to sale or despatch.

The user can capture:

- The date of the sale

- The customer

- The PO number

- Invoice number

- Invoice value

- Line items of the sale - these are added row by row using the add button

As with the other pages additional information can be captured as needed.

Sale

Enter the details of the transaction below.

Date (required)
Enter the date the sale was made.

```
01/06/2022
```

Customer (required)
Enter the details of the customer

```
n/a
```

PO number
Enter the PO number for the sale if you have one

```
n/a
```

Invoice number (required)
Enter the invoice number for the sale

```
n/a
```

Invoice value
Enter the value of the sale

```
$ 0.00
```
(inc GST)

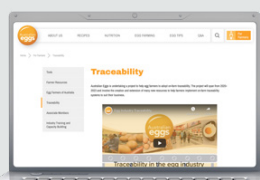| **Brand** (required)	**Type/Size** (required)	**Quantity** (required)	**Unit** (required)
n/a	AAA	0	Eggs

Add row

Total: 0

3

EggTrace

How to trace your eggs

1

View key traceability concepts in the new **Traceability Hub** on the **Australian Eggs** website

2
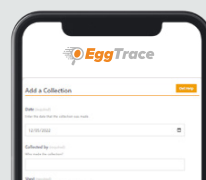
Download **EggTrace** from the **Traceability Hub** (compatible with most devices and operating systems)

3
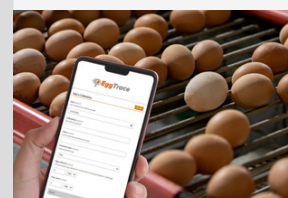
Test **EggTrace** – walk through your processes from lay to despatch

4

Identify which staff members will use **EggTrace** and bring them along the journey

5

Incorporate **EggTrace** in your processes

6
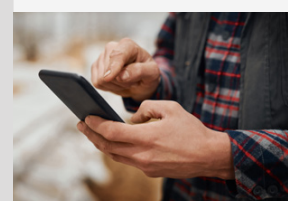
Review and **refine** your processes so that they work for your farm

To start your traceability journey head to the new **Traceability Hub** on the **Australian Eggs** Website at **www.australianeggs.org.au/for-farmers/traceability** or simply scan the QR Code.

Australian eggs

Traceability principles

4.1 Overview

A traceability system is a series of simple data capture and record keeping steps which are integrated into existing processes to provide evidence of the path of product through the supply chain.

For the egg industry, being able to trace the path of an egg from lay to sale to despatch ensures the sustainability and profitability of our industry.

Most egg businesses will already have some or all of these steps in place. A traceability system brings the essential data and records together to provide a clear picture of egg movements.

This manual outlines the principles and core components of traceability, what data needs to be captured and when, and provides egg farmers with guidance on how to implement a simple and effective traceability system as part of normal business operations.

It should be noted that certain levels of traceability are already required under the Food Standards Codes and Egg Stamping Guide (August 2018, Australian Eggs). These regulations are not the focus of this manual and egg farmers should visit https://www.foodstandards.gov.au/ for more information on legal requirements for stamping and labelling.

The Australian egg industry's own software tool, EggTrace is the simplest way to ensure that key traceability processes are being followed and that all elements are considered.

However, if you are unable to use EggTrace, it's important to understand key traceability concepts.

4.2 What does a traceability system need to show?

On-farm traceability means tracking every egg movement on a farm.
This can be broken down into five routine events:

- **From the shed:** The collection of eggs

- **Within the farm:** The movement of eggs from the shed to a store room/cool room, grading/packing floor etc.

- **Grading/packing floor receivals**: The receival of eggs from sheds or another supplier

- **Egg despatch:** Movement of eggs from the sheds, store room/cool room, grading/packing floor to another site

- **Farm gate sales:** the movement of eggs directly to consumers from the farm, or at a 'farmers' market'.

Traceability principles *cont.*

These movements of eggs are the data collection points in an effective traceability system – see the diagram below.

TRACEABILITY DATA COLLECTION POINTS   ✓ = traceability data collection point

SHED → GRADING FLOOR → DISPATCH
ANOTHER EGG FARM   WHOLESALER   CUSTOMER
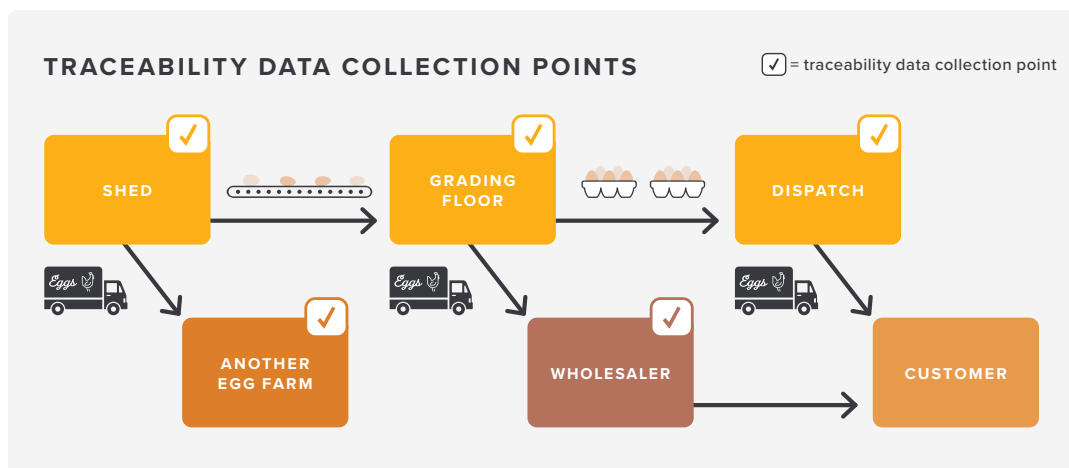
4.3 Traceability principles

