Mango



Traceability Guide for Mango Growers, Packers, and Importers





Introduction

This guide was designed with the objective of aiding those in the mango industry understand the Final Rule on Requirements for Additional Traceability Records for Certain Foods and the development of a practical Food Traceability Plan that complies with the Rule's requirements.

The purpose of the Final Rule on Requirements for Additional Traceability Records for Certain Foods is to allow for faster identification and rapid removal of potentially contaminated foods from the market, resulting in fewer foodborne illnesses and/or deaths. As such, the purpose of the guide is to aid in the development of a program that not only complies with the Rule's requirements but also allows for a fast response to FDA's requests for information regarding Mango Traceability.

It should be noted that even if compliance with the Final Rule on Requirements for Additional Traceability Records for Certain Foods is not required by your company because your product is not on the Food Traceability List or because you are subject to an exemption, other rules such as the Produce Safety Rule and the Preventive Controls for Human Food Rule may still apply. Additionally, facilities required to register with FDA (and therefore subject to the Preventive Controls Rule) have long been required to maintain a certain level of traceability at least one step forward and back, and this will stay in effect. In addition, even though under certain circumstances some regulations might not apply to your company or product, your clients may still require your compliance in order to do business.

While this documentation has been developed using the Final Rule on Requirements for Additional Traceability Records for Certain Foods and an assortment of FDA official documentation, this document is not developed or endorsed by FDA and holds no legal assurance of compliance; for more on this read our disclaimer.

For more information about the Final Rule on Requirements for Additional Traceability Records for Certain Foods you may visit FDA's information and resource page at:

https://www.fda.gov/food/food-safety-modernization-act-fsma/fsma-final-rule-requirements-additional-traceability-records-certain-foods

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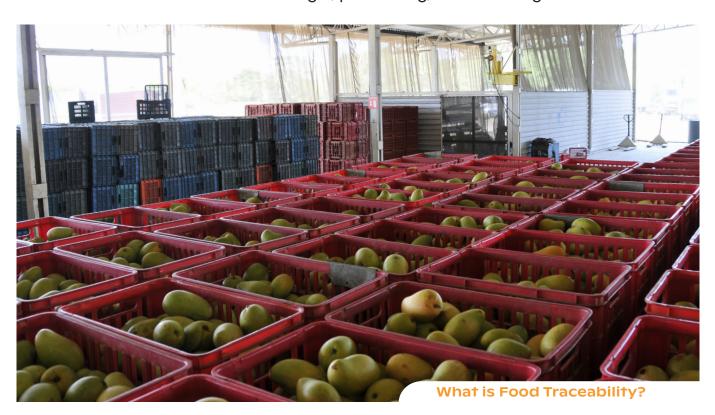
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What is Food Traceability?

To start, let's define what food traceability is. Food traceability refers to the ability of an organization such as FDA, a private company or even a customer to track a food product through all stages of production, processing, and distribution, to know where it came from and who had a hand in its movement and processing. This means that the food can be tracked all the way from its source (such as a farm) to the final retailer and consumer.

To achieve this, traceability requires the communication and cooperation of everyone involved in the supply chain and requires the recording and maintenance of detailed information about the origin, processing, and handling of the food.





Why is Traceability Important?

There are many reasons for why food traceability is important. For starters, food traceability is an important part of ensuring food safety. A good food traceability program can help both authorities and companies quickly identify the source of contamination when a foodborne illness occurs, enabling them to isolate and recall affected products before they cause widespread health issues. This can reduce the number and impact of food safety related incidents in an industry and protect public health.

A good food traceability program can help a company perform a more efficient food recall, should it ever be required. A working food traceability program can streamline the process of identifying and removing affected products from the market, and if the recall was caused by an ingredient one or more steps back, it can help determine what other products may be affected.

While not the purpose of the Rule, a traceability program can also help a company's quality control since it allows for the monitoring and recording of the conditions with which food products are handled throughout the supply chain. By knowing how products flow though the supply chain you can also identify "bottlenecks" and find efficiencies. A food traceability program may also be of interest to consumers for supply chain transparency, food fraud prevention, sustainability, and the environmental impact of food, though these are also topics not covered by the Rule.

In summary, a food traceability program is an important tool for ensuring food safety throughout the supply chain, that may also have other benefits to consumers, businesses, and regulators in the food industry.



What is the Food Traceability Rule?

Now that we know what food traceability is, and why it is important, let's review the Rule and some of its requirements. The official title is "Rule on Requirements for Additional Traceability Records for Certain Foods."

The Final Rule on Requirements for Additional Traceability Records for Certain Foods is a key component of FDA's Food Safety Modernization Act, also known as FSMA. The Rule establishes additional recordkeeping requirements, beyond the existing one step forward and back, for persons (including farms) who manufacture, process, pack, or hold foods included on the Food Traceability List (FTL) and requires companies subject to the Rule to establish a Food Traceability Plan.

The purpose of the Rule is to allow for faster identification and rapid removal of potentially contaminated food from the market, resulting in fewer foodborne illnesses and deaths.

To achieve this, FDA has identified important steps along the supply chain for which records must be kept. These required records will vary depending on the activities being carried out during each step of the supply chain.

Additionally, the Rule establishes the use and assignment of Traceability Lot Codes at certain stages of the supply chain. These are unique descriptors, often alphanumeric, that are used to uniquely identify a traceability lot or "batch" of product within a company's records.

For the mango industry, Traceability Lot Codes must be assigned whenever mangos are initially packed, and if the product is ever transformed, such as through processing, but also during some instances of repacking when mangos are comingled.

Finally, if you are subject to requirements of the Rule, you must design and maintain a traceability plan that includes specific information and records detailed further in this guide.

When do I Need to Comply?

Compliance with the Rule will be mandatory on Tuesday, January 20, 2026. The Rule establishes this single compliance date for everyone regardless of company size, product, sales, or if compliance with the Rule is required in its entirety or only partially.



Who is Subject to the Rule?

Compliance with the Rule is required for any person or company, both domestic or foreign, who manufactures, processes, packs, or holds foods that appear on the FDA's Food Traceability List and that will be consumed within the United States. This includes farms.

The Food Traceability List (FTL)

The Food Traceability List is the list of foods for which additional traceability records are required. "Foods included on the Food Traceability List" means that the rule not only applies to foods specifically listed on the list, but also to foods that contain listed foods as ingredients, provided that the listed food that is used as an ingredient remains in the same form in which it appears on the list.

To determine which foods should be included on the Food Traceability List, the FDA developed a risk-ranking model for food tracing. The model scores commodity and hazard pairs (for example mangos and *Salmonella* spp.), according to data and information relevant to the following criteria:



- Frequency of outbreaks and occurrences of illnesses
- Severity of illness
- Likelihood of contamination
- The potential for pathogen growth, with consideration of shelf life
- Manufacturing process contamination probability and industry-wide intervention
- Consumption rate and amount consumed
- Cost of the illness

The model uses data spanning many years, but more heavily weighs more recent data.

What Foods are Included on the Food Traceability List (FTL)?

While there are many foods and food categories on the Food Traceability List, fresh mangos are included on the Food Traceability List and specifically listed under the tropical tree fruits section.

Food Traceability List*	Description
Cheeses, other than hard cheeses, specifically:	
 Cheese (made from pasteurized milk), fresh soft or soft unripened 	Includes soft unripened/fresh soft cheeses. Examples include, but are not limited to, cottage, chevre, cream cheese, mascarpone, ricotta, queso blanco, queso fresco, queso de crema, and queso de puna. Does not include cheeses that are frozen, shelf stable at ambient temperature, or aseptically processed and packaged.
 Cheese (made from pasteurized milk), soft ripened or semi-soft 	Includes soft ripened/semi-soft cheeses. Examples include, but are not limited to, brie, camembert, feta, mozzarella, taleggio, blue, brick, fontina, monterey jack, and muenster. Does not include cheeses that are frozen, shelf stable at ambient temperature, or aseptically processed and packaged.
 Cheese (made from unpasteurized milk), other than hard cheese 	Includes all cheeses made with unpasteurized milk, other than hard cheeses. Does not include cheeses that are frozen, shelf stable at ambient temperature, or aseptically processed and packaged.
Shell eggs	Shell egg means the egg of the domesticated chicken.
Nut butters	Includes all types of tree nut and peanut butters. Includes all forms of nut butters, including shelf stable, refrigerated, and frozen products. Examples include, but are not limited to, almond, cashew, chestnut, coconut, hazelnut, peanut, pistachio, and walnut butters. Does not include soy or seed butters.
Cucumbers (fresh)	Includes all varieties of fresh cucumbers.
Herbs (fresh)	Includes all types of fresh herbs. Examples include, but are not limited to, parsley, cilantro, and basil. Herbs listed in 21 CFR 112.2(a)(1), such as dill, are exempt from the requirements of the Rule under 21 CFR 1.1305(e).



Food Traceability List*	Description
Leafy greens (fresh)	Includes all types of fresh leafy greens. Examples include, but are not limited to, arugula, baby leaf, butter lettuce, chard, chicory, endive, escarole, green leaf, iceberg lettuce, kale, red leaf, pak choi/bok choi, Romaine, sorrel, spinach, and watercress. Does not include whole head cabbages such as green cabbage, red cabbage, or savoy cabbage. Does not include banana leaf, grape leaf, and leaves that are grown on trees. Leafy greens listed in § 112.2(a)(1), such as collards, are exempt from the requirements of the rule under § 1.1305(e).
Leafy greens (fresh-cut)	Includes all types of fresh-cut leafy greens, including single and mixed greens.
Melons (fresh)	Includes all types of fresh melons. Examples include, but are not limited to, cantaloupe, honeydew, muskmelon, and watermelon.
Peppers (fresh)	Includes all varieties of fresh peppers.
Sprouts (fresh)	Includes all varieties of fresh sprouts (irrespective of seed source), including single and mixed sprouts. Examples include, but are not limited to, alfalfa sprouts, allium sprouts, bean sprouts, broccoli sprouts, clover sprouts, radish sprouts, alfalfa & radish sprouts, and other fresh sprouted grains, nuts, and seeds.
Tomatoes (fresh)	Includes all varieties of fresh tomatoes.
Tropical tree fruits (fresh)	Includes all types of fresh tropical tree fruit. Examples include, but are not limited to, mango , papaya, mamey, guava, lychee, jackfruit, and starfruit. Does not include non-tree fruits such as bananas, pineapple, dates, soursop, jujube, passionfruit, Loquat, pomegranate, sapodilla, and figs. Does not include tree nuts such as coconut. Does not include pit fruits such as avocado. Does not include citrus, such as orange, clementine, tangerine, mandarins, lemon, lime, citron, grapefruit, kumquat, and pomelo.
Fruits (fresh-cut)	Includes all types of fresh-cut fruits. Fruits listed in § 112.2(a)(1) are exempt from the requirements of the rule under § 1.1305(e).

