



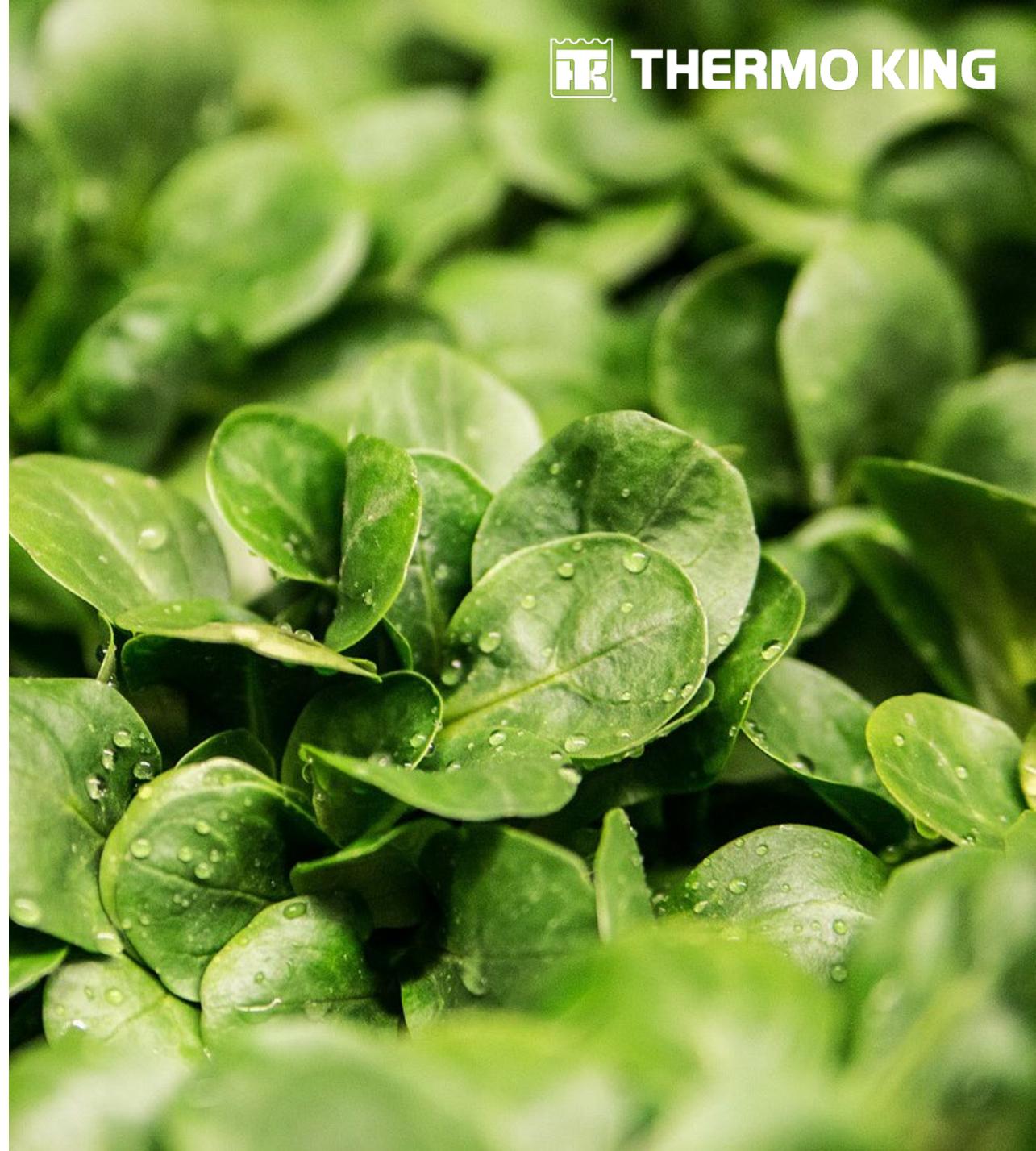
FOOD SAFETY

Best Practices to Mitigate Risk

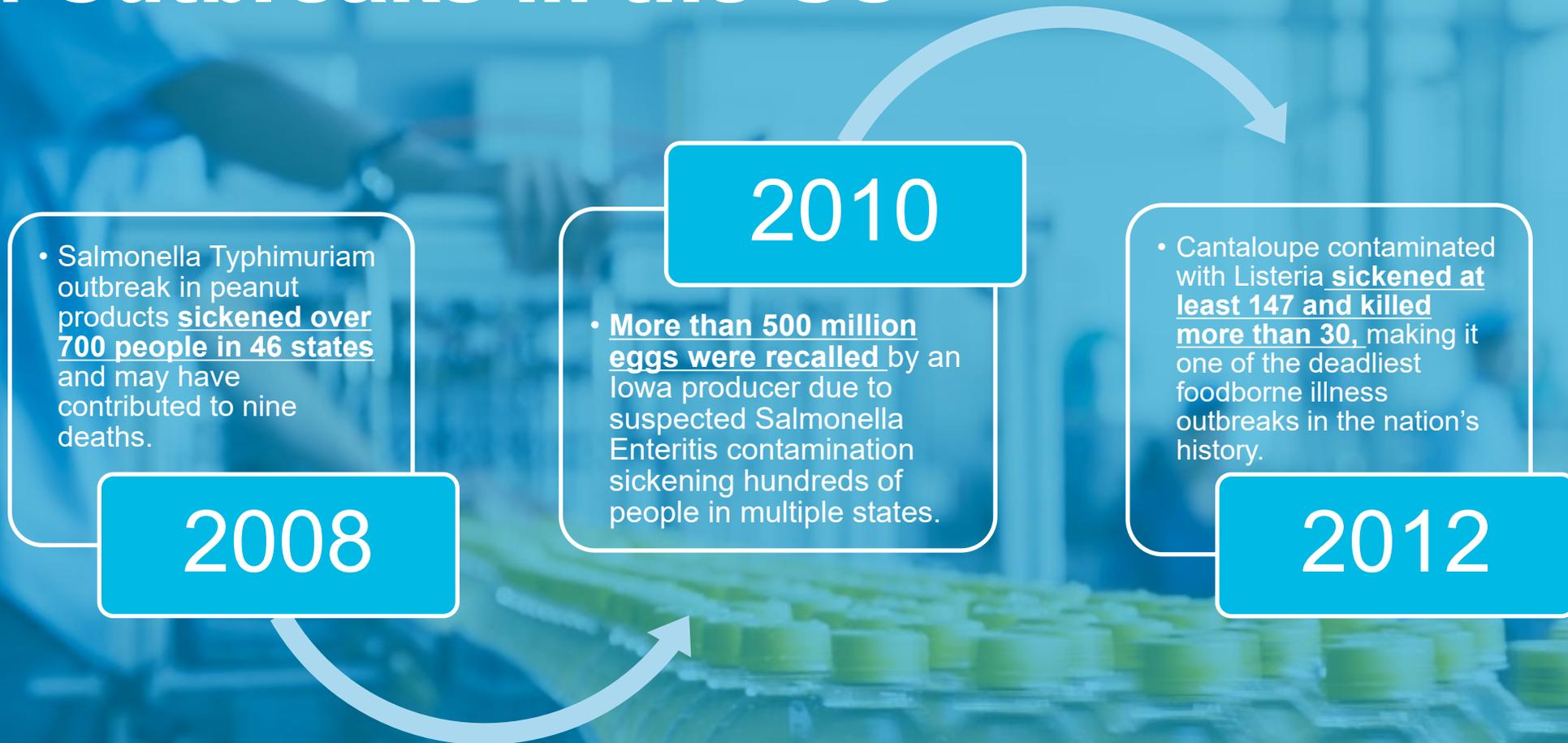
FACT #1

48 million people in the US (1 in 6) get sick each year from foodborne illnesses.

