Final Report

AMPC
AUSTRALIAN MEAT PROCESSOR CORPORATION

Traceability - Primal to Steak/Steak to Primal (Stage 2)

Project Code
2021-1160

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1.0 Executive Summary

To develop and demonstrate to AMPC staff (and probably one Australian supply chain) the providers approach to offering a cost-effective and robust primal to steak, and steak to primal,traceability system, within a demonstration facility (i.e. not within an active supply chain).

Methodology

• Develop a primal to cut data interface for integration with existing meat B2B traceability

• Enable protections to allow only the primal to be split into a finite weight determined by the primal

• A system of scanner, scale and printer to transfer trace data from primal to cut providing counterfeit protection, allowing for closed and open supply chains.

Technology Approach

• Use the FreshChain cloud based platform for traceability, provenance, authenticity and meat count reconciliation system based on an individual carton

• Use a blockchain enabled, encrypted, serialised and unique GS1 Digital Link QR code data carrier for traceability and provenance providing in one code, retail scanning at the POS with embedded data and consumer connection using any smartphone.

• Integrate a weight scale systems with our FreshChain cloud based traceability software solution and secondary thermal printing hardware to transfer primal information to steaks

Benefit for Industry

1. Digitisation, via acquiring product, supply chain and consumer information and leveraging data for insights (Adv. Mft.)
2. Sustainability, via underpinning Communities, Energy, Water, Waste and Packaging claim
3. Marketing & Promotion, via offering a new premium value add to premium markets.
4. Products, via understanding additional purchasing behavior (and enabling direct connection with consumers). New direct connection with domestic and global consumers could lead to leveraging new product ideas (e.g. Dairy Industry Oak direct consumer engagement - https://oakflavourgenerator.com.au/)
5. Market access, via increased granular traceability systems
6. International Competitiveness, via ideally reducing manual compliance regulations.
7. Traceability and Integrity Systems
8. Animal Welfare, via communicating animal welfare practices to consumers that the relevant supply chain adheres to
9. Food Safety, via demonstration that forward and backward recalls are now possible to steak level.

2.0 Introduction

Project Description

Strategic Fit

AMPC's 2020-2025 Strategic Plan identifies within the Advance Manufacturing (pages 7-8),Sustainability (pages 11–15), Technical Market Access & Markets (pages 21- 23), and Product and Process Integrity (pages 26-27) programs, specifically enabling:

1. Digitisation, via acquiring product, supply chain and consumer information and leveraging data for insights (Adv.Mft.)

2. Sustainability, via underpinning Communities, Energy, Water, Waste and Packaging claim

3. Marketing & Promotion, via offering a new premium value add to premium markets.

4. Products, via understanding additional purchasing behavior (and enabling direct connection with consumers). New direct connection with domestic and global consumers could lead to leveraging new product ideas (e.g. Dairy Industry Oak direct consumer engagement - https://oakflavourgenerator.com.au/)

5. Market access, via increased granular traceability systems

6. International Competitiveness, via ideally reducing manual compliance regulations.

7. Traceability and Integrity Systems

8. Animal Welfare, via communicating animal welfare practices to consumers that the relevant supply chain adheres to

9. Food Safety, via demonstration that forward and backward recalls are now possible to steak level. As such although the primary goal for the innovation theme is a successful development(s) to enable operational primal to steak, and steak to primal traceability (hence a focus on Strategic Fit 7 above), it is expected that all stages and successful development companies will keep in mind both the primary and secondary goals in the context of the above nine(9) strategic plan touch points.

3.0 Project Objectives

To develop and demonstrate to AMPC staff (and probably one Australian supply chain) the

providers approach to offering a cost-effective and robust primal to steak, and steak to primal,

traceability system, within a demonstration facility (i.e. not within an active supply chain).

The Process

The process demonstrated as to how the primal information is transferred from the primal to the steak.Hence the process of generating codes (if a ledger solution) or surface application approach or hardware approach.For this part it is expected that two to five primals will be demonstrated on, ideally different primals. During this process demonstration the provider is to articulate and demonstrate how the third party cut ting room will use the process and what equipment (and fail safes) need to be in place to ensure robustness/reliable/bullet proof solution.

Trace forward and trace back.Demonstration of a simple interface that shows which steak each primal has been sourced from. ‘Alert’ of non-traced product (primal and steaks)

A demonstration of what is expected to occur in Stage 3 if a 3rd party tries to cut a primal into more steaks that is possible for that primal. An example of how someone in the supply chain knows if a primal and or steak has been scanned. The focus here is to think about product substitution as well as the supply chain obtaining information about the ‘last mile’ of the product.

4.0 Methodology

FreshChain Technology Approach

• Use the FreshChain cloud based platform for traceability, provenance, authenticity and meat count reconciliation system based on an individual carton

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Methodology

• Develop a primal to cut data interface for integration with existing meat B2B traceability

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• A system of scanner, scale and printer to transfer trace data from primal to cut providing counterfeit protection, allowing for closed and open supply chains.

5.0 Project Outcomes

Project Outputs/Deliverables

A report and (1) further development road map, and if applicable (2) a Stage 3 submission that:

1. Develops and demonstrates a primal to steak (and steak to primal) traceability solution.

2. Expected development path forward, Stage 3 to adoption.

3. Minimum requirements of 3rd parties within a supply chain to comply with to ensure robustness (scope and pricing)

4. Requirements for the Australian source supply chain to enable adoption within their business (scope and pricing)

6.0 Conclusions / Recommendations

FreshChain was able to demonstrate to AMPC staff (and probably one Australian supply chain) a cost-effective and robust primal to steak, and steak to primal,traceability system, within a demonstration facility (i.e. not within an active supply chain).