Food Traceability List*	Description	
Vegetables other than leafy greens (fres-cut)	Includes all types of fresh-cut vegetables other than leafy greens. Vegetables listed in § 112.2(a)(1) are exempt from the requirements of the rule under § 1.1305(e).	
Finfish (fresh and frozen), specifically:		
 Finfish, histamine- producing species 	Includes all histamine-producing species of finfish. Examples include, but are not limited to, tuna, mahi mahi, mackerel, amberjack, jack, swordfish, and yellowtail.	
 Finfish, species potentially contaminated with ciguatoxin 	Includes all finfish species potentially contaminated with ciguatoxin. Examples include, but are not limited to, grouper, barracuda, and snapper.	
 Finfish, species not associated with histamine or ciguatoxin 	Includes all species of finfish not associated with histamine or ciguatoxin. Examples include, but are not limited to, cod, haddock, Alaska pollock, salmon, tilapia, and trout. Siluriformes fish, such as catfish, are not included.	
Smoked finfish (refrigerated and frozen)	Includes all types of smoked finfish, including cold smoked finfish and hot smoked finfish.	
Crustaceans (fresh and frozen)	Includes all crustacean species. Examples include but are not limited to shrimp, crab, lobster, and crayfish.	
Molluscan shellfish, bivalves (fresh and frozen)	Includes all species of bivalve mollusks. Examples include, but are not limited to, oysters, clams, and mussels. Does not include scallop adductor muscle. Raw bivalve molluscan shellfish that are (1) covered by the requirements of the National Shellfish Sanitation Program; (2) subject to the requirements of 21 CFR part 123, subpart C, and 21 CFR 1240.60; or (3) covered by a final equivalence determination by FDA for raw bivalve molluscan shellfish are exempt from the requirements of the rule under § 1.1305(f).	
Ready-to-eat deli salads (refrigerated)	Includes all types of refrigerated ready-to-eat deli salads. Examples include, but are not limited to, egg salad, potato salad, pasta salad, and seafood salad. Does not include meat salads.	

^{*}Taken from FDA's Food Traceability List on July 2023. Note: Foods for animals are not included in FDA's current risk-ranking model and are not included on the Food Traceability List, and therefore not covered by the final Rule.



How Often is the Food Traceability List Updated?

FDA has stated: "FDA intends to update the FTL approximately every five years, subject to available resources. First, we would update the Risk-Ranking Model for Food Tracing with new data and information. As part of this process, we intend to provide stakeholders with a mechanism to submit relevant data for the Agency's consideration. Based on the data and the updated Model, we could develop a proposed revised FTL. We would then publish a notice in the Federal Register stating the proposed changes and the reasons for the changes. The notice would also request information and views on the proposed changes. After considering any information and views submitted on the proposed changes to the FTL, we would publish a second notice in the Federal Register stating whether we are making any changes to the FTL and the reasons for the decision. If FDA revises the list, we will also publish the revised list on our website. Any deletions from the FTL would become effective immediately. Any additions to the FTL would become effective two years after the date of the Federal Register notice announcing the revised list, unless we state otherwise in the notice. This period of time would provide entities handling any new additions to the FTL sufficient time to come into compliance."

Foods on the Food Traceability List as Ingredients

Foods that contain an ingredient that is a food on the Food Traceability List (FTL) are also covered by the Rule if the ingredient remains in the form in which it appears on the list. This means that if a commodity is used as part of a multi-ingredient food without any processing or alteration that would remove it from the Food Traceability List, then the multi-ingredient food would also be covered under the final Rule.

Examples given by FDA of products that use ingredients from the Food Traceability List that would still be covered:

- A bagged salad mix with fresh lettuce
- A prepared smoothie with fresh cantaloupe
- A sandwich containing fresh tomato

Examples given by FDA of products that use ingredients from the Food Traceability List that would not be covered:

- A frozen pizza with spinach topping
- Trail mix with dried papaya

While these products use a food listed on the Food Traceability List, they are listed only as "fresh". These products are either not fresh or they will have a kill step before consumption.

The Rule would also cover a multi-ingredient food when a food on the Food Traceability List is used as an ingredient and there is no kill step applied to it, and the ingredient on the Food Traceability List does not change to a form that is no longer on the Food Traceability List. FDA lists as an example the use of peanut butter in a sandwich cracker where no kill step is applied to either the peanut butter or the peanut butter sandwich cracker. In this case the peanut butter sandwich cracker is covered by the Rule because it contains peanut butter, which is on the list.

It is important to note that even though these are examples given by FDA in official documents, each case is different, and FDA may come to a different conclusion on a similar circumstance.

Who is Exempt From the Rule?

There are certain ways to be eligible for a partial or a full exemption from the requirements of the Food Traceability Rule. FDA has developed a software tool to help you determine whether an exemption may apply to you. You can access the tool at:

https://collaboration.fda.gov/tefcv13/

While there are several exemptions that apply to different foods, processes, and companies, for the mango industry only a few of these exemptions may be applicable:

Exemption	Additional Details	Section of the rule
Farm (or farm activities of a farm mixed-type facility) with respect to the produce they grow, when the farm is not a covered farm under 21 CFR 112.4(a) (a provision in the produce safety regulation).	Farm or farm mixed-type facility with an average annual monetary value of produce sold during the previous 3-year period of \$25,000 (on a rolling basis) or less, adjusted for inflation using 2011 as the baseline year for calculating the adjustment.	§1.1305(a)(1)(i)
Produce farm averaging \$25,000 or less in sales of produce and market value of produce, adjusted for inflation using 2020 as the baseline year.	Calculation based on average annual sum of the monetary value of sales of produce and the market value of produce manufactured, processed, packed, or held without sale (e.g., held for a fee) during the previous 3-year period.	§1.1305(a)(1) (ii)



Exemption	Additional Details	Section of the rule
Producers of raw agricultural commodities (RACs) other than produce or shell eggs averaging \$25,000 or less in sales of RACs and market value of RACs, adjusted for inflation using 2020 as the baseline year.	Calculation based on average annual sum of the monetary value of sales of RACs and the market value of RACs manufactured, processed, packed, or held without sale (e.g., held for a fee) during the previous 3-year period.	§1.1305(a)(3)
Farm when food produced on that farm is sold or donated directly to a consumer by the owner, operator, or agent in charge of the farm.		§1.1305(b)
Food produced and packaged on a farm that meets certain packaging and labeling criteria.	(1) The packaging of the food remains in place until the food reaches the consumer, and such packaging maintains the integrity of the product and prevents subsequent contamination or alteration of the product; and (2) The labeling of the food that reaches the consumer includes the name, complete address (street address, town, state, country, and zip or other postal code for a domestic farm and comparable information for a foreign farm), and business phone number of the farm on which the food was produced and packaged. FDA will waive the requirement to include a business phone number, as appropriate, to accommodate a religious belief of the individual in charge of the farm.	§1.1305(c)
Food that will be subjected to a kill step by an entity other than a retail food establishment, restaurant, or consumer; or that will be changed by an entity other than a retail food establishment, restaurant, or	(i) There is a written agreement between the shipper of the food and the receiver stating that the receiver will apply a kill step to the food or change the food such that it is no longer on the FTL; or (ii) There is a written agreement between the shipper of the food and the receiver	§1.1305(d)(6)

Exemption	Additional Details	Section of the rule	
consumer, such that the food will no longer be on the FTL, provided that there are certain written agreements.	stating that an entity in the supply chain subsequent to the receiver will apply a kill step to the food or change the food such that it is no longer on the FTL and that the receiver will only ship the food to another entity that agrees, in writing, it will: (A) Apply a kill step to the food or change the food such that it is no longer on the FTL; or (B) Enter into a similar written agreement with a subsequent receiver stating that a kill step will be applied to the food or that the food will be changed such that it is no longer on the FTL. (iii) Any such written agreement must include the effective date, printed names and signatures of the persons entering into the agreement, and the substance of the agreement; and (iv) Such written agreement must be maintained by both parties for as long as it is in effect and must be renewed at least once every 3 years.		
Transporter of food	A person who has possession, custody, or control of an article of food for the sole purpose of transporting the food, whether by road, rail, water, or air.	§1.1305(n)	
Food for research or evaluation use provided certain conditions are met	Such food: (1) Is not intended for retail sale and is not sold or distributed to the public; and (2) Is accompanied by the statement "Food for research or evaluation use."	§1.1305(r)	

Requirements for Additional Traceability Records for Certain Foods: What You Need to Know About the FDA Regulation: Guidance for Industry Small Entity Compliance Guide - U.S. Department of Health and Human Services Food and Drug Administration Center for Food Safety and Applied Nutrition Office of Analytics and Outreach, May 2023.



Key Concepts

Once you have determined if the Rule applies to you, your products, and your company, you will need to comply with the traceability practices it requires. To achieve this, it is necessary that you understand the following key terms and how they apply to you:

- Critical Tracking Event (CTE)
- Key Data Element (KDE)
- Traceability Lot Code (TLC)

These key terms represent the information that needs to accompany the food product throughout the supply chain, when this information needs to be recorded, and how it is linked to each food product. Let's review each one in more detail:

Critical Tracking Event (CTE)

The path fresh mangos take from the farm to the table can be a very complex road of shippers, handlers, and packers. Mangos may shift hands several times during their transit, and so the responsibility for ensuring they are safe to eat also changes throughout. Because of the many steps a mango takes through the supply chain, tracing back its steps to its point of origin can be hard. This is especially true when there are points on the supply chain where the product may be transformed or comingled with other products, such as mangos from different lots or farms.

The Rule defines these important steps for product traceability as Critical Tracking Events (CTEs). According to the Rule a Critical Tracking Event means "an event in the supply chain of a food involving the **harvesting**, **cooling** (before initial packing), **initial packing** of a raw agricultural commodity other than a food obtained from a fishing vessel, first land-based receiving of a food obtained from a fishing vessel, **shipping**, **receiving**, or **transformation of the food**".

In the mango industry there are several potential Critical Tracking Events (CTEs) that may occur as the mangos go from the farm to the consumer. Keep in mind that not all CTEs apply to the mango supply chain. The following are some examples of Critical Tracking Events (CTEs) found throughout the mango supply chain, it is important that you identify the Critical Tracking Events (CTEs) that apply to your facility and process, as each facility is different:

Farm Critical Tracking Events (CTEs)

1. Product Harvesting. – The main Critical Tracking Event (CTE) that takes place at a mango farm is product harvesting: this is the point of origin of the product and is the furthest back you can go without losing the identity of the edible product. The illustration below shows the related Key Data Elements associated with this Critical Tracking Event. These will be explained later.



It is important to note that while product harvesting is the main Critical Tracking Events (CTE) on a farm, it might not be the only one. If other activities are performed within the farm, such as cooling before initial packing or on-farm packing, these will also be Critical Tracking Events (CTEs).

Packinghouse Critical Tracking Events (CTEs)



1. Initial Packing. - One of the main two Critical Tracking Events (CTEs) in a mango packinghouse is the initial packing of the product. Products are generally grouped into boxes or other packing materials and then onto pallets. This grouping of products will move together and can be traced by the lot or batch number assigned to the products. Note that the Rule doesn't require each box to be individually numbered; you assign the traceability lot code for the entire lot in accordance with your procedures to make tracking of where the product came from and where it is going more manageable.



2. Shipping.- Shipping is another Critical Tracking Event (CTE) that occurs in the mango packinghouse. Here the product is shipped to the customer, warehouse, or another handler within the supply chain.



Warehouse Critical Tracking Events (CTEs)

1. Shipping and receiving. The main two Critical Tracking Events (CTEs) in a mango warehouse are shipping and receiving. A warehouse's main activities are to receive product, hold it while keeping the product safe, and then ship it to the customer. It is important to know where the product is coming from and where it is going.



2. Transformation of the product. - Some warehouses may perform additional activities, such as repacking of mangos. If this practice takes place and product is comingled from different batches or different suppliers, then this is also considered a Critical Tracking Event (CTE).



