

# Native Seed Traceability

> Project Outline - June 2022



# Agenda



1. Traceability
  - Overview
  - Trends
  - Seed trends
2. Native Seed Traceability Project
  - Background
  - Framework
  - Pilot
3. Value Proposition
4. Feedback + Q and A

# Traceability - Overview

- Full journey of a product or service
- Series of “critical tracking events”
  - ◆ “Recordable” and/or “requested”
  - ◆ Reflect a touch point along the supply chain
- Create a higher level of integrity+data sharing+transparency between supply chain partners
- Catalyse digital adoption, enhance QA, reduce biosecurity risk, grow brand and industry reputation, and promote “better” behaviour

# Seed Journey

## Seed Merchant

### Seed Harvest



#### Data Points:

- Certified seed collector
- Location
- Date
- Species
- Photo
- Batch unique # created
- Processing

### Seed Batching Lab Testing



#### Data Points:

- Seed batch unique # recorded
- Storage and processing
- Batch sent to the lab
- Lab testing
- Germ + Purity certificate
- Blended batch details
- All dates and locations

### Germ/Pure Cert Blending

### Landscaper



#### Data Points:

- Batch data
- Dates and locations
- All previous data points
- Supplied to customer
- Unique batch# identifier

### End User



#### Data Points:

- Batch data
- Dates and locations
- All previous data points
- "Planted at" location
- Unique batch# identifier
- Outcome / monitoring



# Traceability - Trends

- Pillar of “sustainability” claims
- Standards being developed by DAWE and industry
- Data ownership and permissioning protocols
- Potential future requirements in tenders / supply agreements
- Other macro trends where traceability is being drawn in:
  - ◆ Carbon Neutrality / carbon measurement - product /  
*Scope 3* emission / carbon “insetting”
  - ◆ Modern Slavery Act compliance
  - ◆ Circular Economy / Life cycle
  - ◆ .....“Chain of responsibility” ..... for everything



## Traceability - Trends - Native Seed

- Social license > full and easy transparency of provenance sourcing (especially for mining)
- Biosecurity for back-tracing + for export
- Sourcing provenance for specie specifics
- Compliance and reporting “package” for the customer
- Opportunity to lift the professionalism of the industry



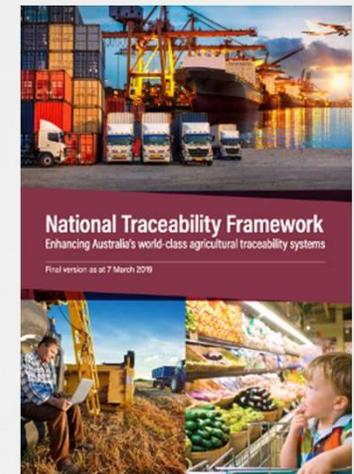
# Native Seed Traceability - Background

- 2020: ASA recognised native seed industry reputational problem/lack of trust in supply chain
- 2021: ASA successful receiving DAWE grant to develop seed traceability platform and framework pilot study including industry stakeholders Austrahort, QMTR, Transport NSW and IT provider Trust Provenance
- 2022: digital native seed traceability platform is able to be demonstrated
- The platform (via blockchain) allows supply chain stakeholders to view critical tracking events (CTE) from harvest to application
- Being a secure system, supply chain participants can have trust in the product through open transparency



