Optimize Red Meat Import Process from Australia through Barcodes
Presenters

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Introduction

• The purpose of this presentation is to provide import houses and further manufacturers who receive imported red meat products from Australia, the information needed to optimize and increase transparency in the import process through the use of GS1 barcodes.

• The information in this presentation will provide details on how to reduce specific shipping mark rejections through the use of FSIS Directive 9900.5 and assess the use of barcodes as in lieu of shipping marks as detailed in FSIS Notice 37-19.
Contents

• Supply Chain Overview
• GS1 US Standards for Meat Traceability
• Meat Messaging System (Australia)
• Import House Shipping Mark Remarketing - FSIS Directive 9900.5
• Barcodes in Lieu of Shipping Marks Pilot Program - FSIS Notice 37-19
• Applying GS1 Standards
• Benefits to GS1 Barcodes and Additional Resources
Supply Chain Overview
**LIVESTOCK**
Unique IDs for farms and each head of livestock, government regulated production and husbandry systems, accurate record keeping along with third-party audits ensures your meat quality is guaranteed right from source.

**SLAUGHTER/CHILLING**
Each animal is inspected before and after slaughter and every carcase is identified. All carcases can be traced. Company and Australian government monitoring systems inspect plant hygiene, offal, carcase and residues.

**BONING**
Before being placed in cartons, the meat goes through hygiene testing as well as product specification inspections. Each carton is then barcoded to identify contents and track journey.

**DISTRIBUTION**
This dispatch process is authenticated by the Australian government through the issuance of export certificates as well as container sealing. Temperature is monitored at all times till the meat leaves the supermarket shelves.
Cartons of meat are unloaded from refrigerated containers which are then inspected by the US government.

The container is not reopened until it reaches its port of destination.

Long Shelf Life

Import Re-inspection

Temperature Monitoring

Distribution Channels

AUSTRALIAN GOVT TO U.S. GOVT

Australian e-Cert for meat products to US Customs and USDA.

CONTAINER OPENING

Cartons re-inspected by USDA utilizing GS1 barcoding for verification through Meat Messaging Notice 37-18.
GS1 Standards for Meat Traceability
GS1 Standards

Identify: GS1 Identification Numbers
- GLN: Global Location Number
- GTIN®: Global Trade Item Number
- SSCC: Serial Shipping Container Code

Capture: GS1 Data Carriers
- EAN/U.P.C.
- GS1 DataBar Expanded Stacked
- GS1 DataMatrix
- ITF-14
- GS1-128

Share: GS1 Data Exchange
- Master Data: Global Data Synchronization Network (GDSN)
- Transactional Data: Electronic Data Interchange (EDI)
- Physical Event Data: EPC Information Services (EPCIS)

Interoperability:
- Product Data
- Price and Promotion Data
- Purchase Order
- Planning Schedule
- Shipping Notice
- Invoice
- Product Visibility

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Where It All Starts
GS1 Standards begin with **GS1 Identification Numbers** used to uniquely distinguish all products (trade items), logistics units, locations, assets, and relationships across the supply chain from manufacturer to consumer.

**Company**
- **Global GS1 Company Prefix**
  - **GLN** Global Location Number

**Product**
- **GTIN** Global Trade Item Number
- **EPC/SGTIN** Serialized Global Trade Item Number

**Location**
- **GLN** Global Location Number

**Assets**
- **GIAI** Global Individual Asset Identifier
- **GRAI** Global Returnable Asset Identifier

**Logistics**
- **SSCC** Serial Shipping Container Code
- **GSIN** Global Shipment Identification Number

**Services and Other**
- **GSRN** Global Service Relation Number
- **GDTI** Global Document Type Identifier

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**Capture: GS1 Data Carriers**

GS1 Data Carriers are capable of holding varying amounts of data to accommodate different needs such as Batch/Lot information and expiration dates.

