Process Walkthrough at a Regional Produce Distribution Center

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Purpose of this Slide Set

This slide set is designed to introduce produce vendors to the warehouse management systems through which produce moves from the vendor delivering product to the warehouse to the shipment from the warehouse to the retailer.

The set covers the processes of arrival, unloading, quality control, placement in inventory, selection from inventory, and preparation for delivery.

The set also includes tips that can help vendors have favorable experiences when working with a large warehouse.

Arriving Process

<u>THE PROCESS</u>

1. Drivers check in with security.
2. Security checks driver credentials, and confirms whether or not the appropriate loading dock is available.
3. If not, Drivers must wait in a “staging area” (typically part of the facility parking lot)

Typically, Quality Control inspection and receiving is done between certain hours. If a driver arrives too late, it is likely the driver will wait in the staging area until the next day.

A positive vendor relationship starts with an on-time arrival and courteous and professional interactions through the entire delivery process.

Unloading Process

Once the assigned loading dock is ready, the driver docks, then enters the warehouse to check in with the warehouse logistics office to check in.

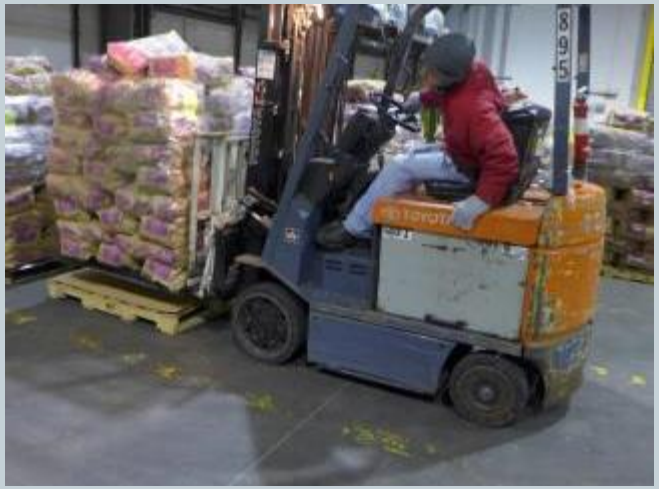
Unloading Process

At the warehouse logistics office, drivers choose between two unloading alternatives:

i. The driver unloads the product

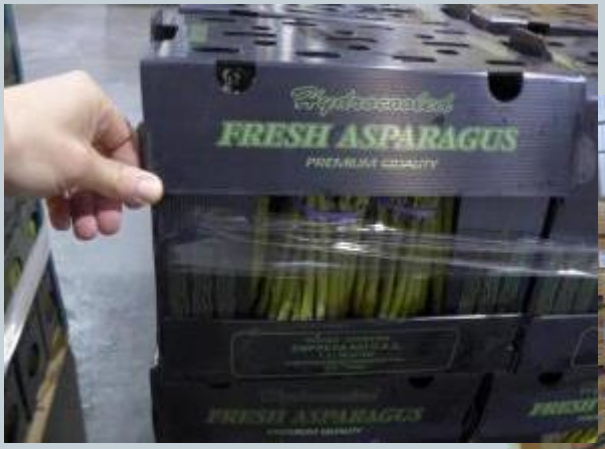
ii. Third-party "lumpers," unload the product for a fee. Often the lumpers are employed by another company, not the warehouse distributor itself.

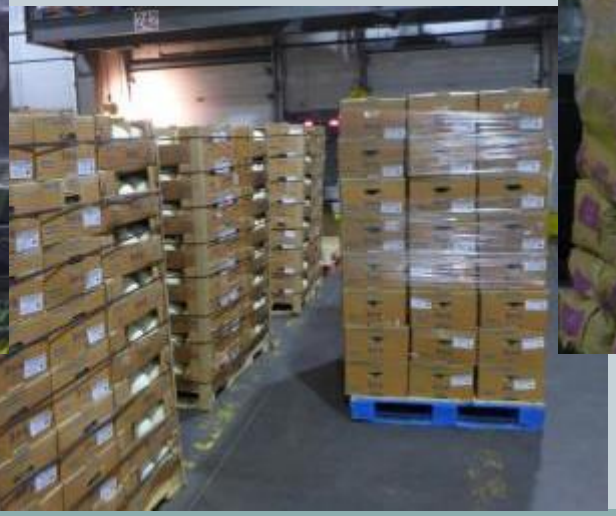
The choice is generally made by the vendor ahead of time.