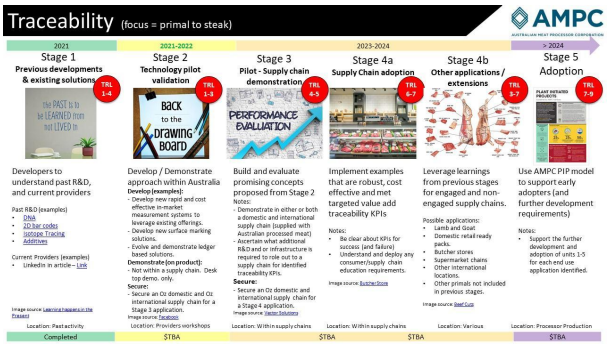
The next stage is to combine Stage 3 and Stage 4a of the AMPC Development Path (and adoption / path to market) to deliver the following:

- Demonstrate in both a domestic and international supply chain (supplied with Australian processed meat) and ascertain additional R&D requirements and/or infrastructure required to roll out to a supply chain for identified traceability KPI's
- Implement examples that are robust, cost effective that meet targeted value add traceability KPI's in both 3rd party and direct source supply chains
- Create and deploy the required education requirements for onboarding customers direct and remote

Recommendations/improvements to the system:

- Send cut to trim
- Waste
- Tolerance for over trim/under weight
- Sign out/timeout
- Notification for no line allocation
- API update

Stage 3 forward path (Scope/min requirements/costs)



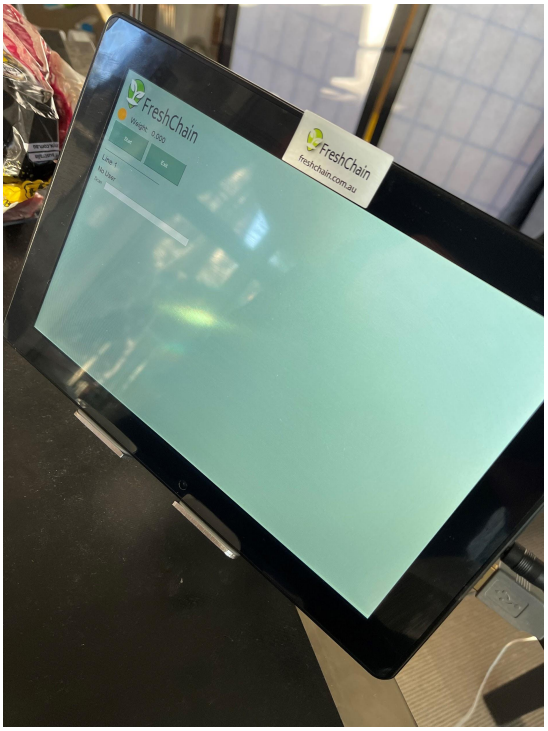
- FreshChain face to face workshops
- FreshChain video material
- FreshChain hard copy manuals
- FreshChain on-site onboarding

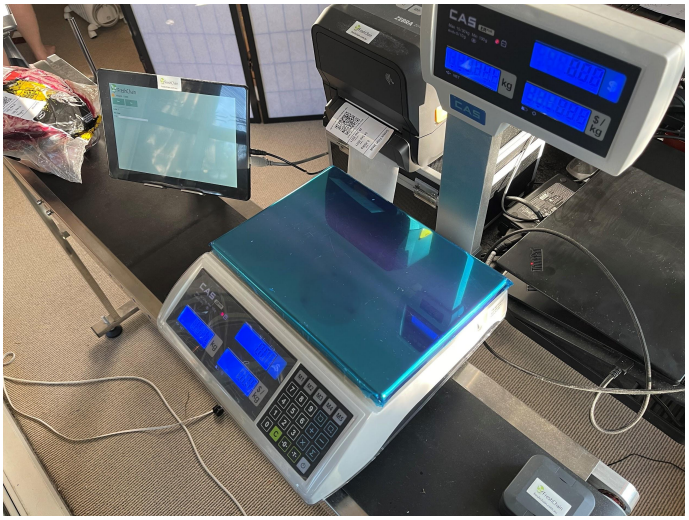
Min requirements of 3rd parties in the supply chain to comply to ensure robustness;

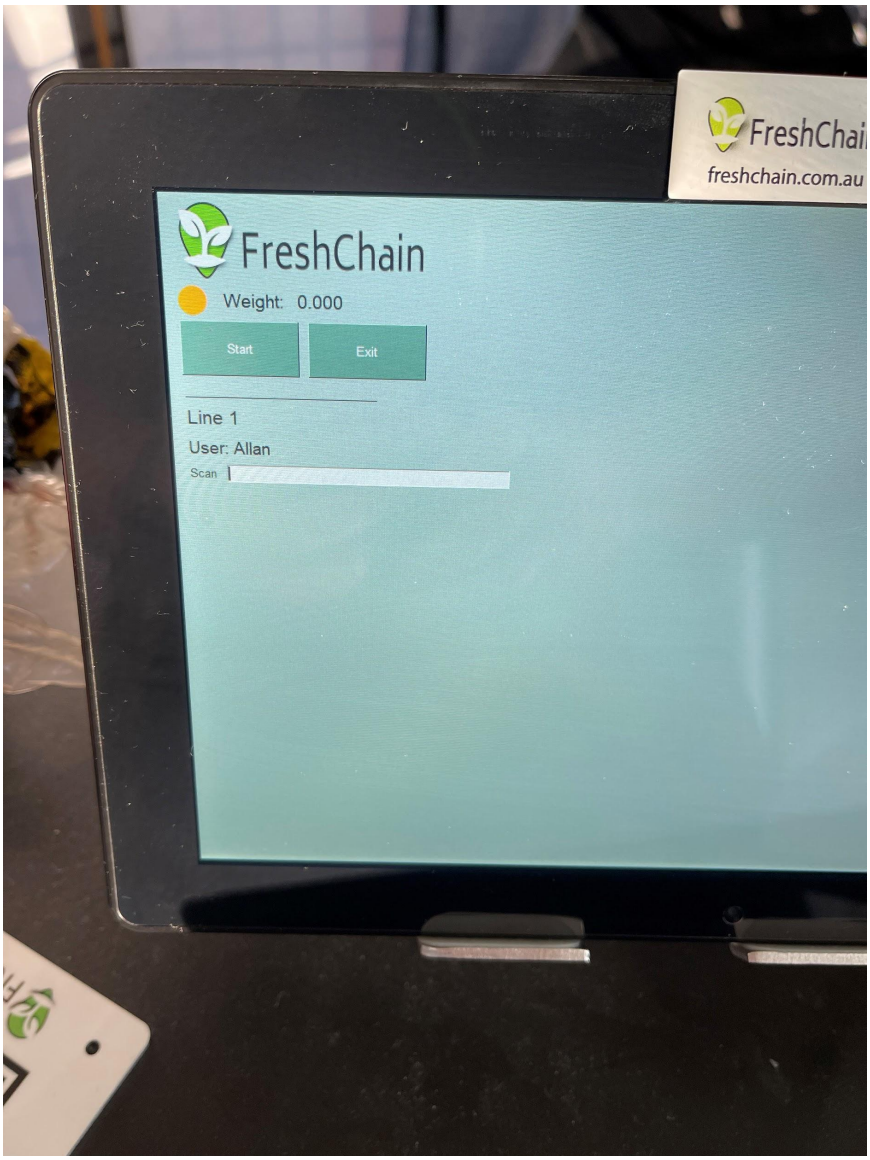
1. Internet coverage in weighing and packing area
2. A compatible weight scale with interface
3. A direct or thermal transfer printer
4. A barcode scanner or smartphone
5. Consumables (Labels, ribbon)
6. Touchscreen display and controller