# Seed Traceability Framework

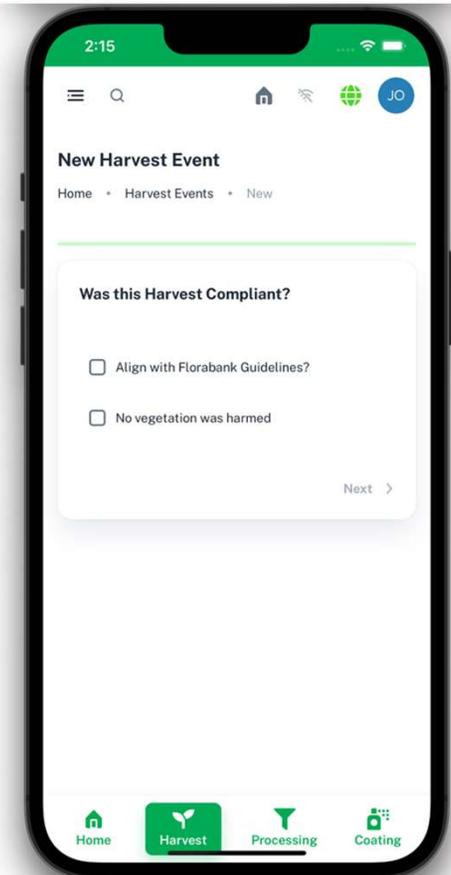
- Create a Native Seed industry specific document
  - ◆ Explain what traceability is
  - ◆ Why traceability is needed
  - ◆ Data standards
  - ◆ Seed supply chain journey
  - ◆ “Actions” to start
  - ◆ Recommendations for industry adoption
- Leverage DAWE and other documents
- Currently in draft form and ready for industry engagement and feedback



## Traceability Platform: Objectives

- Easy-to-use: *Plug-and-play*
- Low-cost: Targeting \$50 to \$100 p/month p/user
- Scalable: Hands-off onboarding
- Consistent terminology, non-proprietary and open data standards driven: GS1
- “Open” technology stack: IOS, Android, cloud based
- “Permissionable”
  - ◆ Restrict data sharing with necessary supply chain partners
- Cross-supply-chain adaptability/ interoperability

# PLATFORM DEMO



# Value Proposition - COLLECTOR



- Recording seed collection/harvest data on a secure platform and making that information available to buyers
- Making secure and transparent seed collection/harvest data to buyers/sellers enables those parties to trust the product and therefore justify product value
- Collection data (intellectual property) can be stored securely on the platform for future use by the collector (date, location and conditions of collection)

# Value Proposition - MERCHANT



- Accessing collection/harvest data enables the merchant to trust the product and therefore justify value when purchasing from a collector.
- Recording processing and storage data on a secure platform and making that information available to an end user buyer enhances product value.
- Having collection, processing and storage information available to an end user buyer ensures the merchant is able to participate in projects that require that information.

# Value Proposition - END USER



- Open access to secure supply chain activity data enables the end user to trust the product and justify value
- Having access to secure collection and seed treatment data enables end users to manage bio-security risk
- Open access to supply chain data enables end users to ensure the seed supports ecosystem rehabilitation objectives ie species provenance is aligned to site characteristics
- Supply chain activity data can be utilised in project/company quality systems and regulatory reporting
- Supply chain data can be efficiently communicated within large organisations for management reporting/decision making
- Seed supply chain data can be matched with other information/data (ie application data) to improve decision making or create efficiency



## Value Proposition - ENTIRE SUPPLY CHAIN

- Improved product trust enabled by the traceability platform will reduce costs associated with current quality systems therefore making the entire supply chain more efficient
- Buyers and project managers will have more information available when making purchase decisions therefore potentially creating efficiency and optimised project outcomes

