



Fruit and Vegetable GTIN Assignment Implementation Guideline

Version 1, Jan-2014



Document Summary

Document Item	Current Value
Document Title	Fruit and Vegetable GTIN Assignment Implementation Guide
Date Last Modified	January 4, 2014
Document Version	1
Document Status	Ratified
Document Description	

Contributors

Name	Organization
Hanjoerg Lerch	METRO
Norbert Roehl	Edeka
Martina Appehl	ICA
Joe Spreitzer	Target
Ed Treacy	PMA (Produce Marketing Association)
	PMA Supply Chain Efficiencies Committee
	GS1 Germany Fruit & Vegetable Expert Group
	GS1 France Fruit & Vegetable Industry Group
Jane Proctor	CPMA (Canadian Produce Marketing Association)
David Best	Duda & Sons
Harry Geelen	The Greenery
Gerard Lamers	Frugi Com
Johan den Engelse	Frugi Com
Mike Sadiwnyk	GS1 Canada
Michele Southall	GS1 US
Neil Piper	GS1 UK
Isabelle Chatagnier	GS1 France
Sarina Pielaat	GS1 Netherlands
Nicolas Stuyckens	GS1 Belgium
Andrew Steele	GS1 Australia
Christian Lauer	GS1 Austria
Denis O'Brien	GS1 Ireland
Klaus Foerderer	GS1 Germany
Flavia Costa	GS1 Brasil
Christine Hanko	GS1 Hungry
Piotr Frackowiak	GS1 Poland
Ruifeng Tian	GS1 China

Name	Organization
Owen Dance	GS1 New Zealand
Tarryn Daniels	GS1 South Africa
Oscar Hidalgo	GS1 Chile
Carlos Ramos	GS1 Mexico
Emanuela Casalini	GS1 Italy
Pere Rosell	GS1 Spain
Silverio Paixao	GS1 Portugal
Karolin Harsanji	GS1 Sweden
Janis Lublinskis	GS1 Latvia
Heinz Graf	GS1 Switzerland

Log of Changes

Issue No.	Date of Change	Changed By	Summary of Change
1	December x, 2012	Greg Rowe	1 st Draft
2	January 21, 2013	Greg Rowe	Draft 2 – updated Sections
3	January 28, 2013	Greg Rowe	Updated Section 5 – input from GS1 France
4	March 4, 2013	Greg Rowe, Harry Geelen	Updated Section 1, 2,5
5	March 5, 2013	Greg Rowe	Updated Section 5, 6
6	March 6, 2013	Greg Rowe	Updated all Sections
7	March 20, 2013	Fresh Foods Group	Updated all Sections
8	June 20, 2013	Fresh Foods Group	Updated all Sections
9	June 28, 2013	Fresh Foods Group	Updated all Sections
10	July 1, 2013	Fresh Foods Group	Updated all Sections
11	July 11, 2013	Fresh Foods Group	Updated all Sections
12	September 25, 2013	Fresh Foods Group	Updated all Sections



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GS1 Global Office

Avenue Louise 326, bte 10

B-1050 Brussels, Belgium

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1. Introduction

Efficient order and delivery processes, flexibility and traceability: the demands of the fruits and vegetables business have constantly increased over the last years. By means of unique product identification - which can be achieved by using the GS1 standards - these demands can be fulfilled by small, medium and large size companies. The enormous range of items and trading units requires a very detailed description of product specifications and it all depends on the right GTIN (Global Trade Item Number). By thoughtfully preparing to assign GTINs, a Brand Owner can minimize the administrative and operational burden involved.

This Guide is for the fruit & vegetable industry, providing guidance on how to assign a GTIN (Global Trade Item Number) and when to assign a new GTIN. It should be pointed out that GTIN Allocation Rules are available in the GS1 General Specifications. This document is intended for the person responsible for product data management in fruit & vegetable companies to understand the application of those allocation rules.

1.1. Purpose and Scope of this Document

It is usual business for the global fruit and vegetable sector to provide fresh products every day. Consumers value the high quality and wide range of fruits and vegetables on the shelves of their retail stores; however supply and demand can change easily in the short term based on factors such as to climate, season and actual weather and plant health issues. This makes it very important for fruit and vegetable retailers to be able to react rapidly to get the right products in their stores. Increasingly there is an expectation within industry to utilise common, global standards for product identification combined with automated electronic data processing. For all sectors, this is the most efficient way to manage ordering, receiving and labelling of products easily and without problems. In the current business and regulatory environment no industry sector can avoid exchanging detailed and transparent product information such as: country of origin, growing method, size, packaging and colour.

The purpose of this document is to provide companies with clear guidance to support unique GTIN Assignment. Experts within the fruit and vegetable sector have created a guide which includes an overview for fruit and vegetable products and provides business examples explain the conditions under which a new GTIN must be assigned and defines all attributes and characteristics on which the assignment will depend.

Every effort was made to make this Guide relevant across all target markets however in some instances regional guidelines have been developed to assist the industry and to ensure compliance with those specific markets.

In some target markets differences in attributes may require a new GTIN. Variety, Commercial Grade, Colour of Flesh and Country of Origin are good examples.



Reference Appendix B for local / target market references.

Readers are urged to understand and apply regulatory and business requirements specific to the target market for which products are destined.

1.2. Key Definitions

GS1 Glossary Term	Definition
Consumer Package	A trade item as it is distributed to the consumer or end-user.
Trade Package (Case)	“Case” is our generic term, which includes any item handled as a single unit in the transport and distribution process. This definition covers a wide variety of package types such as pallets, PRCs, cartons, cases, bins and totes. These items can be trade items and/or logistic units.
Logistics Unit	An item of any composition established for transport and/or storage that needs to be managed through the supply chain. It is identified with an SSCC
Size	<i>(Be sure to reference your local market standards for Size information)</i> An alphanumeric size factor the brand owner wishes to communicate to the consumer. For example, Jumbo, Medium, Size B, 88 count, etc. (this definition is from the PMA’s document, not from the GDD)
Class / Grade	A code indicating the degree of refinement, features and capabilities for a trade item. An accepted level or standard to determine the quality of fresh produce. Quality grades provide a common language among buyers and sellers, which in turn assures consistent quality for consumers. (this definition is from the PMA’s document, not from the GDD)
Global Trade Item Number (GTIN)	The GS1 Identification Key used to identify trade items. The key comprises a GS1 Company Prefix, an Item Reference and Check Digit.
GS1 Company Prefix	Part of the GS1 System identification number consisting of a GS1 Prefix and a Company Number, both of which are allocated by GS1 Member Organisations. See also U.P.C. Company Prefix. GS1 Member Organisations assign GS1 Company Prefixes to entities that administer the allocation of GS1 System identification numbers. These entities may be, for example, commercial companies, not for profit organisations, governmental agencies, and business units within organisations. Criteria to qualify for the assignment of a GS1 Company Prefix are set by the GS1 Member Organisations.
Item Reference	A component of the Global Trade Item Number (GTIN) assigned by the brand owner to create a unique GTIN
Check Digit	A final digit calculated from the other digits of some GS1 Identification Keys. This digit is used to check that the data has been correctly composed.
Indicator	A digit from 1 to 9 in the leftmost position of the GTIN-14
IFPS	International Federation of Produce Standards is composed of national produce associations from around the globe.

2. Overview

A GTIN is used to identify any item (trade item or service) upon which there is a need to retrieve pre-defined information and that may be priced or ordered or invoiced at any point in any supply chain. A separate, unique GTIN is required whenever any of the pre-defined characteristics of an item are different in any way that is relevant to the trading process.