It is rare for a single company to perform all these different activities in the supply chain, as such it is also normal for shipping and receiving Critical Tracking Events (CTEs) to occur at many steps throughout the supply chain.

Put simply, a Critical Tracking Event (CTE) is a step of special importance in the supply chain, and there are many of them throughout a product's journey to the table. So, if some information related to the product is collected at each one of these events, traceability becomes much easier and any emergencies like foodborne outbreaks and recalls can be dealt with quicker and more efficiently. But then, what information needs to be collected and kept? This is the next key term we need to understand.



Key Data Element (KDE)

The Rule defines Key Data Elements (KDEs) as: "The Information associated with a CTE for which a record must be maintained and/or provided".

In other words, Key Data Elements (KDEs) are the bits of information collected at Critical Tracking Events. Key Data Elements (KDEs) relate to the information about where a product was, is, and will be, how much product is in a given batch, descriptions of the product, etc. In short, Key Data Elements (KDEs) serve as "footprints", marking the place where a batch of product has been. Note that not all information in a product processing line is a Key Data Element (KDE), only those that occur at Critical Tracking Events and that relate to how the food was handled (if harvested, packed, or comingled), where it came from and where it is going.

Key Data Elements (KDEs) in a Mango Farm

As a farm that harvests mangos there are several Key Data Elements (KDEs) you need to record and keep:

1. Product Harvesting (Critical Tracking Event)

- a. Product description (type/variety of mango)
- **b.** Quantity of product
- **c.** A description of the location where the product was grown and harvested (name of the farm and field and their location as precise as possible)
- **d.** Location description for the next recipient (likely the packinghouse it is headed to)
- e. Date of harvest
- **f.** The type of reference documents that has this information, and any relevant reference document numbers



In addition, the farm needs to share with the initial packer their farm name and phone number, in addition to the harvest KDEs, and needs to record the location description for the location they are shipping it to.

The following is an example from part of a sample food traceability plan for a mango farm, showing the company's harvest KDEs. Note that the Rule does not require a specific format for records, the following are merely examples for educational purposes and not guidelines on how records must be kept.

CRITICAL TRACKING EVENTS (CTEs)

Product harvesting is the only Critical Tracking Event (CTE) that has been identified at this mango farm. No other activities such as cooling or initial packing are done at the farm.

#	Critical Tracking Events (CTEs)	Key Data Elements (KDEs)
1	Product Harvesting	 Product description (type/variety of mango) Quantity of product A description of the location where the product was grown and harvested (name of the farm and field and their location as precise as possible) Location description for the next recipient (likely the packinghouse it is headed to) Date of harvest

Sample food traceability document, to read the full sample document see Appendix 1 Sample Documents.

Key Data Elements (KDEs) in a Mango Packinghouse

Packinghouses are responsible for initial packing and shipping of mangos, as such, there are several Key Data Elements (KDEs) you need to record and keep:



1. Initial packing (Critical Tracking Event)

- a. Product description (type/variety of mango)
- **b.** Location description of where the food was harvested
- **c.** Business name and phone number for the harvester of the food
- d. Date of harvesting
- e. Date of receiving
- f. Quantity of product received
- g. Traceability lot code YOU assigned
- h. Product description of the packed food
- i. Quantity of the packed food



- j. Date of initial packing
- **k.** Location description for where you initially packed the food (i.e., traceability lot code source)
- 1. Reference document type and reference document number (e.g., bill of lading)

2. Shipping (Critical Tracking Event)

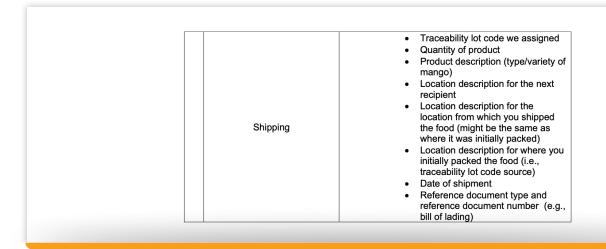
- a. Traceability lot code YOU assigned
- **b.** Quantity of product
- **c.** Product description (type/variety of mango)
- d. Location description for the next recipient
- **e.** Location description for the location from which you shipped the food (might be the same as where it was initially packed)
- **f.** Location description for where you initially packed the food (i.e., traceability lot code source)
- g. Date of shipment
- h. Reference document type and reference document number (e.g., bill of lading)

The following is an example from part of a sample food traceability plan for a mango packinghouse, showing the company's initial packing and shipping KDEs. Note that the Rule does not require a specific format for records, the following are merely examples for educational purposes and not guidelines on how records must be kept.

CRITICAL TRACKING EVENTS (CTEs)

Initial Packing and Shipping are the two Critical Tracking Event (CTE) that have been identified at this mango packinghouse.

Critical Tracking Events (CTEs)	Key Data Elements (KDEs)	
Initial Packing	Product description (type/variety of mango) Location description of where the food was harvested Business name and phone number for the harvester of the food Date of harvesting Date of receiving Quantity of product received Traceability lot code we assigned Product description of the packed food Quantity of the packed food Date of initial packing Location description for where you initially packed the food (i.e., traceability lot code source) Reference document type and reference document number (e.g., bill of lading)	
	(CTEs)	



Sample food traceability document, to read the full sample document see Appendix 1 Sample Documents.

Key Data Elements (KDEs) in a Mango Warehouse

Warehouses are generally only responsible for receiving and shipping of mangos, though some warehouses may perform other activities that could be considered a transformation of the product according to FDA, such as repacking of product, where it is comingled with product from different lots or suppliers:



1. Receiving (Critical Tracking Event)

- a. Traceability lot code of the food (as assigned by the initial packer)
- **b.** Quantity of product
- **c.** Product description (type/variety of mango)
- **d.** Location description for the previous source of the food (other than transporter)
- e. Location description for the location where the food was received
- f. Date on which the food was received
- **g.** Location description for the traceability lot code source or the traceability lot code source reference (e.g., the initial packer)
- h. Reference document type and reference document number (i.e., bill of lading)



2. Shipping (Critical Tracking Event)

- **a.** Traceability lot code of the food (as assigned by the initial packer, unless transformed by the warehouse)
- **b.** Quantity of product
- **c.** Product description (type/variety of mango)
- d. Location description for the next recipient
- e. Location description for the location from which you shipped the food
- **f.** Date of shipment
- **g.** Location description for the traceability lot code source or the traceability lot code source reference
- h. Reference document type and reference document number (i.e., bill of lading)

3. Transformation – Repacking product from different lots/suppliers (Critical Tracking Event)

For each traceability lot used as an "ingredient" in the repacked product:

- a. Traceability lot code(s) of the food(s) being mixed/comingled
- **b.** Quantity of product
- **c.** Description of the product

(Note: you will have captured other information as part of the receiving CTE)

In addition, for the NEWLY transformed product:

- a. The NEW traceability lot code for the food that YOU assign
- **b.** Product description of the NEW transformed product (type/variety of mango)
- **c.** Location description for where you transformed the food (i.e., the traceability lot code source)
- d. Quantity of transformed product
- e. Date of transformation/repacking
- **f.** Reference document type and reference document number (e.g., work order number)

The following is an example from part of a sample food traceability plan for a mango warehouse, showing the company's shipping and receiveing and, repacking (transformation) *KDEs*. Note that the Rule does not require a specific format for records, the following are merely examples for educational purposes and not guidelines on how records must be kept.

CRITICAL TRACKING EVENTS (CTEs)

Shipping, receiving and product repacking (transformation) are the three Critical Tracking Events (CTEs) that have been identified at this mango warehouse.

#	Critical Tracking Events (CTEs)	Key Data Elements (KDEs)	
1	Shipping and receiving	1. For receiving (Critical Tracking Event) 1. Traceability lot code of the food 2. Quantity of product 1. Product description (type/variety of mango) 1. Location description for the previous source of the food (other than transporter) 1. Location description for the location where the food was received 1. Date on which the food was received 1. Location description for the traceability lot code source or the traceability lot code source reference 1. Reference document type and reference document number (i.e., bill of lading) 2. For shipping (Critical Tracking Event) 1. Traceability lot code of the food 2. Quantity of product 1. Product description (type/variety of mango) 1. Location description for the next recipient 1. Location description for the location from which you shipped the food 1. Date of shipment 1. Location description for the traceability lot code source or the traceability lot code source reference 1. Reference document type and reference document number (i.e., bill of lading)	
	Repacking (Transformation)	Traceability lot codes of the foods being mixed/comingled Quantity of product The date you received the food Location description for the previous source of the food (other than transporter) Location description for the location where the food was received Date on which the food was received In addition, for the NEWLY transformed product: The NEW traceability lot code for the food that WE assign Product description (type/variety of mango) Location description for where you transformed the food (i.e., the traceability lot code source) Date of transformation/repacking Reference document type and reference document number (e.g., work order)	

Sample food traceability document, to read the full sample document see Appendix 1 Sample Documents.



You may have noticed by now how Key Data Elements (KDEs) generally link a product to a previous and to a future step in the supply chain whenever it is applicable. But keeping all this information is useless if you can't link the information to the specific product to which it belongs. This is why after the initial packing of the product a Traceability Lot Code (TLC) is assigned to the product.

You should also consider what the Rule defines as a location description, since it includes some important information that should be included. According to the Rule, location description means: "Key contact information for the location where a food is handled, specifically the business name, phone number, physical location address (or geographic coordinates), and city, state, and zip code for domestic locations and comparable information for foreign locations, including the country."

You should also consider that while FDA does consider repacking without the mixing or comingling of products from different lot codes as a transformation, it does not require the creation of a new Traceability Lot Code (TLC) since the repacking is "like into like". However, a new "Traceability Lot Code source" must be identified, since the warehouse performed a transformation.

Traceability Lot Code (TLC)

A Traceability Lot Code (TLC) is a special identifier that helps us recognize any single lot of product on its journey throughout the supply chain. You can think of the Traceability Lot Code (TLC) as an "ID number", as it is unique for every batch of product and it stays the same throughout the supply chain, unless the mangos are transformed into a new product.

A Traceability Lot Code (TLC) is only assigned at certain Critical Tracking Events such as during **initial packing of the mangos**, and once assigned, it accompanies the product through many steps in the supply chain. However, a new Traceability Lot Code (TLC) may have to be assigned if certain transformations occur, such as **repacking**, where product from different batches or suppliers is mixed (comingled) into a single new batch or lot.

The Rule doesn't define a specific format for the Traceability Lot Code (TLC), instead it is the responsibility of the entity assigning it to determine how they will codify their products. These codes are often alphanumeric but can take different forms, and there are many commercial systems that may automate this process for companies.

When to Assign Traceability Lot Codes (TLCs)

The Rule requires that Traceability Lot Codes (TLCs) are established whenever a raw agricultural commodity (such as mango) is initially packed, and whenever it is transformed (for example when there is repacking through comingling). While there are other steps established by the Rule in which a Traceability Lot Code (TLC) may need to be assigned, these generally do not apply to the mango industry (e.g., freshcut).

It's important to understand that the purpose of this code is to make traceability easy, and as such having a single Traceability Lot Code (TLC) identify the product throughout most of the supply chain is essential, and it should not be changed unless the product is transformed in a way that may affect traceability.