For on-farm traceability to be effective, the following principles are critical:

- **Comprehensive:** The traceability system must capture core traceability data at every functional routine event (see 4.2) on an egg farm (e.g. lay, grade, pack and despatch). To do so, it must be capable of capturing routine as well as unusual egg movements.

- **Flexible:** The traceability system must be capable of being modified or scaled up or down as the business changes or grows.

- **Efficient:** The traceability system must involve minimum labour and record keeping to be practical and cost-efficient.

- **Accessible:** The traceability data must be easily accessible so that queries or incidents can be investigated and responded to as soon as they arise.

- **Robust:** Data should be accurate and robust. Robust data means that information is recorded in a reliable and systematic way that can be confirmed against other records.

5

Traceability components

5.1 Overview

Traceability is the simple capture of data at each routine egg movement:

- **What** is product being moved (individual eggs, carton, box, pallet etc.) including its identifying descriptors (free range/organic/caged/barn laid, from what location on what farm)?

- **Where** did their movements or events take place (shed, grading floor)?

- **When** did the movement or event occur?

- **Who** are the parties involved?

For example, the data captured when three pallets of eggs arrived on the grading floor could be:

- **What:** 3 pallets of free-range eggs from 'Farm A', 'Shed 1'

- **Where:** 'Grading floor B', 'Home Farm'

- **When:** 11am on 16 June 2022

- **Who:** Joe Bloggs, truck licence plate number GHT-000

This approach is explained in further detail in Section 6, which outlines the scope of information that needs to be captured for an effective traceability system.

5.2 Product identification

The core purpose of traceability is the ability to identify the origin (farm, shed, time) of a product that's left the business.

In most circumstances, the product is the egg, but it could also refer to egg products such as liquid or powdered egg.

For all products despatched from the farm, a unique identifier is required so that a meaningful link can be created between the product and farm traceability records.

Egg products should be identified at a level that is commercially relevant and integrates with the way products are identified in the business more broadly.

As eggs are typically traded in units like cartons, catering trays, boxes or pallets, an egg business' traceability system needs to be able to tie all other traceability data to that unit's identifier.

The identifier may contain the following data:

- Production type (individual eggs)

- Best before date (batches of eggs)

- Bar codes (for cartons of eggs)

5.3 Time and time cycles

For traceability data to be meaningful, the data needs to be recorded on a routine basis.

At almost all farms, eggs will be collected daily, so where possible traceability data should also be recorded daily. This ensures that records are up-to-date and immediately accessible.

Data should either be immediately logged into your traceability system, or at regular intervals (ideally daily), though this may depend on existing business systems.

If records are generally kept daily there will be greater efficiency in using this approach to traceability records. For example, many egg farms use a Julian calendar which counts each day of the year from 1 to 365/6.

6

Implementing traceability on your farm

6.1 Core egg traceability data

The following records are required for an effective egg business traceability system and should be included, as applicable to your business:

- **Shed Collection Record:**
  - Shed number/code
  - Flock size (and any bird losses)
  - Production method
  - Collection date
  - Quantity
  - Person responsible

> **Note:** In addition to this data, EggTrace can also help you record production variables such as water intake and temperature for each collection session

- **On-farm Movement Record:**
  - Origin and destination
  - Units and quantity
  - Person responsible for collection

- **Grading floor – Receival Record**:
  - Delivery vehicle identifier (if applicable)
  - Details of eggs received (quantity, production method, lay date and shed number OR supplier number)
  - Date of grading
  - Time of grading
  - Person responsible for receiving

- **Transfers**:
  - Origin and destination
  - Units and quantity
  - Person responsible

- **Despatch Record:**
  - Batch/ pallet numbers or product identifiers
  - Product details: origin, production type, brand, size, grade, best before date
  - Date and time of grading
  - Destination
  - Despatch vehicle identifier (if applicable)
  - Person responsible for despatch

- **Farm gate Sales**:
  - Products and quantity sold, identifiers as relevant
  - Customer (if applicable)
  - Salesperson

Collectively, these records will show the path eggs take through the business. This can enhance business management because you can retrieve key business information such as how many eggs are moving through the farm, where they are going and when these events take place.