Fruits and vegetables have unique characteristics, which can create confusion during the assignment of GTINs. Changes in variety, colour, packaging, species and many other attributes of the produce item may mean that a separate GTIN is required to distinguish a product from one, which seems very similar. Grower/packer/shippers (or

producers?) need to understand these differences and use this information to determine what GTINs need to be assigned to uniquely identify/describe their products.

Below are three charts outlining the difference in trade item labelling and where a GTIN is to be assigned for the Consumer Package, Trade Package (Case) and Pallet.

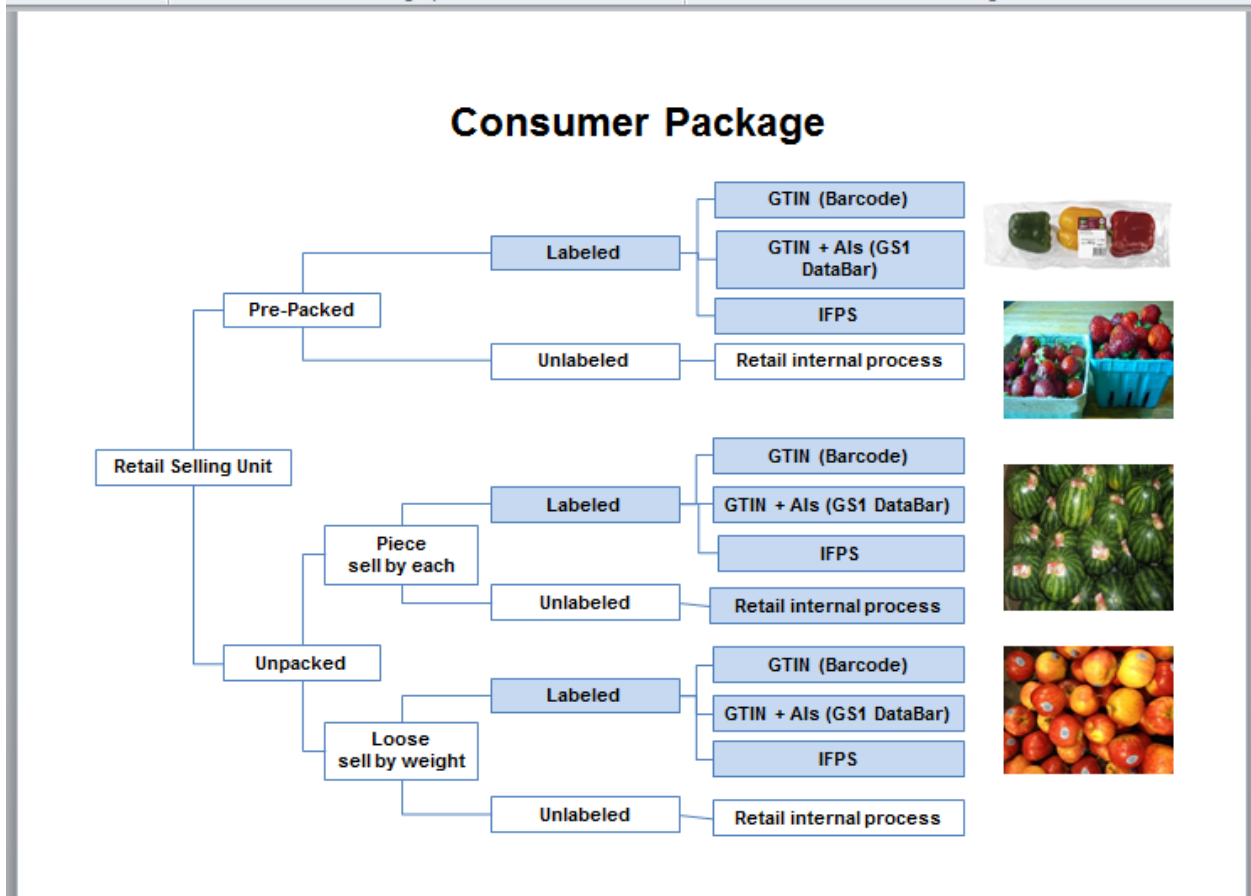


Figure 2—1. Consumer Package

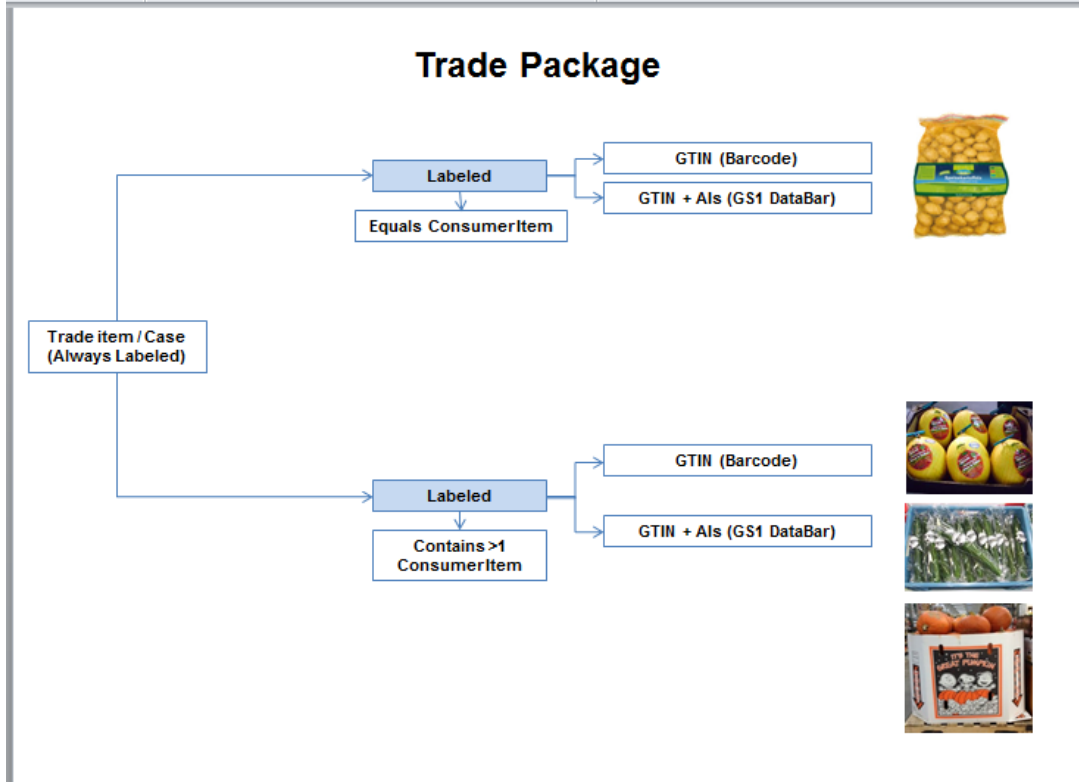


Figure 2—2. Trade Package.