Cube Roll
2.682kg
23 Sep 2021
22 Nov 2021
Scan here to find out more
visit freshchain.com.au to verify
RANGERS VALLEY

1001
FreshChain


FreshChain
FreshChain
freshchain.com.au

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freshchain.com.au
FreshChain
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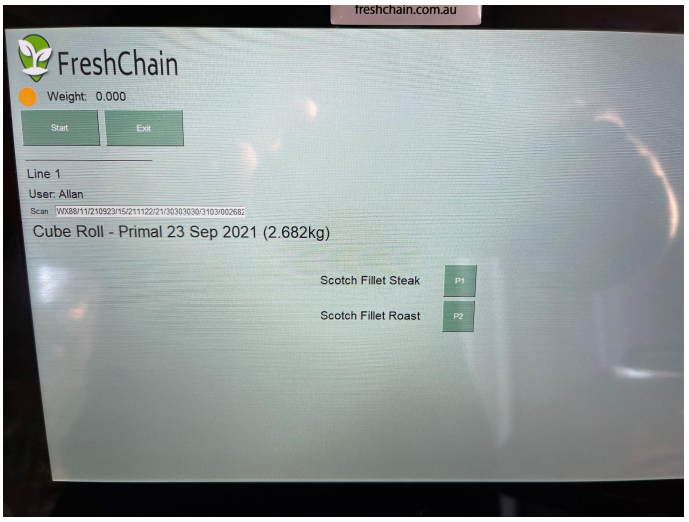
Start
Exit
Line 1
User: Allan
Scan


freshchain.com.au
FreshChain
Weight: 0.000
Start
Exit
Line 1
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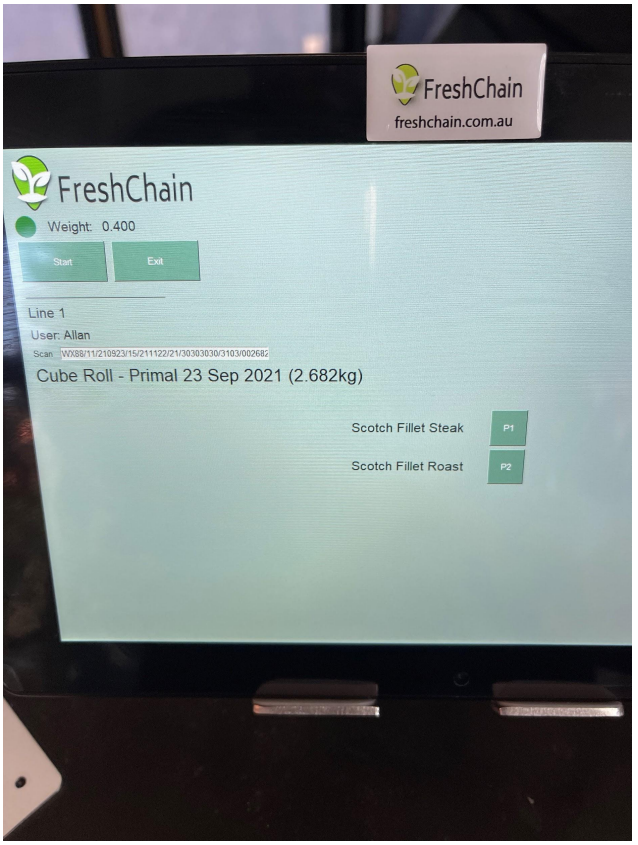
Cube Roll - Primal 23 Sep 2021 (2.682kg)
Scotch Fillet Steak
P1
Scotch Fillet Roast
P2