How Your Product Should Arrive

- The Quality Control Inspectors first impression of a product begins with the way the items are packed.
- The warehouse expects a well-stacked pallet with one type of item per pallet.
- This particular warehouse charges vendors for broken pallets.
- Even bulky, un-boxable items need to be well packed and neatly stacked to ensure quality and a good impression.





The Power of a Good Driver

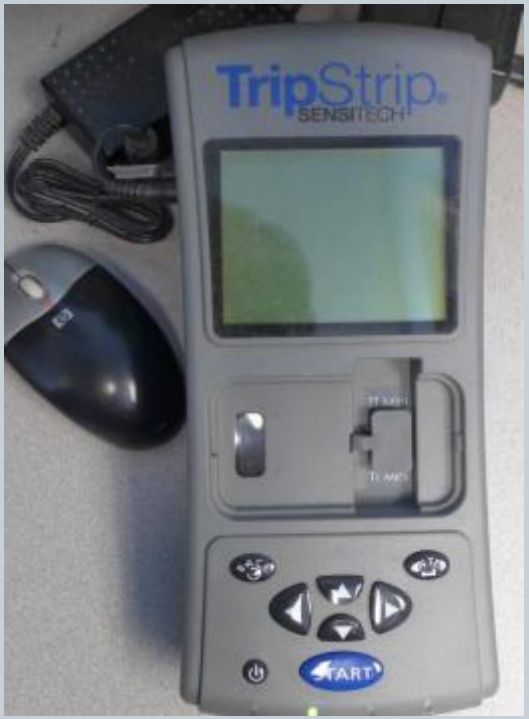
- A good driver does not only drive and unload. A driver that is a hard worker, friendly, and professional can garner valuable feedback from QC inspectors about delivered product, which can then be used to improve the vendors product/service next time.
- The power of a good driver is the potential for an instant information loop about product specs, that can help secure a better business-to-business relationship.

Cold Chain Technology

Maintaining the cold chain is critical

Tripstrip is a technology to measure any variation in temperature.

Often, this type of device is the first thing Quality Control inspectors look at before further inspecting a load. These recorders print out a scroll with information detailing temperature variation during the trip.



Product Labeling

This warehouse and its customers prefer UPC codes because they allow for an encoded price and a quicker check out time

Buyers are demanding more and more services from vendors. For example, this honey dew has both a PLU, a COOL, and a UPC on its label

Product Labeling Trends

Here is an example of basic box labeling/identification.

Here is more sophisticated box labeling. It includes product name, vendor name, UPC, and PLU, and Country of Origin Label (COOL).

Packaging Trends

Vendors can benefit from exploring novel packaging ideas.

Commenting on these bags of small multi-colored peppers (right), one of the QC inspectors said:

“When we first saw these bags, we thought they were the stupidest idea, thought they’d ruin the peppers. But the peppers are always perfect, people buy them, and we can sell them for more money.”

Quality Control (QC) Inspection Process

Once the trailer is unloaded, produce must pass QC inspection.

There are two types of QC standards that are used at this warehouse:

-- The warehouse's own set of standards

-- The US Department of Agriculture Standards, as maintained/enforced by the state North Carolina Department of Agriculture & Consumer Services

Warehouse standards are typically much more stringent and respond to customer (for example, grocery retailer) feedback. For example, this warehouse distributor guarantees 5 days of shelf life after delivery.