As such, do NOT establish a new Traceability Lot Code (TLC) whenever you conduct other handling activities for a food on the Food Traceability List (FTL) unless you transform the product into another product that is still on the Food Traceability List (FTL).

If you do transform the product, you will need to establish a NEW Traceability Lot Code (TLC) for the new product. The original lot codes used to make the new product are Key Data Elements that you need to keep, and need to link with the NEW TLC.

Let's look at some examples of when a Traceability Lot Code (TLC) needs to be assigned, and when it doesn't need to be assigned.



Example	Requires a Traceability Lot Code (TLC) to be assigned?	Note
A farm harvests mangos and ships them to a packinghouse.	No	A Traceability Lot Code (TLC) needs to be assigned at the initial packing step.
A packinghouse receives mangos from a farm, packs them and ships them to a customer in the U.S.	Yes	A Traceability Lot Code (TLC) needs to be assigned at the initial packing step.
A warehouse receives, stores, and then ships mangos to the customer, without any transformation or repacking of said product.	No	A new Traceability Lot Code (TLC) must NOT be established since the product is not being transformed.
A warehouse receives and stores mangos. When the product doesn't meet the customer's quality or maturity standards, the product is repacked, choosing the mangos that do meet these standards from different lots or suppliers.	Yes	A new Traceability Lot Code (TLC) MUST be established since the product is being transformed.
A warehouse receives and stores mangos. When the product doesn't meet the customer's quality or maturity standards, the product is repacked by removing and discarding the mangos that do not meet these standards but no mangos from different lots or suppliers are integrated into the existing lot.	No	A new Traceability Lot Code (TLC) is not required, since the repacking is "like into like". However, a new "traceability lot code source" must be identified, since the warehouse performed a transformtion.

Remember, if you are only storing and then shipping a product, without any transformation or repacking of said product, you must NOT establish a new Traceability Lot Code for the food.

Summary

In summary, the information you need to keep and send forward to the next entity on the supply chain under the Rule varies depending on the type of activities you perform with the mango. Harvesting, initial packing, distribution, and processing of mangos, each has different Key Data Element (KDE) requirements depending on their Critical Tracking Events (CTEs). As such, the Rule requires the assignment, recording, and sharing of Traceability Lot Codes for the mangos, as well as linking these lot codes to the other information identifying them as they move through the supply chain, aka their Key Data Elements (KDEs).

If you are a grower/harvester	You need to record any product harvest Key Data Elements (KDEs) and send this information along with the product to the next recipient of the product.	
If you are a packinghouse (initial packer)	You will receive information for the product harvesting Data Elements (KDEs) along with the product. You will the need to add to this information any Key Data Elements (KDEs) from the Critical Tracking Events (CTEs) in your facility and establish a Traceability Lot Code (TLC) for the product. This information will need to be sent to the new recipient of the product along with the product.	
If you are a warehouse	You will receive information for the Key Data Elements (KDEs) regarding initial packaging, and any other handlers of the product throughout the supply chain, along with the product. You will also receive a Traceability Lot Code (TLC) for the product. You will then need to add to this information any Key Data Elements (KDEs) from the Critical Tracking events (CTEs) in your facility. You must NOT change the product's Traceability Lot Code (TLC) UNLESS you transform the product, such as when there is repacking through comingling with product with different Traceability Lot Codes (TLCs). This information will need to be sent to the next recipient of the product along with the product.	



Mango Traceability Plan

If you determine that your mangos are subject to the requirements of the Final Rule on Requirements for Additional Traceability Records for Certain Foods, you will also be required to establish and maintain a Food Traceability Plan. This traceability plan is an essential food safety tool, and as such we will review not only what the Rule requires, but also how to develop and implement it in your organization. Let's review each of the different parts that the Mango Traceability Plan must address:

Recordkeeping

To start, the Rule requires that you include a description of the procedures you use to maintain the records for compliance with the Food Traceability Rule, including the format and location of these records.



The following is an example for these kinds of documents. Note that the Rule does not require a specific format for records, the following are merely examples for educational purposes and not guidelines on how records must be kept.

RECORDKEEPING

- All documents are kept for two years.
- All paper documentation for the Food Safety Plan and the food traceability system (procedures, records, reference documents, manuals, policies, guidelines, etc.) should remain on-site within the company's office building in labeled binders or as digital files backed up to the company's cloud service.
- All traceability records must include the following information and a document with this information is provided to the packinghouse:
 - 1. A description for the location of the immediate subsequent recipient of the product (not including the transporter).
 - 2. The commodity and variety of the food (For example: Mango, Tommy Atkins).
 - 3. The quantity and unit of measure of the food (For example: the number of boxes, mango caliber, and/or number of pounds).
 - 4. The location description for the farm where the food was harvested.
 - 5. For produce Raw Agricultural Commodities like mangos, maintain a record that contains the name of the field/growing area from which they were harvested, or any other information identifying the harvest location at least as precisely as the field/growing area's name. Make sure that whatever name you use, it corresponds with the name used by the grower.
 - 6. The date the product was harvested.
 - 7. The reference document type and number (aka the bill of lading).
 - 8. Business name and phone number

Sample document, to read the full content see Appendix 1 Sample Documents.

Although records can be kept in any form or system, and do not have to be kept electronically, if there is a food safety issue, FDA may ask that these records be provided in an electronic sortable spreadsheet generally within 24 hours of their request. For this reason, you should consider if it is practical to use an electronic sortable spreadsheet such as a Microsoft Excel File to record current Critical Tracking Elements and Traceability Lot Codes. Some of the KDEs may already exist in other systems, such as accounting software, and the Rule does not require duplication of information. However, as you are setting up your traceability system you will want to think about how you would collect information from different systems to create the electronic sortable spreadsheet, if needed.



Food on the Food Traceability List

You are also required to include a description of the procedures you used to determine if the products that you work with are on the Food Traceability List. For the fresh mango industry this is as simple as looking at the list since fresh mangos are one of the specified fruits on the fresh tropical tree fruits section, nonetheless depending on any other process or products you work with in your farm, packinghouse, or warehouse, you may have other products that are or aren't on the Food Traceability List. As such, compliance with this requirement can be achieved by having a procedure to review the Food Traceability List every time you start working with a new product or process, as well as anytime there is a notice of changes to the Food Traceability List.

PRODUCTS ON THE FDA'S FOOD TRACEABILITY LIST

- All new products are checked against the FDA's Food Traceability List when they are first introduced.
- All products are checked against the FDA's Food Traceability List whenever there is a change by FDA to the foods on the list (Approx. every 5 years).

Though not a requirement of the Rule, a recommended practice is to have a list of products you handle that includes information on whether the product is on the Food Traceability List or not, or to add this information to your product descriptions in your food safety plan.

#	Product	On the FTL?
1	Tommy Atkins	YES
2	Ataulfo	YES
3	Keitt	YES

Sample documents, to read the full content see Appendix 1 Sample Documents.

Product name	Mango			
Product Description	Mangos packed in corrugated cardboard boxes in presentations of 4 Kg and 12 Kg.			
Ingredients	Mangos USDA #1 from Haden, Kent and Tommy Atkins varieties.			
Packaging	Corrugated cardboard boxes of 4 Kg and 12 Kg.			
Intended use	Consumed fresh.			
Consumer	General public of all ages, not breastfeeding.			
Shelf life	28 days under refrigeration (10-12 °C) and without breaking the cold chain.			
Label requirements	Keep refrigerated (10-12 °C).			
Storage and distribution	Temperature: 10-12 °C.			
On Food Traceability List?	Yes			
Approved by:	Date: 06/08/2024.			
Signature: Adríán M.				
Name: Adrián Mujica.				

Sample document, to read the full content see Appendix 1 Sample Documents.



Responsible Person

The Rule also requires that the plan includes a statement identifying a contact within your company responsible for replying to any questions regarding your traceability plan and records.

RESPONSIBILITY

- The manager or person responsible for the Food Traceability Plan is responsible for distributing copies of the documents required in different areas, such as records and procedures of the tasks to be performed. They are also responsible for removing any obsolete documentation, inspecting, collecting, and filing all records that are full.
- The manager or person responsible of the Food Traceability Plan is also responsible for replying to any questions regarding the traceability plan and records.

Person responsible for the Food Traceability Plan:	Arenis Piñon	AreP.	
	Name	Signature	

Farm Map (Grower/Harvester Only)

Lastly, your Traceability Plan needs to include a map of the farm showing the areas in which you grow mangos. This map must show the name and location of each field, as well as any other growing areas where you grow food on the Food Traceability List. The map needs to include the field's geographic coordinates and any other information needed to identify their location.

Toto's Mango Farm

Field 1 – Los Manglares

(28.643305580591512, -106.10512393792253)

Field 2 – Doña Berta

(28.635259678965838, -106.06748920869542)



Sample documents, to read the full content see Appendix 1 Sample Documents.

Assigning Traceability Lot Codes (Initial Packing And Transformation Only)

If you are responsible for the initial packing of the mangos, or for their transformation through repacking or processing to another food on the Food Traceability List, your plan must also include a procedure describing how your operation assigns Traceability Lot Codes to the products that require it.

TRACEABILITY LOT CODE (TLC)

- Assigning a traceability lot code to a mango box at a mango packinghouse involves systematically labeling each box with a unique identifier that allows for easy tracking and tracing of the mangos back to their source.
- The lot size is determined based on factors such as harvest date, mango variety, and specific farm section or plot.
- The following code is used to set the Traceability Lot Code

01	23	07	17	08	03
Growing Location Code	Year	Month	Day	Mangos per	per Consecutive
(Also indicates Variety)	Packing Date		box	number	
(r also areases variety)					(Caliber)

Sample document, to read the full content see Appendix 1 Sample Documents.

When to Update the Food Traceability Plan

Once you have your Food Traceability Plan in compliance with the Rule, you will need to make sure it is always kept up to date and that it reflects the practices followed in your facility. Whenever you update you Food Traceability Plan, remember that the previous plan needs to be stored and kept for at least two years after you update it.



Records

Next let's review what Key Data Elements you will need to keep in your records, and how these may be included on your existing records. Note that the Rule does not require a specific format for records, the following are merely examples for educational purposes and not guidelines on how records must be kept.



Farm

Traceability records in a mango farm need to include the following information to comply with the Rule:



- 1) A description for the location of the immediate subsequent recipient of the product (not including the transporter).
- 2) The commodity and variety of the food (For example: Mango, Tommy Atkins).
- 3) The quantity and unit of measure of the food (For example: the number of boxes, mango caliber, and/or number of pounds).
- 4) The location description for the farm where the food was harvested.
- **5)** For produce Raw Agricultural Commodities like Mangos, maintain a record that contains the name of the field/growing area from which they were harvested, or any other information identifying the harvest location at least as precisely as the field/growing area's name. Make sure that whatever name you use, it corresponds with the name used by the grower.
- 6) The date the product was harvested.
- 7) The reference document type and number (aka the bill of lading).

The rule requires that you provide this information, except for the reference document type and number, along with your business name and phone number, to the initial packer of the RAC you harvest, either directly or through the supply chain. The information can be provided in electronic, paper, or other written form.

The following is an example for these kinds of documents. Note that the Rule does not require a specific format for records, these documents are merely examples for educational purposes and not guidelines on how records must be kept.