ZEBRA
CAS
kg


FreshChain
freshchain.com.au
FreshChain
Weight: 0.400
Start
Exit
Line 1
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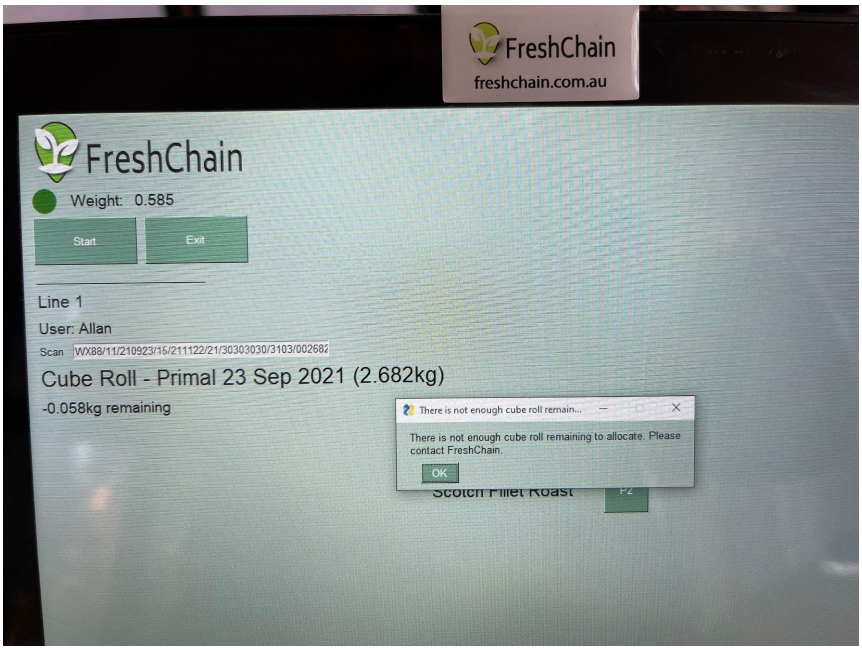
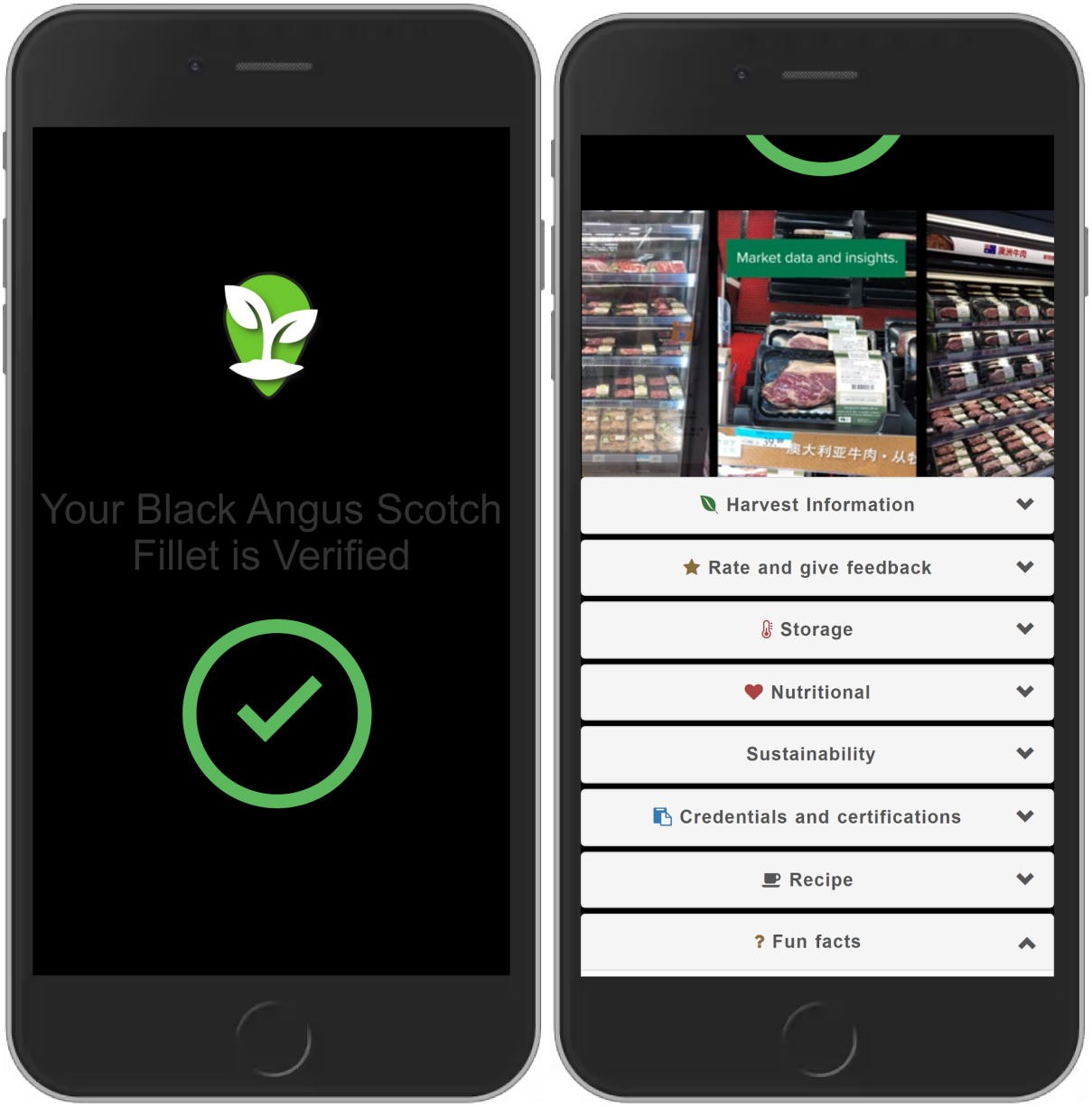
Cube Roll - Primal 23 Sep 2021 (2.682kg)
Scotch Fillet Steak
P1
Scotch Fillet Roast
P2