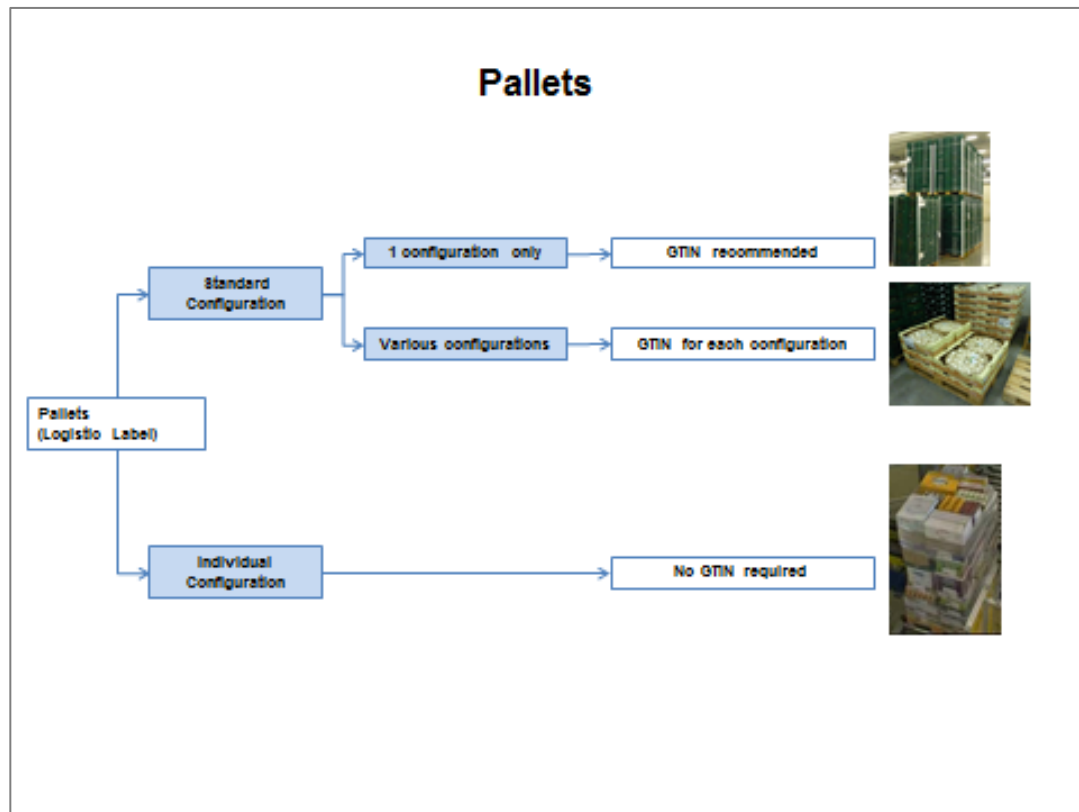


Figure 2—3. Pallets

3. GTIN Assignment

3.1. The GTIN – Basis for effective trade processes

The GTIN (Global Trade Identification Number) is part of the global GS1 system and helps to uniquely identify products, selling units, trading units and services. The GTIN enables companies to capture product data automatically for example by barcode scan – from harvest to point-of-sale. GTIN is also a key attribute for GDSN (Global Data Synchronisation Network).

The GTIN provides the basis for EDI (Electronic Data Interchange) between suppliers and retailers. From product ordering (by electronic systems), to reliable identification in warehouse and availability on the shelves of the retail store or foodservice operation, trading partners can optimize their bilateral trading processes regardless of restrictions of sector or country. Using the GTIN lays the groundwork for your success in business. A supplier of fruits and vegetables you may need to full fill legal requirements such as commercial demands of buyers but the GTIN offers more opportunities. For example, globally unique product identification provides the key to modern electronically governed business process. Single components of the GS1 System fit to each other as tools in a toolbox. They can be variously combined. Producers and suppliers are able to optimize their business processes step-by-step using this GS1 toolbox.

3.2. Where the GTIN is used

The GTIN identifies loose or pre-packed trade items at any stage of the supply chain up to the end consumer. In order to ensure the use of the GTIN along the entire supply chain, the GTIN should be assigned as early as possible. In the fruit and vegetable sector it is the party who brings the product into the market; this can be the grower or brand owner, but also the packer, despatcher or shipper.

In electronic messages such as Order, Despatch Advice/ASN and Invoice the GTIN identifies consumer units as well as sales units / trade units.

One specific case is private label brands: to enable labelling of the owner of the private label brand of a product, supplies all needed information and item numbers. f. It is also important to note that a trading partner who assigns GTINs for consumer goods will be held responsible for the GTINs of the trading units of these products.

The Brand Owner of private label products (aka the Private Label Brand Owner, or PLBO) is responsible for assigning GTINs for those products, not the grower or packer serving that PLBO. While not a common practice, some Private Label Brand Owners may choose to have the grower or packer assign GTINs.

3.3. Who is responsible for GTIN assignment

The brand owner, the organisation that owns the specifications of the trade item regardless of where and by whom it is manufactured, is normally responsible for the assignment of the Global Trade Item Number (GTIN). On joining a GS1 Member Organisation, the brand owner receives a GS1 Company Prefix for the sole use of the company to which it is assigned. The GS1 Company Prefix cannot be sold, leased, or

given, in whole or in part, for use by any other company. **The brand owner is the organisation that owns the trade item specifications and may be:**

- The manufacturer or supplier: that manufactures the trade item or has it manufactured in any country, and sells it under its own brand name
- The importer or wholesaler: that has the trade item manufactured in any country and sells it under its own brand name or the importer or wholesaler that changes the trade item (for example by modifying the packaging of the trade item)
- The retailer: that has the trade item manufactured, in any country, and sells it under its own brand

To determine which supply chain partner assigns the GTIN the following are best practices:

- 1) If the consumer item is a retailer's or foodservice private label the brand owner is responsible for assigning the GTIN
- 2) If the Trade item is a private label the brand owner is typically responsible for assigning the GTIN
 - a. In some cases, the retailer may have the supplier of the product assign the case level GTIN but the inner product will be assigned the retailer's GTIN
- 3) If the Packer / Repacker / Despatcher / Shipper is responsible for marking the product they should ensure that the product has a GTIN

Assigning GTINs to Private Label Products

The Brand Owner of private label products (aka the Private Label Brand Owner, or PLBO) is responsible for assigning GTINs for those products, not the grower or packer serving that PLBO. Note that if a PLBO allows more than one grower or packer to use the same GTIN, there is a remote possibility of repetition of Batch/Lot Numbers across the marketplace. In other words, the same Batch/Lot Number might be used by several growers at the same time, which can result in marketplace confusion if a trace back is required. Care should be taken to correctly track Batch/Lot Numbers for private label products when using multiple growers or packers.

GTINs then are assigned only for a unique combination of attributes, and new GTINs are assigned only when an item is added that represents a new combination of attributes.

3.4. When a new GTIN needs to be assigned

As a guiding principle, if the customer is expected to distinguish a new trade item from an old trade item and purchase accordingly, a new GTIN should be assigned to the new trade item. This will ensure the product package and shelf edge label declarations should appear the same to the consumer. However, any law or regulation that contradicts these rules shall supersede these rules.

The question for the fruit and vegetable sector now is the following: When does a producer or retailer have to assign a new GTIN for a product?

A GTIN must always be unique: for each possible packaging of a consumer good a new GTIN has to be assigned, also for each change of measurement of package and for each different quality of the product itself.

Changes of product qualities and the differentiation in degree of these qualities lead also to an assignment of a new GTIN.


In Summary - If a basic characteristic or a packaging characteristic is different, a new GTIN needs to be assigned. Any modification the basic elements that characterises a trade item will usually lead to a change in the GTIN.