	Consecutive Number 000012		
	Product Harvest	and traceability L	og
Date: 28	3/08/2023		
Product:	Mango	Variety:	Tommy Atkins
Farm:	Toto's Mangos	Field:	Los Manglares
Han	vest crew: 3	Quantity:	34 baskets
Packinghou	ıse/client:	Adrian's Mang	Jo Packing
Packinghouse/c	án, Sinaloa, Mexico		

Sample document, to read the full content see Appendix 1 Sample Documents.

Packinghouse

Traceability records in a mango packinghouse need to include the following information to comply with the Rule:

- 1) The commodity and, if applicable, variety of the food received (For example: product: Mango, variety: Tommy Atkins).
- 2) The date you received the mangos.
- 3) The quantity and unit of measure of the food received (For example: the number of boxes, mango caliber, and/or number of pounds).
- **4)** The location description for the farm where the food was harvested.
- 5) For produce like mangos, the name of the field or other growing area from
 - which the food was harvested (which must correspond to the name used by the grower), or other information identifying the harvest location at least as precisely as the field or other growing area name.
- 6) The business name and phone number for the harvester of the food.
- 7) The date of harvesting.
- 8) The Traceability Lot Code you assigned.
- **9)** The product description of the packed food.





- 10) The quantity and unit of measure of the packed food (For example: the number of boxes, mango caliber, and/or number of pounds).
- 11) The location description for where you initially packed the food (i.e., the Traceability Lot Code source), and (if applicable) the Traceability Lot Code source reference.
- 12) The date of initial packing; and
- 13) The reference document type and reference document number.

Harvast/ra	ception date: 28/08/20	002	Adrian's Ma DAILY MANGO RE #123 Mango Rd. Mazatlán, Sina	CEPTION REPOR						
	date is the same as the date received		Farm Address	Harvest Field	Mango Type	Quality Check	Pkg Type	Pkg Count	Net Weight (Kg)	Person who receives (Signature)
000012	Toto's Mango Farm	123-456-78	Manglares Gtreet #1234, El Rosario, Ginaloa, México	Los Manglares	Tommy Atkins	√	Basket	34	1020 Kg	Ilar
000015	Toto's Mango Farm	123-456-78	Manglares Street #1234, El Rosario, Sinaloa, México	Doña Berta	Ataulfo	✓	Basket	42	1260 Kg	Ilar
000017	Mango Arenis	123-654-87	Los Mangos Street #4321, El Rosario, Ginaloa, México	El arrollo	Keitt	✓	Basket	37	1110 Kg	Ilar

	Adrian's Mango Packing Mango Packing and Shipping Log #123 Mango Rd. Mazatlán, Sinaloa, México. Phone: 123-456-78										
Traceability Lot Code (TLC)	Harvest Date	Date Packed	Supplier Ticket No.	Supplier	Order No.	Quantity	Units	Mango Type	Client	Client Adress	Shipping Date
12308280801	28/08/2023	28/08/2023	000012	Toto's Mango	0-125	143	12 Kg	Tommy	Edwin's Mango	#123 Storage Dr.	29/08/2023
12300230001	2010012023	2010012023	000012	Farm	Ø-123	143	Boxes	Atkins	Warehouse	McAllen Tx. USA	23/03/202
12308290801	28/08/2023	29/08/2023	000015	Toto's Mango Farm	0-126	170	12 Kg Boxes	Ataulfo	Rocio Produce Storage	#456 Produce Rd. McAllen Tx. USA	30/08/2023
12308300802	28/08/2023	30/08/2023	000017	Mango Arenis	0-127	200	4 Kg Boxes	Keitt	Angelica's Warehouse	#789 Mango Street McAllen Tx. USA	31/08/2023

In addition, shipping records must include:

- 1) The Traceability Lot Code.
- 2) The quantity and unit of measure of food (For example: the number of boxes, mango caliber, and/or number of pounds).
- 3) The product description.
- 4) The location description for the immediate subsequent recipient (other than a transporter) of the food.
- 5) The location description for the location from which you shipped the food.
- **6)** The date you shipped the food.
- 7) The location description for the Traceability Lot Code source, or the Traceability Lot Code source reference; and
- 8) The reference document type and reference document number (aka the bill of lading).

The Rule requires that you provide this information, except for the reference document type and reference document number, to the immediate subsequent recipient that is not a transporter, for each traceability lot that you ship. The information can be provided in electronic, paper, or other written form.

	Mango Packing and Shipping Log #123 Mango Rd. Mazatlán, Sinaloa, México. Phone: 123-456-78										
Traceability Lot Code (TLC)	Harvest Date	Date Packed	Supplier Ticket No.	Supplier	Order No.	Quantity	Units	Mango Type	Client	Client Adress	Shipping Date
12308280801	28/08/2023	28/08/2023	000012	Toto's Mango Farm	0-125	143	12 Kg Boxes	Tommy Atkins	Edwin's Mango Warehouse	#123 Storage Dr. McAllen Tx. USA	29/08/2023
12308290801	28/08/2023	29/08/2023	000015	Toto's Mango Farm	Q-126	170	12 Kg Boxes	Atauljo	Rocio Produce Storage	#456 Produce Rd. McAllen Tx. USA	30/08/2023
12308300802	28/08/2023	30/08/2023	000017	Mango Arenis	0-127	200	4 Kg Boxes	Keitt	Angelica's Warehouse	#789 Mango Street McAllen Tx. USA	31/08/2023



Warehouse

Traceability records in a mango warehouse need to include the following information to comply with the Rule:

When receiving mangos:

- 1) The Traceability Lot Code.
- 2) The quantity and unit of measure of food (For example: the number of boxes, mango caliber, and/or number of pounds).
- 3) The product description.
- **4)** The location description for the immediate previous source (other than a transporter) of the food.
- 5) The location description for the location where you received the food.
- 6) The date you received the food.
- 7) The location description for the Traceability Lot Code source, or the Traceability Lot Code source reference; and
- 8) The reference document type and reference document number (aka the bill of lading).

Edwin's Mango Warehouse DAILY MANGO RECEPTION REPORT #123 Storage Dr. McAllen Tx. USA. Phone: 123-456-7 Reception date: 31/08/2023 Traceability Lot Code (TLC) Supplier's Supplier's Address TLC source? TLC Source Name TLC Source Address Type Adrian's Mango Manglares Street #1234, El Rosario, 12 Kg 12308280801 123-456-78 143 Yes Same as supplier Same as supplier Basket Sinalea, México Atkina #123 Mango Rd. Mazatlán, Sinaloa 12 Kg 022307170816 123-456-89 Basket Kevin's Manaes Uea Same as supplier Same as supplier Atauli #1456 Manguitos Street, Mazatla Los Mangos Street #4321, El Angelica's 123-654-87 052307170817 Care's Produce Packing no 200 Basket Rosario, Sinaloa, Méxic Tropical Fruit Singleg, México Bove

When shipping mangos:

- 1) The Traceability Lot Code.
- 2) The quantity and unit of measure of food (For example: the number of boxes, mango caliber, and/or number of pounds).
- 3) The product description.
- **4)** The location description for the immediate subsequent recipient (other than a transporter) of the food.
- 5) The location description for the location from which you shipped the food.
- **6)** The date you shipped the food.
- 7) The location description for the Traceability Lot Code source, or the Traceability Lot Code source reference; and
- 8) The reference document type and reference document number (aka the bill of lading).

The Rule requires that you provide this information, except for the reference document type and reference document number, to the immediate subsequent recipient that is not a transporter, for each traceability lot that you ship. The information can be provided in electronic, paper, or other written form.

Edwin's Mango Warehouse DAILY MANGO SHIPPING REPORT #123 Storage Dr. McAllen Tx. USA. Phone: 123-456-78

Traceability Lot Code (TLC)	The traceability lot code source	The traceability lot code source address	Order No.	Quant ity	Units	Mango Type	Client	Client Adress	Shipping Date
12308280801	Adrian's Mango Packing	Manglares Street #1234, El Rosario, Ginaloa, México	0-227	43	12 Kg Boxes	Tommy Atkino	Elias Super Store	#123 Produce Dr. New York, NY. USA	29/08/2023
022307170816	Kevin's Mangos	#123 Mango Rd. Mazattán, Ginaloa, México.	0-228	70	12 Kg Boxes	Atauljo	David's Produce Emporium	#456 Retail Rd. Denver, Co. USA	30/08/2023
052307170817	Caro's Produce Packing	Los Mangos Street #4321, El Rosario, Ginaloa, México	0-229	35	4 Kg Boxes	Keitt	Paola's Produce Shop	#789 Shopping Street Gan Francisco, Ca. USA	31/08/2023



When transforming mangos (repacking or processing):

- 1) The different Traceability Lot Codes used.
- 2) The product description for which the Traceability Lot Code applies.
- 3) The quantity and unit of measure of food for each traceability lot used.
- 4) The NEW Traceability Lot Code which you assign.
- 5) The location description for where you transformed the food.
- 6) The date the transformation was completed.
- 7) The product description for the new food product.

Mango Type: Tommy Atkins

- 8) The quantity and unit of measure of the food (For example: the number of boxes, mango caliber, and/or number of pounds).
- 9) The reference document type and reference document number for the transformation event.



Edwin's Mango Warehouse MANGO REPACK REPORT

#123 Storage Dr. McAllen Tx. USA. Phone: 123-456-78

Presentation: 4 kg boxes

New Traceability Lot Code (TLC): 0123071799

Source Traceability Lot Codes (TLC)	Product Reception Date	Quantity	Units	Supplier	Supplier's Address
12308280801	30/08/2023	13	4 Kg Boxes	Adrian's Mango Packing	Manglares Street #1234, El Rosario, Ginaloa, México
14438377303	30/08/2023	17	4Kg Boxes	Kevin's Mangos	#123 Mango Rd. Mazatlán, Sinaloa, México.
44076743188	31/08/2023	20	4Kg Boxes	Caro's Produce Packing	Los Mangos Street #4321, El Rosario, Sinaloa, México

Total Number of Repacked Boxes: 50 .

Repack Date: 31/08/2023

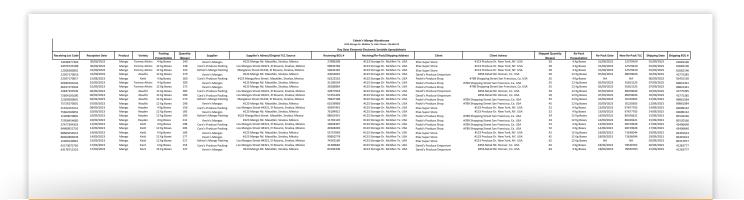
Example Electronic Sortable Spreadsheets

Remember that if there is a food safety issue, FDA may ask that these records be provided in an electronic sortable spreadsheet within 24 hours of their request. A best practice is to keep as much information as possible in electronic form, so that it may be ready and available should it ever be required. A Microsoft Excel File can be used.

Let's look at how these spreadsheets can help both us and regulators determine the source of a foodborne outbreak.

Imagine there was a foodborne illness outbreak caused by mangos. Investigators are tasked with finding where the mangos became contaminated to prevent more people from becoming sick. The industry is also interested in finding the source so that people don't stop buying mangos. Working together, they track down the contaminated mangos to a warehouse using the Traceability Lot Code (12308280801), since this code is now captured throughout the supply chain, including at the grocery stores where people who got ill shopped. The information about the warehouse was also available at the store since the warehouse is the TLC source because they repacked mangos.

This Warehouse has an electronic sortable spreadsheet to keep track of all its Key Data Elements.