Source: <https://www.cdc.gov/foodsafety/index.html>



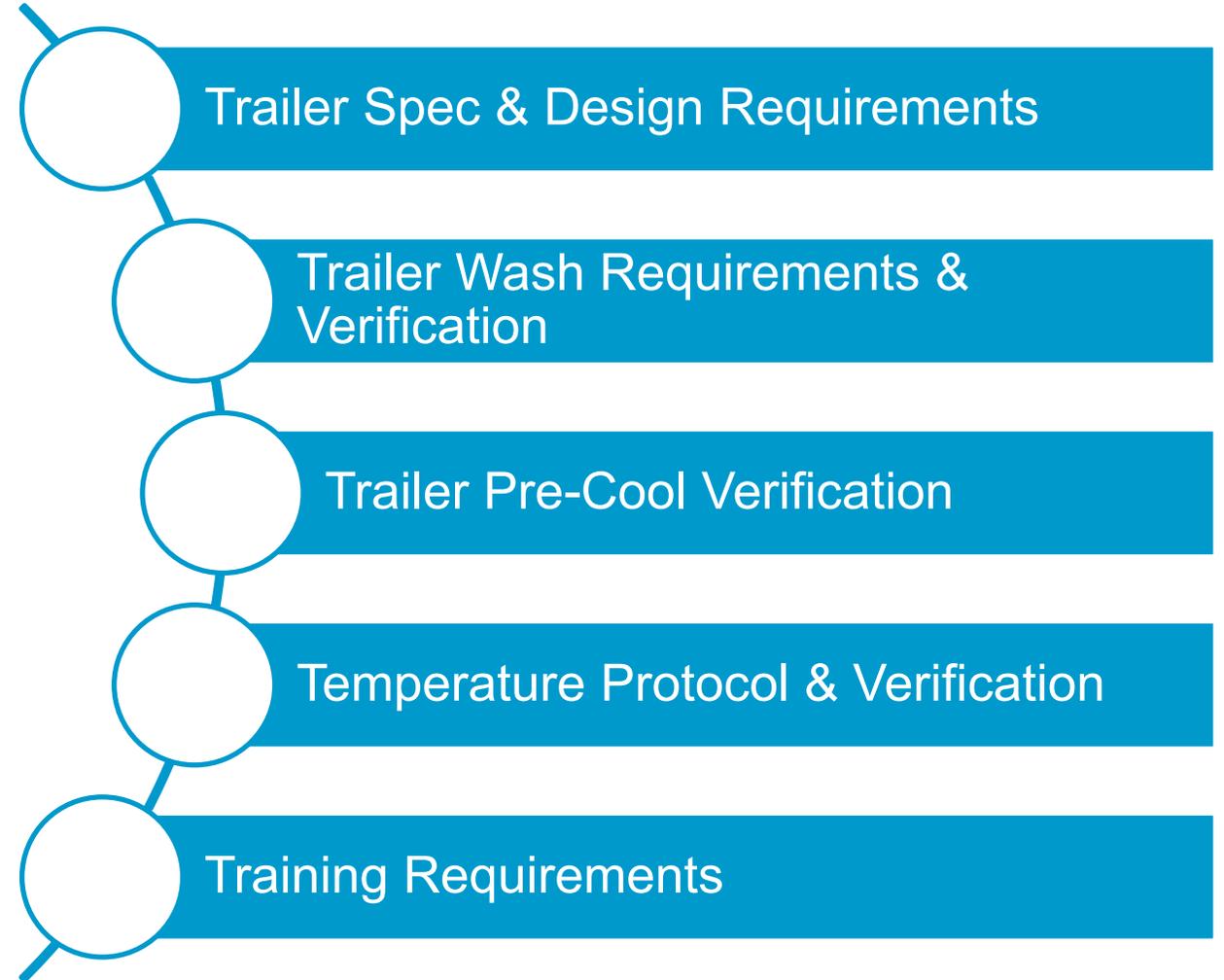
Food Outbreaks in the US



These high-profile outbreaks prompted policy makers to create the Food Safety Modernization Act (FSMA), the first major overhaul in US food safety practices since 1938.

FSMA Best Practices

- Develop a food safety plan as required under the proposed rules.
 - Use the FDA's Food Safety Plan Builder, a free tool, to walk through all steps of creating a food safety plan.
 - <https://www.fda.gov/food/food-safety-modernization-act-fsma/food-safety-plan-builder>
- Carriers should work with their shippers to establish a mutually agreeable game plan for complying with FSMA rules.



LOADING PROCEDURES



FACT #2

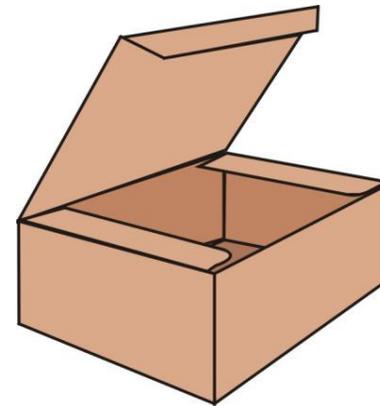
**Loading procedures
have a profound effect
on product quality and
food safety.**

PACKAGING AND STAGING

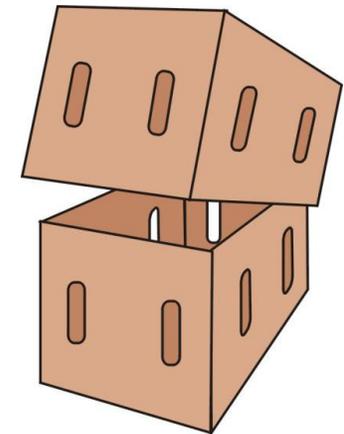


Product Packaging

- Critical to ensuring product protection.
- Product packaging should be:
 - Crush-resistant for product protection
 - Solid side for frozen products
 - Vented for fresh products



FROZEN



FRESH

Cargo Handling and Storage

- Store cargo at desired temperature for transport before loading.
 - Cargo that is loaded at improper temperature has high risk of temperature excursions that can lead to load loss and potential contamination.
- Avoid intermingling dry and refrigerated product.
- Minimize cargo time in unrefrigerated environment between cold storage and trailer.