<table>
<thead>
<tr>
<th>Item</th>
<th>Case</th>
<th>Pallet</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAN®/UPC&lt;br&gt;Carries a Global Trade Item Number® (GTIN®)&lt;br&gt;&lt;br&gt;<img src="image1.jpg" alt="Barcode Image" /></td>
<td>ITF-14&lt;br&gt;Carries a GTIN&lt;br&gt;&lt;br&gt;<img src="image2.jpg" alt="Barcode Image" /></td>
<td>ITF-14&lt;br&gt;Carries a GTIN&lt;br&gt;&lt;br&gt;<img src="image3.jpg" alt="Barcode Image" /></td>
</tr>
<tr>
<td><strong>Or</strong>&lt;br&gt;GS1 DataBar®&lt;br&gt;Carries a GTIN with extended data such as Batch/Lot Number, Weights, or Product Dates&lt;br&gt;&lt;br&gt;<img src="image4.jpg" alt="Barcode Image" /></td>
<td><strong>Or</strong>&lt;br&gt;GS1-128&lt;br&gt;Carries a GTIN with extended data such as Batch/Lot Number&lt;br&gt;&lt;br&gt;<img src="image5.jpg" alt="Barcode Image" /></td>
<td><strong>Or</strong>&lt;br&gt;GS1-128&lt;br&gt;Carries a GTIN with Batch/Lot Number or Serial Shipping Container Code (SSCC)&lt;br&gt;&lt;br&gt;<img src="image6.jpg" alt="Barcode Image" /></td>
</tr>
</tbody>
</table>
Why are SSCCs Used – the Challenge

What is on this trailer?

- **Receiving**
  - How can I improve the efficiency of the receiving process at distribution centers and stores?

- **Tracking**
  - What’s in a given logistics unit?
  - Where is that logistics unit?
  - Where is the product I’m looking for?
  - If something is missing, what is it?
ASN + SSCC + Label Working Together

Advance Ship Notice

GS1 Logistics Label

SSCC encoded into a GS1-128 Barcode
When using a GS1-128 barcode, Application Identifiers (AI’s) are encoded for scanning purposes. AI’s are flags that precede each piece of data in a barcode to identify its meaning and format.

GS1-128 provides the ability to string together additional fields of information:

- (01) precedes a GTIN (00614141987658)
- (11) precedes Production Date (YYMMDD) (0715)
- (21) precedes Serial Number (ABC123)
Application Identifiers (AI’s)

- When using GS1-128 barcodes for food items in the supply chain, it is recommended that the following information should be encoded in the barcode:
  1. **Item Identifier** = Global Trade Item Number (GTIN)
  2. **Date** = Production, Packaging, Expiration, Sell By or Best Before
  3. **Production Information** = Serial Number

Application Identifier Listing
Share: GS1 Data Exchange

Transactional Data With EDI

What Goes Into It
- GTIN
- SSCL
- GLN

EDI Document Types
- Purchase Order
- Advance Ship Notice
- Invoice
- Payment

This illustration shows transactional data exchange with EDI between any two parties in the supply chain.


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Meat Messaging System
(Australia)
Meat Messaging System – What is it?

Meat Messaging is an industry cloud portal operated by the Australian Meat Industry to hold export consignment and case level information. Meat Messaging is used by:

**Australian Exporters**
To upload consignment information (through a EDI 856 GS1 ASN) including the GS1 barcode and production details on each case in a consignment.

**Inspection Houses**
To verify specific cases belong to a consignment when the shipping mark is missing or eligible (USDA FSIS Directive 9900.5) or as part of the Pallet Pilot (FSIS Notice 37-19 Pilot Program.)

**End Users**
(value adding or further processing)
To access information on individual cases such as Chemical Lean value, production data
MeatMessaging USA Import Inspection Model

EXDOC data (E-CERT):
- Certificate Number
- Establishment details
- Consignment SSCC (shipping mark)
- RFP
- Container/seal numbers
- etc

EXDOC (AU Government)

Validation:
- Establishment listing
- Certificate number
- Consignment SSCC (shipping mark)

MeatMessaging

Consignement Summary

Information verify to ensure all is correct

Consignment data:
- Certificate number
- Consignment SSCC (shipping mark)
- RFP
- ID Mark (GTIN barcode)
- Container/seal numbers
- Pallet SSCC

Export Establishment

Operated through Approved Arrangements and under supervision.