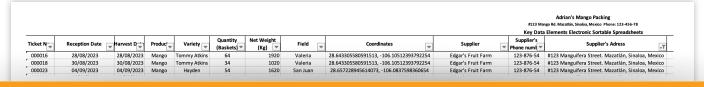
By knowing the Food Traceability Lot Code (12308280801) we can filter through its information to find where the product came from. Here we can see that the product was repacked with product from 3 different suppliers.



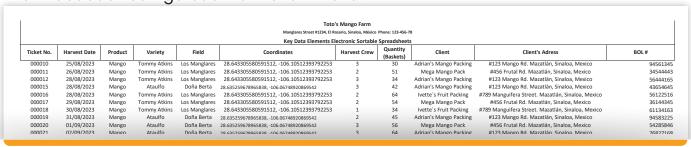
If we trace our product to Adrian's Mango Packing, we find that they also kept track of their Key Data Elements using an electronic sortable spreadsheet.



Which they can use to filter which specific farm the mangos came from.



The farm has their own electronic sortable spreadsheet with which to confirm the mangos came from their farm, and more importantly, they can cross reference with their records to find out where and how the product may have become contaminated in their farm and if any other product shipped may be contaminated. Note that this does not mean the product becomes contaminated at the farm, only that traceback can go back to the farm level.





Appendix 1 Sample Documents

Mango Farm Food Traceability Plan

Mango Farm Food Traceability Plan CODE: SOP-TRACE-1.7

OBJECTIVE

Food traceability is a crucial aspect of ensuring food safety, quality, and compliance with regulations. By implementing a comprehensive food traceability plan, the mango farm can enhance consumer confidence, improve overall quality, and quickly address any issues that may arise during the mango supply chain.

RESPONSIBILITY

- The manager or person responsible for the Food Traceability Plan is responsible for distributing copies of the documents required in different areas, such as records and procedures of the tasks to be performed. They are also responsible for removing any obsolete documentation, inspecting, collecting, and filing all records that are full.
- The manager or person responsible of the Food Traceability Plan is also responsible for replying to any questions regarding the traceability plan and records.

Person responsible for the	Arenis Piñon	AreP.
Food Traceability Plan:	Name	Signature

PRODUCTS ON THE FDA'S FOOD TRACEABILITY LIST

- All new products are checked against the FDA's Food Traceability when they are first introduced.
- All products are checked against the FDA's Food Traceability whenever there is a change by FDA to the foods on the list (Approx. every 5 years).

#	Product	On the FTL?
1	Tommy Atkins	YES
2	Ataulfo	YES
3	Keitt	YES

CRITICAL TRACKING EVENTS (CTEs)

Product Harvesting is the only Critical Tracking Event (CTE) that has been identified at this mango farm. No other activities such as cooling or initial packing are done at the farm.

#	Critical Tracking Events (CTEs)	Key Data Elements (KDEs)
1	Product Harvesting	 Product description (type/variety of mango) Quantity of product A description of the location where the product was grown and harvested (name of the farm and field and their location as precise as possible) Location description for the next recipient (likely the packinghouse it is headed to) Date of harvest



Mango Farm Food Traceability Plan

CODE: SOP-TRACE-1.7

RECORDKEEPING

- All documents are kept for two years.
- All paper documentation for the Food Safety Plan and the food traceability system (procedures, records, reference documents, manuals, policies, guidelines, etc.) will remain on-site within the farm's office building in labeled binders or as digital files backed up to the company's cloud service.
- All traceability records must include the following information and a document with this information is provided to the packinghouse:
 - 1) A description for the location of the immediate subsequent recipient of the product (not including the transporter).
 - 2) The commodity and variety of the food (For example: Mango, Tommy Atkins).
 - 3) The quantity and unit of measure of the food (For example: the number of boxes, mango caliber, and/or number of pounds).
 - 4) The location description for the farm where the food was harvested.
 - 5) For produce Raw Agricultural Commodities like Mangos, maintain a record that contains the name of the field/growing area from which they were harvested, or any other information identifying the harvest location at least as precisely as the field/growing area's name. Make sure that whatever name you use, it corresponds with the name used by the grower.
 - 6) The date the product was harvested.
 - 7) The reference document type and number (aka the Bill of Lading).
 - 8) Business name and phone number.

GROWING LOCATIONS

All product is grown on the following fields:

#	Product	Field Name	Field Location
1	Tommy Atkins	TOTO 1	27.422577819370588, -106.75825260793042
2	Ataulfo	TOTO 2	27.422777906794355, -106.75966663220925
3	Keitt	TOTO 3	27.468548481055716, -106.73561423581656

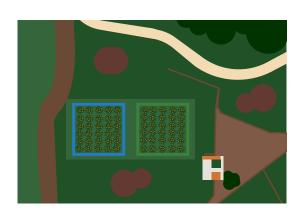
Toto's Mango Farm

Field 1 – Los Manglares

 $\big(28.643305580591512, -106.10512393792253\big)$

Field 2 - Doña Berta

(28.635259678965838, -106.06748920869542)



Mango Farm Food Traceability Plan

CODE: SOP-TRACE-1.7

PREVENTIVE MEASURES

Traceability exercise (NOT a Food Traceability Rule Requirement)

- Once a year a traceability exercises (mock recall) is done tracing product one step backwards and one step forward.
- The maximum amount of time to accomplish traceability should not be greater than 6 hours.
- Traceability exercises must have 100% of the product to be traced.
- In the case of not having all 100%, corrective actions should be taken, and the exercise should be rescheduled.
- The results of the exercise are registered in (REG-TRACE-1.6.4)



Product Harvest and Traceability Log

Toto's Mango Farm

Consecutive Number 000012

Manglares Street #1234, El Rosario, Sinaloa, México Phone: 123-456-78

	Produ	ct Harvest	and traceability Lo	og
Date:	28/08/2023			
Product:	Man	go	Variety:	Tommy Atkins
Farm:	Toto's M	angos	Field:	Los Manglares
На	rvest crew:_	3	Quantity:	34 baskets
Packingho	ouse/client:		Adrian's Mang	o Packing
Packinghouse/client adress:		#123 Ma	ango Rd. Mazatlá	in, Sinaloa, Mexico

Mango Packinghouse Food Traceability Plan

CODE: SOP-TRACE-1.7

OBJECTIVE

Food traceability is a crucial aspect of ensuring food safety, quality, and compliance with regulations. By implementing a comprehensive food traceability plan, the mango packinghouse can enhance consumer confidence, improve overall quality, and quickly address any issues that may arise during the mango supply chain.

RESPONSIBILITY

- The manager or person responsible for the Food Traceability Plan is responsible for distributing copies of the documents required in different areas, such as records and procedures of the tasks to be performed. They are also responsible for removing any obsolete documentation, inspecting, collecting, and filing all records that are full.
- The manager or person responsible of the Food Traceability Plan is also responsible for replying to any questions regarding the traceability plan and records.

Person responsible for the Food Traceability Plan:	Arenis Piñón	AreP.
i sou massasing main	Name	Signature

PRODUCTS ON THE FDA'S FOOD TRACEABILITY LIST

- All new products are checked against the FDA's Food Traceability when they are first introduced.
- All products are checked against the FDA's Food Traceability whenever there is a change by FDA to the foods on the list (Approx. every 5 years).

#	Product	On the FTL?
1	Tommy Atkins	YES
2	Ataulfo	YES
3	Keitt	YES

CRITICAL TRACKING EVENTS (CTEs)

Initial Packing and Shipping are the two Critical Tracking Event (CTE) that have been identified at this mango packinghouse.

#	Critical Tracking Events (CTEs)	Key Data Elements (KDEs)
1	Initial Packing	 Product description (type/variety of mango) Location description of where the food was harvested.



CODE: SOP-TRACE-1.7

	Business name and phone number for the harvester of the food Date of harvesting Date of receiving Quantity of product received Traceability lot code YOU assigned Product description of the packed food Quantity of the packed food Quantity of the packing Location description for where you initially packed the food (e.g., traceability lot code source) Reference document type and reference document number (e.g., bill of lading)
Shipping	 Traceability lot code YOU assigned Quantity of product Product description (type/variety of mango) Location description for the next recipient Location description for the location from which you shipped the food (might be the same as where it was initially packed) Location description for where you initially packed the food (e.g., traceability lot code source) Date of shipment Reference document type and reference document number (e.g., bill of lading)

CODE: SOP-TRACE-1.7

TRACEABILITY LOT CODE (TLC)

- Assigning a traceability lot code to a mango box at a mango packinghouse involves systematically labeling each box with a unique identifier that allows for easy tracking and tracing of the mangos back to their source.
- The lot size is determined based on factors such as harvest date, mango variety, and specific farm section or plot.
- The following code is used to set the Traceability Lot Code

01	23 07 17			80	03
Growing Location Code	Year	Month	Day	Mangos per	Consecutive
(Also indicates Variety)	P	acking Da	te	box (Caliber)	number

RECORDKEEPING

- All documents are kept for two years.
- All paper documentation for the Food Safety Plan and the food traceability system (procedures, records, reference documents, manuals, policies, guidelines, etc.) will remain on-site within the packinghouse office building in labeled binders or as digital files backed up to the company's cloud service.
- All traceability records must include the following information and a document with the information designated with an Asterix* is also provided to the warehouse:
 - 1) The commodity and, if applicable, variety of the food received (For example: Mango, Ataulfo). *
 - 2) The date you received the mangos. *
 - 3) The quantity and unit of measure of the food received (For example: the number of boxes, mango caliber, and/or number of pounds). *
 - 4) The location description for the farm where the food was harvested. *
 - 5) For produce like mangos, the name of the field or other growing area from which the food was harvested (which must correspond to the name used by the grower), or other information identifying the harvest location at least as precisely as the field or other growing area name.
 - 6) The business name and phone number for the harvester of the food.
 - 7) The date of harvesting. *
 - 8) The traceability lot code you assigned. *
 - 9) The product description of the packed food. *
 - 10) The quantity and unit of measure of the packed food (For example: the number of boxes, mango caliber, and/or number of pounds). *



CODE: SOP-TRACE-1.7

- 11) The location description for where you initially packed the food (i.e., the traceability lot code source), and (if applicable) the traceability lot code source reference. *
- 12) The date of initial packing. *
- 13) The reference document type and reference document number. *
- In addition, shipping records must include:
 - 1) The traceability lot code. *
 - 2) The quantity and unit of measure of food (For example: the number of boxes, mango caliber, and/or number of pounds). *
 - 3) The product description. *
 - 4) The location description for the immediate subsequent recipient (other than a transporter) of the food. *
 - 5) The location description for the location from which you shipped the food. *
 - 6) The date you shipped the food. *
 - 7) The location description for the traceability lot code source, or the traceability lot code source reference. *
 - 8) The reference document type and reference document number (aka the Bill of Lading). *

GROWING LOCATIONS

All product is obtained from the following fields:

Code #	Product	Field Name	Field Location
01	Tommy Atkins	TOTO 1	27.422577819370588, -106.75825260793042
02	Ataulfo	TOTO 2	27.422777906794355, -106.75966663220925
03	Keitt	TOTO 3	27.468548481055716, -106.73561423581656

PREVENTIVE MEASURES

Traceability exercise (NOT a Food Traceability Rule Requirement)

- Once a year a traceability exercises (mock recall) is done tracing product one step backwards and one step forward.
- The maximum amount of time to accomplish traceability should not be greater than 6 hours.
- Traceability exercises must have 100% of the product to be traced.
- In the case of not having all 100%, corrective actions should be taken, and the exercise should be rescheduled.
- The results of the exercise are registered in (REG-TRACE-1.6.4)

Product Description

Product Description	
Product name	Mango
Product Description	Mangos packed in corrugated cardboard boxes in presentations of 4 Kg and 12 Kg.
Ingredients	Mangos USDA #1 from Haden, Kent and Tommy Atkins varieties.
Packaging	Corrugated cardboard boxes of 4 Kg and 12 Kg.
Intended use	Consumed fresh.
Consumer	General public of all ages, not breastfeeding.
Shelf life	28 days under refrigeration (10-12 °C) and without breaking the cold chain.
Label requirements	Keep refrigerated (10-12 °C).
Storage and distribution	Temperature: 10-12 °C.
On Food Traceability List?	Yes
Approved by:	Date: 06/08/2024.
Signature: Adríán M.	
Name: Adrián Mujica.	