QC must ensure that the product is of sufficient quality so that this guarantee can be met.

QC Inspection Process

QC inspection is based on a statistical sampling of product from different parts of the load: front, middle, and back.

QC may also conduct brix tests on produce, especially melons.

QC Inspection

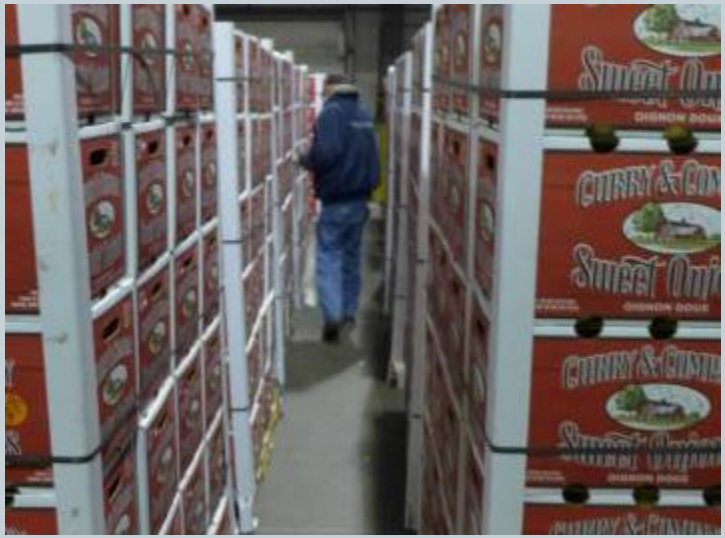
QC inspects for quality and decay, but they also check for product consistency. For example, these two lemons are from the same box. Notice they have different PLUs, one of them is a med/small lemon, the other is a regular lemon. The entire shipment came in mixed with med/small lemons mixed with regular lemons. But the buyer paid for regular lemons.

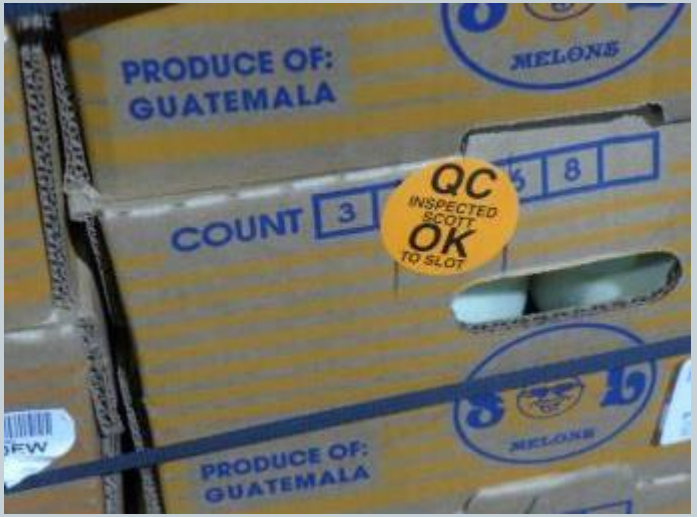
From this point on downstream through the supply chain there is a risk of taking a loss. If the warehouse charges regular price, and the store scans the small/medium product, then the store takes a loss. If the warehouse charges the store a small/medium price, then the warehouse takes the loss.

The entire load of lemons was rejected.

QC Inspection

- Once items pass inspection, the QC inspector puts a sticker on each pallet.
- QC will double check one another's work, so you'll sometimes see two or three of these stickers on a pallet