# Platform - What's coming > Visual Batch Map



**AN** Andrew Grant  
Seed Collector

## PROVENANCE

Batch

## BATCHES

Overview

**Harvest Events**

New

Overview

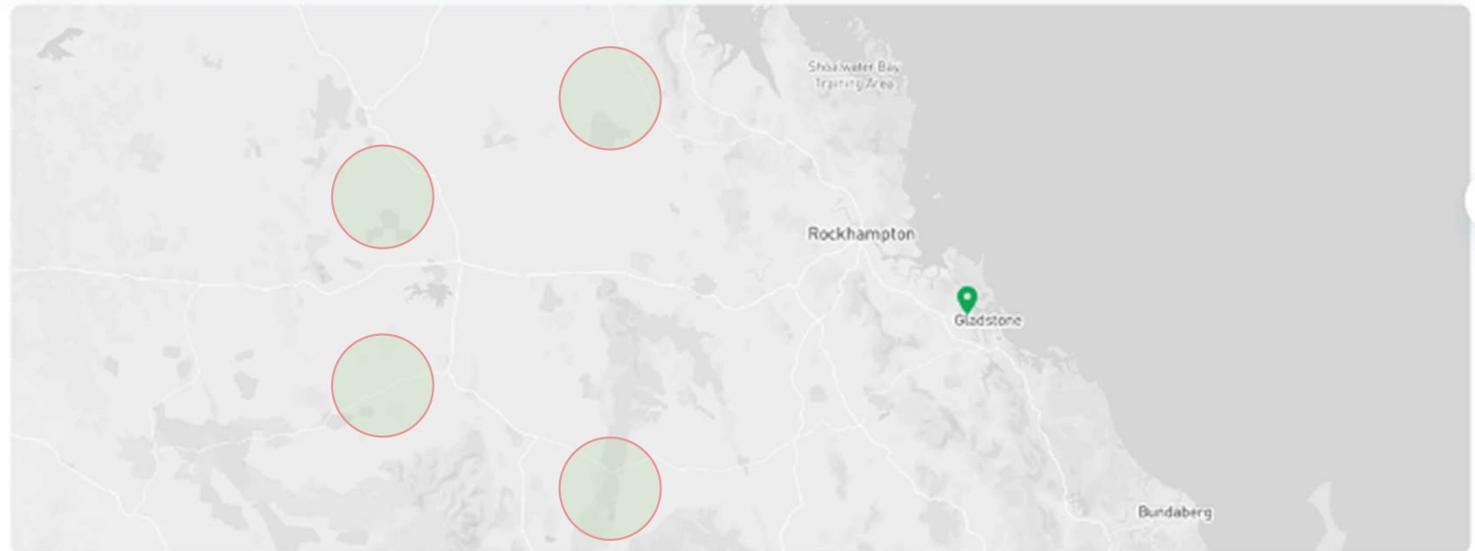
Aggregation

Splitting

Coating



Rows per page: 5 1-5 of 5



# GS1: “The Data Standard”

Series of codes and a well structured taxonomy of labelling and relationship of data points throughout the supply chain, GS1 codes include:

## **GLN:** Global Location Number

*Allocated to a seed collection area; its a physical address; this number like all GS1 numbers are globally unique*

## **LGTIN:** GTIN with a Lot/Batch Number

*Allocated to an lot of a trade item, such as a 10kg bag of Acacia seed*



# GS1: Anatomy of a “Critical-Tracking-Event”

**Who** is involved in this event?

*AustraHort (GLN), Seed Collectors SA (GLN)*

**What** was involved in this event?

*Unique batch ID (LGTIN)*

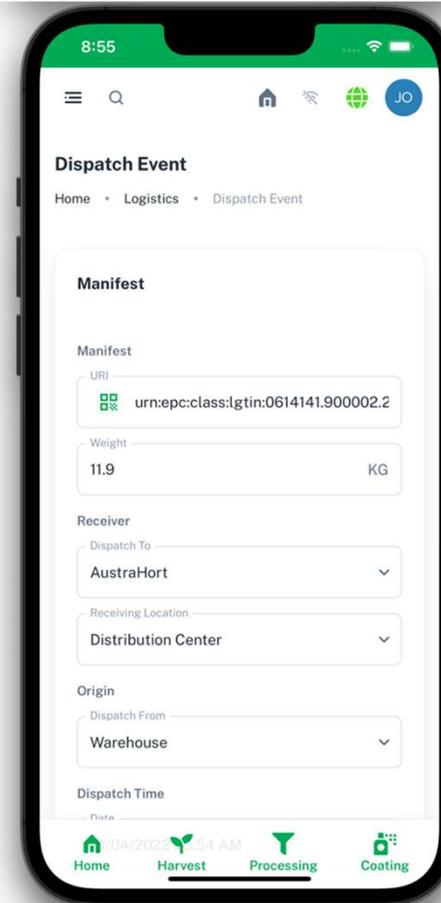
**Where** did this event occur?