Daily Mango Reception Report

Adrian's Mango Packing DAILY MANGO RECEPTION REPORT #123 Mango Rd. Mazatlán, Sinaloa, México. Phone: 123-456-78

Harvest/reception date: 28/08/2023

Note: harvest date is the same as the date received.

	Ticket No. 000012	Farm Name Toto's Mango Faum	Farm Phone Number 123-456-78	Farm Address Manglanes Sheet #1234, EtResanie,	Harvi Los Ma	Harvest Field ios Manglanes		्रों इं	Mango Type	Mango Quality Type Check Tonunuy
	000012	Toto's Mango Farm	123-456-78	Manglares Street #1234, El Rosario, Sinaloa, México	Los Manglanes		Tommy Atkins		<	√ Basket
	000015	Toto's Mango Farm	123-456-78	Manglares Street #1234, El Rosario, Sinaloa, México	Doña Berta		Ataulfo	Ataul _l o /		<
	000017	Mango Arenis	123-654-87	Los Mangos Street #4321, El Rosario, Ginaloa, México	Etarrollo		Keitt	keitt /		<
. —										

Daily Mango Packing and Shipping Log

				12308300802 28/08/2023 30/08/2023 000017	12308290801 28/08/2023 29/08/2023 000015	12308280801 28/08/2023 28/08/2023 0000012	Traceability Harvest Date Supplier Lot Code Date Packed Ticket (TLC) No.	
				Mango Arenis	Toto's Mango Farm	Toto's Mango Farm	Supplier	Adrian's Mango Packing Mango Packing and Shipping Log #123 Mango Rd. Mazadán, Sinaloa, México. Phone: 123-456-78
				0-127	0-126	0-125	Order No.	Adrian 30 Packi 1. Mazatlái
				200	170	143	Quantity	Adrian's Mango Packing Mango Packing and Shipping Log ngo Rd. Mazatlán, Sinaloa, México. Phone: 12.
				4 Kg Boxes	12 Kg Boxes	12 Kg Boxes	Units	Packing Shippino México. Ph
				Keitt	Ataulfo	Tommy Atkins	Mango Type	g Log one: 123-456
				Angelica's Warehouse	Rocio Produce Storage	Edwin's Mango Warehouse	Client	<u>-78</u>
				#789 Mango Street McAllen Tx. USA	#456 Produce Rd. McAllen Tx. USA	#123 Storage Dr. McAllen Tx. USA	Client Adress	
				31/08/2023	30/08/2023	29/08/2023	Shipping Date	



Mango Warehouse Food Traceability Plan

Mango Warehouse and Processing Food Traceability Plan

CODE: SOP-TRACE-1.7

OBJECTIVE

Food traceability is a crucial aspect of ensuring food safety, quality, and compliance with regulations. By implementing a comprehensive food traceability plan, the mango warehouse can enhance consumer confidence, improve overall quality, and quickly address any issues that may arise during the mango supply chain.

RESPONSIBILITY

- The manager or person responsible for the Food Traceability Plan is responsible for distributing copies of the documents required in different areas, such as records and procedures of the tasks to be performed. They are also responsible for removing any obsolete documentation, inspecting, collecting, and filing all records that are full.
- The manager or person responsible of the Food Traceability Plan is also responsible for replying to any questions regarding the traceability plan and records.

Person responsible for the Food Traceability Plan:	Arenis Piñón	AreP.
1 oou massasiiiy mani	Name	Signature

PRODUCTS ON THE FDA'S FOOD TRACEABILITY LIST

- All new products are checked against the FDA's Food Traceability when they are first introduced.
- All products are checked against the FDA's Food Traceability whenever there is a change by FDA to the foods on the list (Approx. every 5 years).

#	Product	On the FTL?
1	Tommy Atkins	YES
2	Ataulfo	YES
3	Keitt	YES

CODE: SOP-TRACE-1.7

CRITICAL TRACKING EVENTS (CTEs)

Shipping, receiving and product repacking (Transformation) are the three Critical Tracking Event (CTE) that have been identified at this mango warehouse.

_		
١	Critical	
#	Tracking	Key Data Elements (KDEs)
	Events (CTEs)	
1	Shipping and receiving	 For receiving (Critical Tracking Event) Traceability lot code of the food. Quantity of product Product description (type/variety of mango) Location description for the previous source of the food (other than transporter) Location description for the location where the food was received. Date on which the food was received. Location description for the traceability lot code source or the traceability lot code source reference Reference document type and reference document number (e.g., Bill of Lading) For shipping (Critical Tracking Event) Traceability lot code of the food. Quantity of product Product description (type/variety of mango) Location description for the next recipient Location description for the location from which you shipped the food. Date of shipment Location description for the traceability lot code source or the traceability lot code source reference Reference document type and reference document number (e.g., Bill of Lading)
	Repacking (Transformation)	 Traceability lot codes of the foods being mixed/comingled. Quantity of product The date you received the food. Location description for the previous source of the food (other than transporter) Location description for the location where the food was received. Date on which the food was received. Location description of where the food was harvested. Business name and phone number for the harvester of the food Date of harvesting



CODE: SOP-TRACE-1.7

In addition, for the <u>NEWLY</u> transformed product:
 The <u>NEW</u> traceability lot code for the food that <u>We</u> assign. Product description (type/variety of mango) Location description for where you transformed the food (e.g., the traceability lot code source). Date of transformation/repacking Reference document type and reference document number (e.g., Bill of Lading)

TRACEABILITY LOT CODE (TLC)

- Assigning a traceability lot code to a mango box at a mango warehouse involves systematically labeling each box with a unique identifier that allows for easy tracking and tracing of the mangoes back to their source.
- The lot size is determined based on factors such as harvest date, mango variety, and specific farm section or plot.
- A record is kept indicating what product lots (TLCs), went into each NEW Lot (New TLC).
- The following code is used to set the Traceability Lot Code.

01	23	07	17	80	15
Supplier Code (Also	Year	Month	Dav	Mangos/box	Consecutive
indicates Variety)	Teal	WOTUT	Day	(Caliber)	number

RECORDKEEPING

- All documents are kept for two years.
- All paper documentation for the Food Safety Plan and the food traceability system (procedures, records, reference documents, manuals, policies, guidelines, etc.) will remain on-site within the farm's office building in labeled binders or as digital files backed up to the company's cloud service.
- All traceability records must include the following information:

When receiving mangos:

- 1) The traceability lot code
- 2) The quantity and unit of measure of food (For example: the number of boxes, mango caliber, and/or number of pounds)
- 3) The product description

CODE: SOP-TRACE-1.7

- The location description for the immediate previous source (other than a transporter) of the food
- 5) The location description for the location where you received the food.
- 6) The date you received the food
- 7) The location description for the traceability lot code source, or the traceability lot code source reference; and
- The reference document type and reference document number (aka the Bill of Lading)

When shipping mangos:

- 1) The traceability lot code
- 2) The quantity and unit of measure of food (For example: the number of boxes, mango caliber, and/or number of pounds)
- 3) The product description
- 4) The location description for the immediate subsequent recipient (other than a transporter) of the food
- 5) The location description for the location from which you shipped the food
- 6) The date you shipped the food
- 7) The location description for the traceability lot code source, or the traceability lot code source reference; and
- The reference document type and reference document number (aka the Bill of Lading)

When transforming mangos (repacking or processing):

- 1) The different traceability lot codes used
- 2) The product description for which the traceability lot code applies
- 3) The quantity and unit of measure of food for each traceability lot used
- 4) The date you received the food
- 5) Location description for the previous source of the food (other than transporter)
- 6) Location description for the location where the food was received
- 7) Date on which the food was received
- 8) Location description of where the food was harvested
- 9) Business name and phone number for the harvester of the food
- 10) Date of harvesting
- 11) The NEW traceability lot code which we assign
- 12) The location description for where we transformed the food
- 13) The date transformation was completed
- 14) The product description for the new food product
- 15) The quantity and unit of measure of the food (For example: the number of boxes, mango caliber, and/or number of pounds)
- 16) The reference document type and reference document number for the transformation event



CODE: SOP-TRACE-1.7

SUPPLIERS

All product is obtained from the following suppliers:

Code #	Product	Supplier Name	Field Location					
01	Tommy Atkins	Tommy Atkins TOTO's Mango Calle del mangler #22 Ba Navidad, Colima, Mex						
02	Ataulfo Mangos Pa Todos Calle del mangler #27 Bai Navidad, Colima, Mexi							
03	Keitt	Los Mangos de Rocio	Calle del mangler #43 Barra de Navidad, Colima, Mexico					

PREVENTIVE MEASURES

Traceability exercise (NOT a Food Traceability Rule Requirement)

- Once a year a traceability exercises (mock recall) is done tracing product one step backwards and one step forward.
- The maximum amount of time to accomplish traceability should not be greater than 6 hours.
- Traceability exercises must have 100% of the product to be traced.
- In the case of not having all 100%, corrective actions should be taken, and the exercise should be rescheduled.
- The results of the exercise are registered in (REG-TRACE-1.6.4)

Mango Repack Report

Edwin's Mango Warehouse MANGO REPACK REPORT

#123 Storage Dr. McAllen Tx. USA. Phone: 123-456-78

Repack Date: 31/08/2023 Mango Type: Temmy Atkins Presentation: 4 kg bexcs New Traceability Lot Code (TLC): 0123074799

Source Traceability Lot Codes (TLC)	Product Reception Date	Quantity	Units	Supplier	Supplier's Address
12308280801	30/08/2023	13	4 Kg Boxes	Adrian's Mango Packing	Manglares Street #1234, El Rosario, Ginaloa, México
14438377303	30/08/2023	17	4Kg Boxes	Kevin's Mangos	#123 Mango Rd. Mazatlán, Sinaloa, México.
44076743188	31/08/2023	20	4Kg Boxes	Caro's Produce Packing	Los Mangos Street #4321, El Rosario, Sinaloa, México

Total Number of Repacked Boxes: 50 .