NCDA QC Inspection

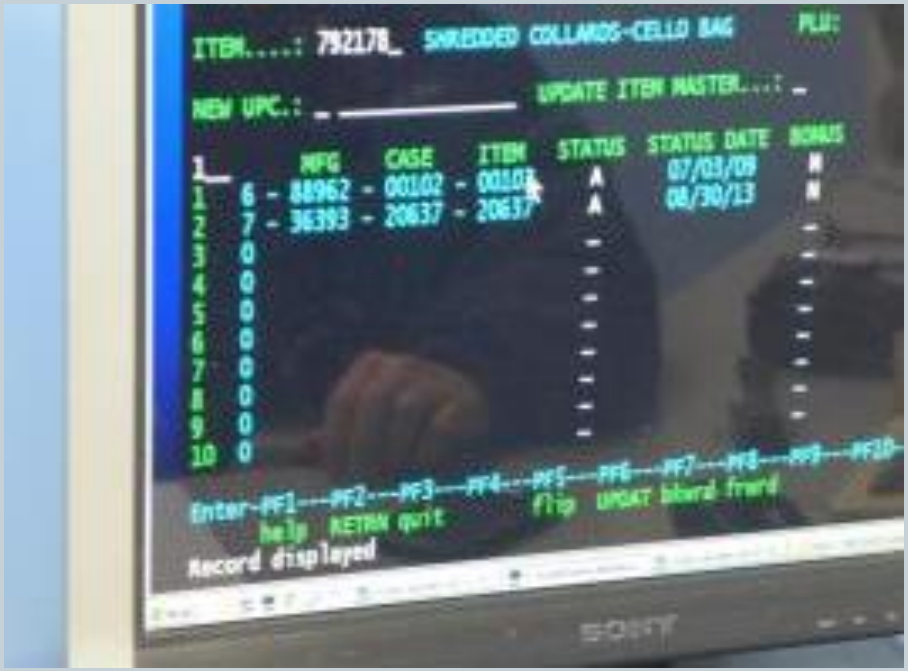
If load fails warehouse QC inspection, vendors can opt for NCDA QC inspection. It is possible for a load to pass NCDA QC and not a warehouse's QC.

If a load does pass NCDA QC, then the warehouse is contractually bound to accept it. However, this can create bad vendor-buyer relationships moving forward.

IT Optimization Systems

Most Regional Distribution Centers (RDC) operate using warehouse management IT systems that track what is incoming, where it should be stored, and orders and movement of product to trucks for shipment out.

Warehouse management systems for large distributors utilize sophisticated wireless radio frequency (RF) and voice activated technology to automate location and task management. Through the use of distribution control features and labor management tools, these systems enable retailers to manage complex warehouse facility operations efficiently, increase warehouse service levels and reduce operating expenses.



The Receiving Process

Once the product passes QC, the warehouse software system prints out receiving labels.

Receivers check at their station for new sets of labels.

Receivers fill out the necessary information about the product on their receiving label/sticker, including pallet number, pick slot #, boxes count per pallet, and item number.

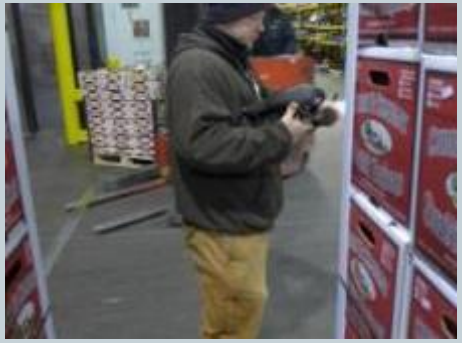
This receiving label is the pallet's identification through the inventory cycle.

Receiving Process

Once the receiver fills out the label, it is placed on the pallet. Receivers then scan the product with the wand, pictured below.

The inventory management system optimizes the placement of the product in the warehouse. The selected location is then sent electronically to lift-drivers.

Once scanned, the product has entered inventory and is ready for sale. It can be sold from where it stands on the dock, but generally, it will first go to the "picking slots" or "surplus racks."