Note: For a complete list of Fruit & Vegetable Master Data Attributes, reference the Fruit & Vegetable Master Data Attribute Implementation Guide

A separate unique GTIN is required whenever any of the **pre-defined characteristics of an item** are different in **relevance to the trading process**. Dependent on the Target Market, a new identification number (GTIN) may be assigned to a product if one of these properties is different:

Change New GTIN Requires	Attributes															Unique GTIN	
	Commodity (Functional Name)	Variety (Variant)	Country of Origin	Case Qty (Qty of Next Lower Level)	Case Type (Packaging Type)	Pack Style (Packaging Type)	Pack Size (Net Content)	Pack Size Unit (Net Content UoM)	Size Group (Descriptive Size)	Growing Method	Grower Label (Farm)	Grade (Quality / Class)	Brand Name	Any Dimensional Changes (H, W, D) (+/- 10%)	Any Weight Changes (Gross, Net) (+/- 10%)		Colour of Flesh
YES	YES	NO	YES	YES	II level has a GTIN, change will effect	YES	YES	II dimension's change, YES	YES	NO	YES	YES	YES	YES	YES (Target-market Europe)		
Example	Peach	August Lady	USA		Carton	Tray Pack	52	Each		Tree Ripe	CL	US No. 1	Brown's			00614141000012	
	Peach	Summer Lady	USA		Carton	Tray Pack	52	Each		Tree Ripe	LH	US No. 1	Brown's			00614141000029	
	Peach	August Lady	USA		Carton	Tray Pack	52	Each		Tree Ripe	MO	US No. 2	Brown's			00614141000036	
	Peach	Revita	Italy		Carton	Tray Pack	64	Each	B	Traditional	La Perla Siciliana Corso Messina 3 Tindari - ME	Extra	Perla Siciliana	40x30x28	7680	White	08391234567899
	Peach	Revita	Italy		Carton	Tray Pack	64	Each	B	Traditional	La Perla Siciliana Corso Messina 3 Tindari - ME	I	Perla Siciliana	40x30x28	7680	White	08395678901233
	Peach	Revita	Italy		Carton	Tray Pack	75	Each	B	Traditional	La Perla Siciliana Corso Messina 3 Tindari - ME	II	Perla Siciliana	40x30x30	9000	White	08398901258616
	Peach	Fortuna	Greece		Carton	Tray Pack	40	Each	AA	Traditional	Rodakino AC Meliki Imathia Veria	Extra	Bares	40x30x28	8000	Yellow	05213456789015
	Peach	Fortuna	Greece		Carton	Tray Pack	52	Each	A	Traditional	Rodakino AC Meliki Imathia Veria	I	Bares	40x30x28	8060	Yellow	05213456789022
	Peach	Fortuna	Greece		Carton	Tray Pack	65	Each	A	Traditional	Rodakino AC Meliki Imathia Veria	II	Bares	40x30x32	10075	Yellow	05213456789039

Table 1. Case level example.

 **NOTE:** In some Target Markets differences in attributes may require a new GTIN. Variety, Commercial Grade, Colour of Flesh and Country of Origin are good examples. Readers are urged to understand and apply regulatory and business requirements specific to Target Market.

Reference Appendix B for local / target market references.

Basic Characteristics	Explanation	Example
Commodity name	Name of the produce (Botanic Name/ descendant from)	Apple (Malus Domestica)
Growing method	Organic; Transitional; Conventional	Organic
Country of origin/region	Country of origin (optional also region of origin or national, regional or local name of product)	Netherlands Germany-Lake Contance
Brand Name (incl. No Name)		Chiquita
Premium Attribute / Commercial Claim (includes Maturity Method)	Premium attributes are used to distinguish from regular products, e.g. air-transport, ready-to-eat, citrus fruit with leaves.	Clementines with leaves (Premium Attribute) Ready-to-Eat (Maturity)

Table 2. Basic Characteristics for target markets.

Product Specific Characteristics	Explanation	Example
Size	Size of the product according to relevant standards	Apples 75/85 mm Oranges 2/3s
Class (Grade)	Class (Grade) of the product according to relevant standards	Extra, Class I, Class II
Colour	Colour of the fruit/vegetable (not colour of flesh)	Gooseberries: white
Shape	Shape of the fruit/vegetable	Cucumbers: crooked
Variety	Variety of the fruit or vegetable	Apple: Elstar Avocado: Hass
Commercial type	Commercial type of fruit or vegetable used in trade	Citrus: Primofiore
Colour of Flesh	Colour of the inner flesh of fruit or vegetable	Peaches: white; Grapefruit: rose
Post Harvest Treatment	Post-harvest treatment: chemical treatment or waxed.	Clementines: treated
Post Harvest Processing	Physical treatment e.g. washed or trimmed	Brussels Sprouts: trimmed
Cooking type	Waxiness of Potatoes: waxy, predominantly waxy; floury	Potatoes: floury
Seed Properties	Characteristic based on the amount of seeds.	Grapes: seedless

Packaging Characteristics	Explanation	Example
Content/Quantity in trade package	Content of the trade package (Package, Box, Crate, Pallet)	11 kg package; 150 kg big box
Package type and method for trade unit	Type of trade unit package, includes different returnable assets (deposits etc.)	EPS returnable asset; Carton
Content/Quantity in consumer unit	Pre-packed units for consumer, marked and unmarked	120 g; 250 g
Composition of Assortment (trade unit)	Items and/or Quantity	Crate with different potted herbs
Package type and method for consumer unit	Pre-packed units for consumer, marked and unmarked	Bag; Basket, Net
Composition of Assortment (consumer unit)	Items and/or Quantity	Tomato assortment pack Bicolor

Table 3.

4. GTIN Assignment Business Examples

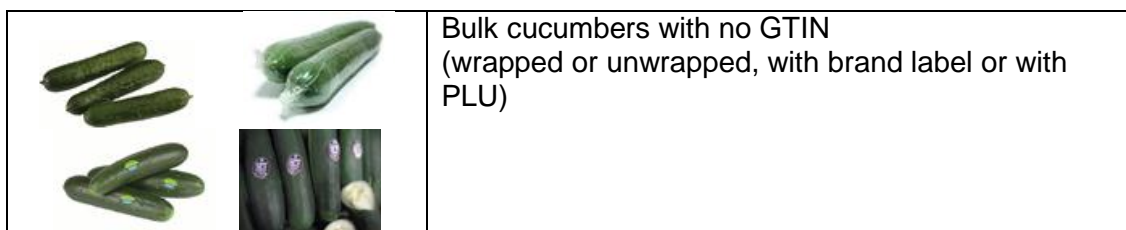
4.1. Example 1 - Standard product packaging Case of Bulk Cucumbers

Who are the Trading Partners?

- Norbert's Packers – medium size product facility operating in Valencia, Spain with customers throughout the world
- Norbert packers specializes in bulk cucumbers products and ships direct to retail customers
- Customer - Henri's Retailer based in Koln, Germany

What is happening?

- Norbert Packers trades bulk cucumbers with the same grade, quantity, quality, size and country of origin. Product is traded in 3 standard case configurations






	<p>Case 1- cardboard box, with 12 cucumbers inside GTIN - 08456789000007</p>
	<p>Case 2 - Wood crate with 12 cucumbers inside GTIN – 08456789000014</p>
	<p>Case 3 – Reusable plastic container (RPC) with 12 cucumbers inside GTIN – 08456789000021</p>

Figure 4—1. Standard product packaging examples.

- Henri’s purchases all three products from Norbert’s Packers

What is the Best Practice?

- Because the trade items are traded in different packaging types, they require different GTIN Assignment
- Norbert’s identifies these three trade items with 3 different GTINs
 - Cardboard box with 08456789000007
 - Wood crate with 08456789000014
 - RPC with 08456789000021
- This example demonstrates the difference in packaging types and how they require a unique GTIN Assignment.

Bulk Cucumbers with same product characteristics but different packaging

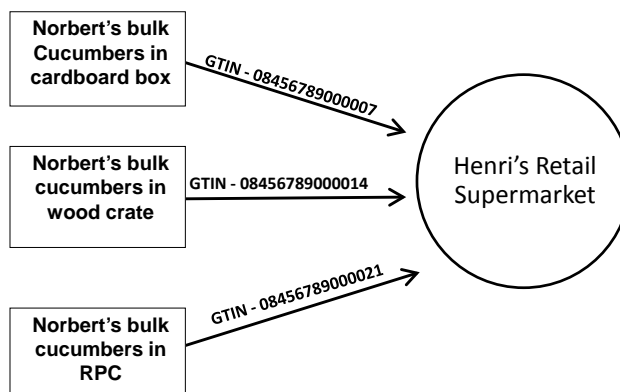


Figure 4—2. Product with same product characteristics, but different packaging.