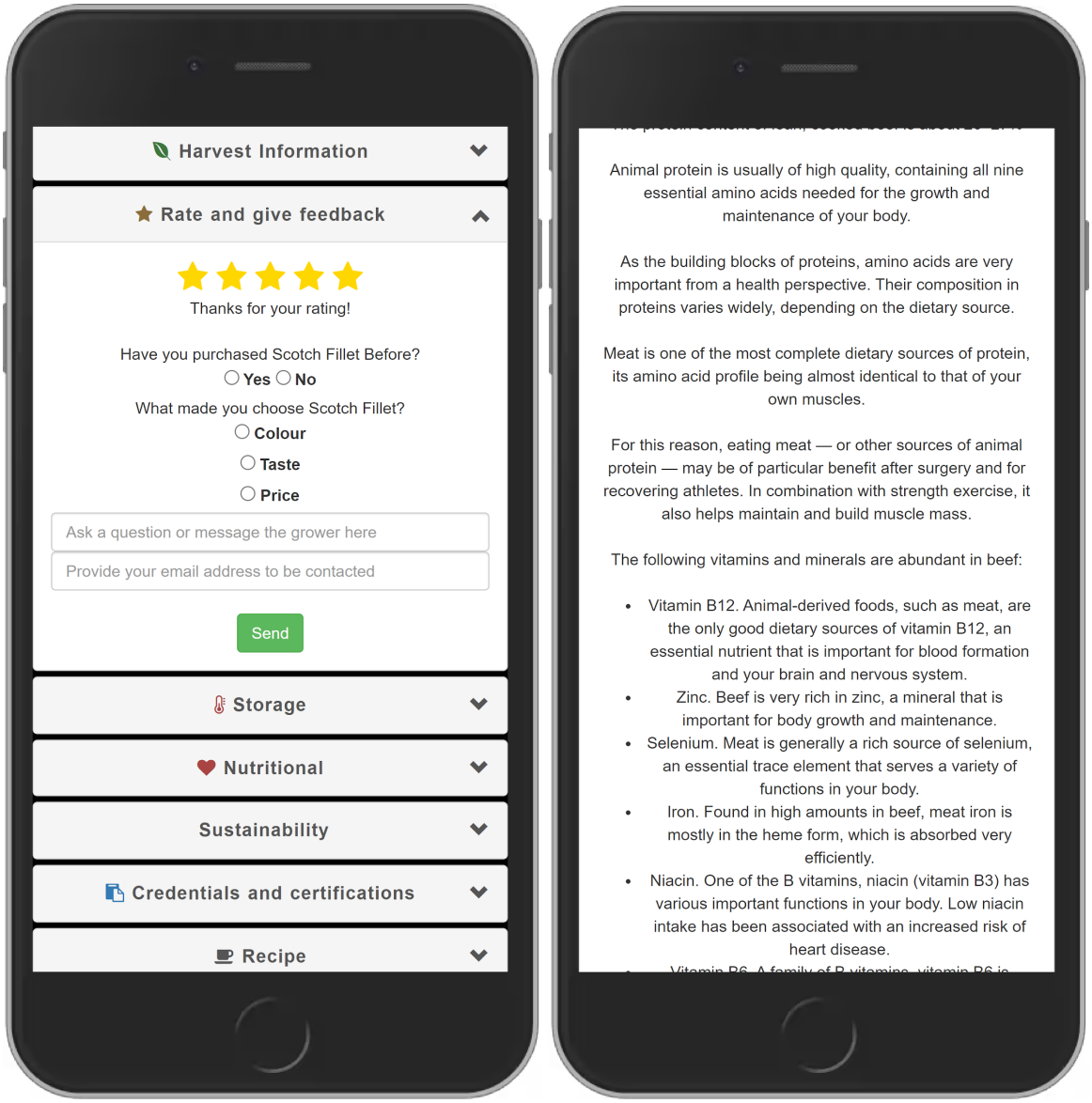
Scotch Fillet Steak
0.400kg
24 Sep 2021
29 Sep 2021

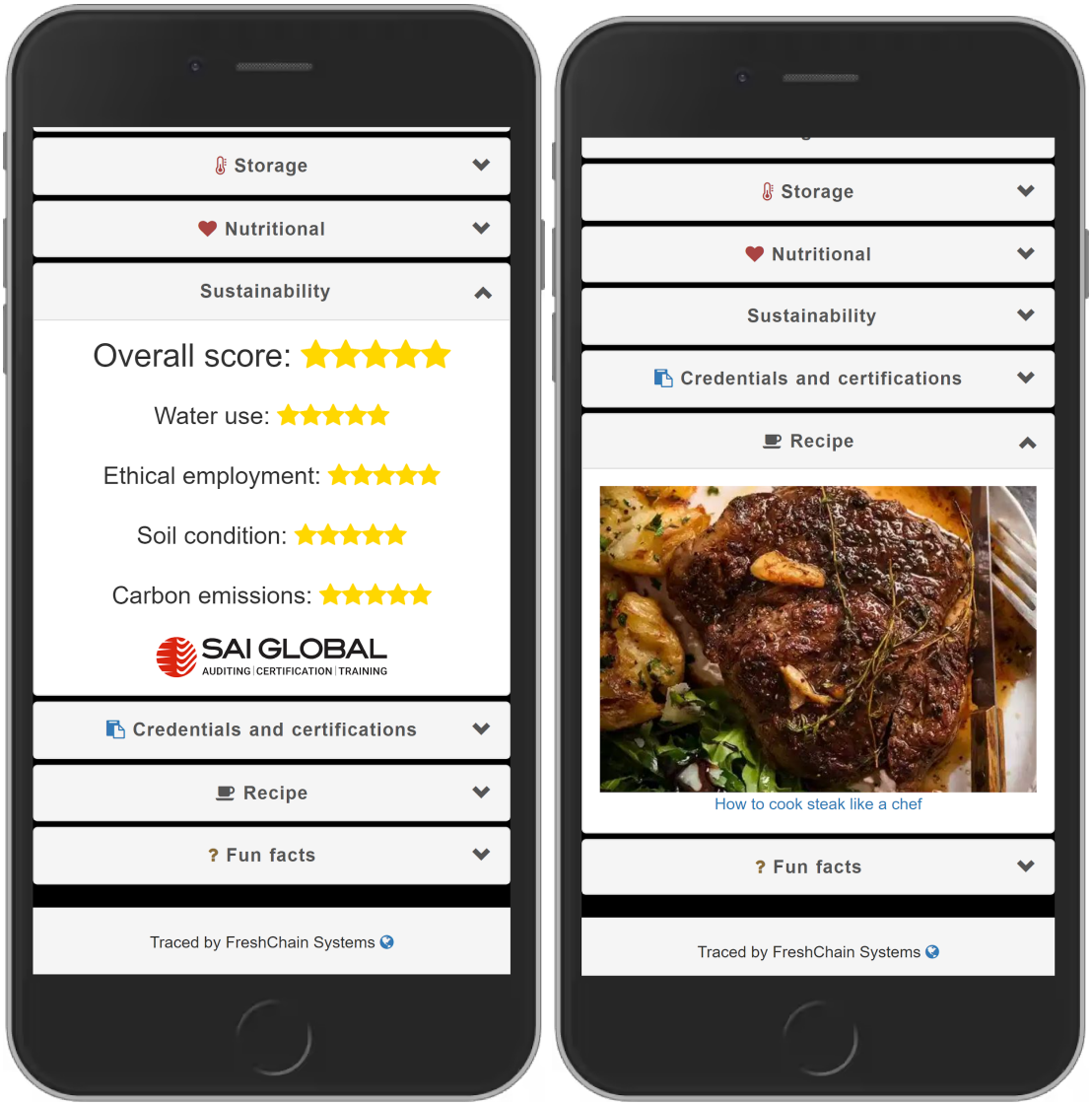
FreshChain
freshchain.com.au
FreshChain
Weight: 0.400
Start
Exit
Line 1
User: Allan
Scan WX88/11/210923/15/211122/21/30303030/3103/002682
Cube Roll - Primal 23 Sep 2021 (2.682kg)
2.282kg remaining
Scotch Fillet Steak
P1
Scotch Fillet Roast
P2