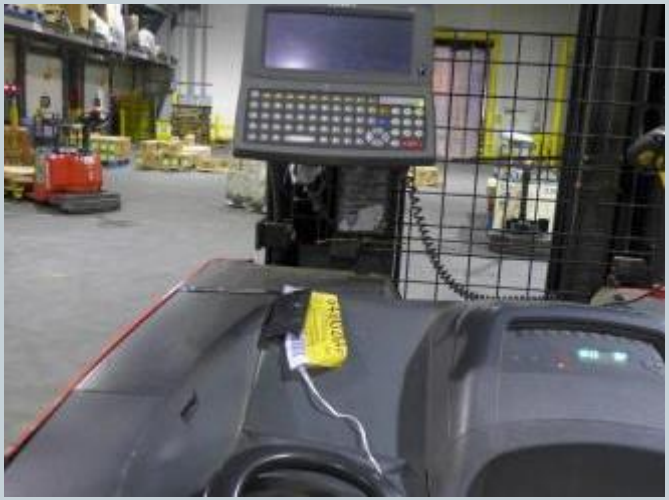
“Surplus Racks” and “Picking Slots”

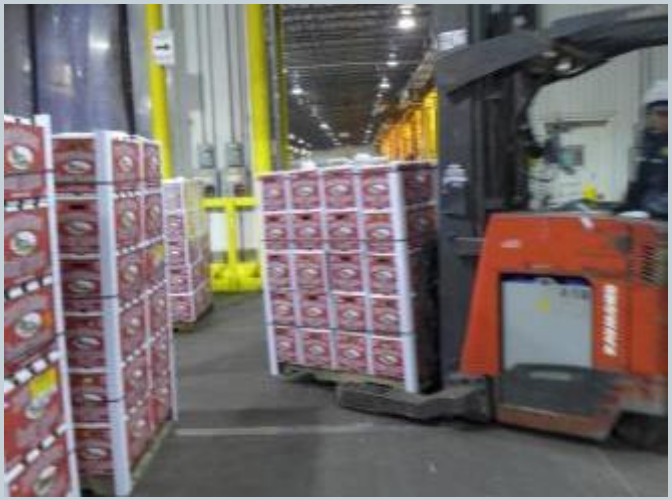
Notice the bays in this photo. The two bottom bays are “slots”-- that’s where inventory ends up for picking. Product is picked in preparation for an orderAll the bays above the “slots” are “surplus racks.”

Generally, inventory first goes to “surplus rack” and then the inventory system rotates surplus inventory into an available “picking slot.”

Lift-Driver/ Inventory Management

- Lift-drivers are the personnel responsible for taking inventory to the slots and surplus racks in the warehouse.
- Each lift-driver has a computer and headset
- The software tells the lift-driver the location of the pallet on the floor and the location of the slot/surplus rack. Drivers are timed on their speed of delivery. At this warehouse, lift drivers are expected to have each pallet in the appropriate slot/rack within 90 seconds.





Inventory Management

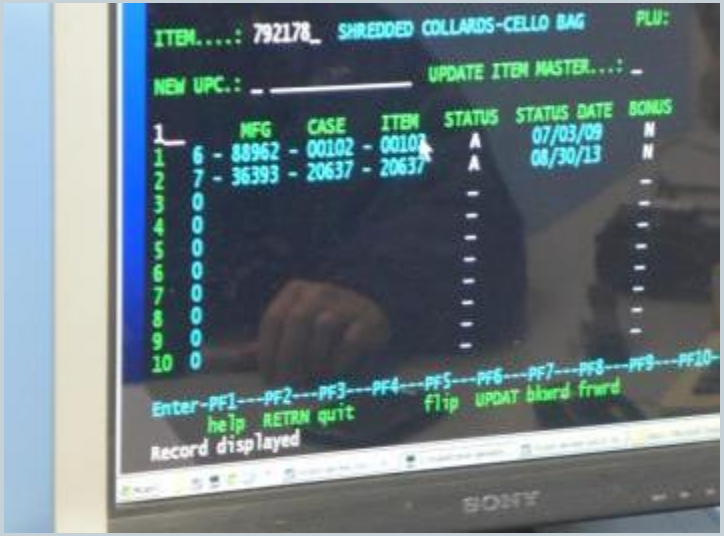
Notice how each surplus rack is “cubed out.” The warehouse management system optimizes space, so that the warehouse can maintain high capacity utilization rates. In the words of one manager, “That space is valuable, and the name of the game is fill it up, and move it fast.”