*Receival Warehouse (GLN) to Distribution Warehouse (GLN)*

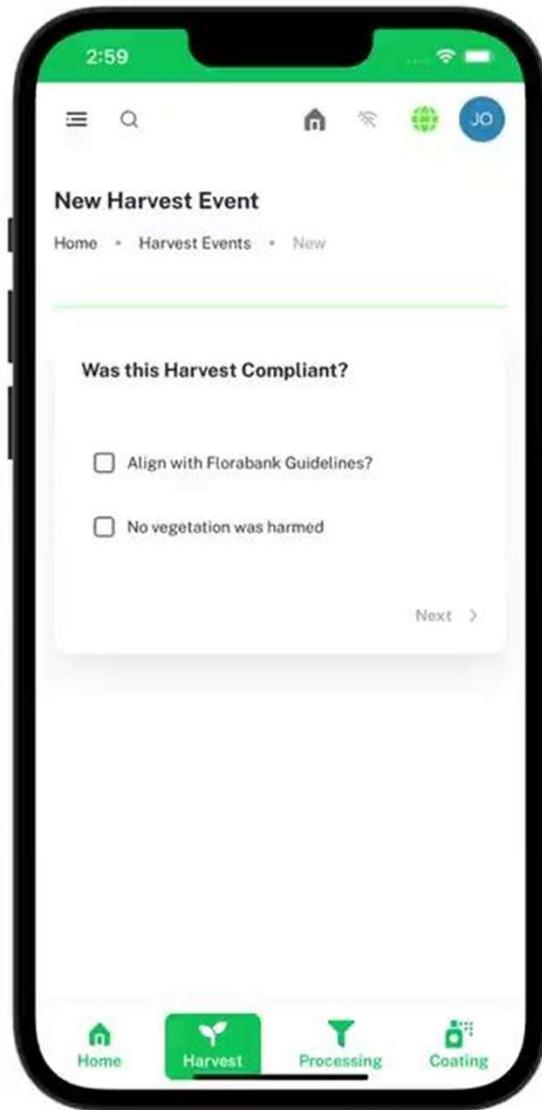
**When** did this event occur?

