

Producepak

RFID pallet management for fresh produce.



Automatic pallet/bin/bag location tracking

Pallets put onto truck are auto
added to order & checked for
accuracy

Pick up pallet and its instantly
selected

Tip pallet/bin into production
line and auto added to batch





Zero waste

Stock rotation and expiry can be eliminated through automatic alerts, automatic FIFO enforcement, staff are guided to the exact location of fresh produce that must be processed or sold first.

Zero effort

Simply pick up a pallet/bin/bag and move it. RFID by Producepak automatically tracks fresh produce inventory movement, updates its location, and flashes an alert on your tablet. Select an order, load pallets onto truck..... RFID by Producepak automatically adds the pallets to the order / invoice. Tip a bin into a batch or add pallet to a batch, its auto added to the batch. If you have your own trucks, you can RFID tag them; when you load an order Producepak RFID will know which truck you have loaded.

Zero errors

Ever put the wrong pallet onto a truck, only to discover the error and must unload? Ever sent the wrong pallet across the country only to have to pay for it to be returned? Never again! RFID by Producepak will alert you the second you pick up a pallet that doesn't match current order. Make fresh produce load outs faster, and 100% accurate.

Simply move inventory around, Producepak does the rest.



1 Pallet position reader

Reads the exact location of the pallet when you put the pallet down.

2 Pallet tag reader

Reads each pallet you pick up.

3 Tablet

View & select orders, view pallet maps, and more...

Example configuration: other configurations available including pallets with built in RFID, please see FAQ.

World's most cost effective solution for fresh produce RFID.

Hardware costs as little as \$500 per forklift.

Producepak
RFID pallet control

Use Producepak on to view pallet maps (map shows where required pallet is), view / select / fill orders, send invoices, choose a batch and more.



Use any RFID reader with emulated keyboard mode, match reader with your tags and test scan distances.



Should be high wattage (36+) with its own 110/220v power supply.



**Mount readers (see FAQ), tablet,
conceal/secure USB cables.**



Choose any hardware that fulfills requirements above; including Android units with built in RFID readers. Ask your consultant before purchasing.

RFID pallet control

Pallet 5487 is at 01 02 04
Cooler 1, Isle 2, Space 4

Space	Isle 1	Isle 2	Isle 3	Isle 5	Isle 5
5	5489	5499	5460	5462	5461
4	5463	5487	5465	5466	5468
3	5472	5475		5467	5469
2		5476		5470	5471
1					

3-D pallet tracking.
Find pallets rapidly by viewing
pallet maps, easy to select
another pallet that isn't obstructed

Pallet 5487 is at 01 02 04

Cooler 1, Isle 2, Space 4

**Pallet 6792
doesn't match this order!**

Drop

Keep & move

1

**Warnings during order loading
ensure every order is
accurate.**



aler RFID perishable affordable RFID

Apply the RFID!

When you print pallet labels from Producepak, you can scan the RFID (or two, one for each forklift pickup side) so Producepak knows which pallet to assign the RFID. This process takes 2 seconds and can be done using a tablet or PC and an RFID reader or an Android RFID unit.

Choose RFID tags that with a unique serial number encoded into them; there is no need for you to write to the RFID. RFID stickers start from 20 cents per sticker or use re-usable tags (remove during load out process).

Purchase your hardware from your chosen vendor (eg: Amazon.com) and install yourself. Purchase some plastic encased RFID to embed into the floor to identify each pallet position.

We have a simple step by step testing document so you can trial your RFID hardware on one forklift before you purchase equipment for your entire fleet.

RFID for fresh produce pallet control by Producepak is available June 2020.

RFID for fresh produce inventory: FAQ

Can I test before committing to Producepak RFID for fresh produce pallet control?

Yes! The test below should cost no more than \$130. Before you purchase bulk RFID hardware; you should buy a few testing items such as one RFID reader/scanner and three or four different types of RFID tags (make sure the tag matches the scanner, and has pre-programmed serial number) and the USB hub.

1. Plug the scanner into the hub, and the hub into any Android tablet. Open up a text document or blank email on the tablet (we just need a space where text can be dumped by the RFID reader).
2. Simulation test: On a forklift position the reader where you intend on installing it, and move the RFID tag into the position it will be on the pallet or floor and note the distances at which the reading occurs (in the blank document on the Android tablet, you will see a string of text added every time the RFID scanner reads the tag). If the RFID tags scan at reasonable distances based on where you intend to fix the reader, then this part of the test has succeeded. Otherwise reposition RFID scanner or tags until you get good results. See "How should I label my pallet positions?" for additional testing. You should test with your four different RFID tags to see if selected tags scan at different distances (this is common).
3. The Pallet Position Reader (1) should preferably not read when the fork is lifted for pallet transportation.
4. Test that your Wifi works in all coolers and warehouses (Producepak fresh produce RFID requires an always on data connection). If you have dead spots, install boosters or Wifi access points with better antennae (note that 5Gen Wifi is pretty much useless in commercial environments because of its very short range and weak signal).

If you can pass the tests above you are ready to buy your RFID hardware for your entire fleet of forklifts. Didn't pass the test? Try some different hardware / tags.

What RFID tags should I use?

We recommend 856-915Mhz RFID tags because their range is practical for most fresh produce RFID applications). You can use RFID stickers that are applied to any carton on the pallet (obviously in the correct position for scanning) and will be disposable (from 20 cents a label). Alternatively you can apply re-useable plastic reinforced RFID tags that have a greater read distance, however cost a lot more so need to be removed from the pallet when its loaded for shipping.

Can you purchase the hardware and install it for us?

Yes. Please ask us consultant for a quote. The labor and consulting will usually double the cost of your project (that's before hardware costs are added), its much more economical to install your RFID equipment yourself.