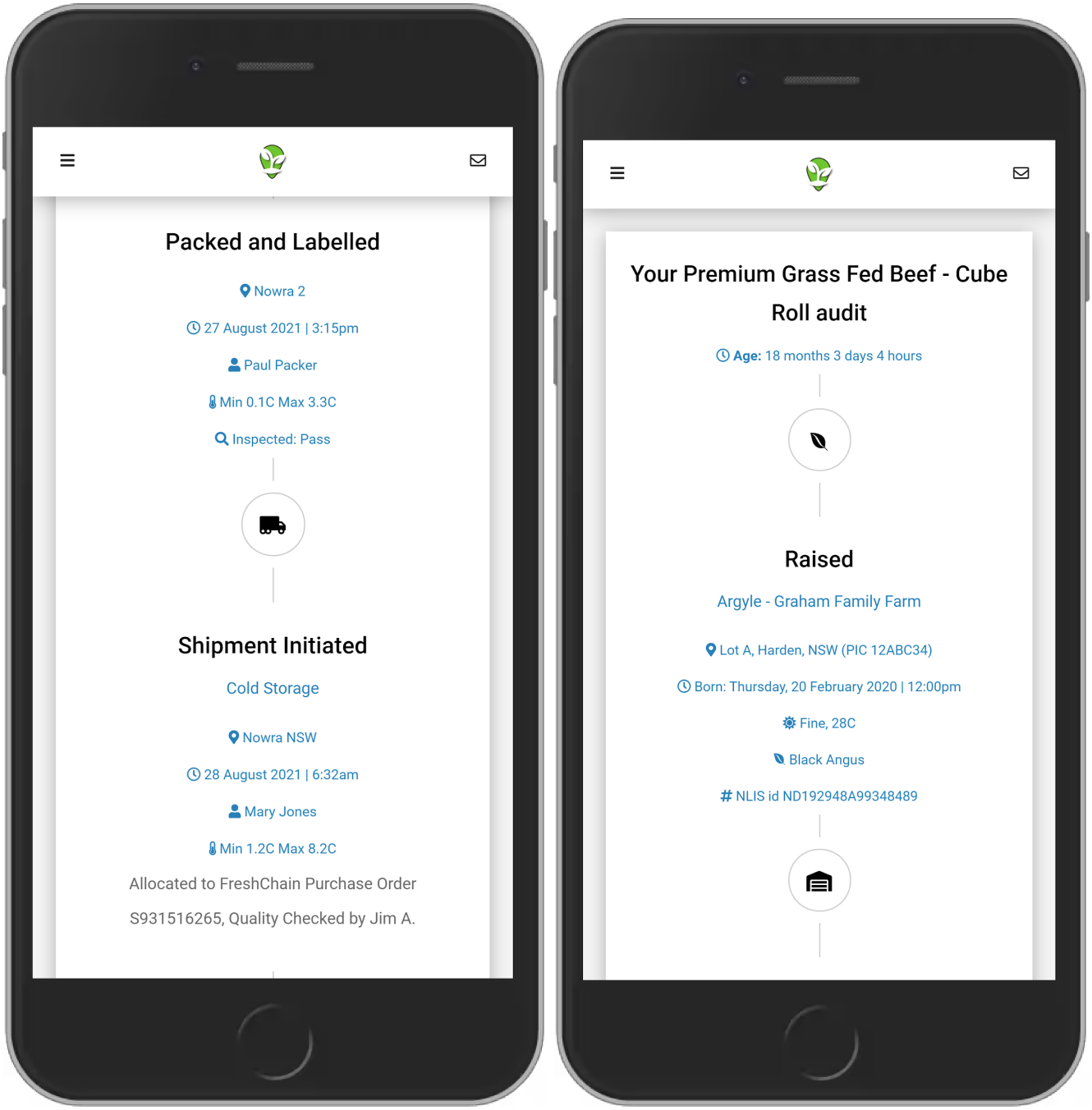

FreshChain
freshchain.com.au
FreshChain
Weight: 0.585
Start
Exit
Line 1
User: Allan
Scan WX88/11/210923/15/211122/21/30303030/3103/002682
Cube Roll - Primal 23 Sep 2021 (2.682kg)
-0.058kg remaining
There is not enough cube roll remain...
There is not enough cube roll remaining to allocate. Please contact FreshChain.
OK