6

Implementing traceability on your farm *cont.*

With this minimum data capture in place, egg farmers should be able to identify the following for every unit that leaves the farm:

- When and in which shed the egg was originally laid

- The production type

- When and where it was graded

- The next and/or final destination of the units

6.2 Sources of data

It's likely that much of the core traceability data will already be collected for other business processes, but for others, additional processes may be required.

In an egg business, egg movements happen in several places (e.g. in the laying shed, packing room, grading floor) and depending on the environment and processes in each location, records may be captured differently at each location. For example, it may be possible to capture records on a digital device in the packing room but not in the laying shed.

For effective traceability, it is critical that information captured in different ways can be brought together to demonstrate the path that an egg product takes through the business.

6.3 Existing systems

In implementing a traceability system, egg farming businesses should consider utilising any existing records as part of:

- Production management systems

- Quality assurance systems

- Compliance systems

- Transport and logistics systems

- Customer management systems

- Business management systems

The most efficient traceability system will be one that:

- Enables interaction between each source of data within the business, so that sources of data can be shared rather than duplicated in developing an effective traceability procedure.

- Uses a common approach to capturing individual records across the business. This will ensure that the traceability system complements other business systems and can be used as an additional business management tool.

7

Getting started

Step 1

Consider how the core traceability information required relates to your farm.

Step 2

Identify the products that are moving across the farm and the appropriate level and units to identify them (e.g. ungraded pallets or free range 700g cartons).

Step 3

Identify the unique identifier the business will use for product units despatched from the farm (e.g. batch number)

Step 4

Identify the units for each part of the farm from production origin (e.g. sheds) to despatch (e.g. product sales).

Step 5

Identify a common time cycle in which records will be kept (e.g. daily).

Step 6

Determine where and how records will be kept (e.g. on-farm computer system with cloud-based storage).

Step 7

Integrate record keeping into existing processes through staff training, updating of operating procedures and roll-out of any associated technology.

Step 8

Develop processes to test your record keeping systems to ensure they are reliable (e.g. mass balance or mock recall exercise).

8

Case Study – Traceability is your insurance policy

Josh's Rainbow Eggs is one of Victoria's most well known and loved egg brands. The company was founded by Josh Murray at just nine years old with a flock of 40 hens. Fast forward twelve years later, the free range egg producer has 10 sheds, tens of thousands of hens and sells to over 80 Coles and Woolworths stores in Melbourne and throughout Victoria.

Dr Tamsyn Murray is Josh's mum and today is the CEO of Josh's Rainbow Eggs. According to Tamsyn, one of the key elements to the success of the business is trust – and that trust has been powered, in part, by traceability.

"Traceability is about tracking the path of an egg through your business," said Tamsyn.

"It comes down to each individual egg, I need to know exactly where each egg cracked and eaten came from.

"I want to know what flock and in which shed it was laid, and I need to know on what date. I want to know who collected it and who candled it and I want to know where it travelled before it reached its final destination.

"Designing and maintaining a traceability system is the only way we can do that."

In the egg business you need to be sure of at least two things – that your eggs are safe and that they are good quality. According to Tamsyn, it's the role of traceability to give you that peace of mind in the safety and quality of your eggs.

"Traceability is my insurance policy for egg quality and biosecurity.

"When things go wrong we can turn to our traceability procedures to immediately locate the problem, understand what caused the issues and make rapid amends.

Traceability at Josh's Rainbow Eggs exists in three key components. The first step takes place at the shed, where the eggs are laid.

Each worker has access to a mobile app, and when eggs are collected they are digitally recorded along with details of the flock, date and time.

The next step takes place on the grading floor. Eggs received from the sheds are sorted, and forms are filled out and logged which can be reconciled against the data recorded in the app. As they are graded each individual egg is stamped and timecoded. The cartons are stamped with an identifier as well, to ensure that eggs can be traced even if the eggshells have been discarded.

8

Case Study – Traceability is your insurance policy *cont.*

The final step in traceability takes place when the eggs are distributed by the sales and merchandising team, to ensure that egg can be tracked all the way through to point of sale.

Tamsyn says there is nothing complicated about her traceability system and that is by design.

"If traceability is complex, hard or time-consuming it won't work."

"It must be simple at the data entry step. If it's difficult it might not be done correctly and there is no wiggle room to onboard new staff slowly. It must be able to be achievable for anyone at anytime," she said.

"Simplicity must also exist at the data retrieval side, there's no use having data recorded but it living in messy, unorganised files and folders. Recalls need to happen quick."

Egg producers looking to build a simple traceability system should look no further than simple technology-assisted data collection apps like EggTrace, a tool developed by Australian Eggs to support industry traceability. This tool will soon be made available to the entire egg industry and all egg producers, especially those who aren't currently implementing traceability are encouraged to use it.

Because for Tamsyn, traceability helps her sleep at night. As an egg producer she has a responsibility to deliver good quality safe eggs and with traceability she knows that's exactly what Josh's Rainbow Eggs does.