How do I mount Pallet Position reader (1)?

If possible, we suggest you mount the reader on the fork that lifts when a pallet is raised (you may need a longer USB cable depending on your forklift design). This should result in no RFID reads when you pass over a position tag and the pallet is raised for movement; when you lower the pallet a position tag will be read and the pallet will be automatically deselected (if no Order is currently selected).

If you can't mount this reader on the bottom of the fork then tags will be read every time you pass over one, in this case you can enable a setting that stops Producepak from automatically deselecting the pallet (note you will have to tap the screen to tell Producepak when you are deselecting a pallet in this case. Mount the reader in position indicated about 4" from the ground for optimal RFID reads.



How do I mount Pallet RFID tag reader (2)?



This reader doesn't need to move with the fork (it can however if you want), and should be mounted at the height you will apply the RFID tag on the pallet (as close to as possible, and not obstructed by metal. Staff that build pallets should be instructed to apply the tag at a consistent height and position to ensure every pallet RFID tag will be read easily. If your RFID tag is not integrated into your pallet label then you can continue to apply your pallet label in your chosen position for easy readability. There is no height at which the RFID tag must be placed; choose a height that is practical for your combination of forklift and reader to maximize pallet tag accuracy and RFID scan distance.

Can I use pallets with built in RFID tags?

Yes. In this case you will mount the pallet RFID reader on the fork near the position RFID reader. The process for assigning the pallet to the RFID is the same, obviously they need to scan the pallet to get the RFID serial.

How do I associate RFID tags with a pallet?

Simply scan the RFID after you add a new pallet in Producepak (you will need to plug a reader into your PC [if using Android you will need a powered data hub and an external keyboard because plugging in an RFID reader will disable the software keyboard in Android OS), for this purpose the reader can simply be on a bench next to or near the PC (since users are likely printing labels during this same process), or use an Android device that has a built in RFID reader.

RFID for fresh produce inventory: FAQ

How should I label my pallet positions?

Name each warehouse/cooler with a number, eg: 01, 02 etc. Isles with a number 01, 02 etc. Pallet positions with an number 01, 02 etc. If you stack pallets two high, swap the 0 for a 2, eg: 21 (level 2, position 1), 22 etc. You can tell the exact position of a pallet within your business: 01 02 04 (Cooler 1, Isle 2, Position 4). Apply RFID tags in front of each pallet position. Make sure the tag is in a position where it will be read when putting a pallet down. This is usually a few inches before the pallets physical floor space. Test before you permanently apply pallet position RFID tags by simply placing the tag on the floor and using the simulation test to check its read distance and position. To apply RFID tags for fresh produce pallet positions, chip a very shallow hole into the cement, insert RFID tag, cover over with superglue to make the surface flat and protect & preserve the RFID tag. Larger tags have better scan rates so you may choose a larger tag for your pallet positions, again, testing is essential. Paint pallet spaces on the floor to ensure pallets dropped in correct space for maximum RFID rea accuracy.



Pallet 5487 is at 01 02 04 Cooler 1, Isle 2, Space 4					
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Illustration: Live fresh produce pallet position in a cooler. RFID tags are installed in front of each pallet space. Pallet spaces should be painted on the floor to ensure correct positioning and reliability of RFID tag reading.

How can I make my RFID tags read at greater distance?

If you need your pallet position RFID tags to read at greater distance ask your RFID tag provider which tags can have their read range boosted by placing a metal plate under them prior to installation (or experiment yourself with your test tags). You can also plug the USB hub (which powers the RFID reader) into a higher powered USB charger (eg: higher wattage and voltage, or use a smart adaptable maximum wattage charger). Using a hub that isn't powered (by a higher wattage USB charger) shortens read distances by 50% in our tests. In our testing with RFID tags; we achieved maximum read distance of 9.5" / 24cm using the cheapest readers we could find (ie: if this distance doesn't work for you [it should if you position everything correctly] then buy more expensive RFID readers and use higher power UBB hub & charger, place metal plates behind RFID pallet position tags, or use non disposable tags that are larger and have greater read distance (remove from pallets during shipping process).

Can I skip RFID tagging pallet positions?

Yes, however users will need to select a new storage location every time they move a pallet; essentially the only benefit of using RFID for fresh produce like this would be to have the pallet automatically selected when it is picked up (for movement, and for adding to orders).

Can I tag every case?

Yes, however this will significantly increase the cost of your RFID software module (please enquire) and the required hardware by about 400-800%. Individual case tagging requires a project to determine your exact requirements and modify Producepak RFID to match.

Can I substitute any brand of RFID hardware?

Yes. Just make sure it passes the tests. You can use any RFID equipment from any vendor or simply order from Amazon.com.

How do I tag positions inside our trucks?

If you tag pallet positions inside your own delivery trucks, Producepak RFID can detect the truck that you loaded the order onto. Simply tag the pallet spaces the same way you would for a warehouse or cooler.

Can we integrate other systems with Producepak fresh produce RFID?

Yes. Ask your solution consultant for a quote to have our team perform any integration you require. Or, if you have your own I.T. department or vendor; you can integrate using the Producepak API which is open to all companies and vendors.

RFID for fresh produce inventory: FAQ

What happens if an RFID doesn't scan?

This can happen because the RFID has been removed/fell off, or placed outside the scan zone. In this case the forklift driver can simply type the pallet number into Producepak to select that pallet or scan pallet barcode.

Is the RFID solution available without Producepak Fresh Produce / Food Service solution?

The RFID pallet control module is an optional **addon** to the Producepak inventory solution, you need to buy both modules.

Can I perform Quality Control on the RFID tracked pallets?

Yes, you can select a pallet for quality inspection simply by picking it up.