Daily Mango Reception Report

Edwin's Mango Warehouse DAILY MANGO RECEPTION REPORT #123 Storage Dr. McAllen Tx. USA. Phone: 123-456-78

Reception date: ___

31/08/2023

_			 	 	 					
							052307470847	022307170816	12308280801	Traceability Lot Code (TLC)
							Caro's Produce Packing	Kevin's Mangos	Adrian's Mango Packing	Supplier's Name
							123-654-87	123-456-89	123-456-78	Supplier's Phone Number
							Los Mangos Street #4321, El Rosario, Sinaloa, México	#123 Mango Rd. Magatlán, Sinaloa, México.	Manglares Street #1234, El Rosario, Sinaloa, México	Supplier's Address
							no	Yea	Yea	TLC source? (Yes/No)
							Angelica's Tropical Fruit	Same as supplier	Same as supplier	TLC Source Name
							#1456 Manguitos Street, Magatlán, Ginaloa, México	Same as supplier	Same as supplier	TLC Source Address
							200	170	143	Quantity
							4 Kg Boxea	12 Kg Boxea	12 Kg Boxes	Units
							Keitt	Ataulfo	Tommy Alkins	Mango Type
							Basket	Basket	Basket	Pkg Type
_	 	 	 	 	 	 				

Daily Mango Shipping Report

Ù
3 Storage
Dr.
Dr. McAllen Tx. USA.
Tx.
USA.
. Phone: 123
123-456
6-78

		052307470847	022307170816	12308280801	Traceability Lot Code (TLC)
		Caro's Produce Packing	Kevin's Mangos	Adrian's Mango Packing	The traceability lot code source
		Los Mangos Street #4321, El Rosario, Sinaloa, México	#123 Mango Rd. Magatlán, Sinaloa, México.	Manglares Street #1234, El Resario, Sinaloa, México	The traceability lot code source address
		0-229	0-228	0-227	Order No.
		35	70	43	Quant ity
		4 Kg Boxes	12 Kg Boxes 4 Kg Boxes		Units
		Keitt	Ataulfo	Tommy Atkino	Mango Type
		Paola's Produce Shop	David's Produce Emporium	Elias Super Store	Client
		#789 Shopping Street San Francisco, Ca. USA	#456 Retail Rd. Denver, Co. USA	#123 Produce Dr. New York, NY. USA	Client Adress
		34/08/2023	30/08/2023	29/08/2023	Shipping Date



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13/09/2023	11/09/2023	10/09/2023	09/09/2023	07/09/2023	05/09/2023	04/09/2023	02/09/2023	01/09/2023	30/08/2023	28/08/2023	28/08/2023	26/08/2023	Reception Date	
13/09/2023	11/09/2023	09/09/2023	09/09/2023	07/09/2023	05/09/2023	04/09/2023	02/09/2023	01/09/2023	30/08/2023	28/08/2023	28/08/2023	26/08/2023	Harvest Date	
Mango	Mango	Mango	Mango	Mango	Mango	Mango	Mango	Mango			Mango			
Kent	Keitt	Kein	Keitt	Hayden	Hayden	Hayden	Ataulfo	Ataulfo	Tommy Atkins	Tommy Atkins	Tommy Atkins Ataulfo	Tommy Atkins	Variety	
8.2	22.3	8 8	37	2 2	2 S	22	2 2	8 8	22	2 2	2 3	2 2 2	S IT	
1920	1620	1500	1110	1830	1920	1620	1920	1680	1020	1920	1020	1260	Net Weight (Kg)	
Don Max	El arrollo	La Loma	El arrollo	Los Aros	San Juan	San Juan	Doña Berta	La Moderna	Valeria	Valeria	Los Mangiares Doña Berta	La Abuela	Field	
28.60397958436311, -106.11484398346163	28.639848959006083, -106.10063320982564		28.639848958006083, -106.10063320982564		28.657228945614073, -106.0837598360654 28.657228945614073, -106.0837598360654	:		28.635259678965838, 106.06748920869542 28.635259678965837, 106.06748920869541	28.643305590591513, -106.10512393792254	28.643305580591513, -106.10512393792254	s 28.643305580591512, -106.10512393792253 28.635,759678965838, -106.067889,7786942		—	=
						22	7			2254	2253			
Margo Arenis 1		3 3	Mango Arenis 1		Edgar's Fruit Farm 1 Edgar's Fruit Farm 1			Mango Arenis 1			Toto's Mango Farm 1 Toto's Mango Farm 1		<u> </u>	
				123-654-87	23-876-54						123-456-78		Phone number	#123 Max Key Data
Los Mangos Street #4321, El Rosario, Sinaloa, México	Los Mangos Street #4321. El Rosario, Sinaloa, México	Manglares Street #1234, El Rosado, Sinaloa, México Manglares Street #1234. El Rosado, Sinaloa, México	Los Mangos Street #4321, El Rosario, Sinaloa, México	Los Mangos Street #4321, El Rosario, Sinaloa, México	#123 Manguifera Street: Mazatlán, Sinaloa, Mexico #123 Manguifera Street: Mazatlán, Sinaloa, Mexico	#123 Manguifera Street. Mazatlán, Sinaloa, Mexico	Manglares Street #1234, El Rosado, Sinaloa, México Manglares Street #1734 El Rosado, Sinaloa, México	Mangiares Street #1234, El Rosario, Sinaloa, Mexico Los Mangos Street #4321, El Rosario, Sinaloa, México	#123 Manguifera Street. Mazatlán, Sinaloa, Mexico	#123 Manguilera Street. Mazatlán, Sinaloa, Mexico	Manglares Street #1234, El Rosario, Sinaloa, México Manglares Street #1234, El Rosario, Sinaloa, México	Mangiares Street #1234, El Rosario, Sinaloa, México Los Mangos Street #4321, El Rosario, Sinaloa, México	Supplier's Adress	Ad dan's Mango Packing #123 Mago N. Maadkir, Sinaba Mexico Prone: 128-46-78 Key Data Elements Electronic Sortable Spread sheets
12309140801	12309120801	12309100801	12309090802	12309080801	12309060801	12309050801	12309030801	12309010801	12308310801	12308300801	12308280801	12308260801	Lot Code	
14/09/2023	12/09/2023		09/09/2023	08/09/2023	05/09/2023	05/09/2023	03/09/2023	02/09/2023	31/08/2023	30/08/2023	29/08/2023	27/08/2023	Initial Packing Date	
12 Kg Boxes	12 Kg Boxes	4 Kg Boxes	12 Kg Boxes	4 Kg Boxes	12 Kg Boxes	4 Kg Boxes	12 Kg Boxes	12 Kg Boxes	12 Kg Boxes	12 Kg Boxes	12 Kg Boxes	12 Kg Boxes	Packing Presentation	
137	217	159	203	212	190 25	156	174	18 8	17.5	160	170	138	Quantity (Boxes)	
#123 Mango Rd. Mazattán, Sinaloa, Mexico #123 Mango Rd. Mazattán, Sinaloa, Mexico	#123 Margo Rd. Mazatlán, Sinaloa, Mexico	#123 Mango Rd. Mazatlán, Sinaloa, Mexico #123 Mango Rd. Mazatlán, Sinaloa, Mexico	#123 Margo Rd. Mazatlán, Sinalos, Mexico #123 Margo Rd. Mazatlán, Sinalos, Mexico	#123 Mango Rd. Mazatlán, Sinaloa, Mexico	#123 Margo Rd. Mazatlán, Sinalos, Mexico #123 Margo Rd. Mazatlán, Sinalos, Mexico	#123 Margo Rd. Mazatlán, Sinaloa, Mexico	#123 Mango Rd. Mazatlán, Snaloa, Mexico	#123 Mango Rd. Mazatlán, Sinaloa, Mexico #123 Mango Rd. Mazatlán, Sinaloa, Mexico	#123 Mango Rd. Mazatlán, Sinaloa, Mexico	#123 Mango Rd. Mazatlán, Snaloa, Mexico	#123 Mango Rd. Mazatlán, Sinaloa, Mexico #123 Mango Rd. Mazatlán, Sinaloa, Mexico	#123 Mango Rd. Mazatlán, Sinalos, Mexico #123 Mango Rd. Mazatlán, Sinalos, Mexico	Packing Location/LOT Code Source	
Angelica's Warehouse	Edwin's Mango Warehouse	Rocio Produce Storage	Angelica's Warehouse	Rocio Produce Storage	Rocio Produce Storage Edwin's Manao Warehouse	Angelica's Warehouse	Edwin's Mango Warehouse	Angelica's Warehouse	Program a waternouse Rocio Produce Storage	Angelica's Warehouse	Edwin's Mango Warehouse Borio Produce Storage	Rocio Produce Storage Rocio Produce Storage	Client	
#789 Mango Street McAllen Tx. USA: 15/09/2023		#456 Produce Rd. McAllen Tx. USA 11/09/2023 #456 Produce Rd. McAllen Tx. USA 12/09/2023	# 789 Mango Street McAllen Tx, USA	#456 Produce Rd. McAllen Tx. USA	#456 Produce Rd. McAllen Tx. USA #123 Storage Dr. McAllen Tx. USA	#789 Mango Street McAllen Tx, USA	#123 Storage Dr. McAllen Tx. USA #789 Manzo Street McAllen Tx USA	#759 Mango Street McAllen Tx. USA 02/09/2023 #789 Mango Street McAllen Tx. USA 03/09/2023	#456 Produce Rd. McAllen Tx. USA 01/09/2023	#789 Mango Street McAllen Tx. USA 31/08/2023	#123 Storage Dr. McAllen Tx. USA #456 Produce Rd. McAllen Tx. USA	#456 Produce Rd. McAllen Tx. USA		
	13/09/2023	12/09/2023	10/09/2023	09/09/2023	08/09/2023	06/09/2023	04/09/2023			31/08/2023	30/08/2023	28/08/2023		
98547123 85436985	74342169	85456352	85469532	75486321	85436521 98635425	45896425	76827168	94583225 54285846	61134163	56122516	43654645	94561345 34544443	BOL#	



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References

- FSMA Final Rule on Requirements for Additional Traceability Records for Certain Foods, U.S.C., Vol. 87, No. 223. (2022). https://www.fda.gov/food/food-safetymodernization-act-fsma/fsma-final-rule-requirements-additional-traceabilityrecords-certain-foods
- U. S. Food and Drug Administration. (2023). Food Traceability List. Food Safety Modernization Act. https://www.fda.gov/food/food-safety-modernization-act-fsma/food-traceability-list
- U. S. Food and Drug Administration. (2023). Lista de trazabilidad de los alimentos.
 Food Safety Modernization Act. https://www.fda.gov/food/food-safety-modernization-act-fsma/lista-de-trazabilidad-de-los-alimentos
- U. S. Food and Drug Administration. (2023). Food Traceability Rule: Critical Tracking Events (CTEs) and Key Data Elements (KDEs). Food Safety Modernization Act. https://www.fda.gov/media/163132/download?attachment
- U.S. Department of Health and Human Services/Food and Drug Administration/ Center for Food Safety and Applied Nutrition/Office of Analytics and Outreach. (2023). Requirements for Additional Traceability Records for Certain Foods: What You Need to Know About the FDA Regulation: Guidance for Industry Small Entity Compliance Guide. https://www.fda.gov/regulatory-information/search-fdaguidance-documents/small-entity-compliance-guide-requirements-additionaltraceability-records-certain-foods-what-you
- U.S. Department of Health and Human Services/Food and Drug Administration/ Center for Food Safety and Applied Nutrition/Office of Analytics and Outreach. (2023). Requisitos para los registros de trazabilidad adicionales para ciertos alimentos: Lo que necesita saber sobre la regulación de la FDA: Orientación para la industria: Guía de cumplimiento para pequeñas entidades. https://www.fda. gov/media/172232/download?attachment



