

CASE STUDY

PRODUCEPAK Q.I.

Deployment over seven fresh produce packing sites



Producepak

Use the app
to take
photos of
the produce

A.I. fills in
the results,
user
approves

Consistent
Q.I. in a
fraction of
the time



Quality

Start Inspection Finish

Asparagus, Punnet from incoming delivery

Date: 06/08/2026 Greenhouse

Notes

Criteria

Blight

Purple spot

Rust

Size conformity

Quality

Start Inspection Finish

Asparagus, Punnet from incoming delivery

336

Pass

Category	Pass	Fail
Criteria	6	0

Notes

←

✓ Tap here to finish inspection

Tap here to
watch a video
of the app in
action.

Learn more about the
Producepak QI solution:
[Intro video](#)
[Specifications](#)

Producepak QI can be
optionally integrated with
Producepak Packhouse
[Intro video](#)
[Specifications](#)

Producepak

Producepak

Publication Date: January 2026
Subject: Artificial Intelligence Quality Inspection and Quality Control Implementation
Client Alias: Exotic Fresh Ltd (Client requested anonymity)

1. Executive Summary

Exotic Fresh Ltd is a leading primary grower, packer of their own produce and produce from other growers, and distributor of fresh produce; operating across seven distinct packhouse locations. The company specialises in about 36 high-care, short-shelf-life crops, including asparagus, baby spinach, leafy herbs (basil and parsley), rocket, baby cos, watercress, kale, sorrel, and spinach.

To resolve operational bottlenecks and subjective quality scoring during intake, Exotic Fresh Ltd deployed **Producepak QI**, a progressive web application driven by a custom computer vision artificial intelligence model. The solution enables packhouse personnel to conduct rapid visual quality assurance tests using standard smartphones.

Key Metric / Parameter	Observed Outcome
Initial Deployment Scope	Single packhouse site (Phase 1)
Full Deployment Scope	All seven fresh produce packhouse locations
Month 1 Inspection Time Reduction	40% reduction in time taken per sample
Month 4 Inspection Time Reduction	70% reduction in time taken per sample
AI Accuracy Milestone (Month 2)	Exceeded human QA consistency and accuracy baseline
Month 6 Override / Correction Rate	Near zero (< 0.1%) employee manual corrections



2. Operational Context & Pre-Deployment Challenges

Managing high-volume intake across seven packhouse facilities presented structural quality control challenges. Prior to deploying Producepak QI, quality inspection was executed using manual paper-based forms and physical visual cross-referencing against printed specifications.

- **Inspection Latency:** Manual testing of incoming deliveries averaged 14.5 minutes per sample lot, creating queueing at unloading bays.
- **Subjective Assessment Variances:** Discrepancies occurred between inspectors across different packhouses, leading to inconsistent grower payment grading and occasional retail rejected loads.
- **Labor Cost Allocation:** Maintaining four full-time QA inspectors per facility across multiple daily shifts represented significant overheads.
- **Delayed Supplier Communication:** Quality reject reporting required manual data entry into the central enterprise system, delaying supplier dispute resolution by up to 24 hours.

3. Technical Solution: Producepak QI

Producepak QI operates as an integrated Progressive Web Application (PWA) within the Producepak suite, backed by a .NET server and MS SQL infrastructure hosted on redundant cloud infrastructure; meaning **no software had to be installed by users on any device.**

3.1 Inspection Workflow

1. **Commodity Selection:** The operator selects the produce type (e.g. Asparagus, Baby Spinach, Basil, Parsley, Rocket, Baby Cos, Watercress, Kale, Sorrel, or Spinach) from the mobile menu.
2. **Image Acquisition:** The employee snaps high-



resolution images of the specimen using the smartphone camera. For asparagus, protocols require capturing images of both sides of the stem to verify circumference, tip integrity, and lateral rust or purple spot.

- 3. **AI Inferencing:** The custom computer vision model evaluates the image array against trained quality parameters (Blight, Purple Spot, Rust, Size Conformity, Insect Damage, Packaging Integrity).
- 4. **Automated Criteria Validation:** The interface displays criterion cards on screen. The AI ticks thumbs-up (Pass) or thumbs-down (Fail) indicators sequentially and rapidly.
- 5. **Human-in-the-Loop Safeguard:** The employee reviews the AI automated selections. If an error is perceived, the employee can manually override the result or select a failure response code.

4. Implementation Timeline & Performance Metrics

4.1 Rollout Strategy

Deployment commenced at a single primary packhouse site to establish baseline data and refine the custom AI model under commercial conditions. Following validation, the system was rolled out across all seven fresh produce packhouse locations.

Timeline Phase	Inspection Duration Reduction	AI Accuracy Level	Operational Status
Month 0 (Pilot)	0% (Baseline: 14.5 min/sample)	81.0%	Single site training & calibration
Month 1	40% reduction (8.7 min/sample)	88.5%	Expansion to 3 sites
Month 2	55% reduction (6.5 min/sample)	93.5% (Surpassed human benchmark)	Full rollout across all 7 packhouses
Month 4	70% reduction (4.35 min/sample)	98.2%	Significant labour cost savings achieved
Month 6	70% reduction (4.35 min/sample)	99.8%	Near ZERO manual employee corrections

5. Benefits & Business Impact

5.1 Labor Cost Savings

Achieving a 70% reduction in inspection duration by Month 4 allowed Exotic Fresh Ltd to reallocate QA personnel to higher-value packline optimization tasks, yielding direct labour savings across all seven facilities.

5.2 Rapid Supplier Rejection Reporting

When an incoming consignment fails AI quality inspection (e.g. purple spot on asparagus or insect damage on baby spinach), real-time notifications with annotated photo evidence are automatically compiled and dispatched to purchasing managers and growers instantly upon completion.

5.3 Cold Chain & Shelf-Life Extension

Reducing intake testing time from 14.5 minutes to under 4.5 minutes minimizes the exposure of temperature-sensitive crops (rocket, watercress, herbs) to ambient receiving bay temperatures. This helps preserve the cool chain and extend shelf life.

5.4 Converting data into actionable information

Using the Quality Dashboard, Producepak's internal Fresh Produce A.I. chatbot "Pak-Bot", and the optional addon Microsoft BI (Business Intelligence) Online allows the Exotic Fresh Ltd team to uncover new trends and correlations between harvest temperature and quality, and provide more useful feedback to growers. For example, the team can now make predictions of quality and quantity before the harvested leafy products arrive at the packhouse. Using historical data analysis the Exotic Fresh Ltd team has been able to score better prices and deals from some suppliers.

5.5 Entire business interconnectivity

The app has connected the quality information with a farming app (allowing better visibility of QC and QI information to the farming teams leading to small improvements in general farming, and harvest decisions and planning), linked the quality inspection information to the inventory information in the ERP.

6. Stakeholder Quotes

"The Producepak QI app transformed our intake process completely. In the past, assessing an asparagus delivery meant taking manual measurements and filling out paper clipboards. Now, our packhouse team takes photos of both sides of the asparagus stem, and the AI ticks off the criteria line by line in seconds. By month four, our testing time dropped near 68%, generating huge savings in labour."

— Quality Assurance Director, Exotic Fresh Ltd

"When we started at site one, staff checked the AI results closely and made occasional overrides. By month two, the AI was demonstrably more accurate than our human inspectors. By month six, employee corrections dropped to near zero. It has standardized quality control across all seven of our fresh produce packhouse locations."

— Operations Manager, Exotic Fresh Ltd