4.2. Example 2 - Standard produce case with Consumer Trade Item inside

Who are the Trading Partners?

- Norbert's Packers – medium size product facility operating in Valencia, Spain with customers throughout the world
- Norbert packers specializes in pre-packed cucumbers and ships direct to retail customers
- Customer - Henri's Retailer based in Koln, Germany

What is happening?

- Norbert Packers trades pre-packed cucumbers with the same grade, quantity, quality, size and country of origin. Product is traded in 2 standard case configurations. Each case configuration contains a pre-packed consumer items with a GTIN.




	<p>Consumer Trade Item with GTIN – 0845678900038 This consumer trade item is wrapped, labeled and packed within each case configuration (with or without PLU).</p>
	<p>Case 1- cardboard box, with 12 cucumbers inside GTIN - 18456789000035</p>
	<p>Case 2 – Reusable plastic container (RPC) with 12 cucumbers inside GTIN – 38456789000039</p>

Figure 4—3. Standard produce case with Consumer Trade Item inside.

What is the Best Practice?

- As the consumer item has to be identified at Point-of-Sale it requires a unique GTIN, Norbert's identifies his pre-packed consumer trade item with a unique GTIN – 0845678900038
- Because we need to differentiate each case configuration Norbert's identifies each case with a unique GTIN
 - Cardboard box with 18456789000035
 - RPC with 38456789000039

Pre-packed Cucumbers with the identical consumer Trade item inside

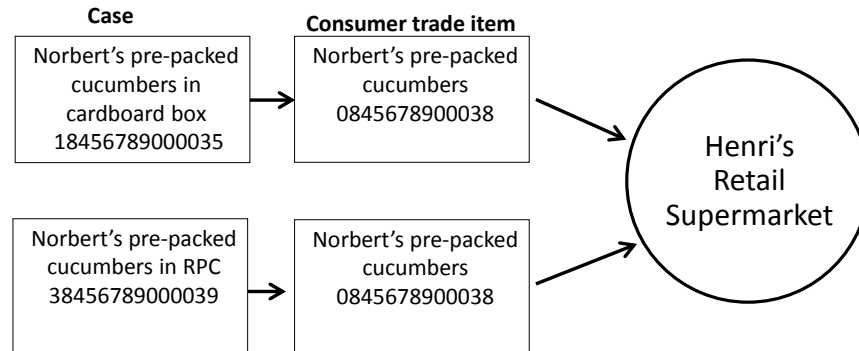


Figure 4—4. Prepackaged item with identical consumer Trade Item inside.

4.3. Example 3 – Package Changes and their impact on GTIN assignment

Who are the Trading Partners?

- Norbert's Packers – medium size product facility operating in Valencia, Spain with customers throughout the world
- Norbert packers specializes in cucumbers and ships direct to retail customers
- Customer - Henri's Retailer based in Koln, Germany

Minor Change – What is happening?

- Norbert Packers trades cucumbers in a box. Its dimensions are 40cm x 30 cm x 16.5cm.
- Norbert Packers changes packaging suppliers and replaces the box with a slightly taller one. Its dimensions are 40cm x 30cm x 17.5cm. This dimension change represents less than 10%.
- The net content remains the same.

Minor Change – What is the Best Practice?

- The packaging change is considered minor (less than 20%) and for this reason, Norbert Packers can continue using the same GTIN.

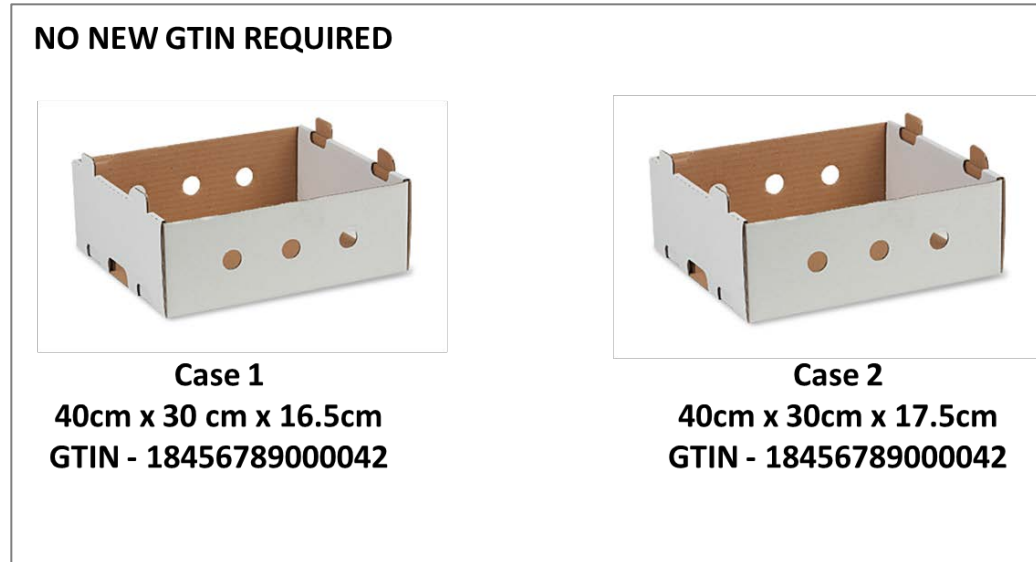


Figure 4—5. No new GTIN required on package.

Major Change – What is happening?

- Norbert Packers changes packaging suppliers once again. This time, the new package dimensions are 40cm x 30cm x 21cm. This dimension change represents more than 20%.
- The net content remains the same.

Major Change – What is the Best Practice?

- The packaging change is considered major (greater than 20%) and for this reason, Norbert Packers assigns a new GTIN.

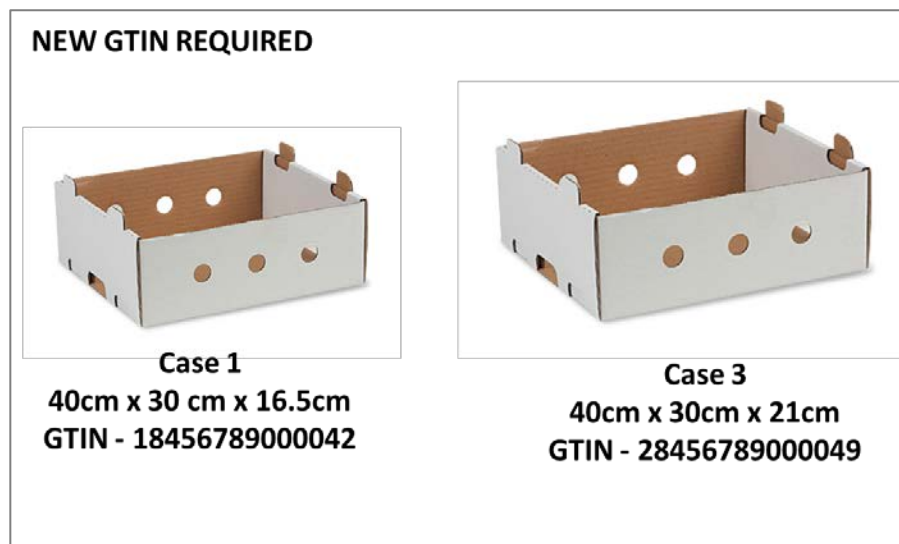


Figure 4—6. New GTIN required on package.

4.4. Example 4 – Sourcing product based on Country of Origin

This section on sourcing product is based on Country of Origin addressing regulatory or business needs.

Who are the Trading Partners?