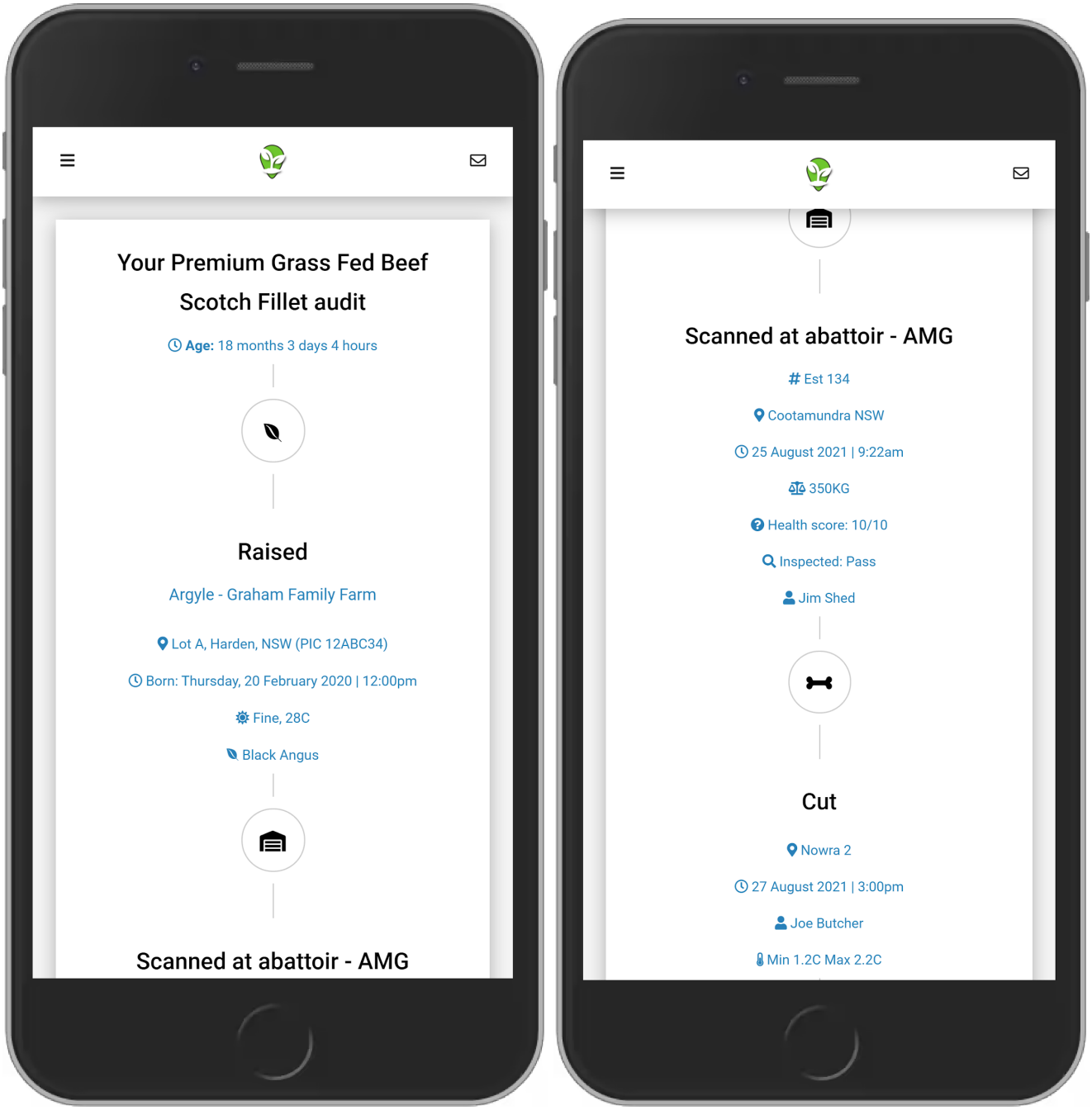
Scotch Fillet Steak
Weight
0.585kg
Packed
24 Sep 2021
Best Before
29 Sep 2021
Scan here to find out more
visit freshchain.com.au to verify
llet Steak
Weight
0.585kg
Packed
24 Sep 2021
Best Before
29 Sep 2021
to find out more
ain.com.au to verify
llet Steak
Weight
0.585kg
Packed
24 Sep 2021
Best Before
29 Sep 2021
to find out more
ain.com.au to verify