Labelling using GS1 barcode under supervision

Scan GS1 barcode on all boxes

Pallet wrapped Apply pallet SSCC barcoded placard label including consignment SSCC (shipping mark)

Load and Seal container under supervision

Container unloaded with documentation and pallet placards inspected

Pallet placards stamped with USDA mark of import inspection and moved as whole consignment to a US Federal establishment for further processing

Australia

United States

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Australia

United States

Note: Supervision is conducted by competent authority of the foreign inspection service
Using Meat Messaging System
(Import Houses & End Users)

Step 1: Logging into the Meat Messaging web site and using ‘Search’.

Step 2: Using the Meat Messaging App (Android/iPhone) scan a pallet using a Socket Bluetooth barcode scanner.

Step 3: Using the App ‘Search’ function to find the consignment ‘All Carton Serial Number Report’

To use Meat Messaging an inspection house or End User must be registered with Meat Messaging
Meat Messaging System – When to use it?

**Import Houses**
At time of inspection if a case is missing a shipping mark, Meat Messaging can be used to verify the case belong to the consignment. Refer to USDA FSIS Directive 9900.5 Rev1 for details.

**End Users**
End users (value adding or further processing) can use Meat Messaging to find detailed information on a consignment or case. Refer to USDA FSIS Directive 9900.5 Rev1 for details.
Import House
Shipping Mark Remarking
FSIS Directive 9900.5
FSIS Import Label Verification

• Requires the shipping mark or identification mark on the product units listed in the Foreign Inspection Certificate among other details (9 CFR 327.4 (e)).

• Labels are verified in accordance with FSIS Directive 9900.5 Label Verification of Imported Meat, Poultry, and Egg Products

• If product has missing, incorrect, or illegible shipping marks FSIS will refuse the Label Verification Type of Inspection (TOI) in PHIS, an automatic refuse entry for the entire lot is triggered.

Example
(Individual product unit that would be inspected at import)
FSIS Import Inspection – Label Verification

- When a lot is refused by a failed Label Verification TOI, the applicant may appeal (9 CFR 327.24) or request to correct the labeling noncompliance in writing to the Front Line Supervisor (FLS). Importers or the applicant have the opportunity to correct the issue by:

  - **Discard non-compliant Containers**
    - Sorting out the non-compliant containers

  - **Partial Illegible Mark**
    - Import establishment may re-apply or correct the mark *without* supervision of foreign government

  - **Completely Illegible Mark**
    - Importer may correct by re-labeling *under the supervision* of the foreign government (costly and time consuming)
Official Import Facility Remarketing

FSIS Directive 9900.5, Section VII, E. Procedures for Correcting Shipping Marks when Using Barcodes

- Import Establishment can correct shipping marks **without** having a representative of the foreign government to supervise
  - Only when FSIS can verify the unique identifier within a barcode on the shipping unit using **supporting documentation** from the foreign country.

- Supporting Documentation is available for Australian products through Meat Messaging
  - Meat Messaging System can be accessed by import establishment to view barcodes linked to the certificate
  - Same Day at no Cost

- Only allowed for **countries that are eligible** & only applies to establishments approved for such activity.
  - **Australia is eligible** & FSIS inspection personnel maintain a list of approved Australian establishments in the FSIS internal SharePoint site they access to verify eligibility.
Barcodes in Lieu of Shipping Marks
Pilot Program
FSIS Notice 37-19
FSIS Notice 37-19
Barcodes in Lieu of Shipping Marks Pilot Program for Fresh Meat Products from Australia

• Notice 37-19 is a study to assess the use of barcodes in lieu of shipping marks and not to be confused with the barcode procedures used for correcting shipping marks found in FSIS Directive 9900.5.