**Why** did this event happen?

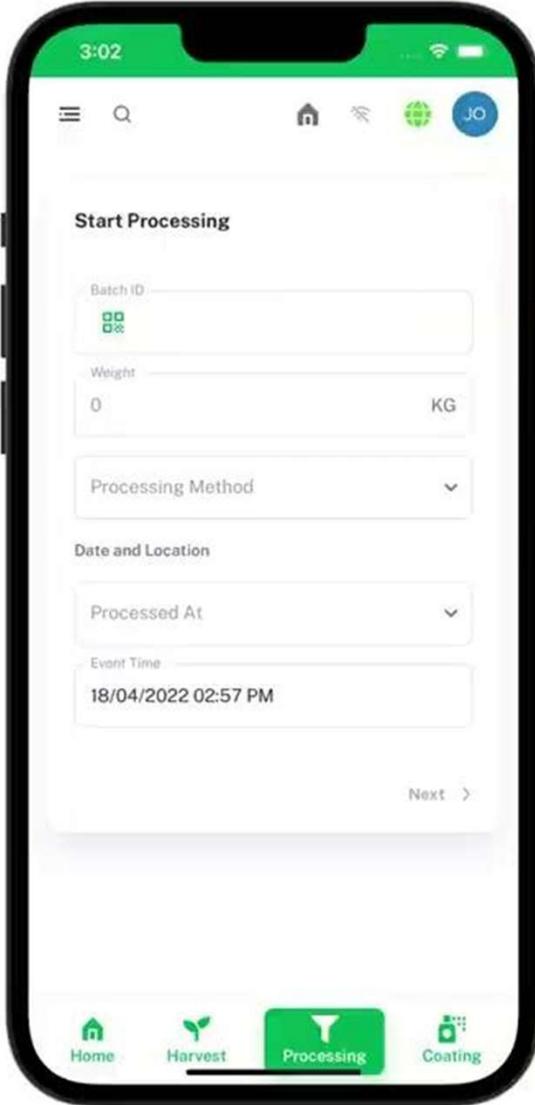
*Dispatching a shipment*



# Harvest Event



# Start Processing

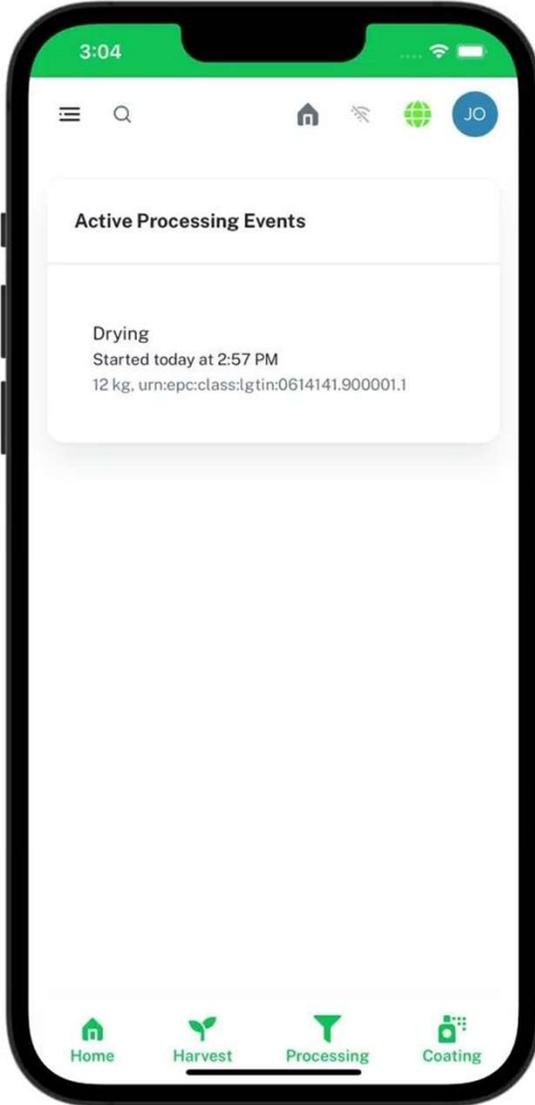


The image shows a smartphone screen displaying the 'Start Processing' app interface. The status bar at the top shows the time 3:02, signal strength, Wi-Fi, and battery icons. The app header includes a menu icon, a search icon, a home icon, a refresh icon, a globe icon, and a user profile icon labeled 'JO'. The main content area is titled 'Start Processing' and contains the following fields:

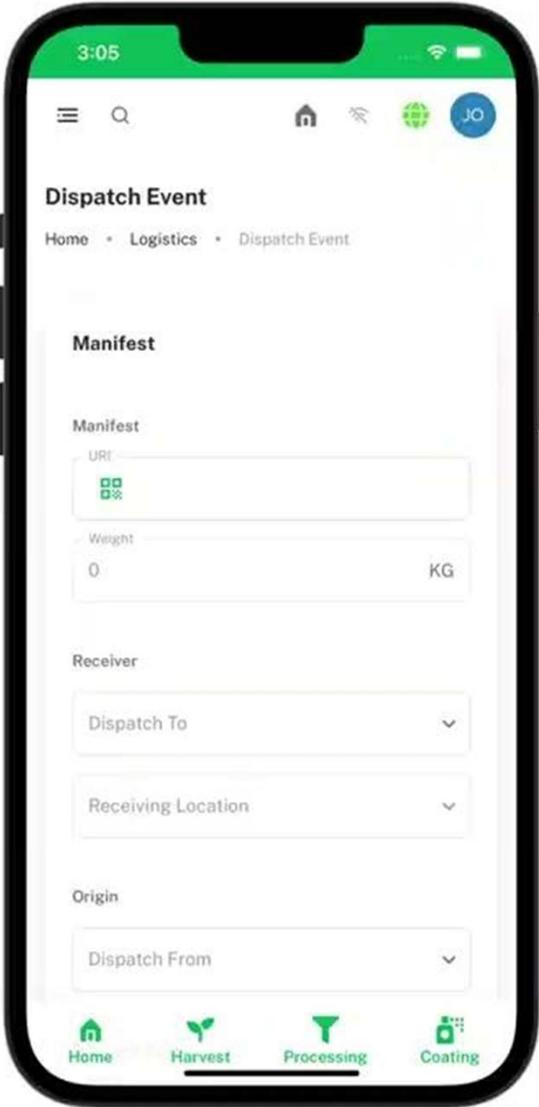
- Batch ID:** A text input field with a QR code icon on the left.
- Weight:** A text input field containing '0' and a unit selector 'KG' on the right.
- Processing Method:** A dropdown menu.
- Date and Location:** A section header.
- Processed At:** A dropdown menu.
- Event Time:** A text input field containing '18/04/2022 02:57 PM'.

A 'Next >' button is located at the bottom right of the form. The bottom navigation bar features four icons: 'Home' (house), 'Harvest' (plant), 'Processing' (funnel, highlighted in green), and 'Coating' (sprayer).

# End Processing



# Dispatching



# Receiving

**Jane Doe**  
Seed Merchant

**PROVENANCE**

- Batch Trace

**BATCHES**

- Overview
- New Batch Aggregation
- New Coating
- Processing

**QUALITY ASSURANCE**

- Overview
- Upload Certificate

**STORAGE**

- New Storage Event

**LOGISTICS**

- Overview
- Dispatch Batch
- Receive Batch**

## Receive Batch

Home • Logistics • Receive Batch

### Receive Shipment

What was received?

URI

Weight  KG

Where did the receive occur?

Received Location

Who did you receive the shipment from?