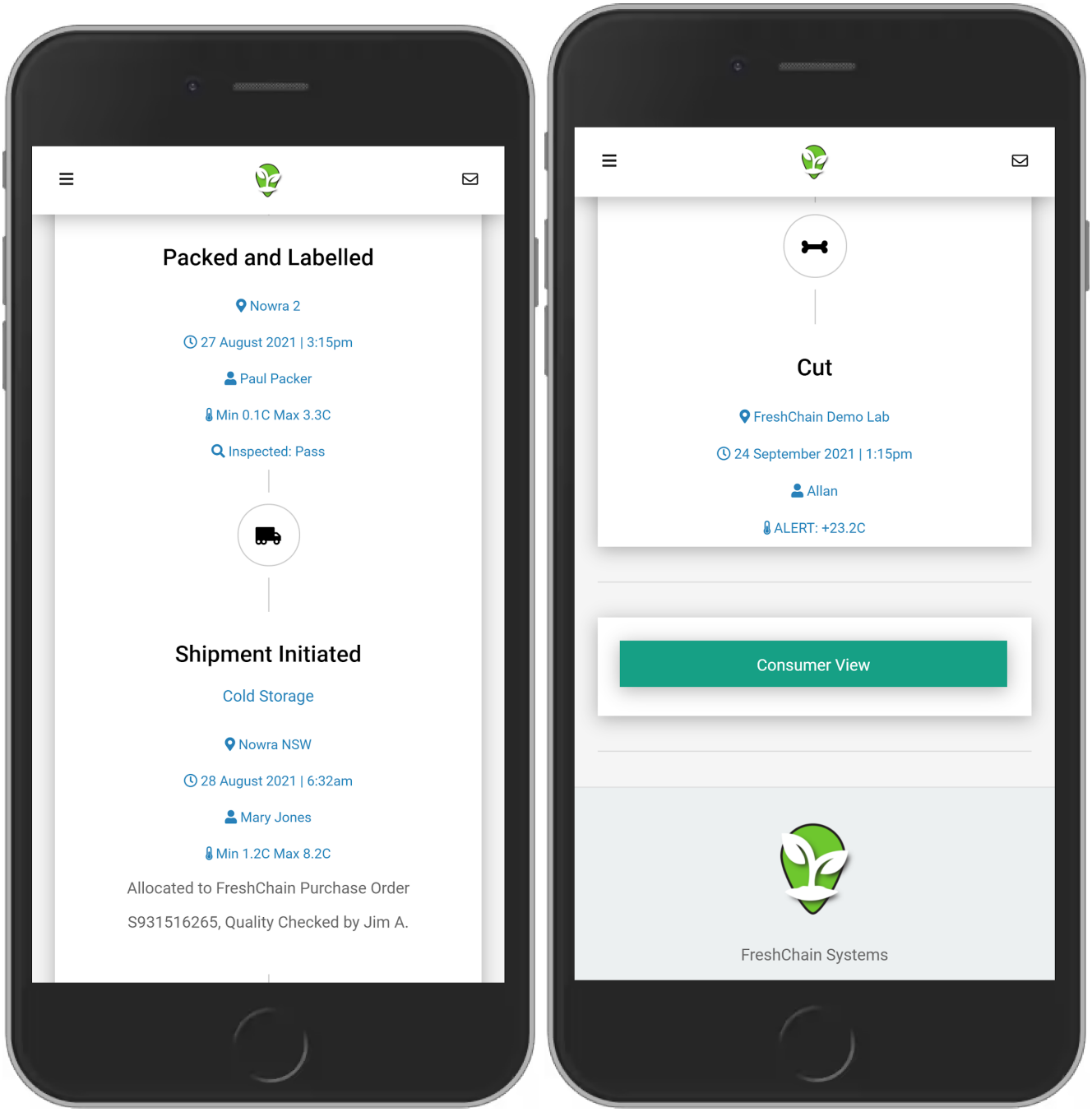

Your Black Angus Scotch Fillet is Verified
Market data and insights.
Harvest Information
Rate and give feedback
Storage
Nutritional
Sustainability
Credentials and certifications
Recipe
? Fun facts


Harvest Information
Rate and give feedback
Thanks for your rating!
Have you purchased Scotch Fillet Before?
Yes No
What made you choose Scotch Fillet?
Colour
Taste
Price
Ask a question or message the grower here
Provide your email address to be contacted
Send
Storage
Nutritional
Sustainability
Credentials and certifications
Recipe
Animal protein is usually of high quality, containing all nine essential amino acids needed for the growth and maintenance of your body.
As the building blocks of proteins, amino acids are very important from a health perspective. Their composition in proteins varies widely, depending on the dietary source.
Meat is one of the most complete dietary sources of protein, its amino acid profile being almost identical to that of your own muscles.
For this reason, eating meat — or other sources of animal protein — may be of particular benefit after surgery and for recovering athletes. In combination with strength exercise, it also helps maintain and build muscle mass.
The following vitamins and minerals are abundant in beef:
Vitamin B12. Animal-derived foods, such as meat, are the only good dietary sources of vitamin B12, an essential nutrient that is important for blood formation and your brain and nervous system.
Zinc. Beef is very rich in zinc, a mineral that is important for body growth and maintenance.
Selenium. Meat is generally a rich source of selenium, an essential trace element that serves a variety of functions in your body.
Iron. Found in high amounts in beef, meat iron is mostly in the heme form, which is absorbed very efficiently.
Niacin. One of the B vitamins, niacin (vitamin B3) has various important functions in your body. Low niacin intake has been associated with an increased risk of heart disease.


Storage
Nutritional
Sustainability
Overall score:
Water use:
Ethical employment:
Soil condition:
Carbon emissions:
SAI GLOBAL
AUDITING | CERTIFICATION | TRAINING
Credentials and certifications
Recipe
? Fun facts
Traced by FreshChain Systems
Storage
Nutritional
Sustainability
Credentials and certifications
Recipe
How to cook steak like a chef
? Fun facts
Traced by FreshChain Systems


Packed and Labelled
Nowra 2
27 August 2021 | 3:15pm
Paul Packer
Min 0.1C Max 3.3C
Inspected: Pass
Shipment Initiated
Cold Storage
Nowra NSW
28 August 2021 | 6:32am
Mary Jones
Min 1.2C Max 8.2C
Allocated to FreshChain Purchase Order
S931516265, Quality Checked by Jim A.
Your Premium Grass Fed Beef - Cube Roll audit
Age: 18 months 3 days 4 hours
Raised
Argyle - Graham Family Farm
Lot A, Harden, NSW (PIC 12ABC34)
Born: Thursday, 20 February 2020 | 12:00pm
Fine, 28C
Black Angus
NLIS id ND192948A99348489


Your Premium Grass Fed Beef Scotch Fillet audit
Age: 18 months 3 days 4 hours
Raised
Argyle - Graham Family Farm
Lot A, Harden, NSW (PIC 12ABC34)
Born: Thursday, 20 February 2020 | 12:00pm
Fine, 28C
Black Angus
Scanned at abattoir - AMG
Scanned at abattoir - AMG
Est 134
Cootamundra NSW
25 August 2021 | 9:22am
350KG
Health score: 10/10
Inspected: Pass
Jim Shed
Cut
Nowra 2
27 August 2021 | 3:00pm
Joe Butcher
Min 1.2C Max 2.2C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Mary Jones
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Allocated to FreshChain Purchase Order
S931516265, Quality Checked by Jim A.
Cut
FreshChain Demo Lab
24 September 2021 | 1:15pm
Allan
ALERT: +23.2C
Consumer View
FreshChain Systems