- Juan's Grapefruit Packers is an international company specializing in grapefruit product from Mexico and the USA. They trade grapefruit all over the world including Greg's Citrus Trading Company
- Mike's Grapefruit Packers is an international company specializing in grapefruit product from Mexico and the USA. They trade grapefruit all over the world including Greg's Citrus Trading Company
- Greg Citrus Trading Company is a Trader which buys and sells grapefruit in the international market.
- Jane's Grocery is a mid-size supermarket based in the USA
- Isabelle's Corner Store based in France

What is happening?

- Greg's Citrus Company is sourcing product grown and packed in different countries
- Greg's Citrus Company does not change the products it buys in any way; they simply resell the product
- Greg's Citrus Company has customers in France (Isabelle's) and USA (Jane's).
- European regulation requires that country of origin must be defined at time of ordering, therefore, Isabelle's Corner Store requires that country of origin is part of Master Data.
- When Greg's Citrus Trading Company provides his Master Data to Jane's Grocery and Isabelle's Corner Store, he exchanges information for both case products.
- When Jane's Grocery orders, they do not specify the country of origin. Consequently, they may receive either product from Greg's Citrus Trading Company.
- When Isabelle's Corner Store orders, they will always specify the desired country of origin.

What is the Best Practice?

- Juan's assigns a GTIN to his product originating from Mexico and makes this available to his customer, Greg's Citrus Trading Company
 - GTIN – 17507894321780
- Mike's assigns a GTIN for his product originating from USA and makes this available to his customer, Greg's Citrus Trading Company
 - GTIN - 10064141567898
- Greg's Citrus Trading Company records and list Juan's and Mike's GTIN in his database

Country of Origin

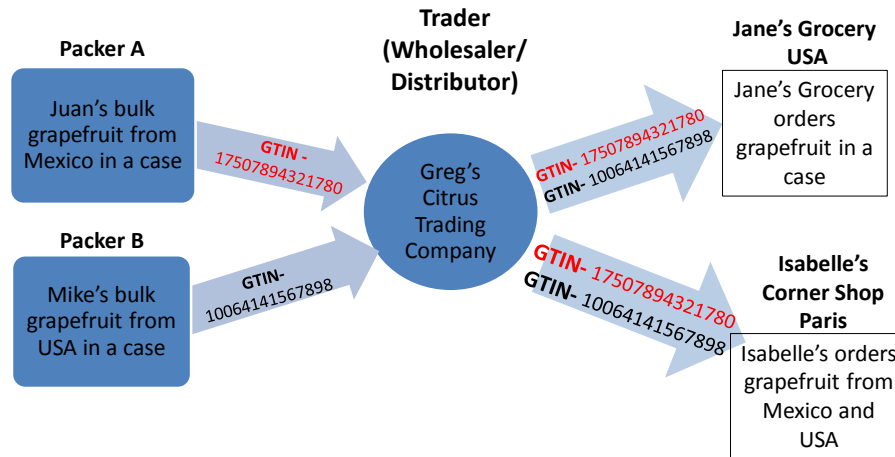


Figure 4—7. Country of Origin.

4.4. Example 5 – Post Harvest Processing (banana ripening)

Who are the trading partners?

- Bobby Banana Company is a fruit packer and ships bananas to wholesale and ripening facilities.
- Ed's Ripening Facility is a banana ripener who sells ripened bananas to wholesalers

What is happening?

- Bobby Banana Company sells unripen bananas to Ed's Ripening Facility
- Ed's Ripening orders unripen bananas, use GTIN-A for invoice.

What is the Best Practice?

- The Packer assigns GTIN-A to identify unripen bananas for selling / ordering
- Ripening of bananas to degree 4 is a transformation of the product, therefore the Ed's is responsible for assigning a new GTIN (GTIN-B)
- Further ripening of bananas (degree 4 to degree 6) does not represent a transformation, and consequently the same GTIN (GTIN-B) is used

Note: other examples could include celery, romaine hearts, Brussels sprouts...)

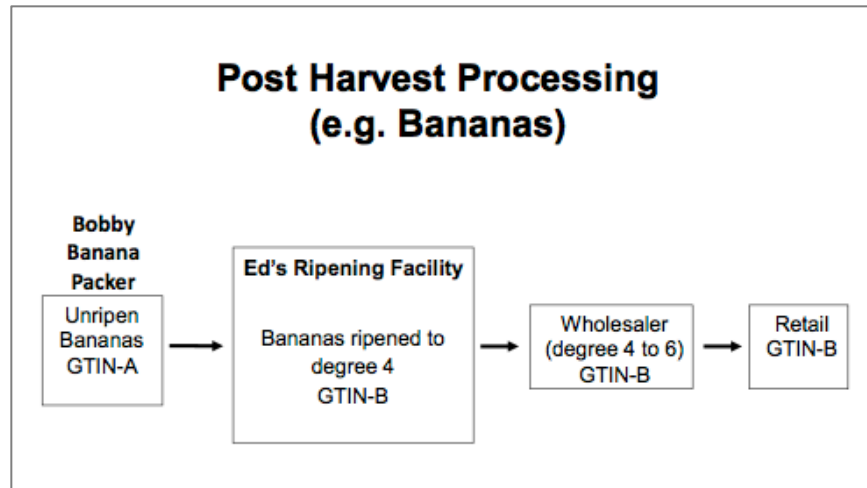


Figure 4—8. Post Harvest Processing.

4.6. Example 6 – Post Harvest Processing (e.g. broccoli, celery, Brussels sprouts, etc.)

Who are the trading partners?

- Klaus Growers is a producer of Brussels sprouts
- Mike's Packer is a distributor of Brussels sprouts
- Pere's Fresh market is a small retailer of fruits & vegetables in Barcelona
- Harry's Discount Market is a mid-size retailer in Amsterdam

What is happening?

- Klaus Growers ships Brussels Sprouts to Mike's Packer
- Mike's Packer has a processing line for trimming. Trimmed product is available to the trade as GTIN-A
- Mike's Packer also sells unprocessed (i.e. untrimmed) Brussels sprouts. These are available to the trade as GTIN-B
- Pere's Fresh Market specializes in premium fruits & vegetables. Pere's Fresh Market purchases GTIN-A from Mike's
- Harry's Discount Market purchases untrimmed product from Mike's, GTIN-B

What is the Best Practice?

- Trimming is a process and for this reason has to be distinguished from unprocessed product
- Mike's Packer assigns Trimmed Brussels sprouts
- Mike's Packer assigns Untrimmed Brussels sprouts

Post Harvest Processing

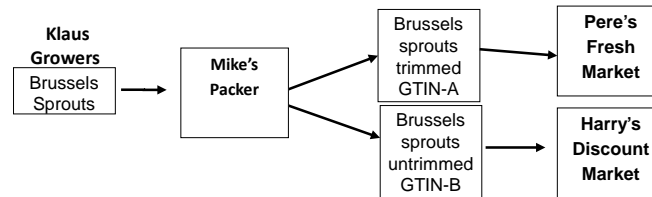


Figure 4—9. Post Harvest Processing.

4.5. Example 7 – Packing / Repacking

Who are the trading partners?

- Hometown Farms is a large grower of apples operating in New York State, USA
- Precision Packing is a large repacker of apples with customers throughout the world
- Sam's Independent Grocer is a mid-size retailer based in Chicago, USA
- Harry's Discount Market is a mid-size retailer in Amsterdam
- Really Big Retail is a large retailer with stores throughout France

What is happening?

- Hometown Farms sells packed green apples to Precision Packing
- Precision Packing repacks Hometown Farms green apples into new trade items
- Precision packs branded and unbranded trade items
- Precision Packing is creating product for Sam's under their private label. This means those products are identified using a GTIN assigned by Sam's Independent Grocer
- Precision Packing also creates product under the brand name Precision. These products are sold to Really Big Retail. These products are identified using a GTIN assigned by themselves
- Precision Packing is also trading Unbranded products using a different GTIN assigned by themselves

What is the Best Practice?