• Shipments in this pilot will move intact to official establishments in the U.S. for further processing.
Barcodes in Lieu of Shipping Marks Pilot Program for Fresh Meat Products from Australia

**Australia Shipping Mark**
- Instead of Australia applying their shipping mark on products shipped to U.S. the barcodes on the pallet placard and individual cases will be used to verify approved Australian product in lieu of the shipping mark.

**USDA Official Import Mark**
- Instead of applying the USDA official import mark of inspection to the individual cases, the mark is applied only to the barcode placard on each pallet in the shipment.

**Pallet Wrapping**
- Inspection personnel will perform label verification without removing the plastic wrapped around the pallet, as long as the label attributes are visually identifiable.
Australia certifies export shipments through electronic certification (eCERT) to U.S.’s Public Health Information System (PHIS)

The shipping mark data field in PHIS (i.e., the shipping mark on the certificate) will correspond to the last nine digits of the Message SSCC on the pallet placard. SSCC is Serial Shipping Container Code.

IPP are to verify that the last nine digits of the Message SSCC on each pallet placard match the shipping mark data in PHIS when performing Assessment.

The Message SSCC identifies the shipment and the Pallet SSCC identifies the individual pallet. The Pallet SSCC is linked to the individual case barcodes within the pallet. Individual unit barcodes are in GS1-128 format.

1. Pallet SSCC (i.e., specific to the individual pallet);
2. Message SSCC (i.e., the unique identifier for the shipment);
3. Producing foreign establishment number;
4. Place for the U.S. import mark of inspection;
5. Production dates;
6. Net weight;
7. Number of units on the pallet;
8. Handling instructions; and
9. Exporting establishment name and address.
**Meat Messaging System Barcode Report**

- The Message SSCC is recorded under the SSCC (upper left corner) and Message File Name on the All Carton Serial Number Report below. This is the unique identifier code for the shipment that represents all product certified at the conveyance level.

```
<table>
<thead>
<tr>
<th>All Carton Serial Number Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carton Count</td>
</tr>
<tr>
<td>Group:</td>
</tr>
<tr>
<td>Port Mark</td>
</tr>
<tr>
<td>Carton Bar Code Numbers</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>01999997/31999971/00027/201301192114051315</td>
</tr>
<tr>
<td>01999997/31999971/00027/201301192114061302</td>
</tr>
<tr>
<td>01999997/31999971/00027/201301192114071330</td>
</tr>
<tr>
<td>01999997/31999971/00027/201301192114084903</td>
</tr>
<tr>
<td>01999997/31999971/00027/201301192114099999</td>
</tr>
<tr>
<td>01999997/31999971/00027/201301192114105003</td>
</tr>
<tr>
<td>01999997/31999971/00027/201301192114111984</td>
</tr>
<tr>
<td>01999997/31999971/00027/201301192114121733</td>
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<td>01999997/31999971/00027/201301192114131178</td>
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<td>01999997/31999971/00027/201301192114141460</td>
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</tr>
<tr>
<td>01999997/31999971/00027/201301192114231125</td>
</tr>
</tbody>
</table>
```

- **Pallet 1 SSCC**
  - Individual Case Barcodes (GS1-128) within the pallet

- **Pallet 2 SSCC**
  - Individual Case Barcodes (GS1-128) within the pallet
Applying GS1 Standards
Applying GS1 Standards

• Visual representation on the next slide

• GS1 layer
  – Foundational infrastructure recommended to achieve supply chain traceability using GS1-128 barcodes implemented by the supplier, distributor, import house, further manufacturer (Industry, non-regulatory bodies)

• Regulatory Layer
  – Regulatory electronic data systems utilized and traceability details regulatory entities focus on or require within the scope of identifying establishments, products, and required details on the pallet placard at import (specific to Notice 37-19)

• Import House Layer
  – Example of how industry can implement case level traceability using GS1 standards while still maintaining necessary information required by regulatory bodies.
Applying GS1 Standards