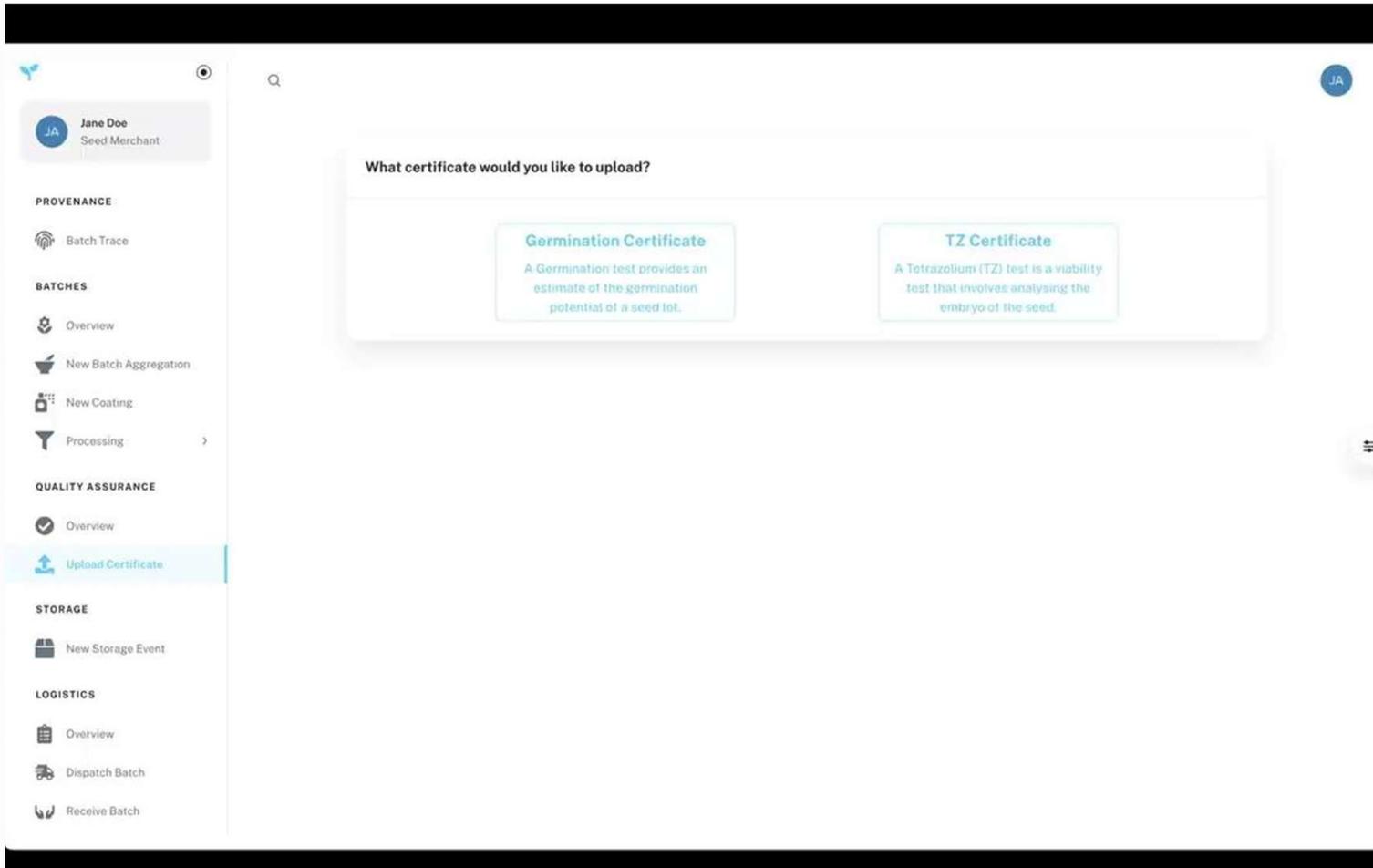
Received from

When did you receive the shipment?

Date

Next >

# Germination Results



The screenshot shows a web application interface for a seed merchant. On the left is a navigation sidebar with the following sections:

- PROVENANCE**
  - Batch Trace
- BATCHES**
  - Overview
  - New Batch Aggregation
  - New Coating
  - Processing
- QUALITY ASSURANCE**
  - Overview
  - Upload Certificate** (highlighted)
- STORAGE**
  - New Storage Event
- LOGISTICS**
  - Overview
  - Dispatch Batch
  - Receive Batch

The main content area displays a prompt: "What certificate would you like to upload?". Below this prompt are two options:

- Germination Certificate**: A Germination test provides an estimate of the germination potential of a seed lot.
- TZ Certificate**: A Tetrazolium (TZ) test is a viability test that involves analysing the embryo of the seed.

The interface includes a user profile for "Jane Doe, Seed Merchant" at the top left, a search icon, and a user avatar "JA" at the top right. A hamburger menu icon is visible on the right side of the main content area.

# Dispatch

JA Jane Doe  
Seed Merchant

**PROVENANCE**

- Batch Trace

**BATCHES**

- Overview
- New Batch Aggregation
- New Coating
- Processing

**QUALITY ASSURANCE**

- Overview
- Upload Certificate

**STORAGE**

- New Storage Event

**LOGISTICS**

- Overview
- Dispatch Batch
- Receive Batch

## Logistics Overview

Home • Logistics

Dispatch Receive

### Logistic Events

Date/Time	Sending/Receiving	Party	Items	
18 Apr 2022 15:29	Receiving	AustraHort	urn:epc:class:lg:tin:0614141.900001.1	<a href="#">View</a>