- Hometown Farms assigns a GTIN to their cases of Green apples GTIN - 10245894332241
- Precision Packing uses a GTIN assigned by Sam's Independent Grocer 5lb bags –
 - Case - 1033998740000
 - Item - 339987400009
- Precision Packing assigns new GTINs to cases and items themselves
 - Case - 10337784848489
 - Item - 337784848482

- Precision Packing assigns new GTINs to unbranded items themselves
 - Case - 1033778484849
 - Item – 337784848496

Packing / Repacking

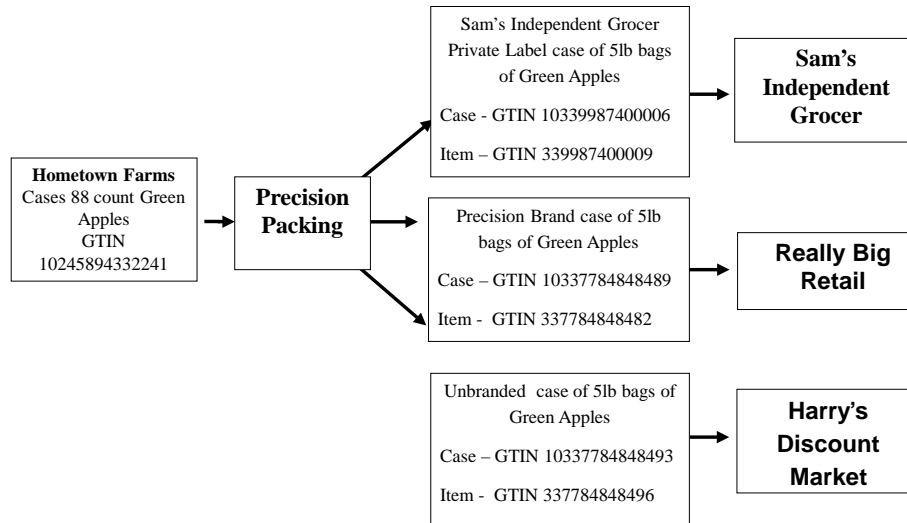


Figure 4—10. Packing/Repacking

4.6. Example 8 – Packing / Repacking Variety packs

Who are the trading partners?

- Good Bros Farms is small local grower of peppers
- Fresh Pepper Farms is a small local grower of peppers
- Precision Farms is a large grower of peppers and owned by Precision Packing
- Sam's Independent Grocer is a mid-size retailer based in Chicago, USA
- Harry's Discount Market is a mid-size retailer in Amsterdam
- Really Big Retail is a large retailer with stores throughout France

What is happening?

- Good Bros Farms sells packed green bell peppers to Precision Packing
- Fresh Pepper Farms sells packed red bell peppers to Precision Packing
- Precision Farms (owned by Precision Packing) delivers yellow bell peppers directly from the field.
- Precision Packing repacks all bell peppers into variety packs contain one red, one green and one yellow bell-pepper as new trade items.
- Precision packs branded and unbranded trade items

- Precision Packing is creating product for Sam’s under their private label. This means those products are identified using a GTIN assigned by Sam’s Independent Grocer
- Precision Packing also creates product under the brand name Precision. These products are sold to Really Big Retail. These products are identified using a GTIN assigned by themselves
- Precision Packing is also trading Unbranded products using a different GTIN assigned by themselves

What is the Best Practice?

- Good Bros Farms assigns a GTIN to their cases of Green peppers GTIN - 1076414123462
- Fresh Pepper Farms assigns a GTIN to their cases of Red peppers GTIN – 10245894332241
- As Precision Packing is creating new products, a new GTIN must be assigned by Precision Packing or Sam's Independent Grocer (private label brand owner). Precision Packing must not use the GTINs assigned by Good Bros and Fresh Peppers in this case.
- As the Yellow Peppers from Precision Farms comes directly from the field to the packhouse (ie. Precision Packing) there is no GTIN required
- Precision Packing uses a GTIN assigned by Sam’s Independent Grocer for the Private Label Variety Packs –
 - Case - 10339987400013
 - Item - 339987400016
- When Precision Packing assigns GTINs, they must do so based on Precisions Packing GS1 Company Prefix.
- Precision Packing assigns new GTINs to their own branded items
 - Case - 10337784848472
 - Item - 337784848475
- Precision Packing assigns new GTINs to Unbranded items
 - Case - 10337784848465
 - Item - 337784848468

Packing / Repacking Variety Packs

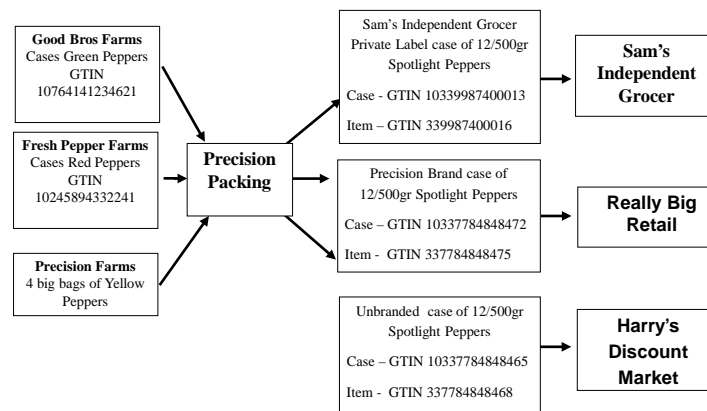


Figure 4—11. Packing/Repacking Variety Packs

4.7. Example 9 – Repacking after rejection (e.g. Re-grading)

Who are the trading partners?

- Precision Packing is distributor of Green Apples
- Sam's Independent Retailer
- Really Big Retailer
- Harry's Discount Market
- Dawn's is a solution provider that serves the industry by repacking products

What is happening?

- Precision Packing is selling Class I Green Apples for Sam's under their private label. This means those products are identified using a GTIN assigned by Sam's Independent Grocer.
- Sam's rejects the whole delivery as some products did not meet Sam's specifications. Precision retains ownership and re-packs the rejected delivery.
- Out of this delivery, Precision repacks the product into three items;
 - The first item meets Sam's specifications and can be sold to Sam's using the original GTIN
 - The second item is degraded to Class II and sold under Precision's brand to Really Big Retail
 - The third item is degraded to Class II and sold as Unbranded to Harry's Discount Market

What is the Best Practice?

- Precision Packing assigns new GTINs to their own branded items Class II
 - Case - 10337784848428
 - Item - 337784848449
- Precision Packing assigns new GTINs to Unbranded items Class II
 - Case - 10337784848417
 - Item - 337784848436

Repacking after rejecting (e.g. re-grading)

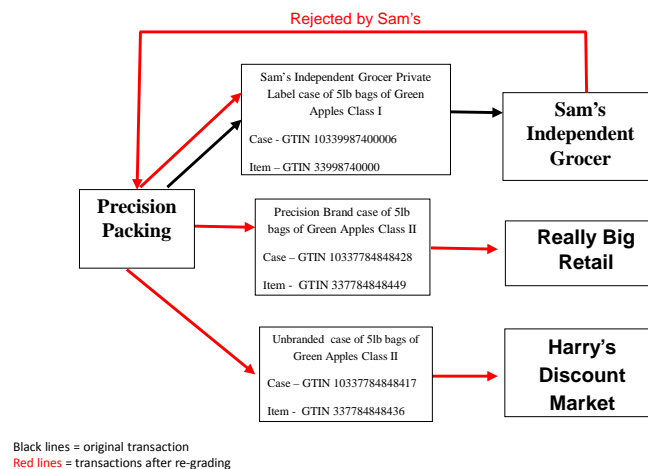


Figure 4—12. Repacking after rejecting (e.g. regarding).