GS1 Layer

Australia
- GLN
- EDI
  - Harvester/Processing
  - Item
  - Case
  - Pallet
  - Transport
  - Export Warehouse
  - Vessel/Port
  - Import Warehouse
  - Pallet
  - Transport
  - Distributor/Further Processing

USA
- GLN
- EDI
  - Retail/Foodservice
  - Consumer

GS1-128
SSCC
Container # & SSCC
SSCC
GS1-128

Regulatory Layer

Vessel Messaging & exDoc

Harvester/processing
- Est #
  - Item/Case/Pallet
  - Transport
  - Export Warehouse
  - Vessel/Port
  - Import Warehouse
  - Pallet
  - Transport
  - Distributor/Further Processing

Certificate # & SSCC
1. Pallet ID SSCC
2. Message SSCC
3. Producing Foreign Est #
4. Place for US Import Mark
5. Production Date
6. Net Weight
7. # of Units on Pallet
8. Handling Instructions
9. Exporting Est Name and Address

P-H1S

Name & Address
- Est #
- Item/Case/Pallet
- Transport
- Case
- Item
- Retail/Foodservice
- Consumer

- Est #
  - Item/Name
  - Lot code
Applying GS1 Standards

GS1 Layer

Australia

USA

Regulatory Layer

Import House Layer - Supply Chain Management/Inventory System

- Import House Supply Chain Management system would provide the link between Regulatory Est#s and GLN.
- Regulatory data systems do not provide full supply chain traceability. It is up to the company to make the link for products received, held, and shipped.
- A global standardized process has been developed to fit all companies and product types which is why a GLN is used to identify companies in the supply chain rather than a regulatory provided Est#.
Benefits to GS1 Barcodes & Additional Resources
Benefits to GS1 Barcodes

• If the pilot is successful the goal for expansion would be to use barcodes in lieu of shipping marks for carcasses, boxes of primal/sub-primal cuts, and processed products.

• Benefits to using GS1 barcodes to track and connect products to lots produced are increased transparency in supply chain. Increased transparency can allow for:
  – Quick response to issues
  – Quick traceback (no more paper shuffling)
  – Reduce time and cost for shipping mark remarking
  – Reduce issues associated with shipping marks

• Additional Benefits to using Meat Messaging System
  – Certificate information 30 days in advance of product arrival
  – Fat- Lean percentage per box
  – Certificate of Analysis
Additional Resources

Meat Messaging
- To register with Meat Messaging go to: https://www.meatmessaging.info/register.asp
- For more information on using the Meat Messaging search function for consignments or cases go to: https://www.meatmessaging.info/docs/Quick_instructions_for_searching_20191101.pdf
- For workflow details on the Pallet Pilot go to: https://www.meatmessaging.info/palletising.asp
- Meat Messaging industry portal is based on the GS1 standards for identification of consignments and barcodes on cases. For detail on case barcodes as supplied by Australian exporters go to: https://www.meatmessaging.info/docs/3_Carton_TechnicalFactSheetfinal.pdf

GS1 Resources
- GS1 Barcode Chart (link)
- Meat and Poultry Implementation Guide (link)
- Starters Guide to Using Barcodes (link)
- Foodservice Manufacturer Implementation Checklist (link)
- GS1 Implementation Guide for Grocery Retailers (link)
- GS1 Implementation Guide for Foodservice (link)
- GS1 Barcode Guidelines for Cases/Cartons in Foodservice (link)
- Find a GS1 US Solution Partner (link)

FSIS Directives and Notices
- Title 9 CFR 327.4
- FSIS Directive 9900.5 Label Verification of Imported Meat, Poultry, and Egg Products
- FSIS Notice 37-19 Barcodes in Lieu of Shipping Marks Pilot Program For Fresh Meat Products From Australia
Additional Questions?

Join the pilot U.S. Company email Rob Williams: rswilliams@mla.com.au
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