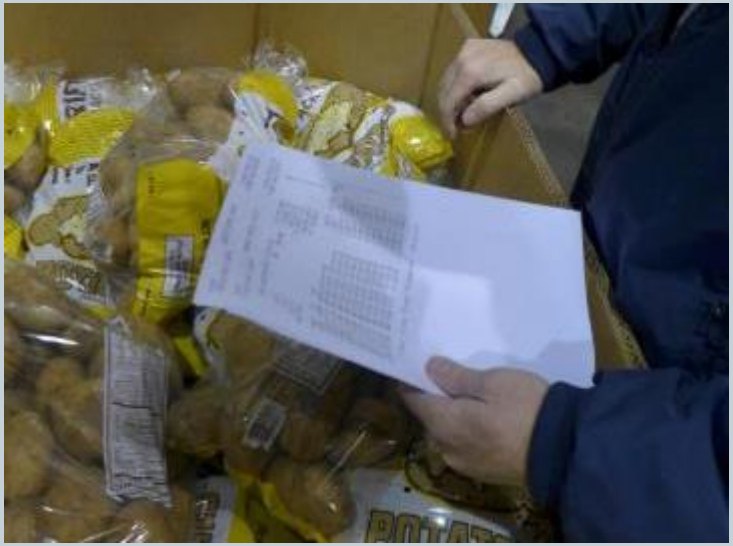
- Notice also the surplus racks have only one item per pallet.

QC Inspection/ Inventory Management

QC inspectors also have an inventory management responsibility. Everyday, the warehouse IT system prints out a list of produce items based on their expiration dates.

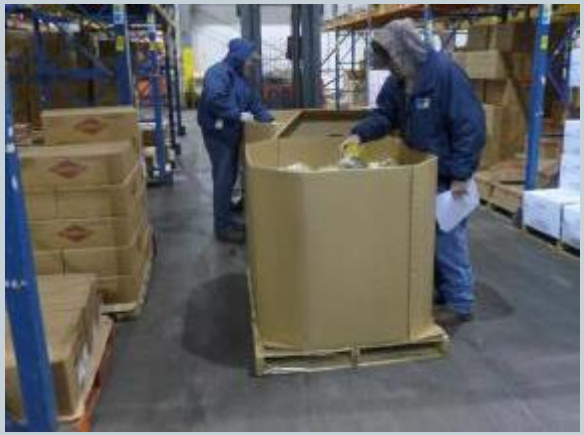
This warehouse guarantees a certain number of days freshness in the store.





QC Inspection/ Inventory Management

If product that the warehouse delivers is rejected by the store to which it is delivered, the product will either be disposed of or be sold at a salvage market for a significant mark down.



QC and warehouse managers naturally prefer product that has been picked, stored, and delivered to maximize shelf-life. Vendors that sell loads of good and marginal product will quickly earn a poor reputation at not be able to sell to the warehouse. On the other hand, vendors that consistently sell high quality product will be able to establish a good working relationship.