4.8. Example 10 – Repacking by Third Party after rejection

Who are the trading partners?

- Precision Packing is distributor of Green Apples
- Sam's Independent Retailer
- Miguel's Hypermarket
- Harry's Discount Market
- Dawn's Local Repacking Inc.
- Dawn's Local Repacking Inc. sells Class I & Class II Green Apples under their own brand and GTINs to the market.

What is happening?

- Precision Packing is selling Class I Green Apples for Sam's under their private label. This means those products are identified using a GTIN assigned by Sam's Independent Grocer.
- Sam's rejects the whole delivery as some products did not meet Sam's specifications.
- Precision sells the rejected products to Dawn's Local Repacking Services and arranges transportation directly from Sam's to Dawn's facility.
- Dawn's Local Repacking Inc. sells Class I & Class II Green Apples under their own brand and GTINs to the market.
- Out of this delivery, Dawn's Local Repacking Services repacks the product into two items;
 - Although the first item meets Sam's specifications (e.g. Class I), Dawn's will sell them to another retailer using Dawn's GTIN for Class I green apples.
 - The second item is degraded to Class II. Dawn's sells unbranded Green Apples to a Discount Market using a GTIN assigned by Dawn's.

What is the Best Practice?

- Dawn's Repacking Inc. assigns their GTINs to their own branded items Class I
 - Case - 10434564848450
 - Item - 337784848426
- Dawn's Repacking Inc. assigns their GTINs to Unbranded items Class II
 - Case - 10434564848417
 - Item – 337784848436

Repacking by Third Party after rejection

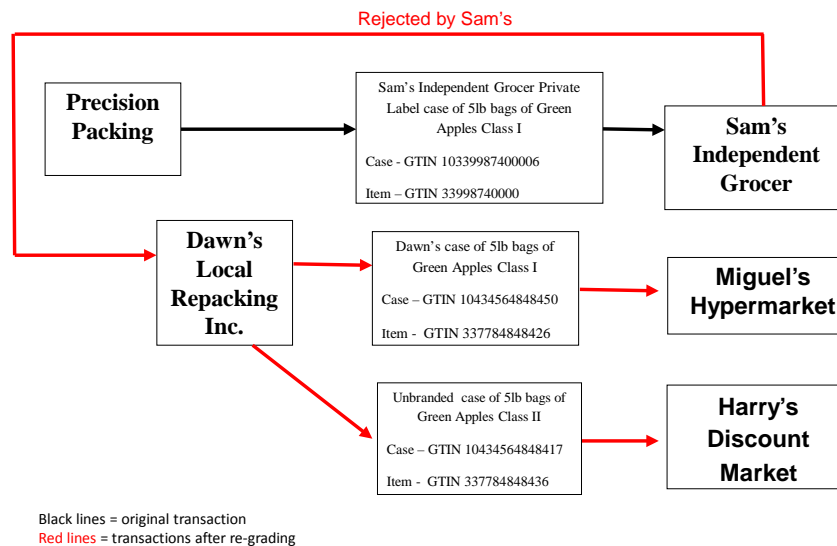


Figure 4—13. Repacking by Third Party after rejection.

4.9. Example 11 – Same retail product but in different packaging

Who are the trading partners?

- Gerard's Produce Company – a large producer of packaged fruits and vegetables in France has several different sized customers with varied needs
- Gerard's Produce Company produces 500g packages of leeks; one in a clam shell and the other in a 500g bag.
- Olivier's Fruit and Vegetable Market is one of Gerard's customers in Lille.

What is happening?

- Olivier's Fruit and Vegetable Market requires the 500g packages of leeks in a bag.

What is the Best Practice?

- Gerard's Produce Company identifies each packaging type of leeks with a different GTIN
 - 500g packages of leeks in a shell with saran as GTIN-A
 - 500g bags of leeks as GTIN-B



GTIN-A



GTIN-B

Figure 4—14. Same retail product in different packaging.

5. Appendix A - Packaging Hierarchy

5.1. Packaging Hierarchy GTIN Assignment Methods

Assigning GTINs take place at different levels of packaging such as individual items, cases and pallets. Below, we have provided the various different options that are available today for assigning GTINs for multiple levels of packaging. The following three scenarios illustrate how to assign GTINs at various item and package levels; note that uniqueness can be achieved by using different Indicator Digits or different Item Reference Numbers at the higher levels of packaging.

A. Different Item Reference Numbers for higher levels of packaging

It is acceptable to utilize the digit '0' in the Indicator Digit position at all hierarchy levels, while providing a different Item Reference Number at each level to ensure uniqueness (as shown in Figure 2a). 'C' is a placeholder for the automatically-calculated Check Digit and is the 14th digit of the GTIN.

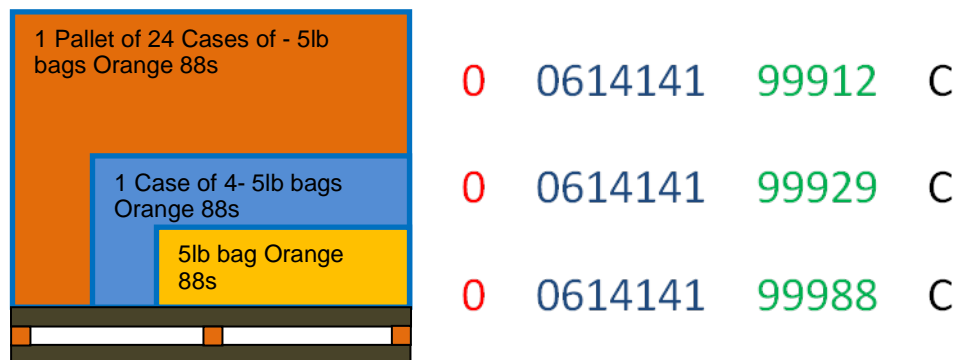


Figure 5—1. Different Item Reference Numbers.

B. Indicator Digit for higher levels of packaging

Depending on the length of an organization’s GS1 Company Prefix, using different packaging hierarchy levels (as noted below) will conserve the amount of numbers available for use as the item reference number.

It is acceptable to utilize the digits ‘1’ to ‘8’ in the Indicator Digit position at the designated hierarchy levels, while maintaining the same Item Reference Number at each level to ensure uniqueness (as shown in Figure 2b). The digit ‘9’ may be used in the Indicator Digit position, but it is reserved for Variable Measure Trade Items. ‘C’ is reserved for the automatically-calculated Check Digit and is the 14th digit of the GTIN.



Figure 5—2. Indicator Digit for higher levels of packaging.

C. Combination of Indicator Digit and Item Reference for higher levels of packaging

It is acceptable to utilize the digit ‘0’ in the Indicator Digit position at multiple different unit levels of the hierarchy, while providing a different Item Reference Number at those levels to ensure uniqueness (as shown in Figure 2c). The remaining hierarchy levels utilize the digits of ‘1’ to ‘8’ in the Indicator Digit position at the designated hierarchy levels, while maintaining a same Item Reference Number at each level to ensure uniqueness. ‘C’ is reserved for the automatically-calculated Check Digit and is the 14th digit of the GTIN.



Figure 5—3. Combination of Indicator Digit and Item Reference

6. Appendix B - Local / Target Market References

- European Market – “It depends on the right GTIN”
- Canada and USA – “Implementation Guide for Fresh Produce Data Standards and Synchronization (Release 2.0 June 2013)”
- GS1 General Specifications – GTIN Allocation Rules
- GS1 GTIN Allocation Rules Homepage
- PTI – Best Practices for Preparing to Assign GTINs
- GS1 Fruit & Vegetable Master Data Attribute Implementation Guideline