Picking Process

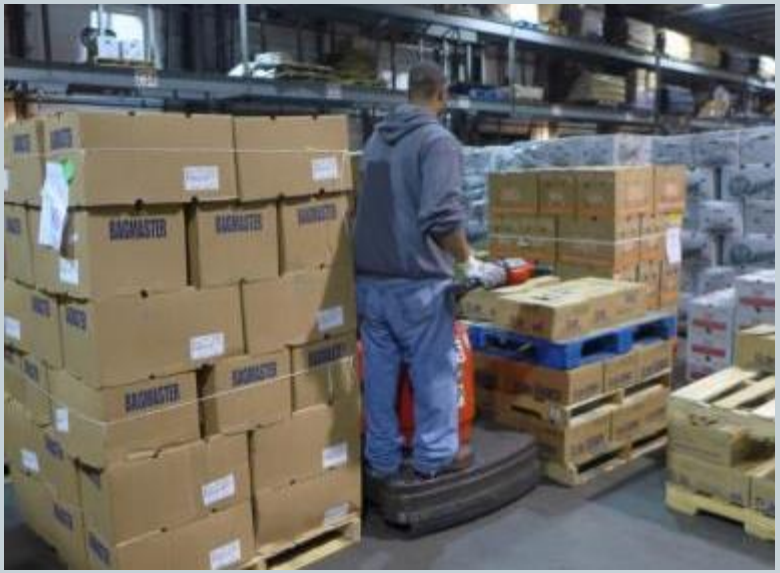
Once an order comes in, “pickers” are responsible for picking product from the slots.

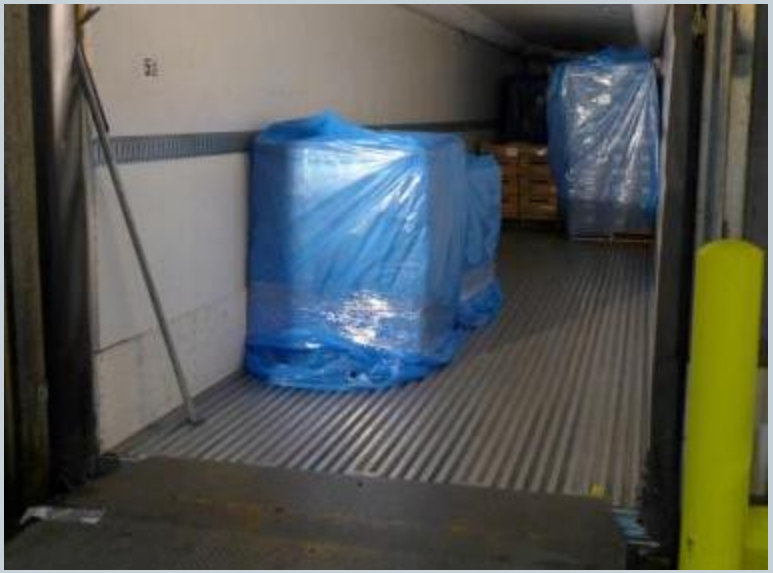
The warehouse management system sends Pickers orders through a head set. The system gives pickers the location of the slot that contains the item to be picked. Pickers read off every unit they pick into the headset to ensure accuracy of the order.

The picking system is highly efficient and standardized. It works based on slots having only one type of item.

Checking an Outbound Load

- “Checkers” receive the order list from the warehouse management system software.
- Before orders can be loaded, checkers make sure that the correct number of items is on the correct outbound trailer.





Cross-Docking

Most product entering the warehouse goes through this process of receiving, quality control, placement in surplus racks and picking slots, picking for orders, checking the load, and then packing into delivery trucks.

A second way that product is received and shipped is “cross-docking.”

A cross-docked product is one that has been ordered directly by the retailer from the vendor. In other words, the warehouse distributor is not involved in the ordering process. The product usually does not go through warehouse QC and never enters the racks and slots.

Cross-Docking

Because cross-docked product does not enter into the racks/slots system in the warehouse, pallets can be mixed, consisting of different items.

The costs of cross-docking occur at the store and vendor level, because these entities must communicate between themselves as to the content of the order.

Cross-docking can be difficult to incorporate into the operations of a large-scale warehouse distributor because the product does not fit into the warehouse system. At this warehouse distributor, produce cross-docking accounts for less than 2% of all product shipped.

An additional cost of cross-docking is the typically higher transportation cost, due to the fact that cross-docked pallets are not efficiently "cubed out."
The various sizes of the items on the pallet mean the pallets are difficult to stack.

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For More Information on the NC Growing Together Project

ncgrowingtogether.org

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