LOADING CHECKLIST

Loading Checklist

1. Perform Pre-Trip

2. Set Controller Set Point

3. Verify Set Point

4. Set Mode of Operation

5. Pre-cool Trailer

6. Turn Unit Off While Loading

7. Load Product

8. Restart Unit

9. Prepare for Takeoff





FACT #3

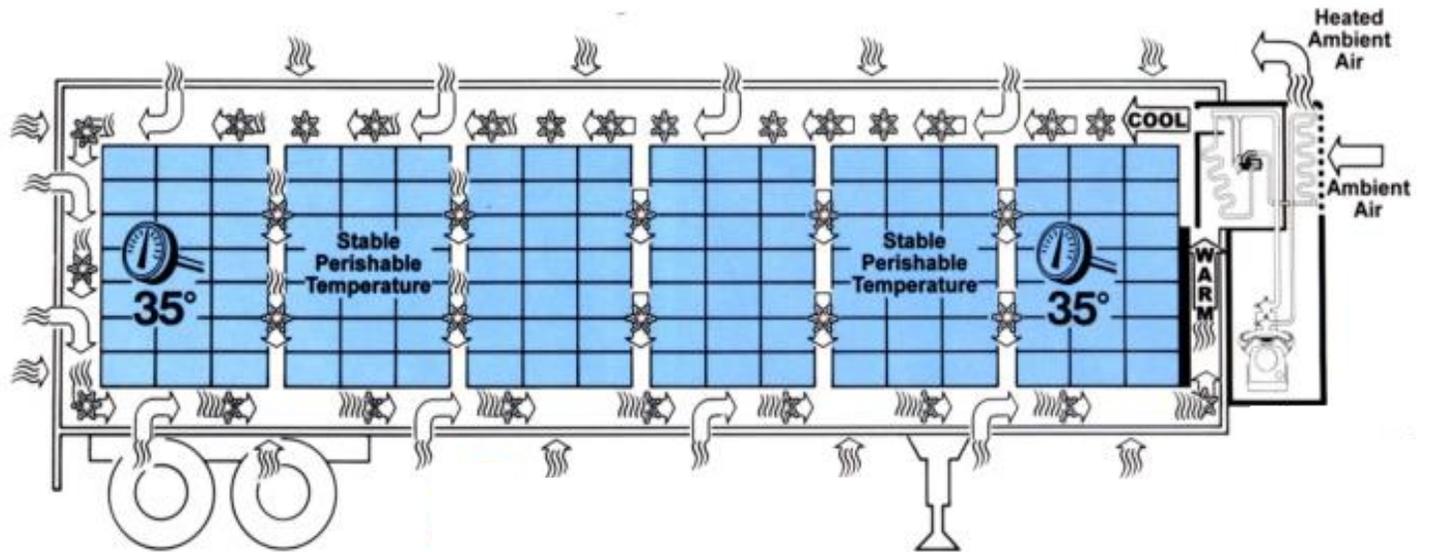
Trailer refrigeration units will pull heat in from outside, if run with the trailer doors open, which will increase trailer temperature.

IMPORTANCE OF AIRFLOW

Why does airflow matter?

- Poor air distribution is one of the primary causes of product deterioration even when unit capacity is more than adequate.
 - Obstructions in airflow throughout the trailer between pallets, the floor or trailer walls can cause poor airflow, which leads to hot spots within the trailer and product safety risks.

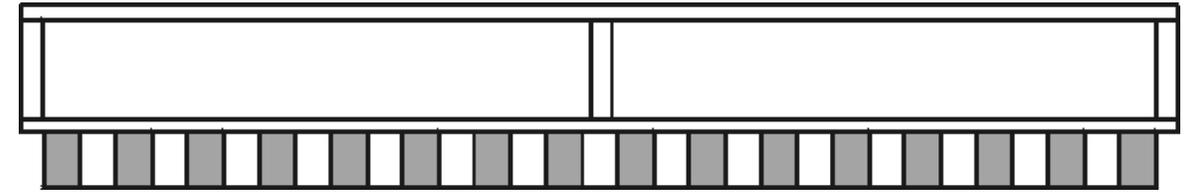
- To attain proper air circulation, there must be 6 sides on each pallet to open pathways for better air circulation.



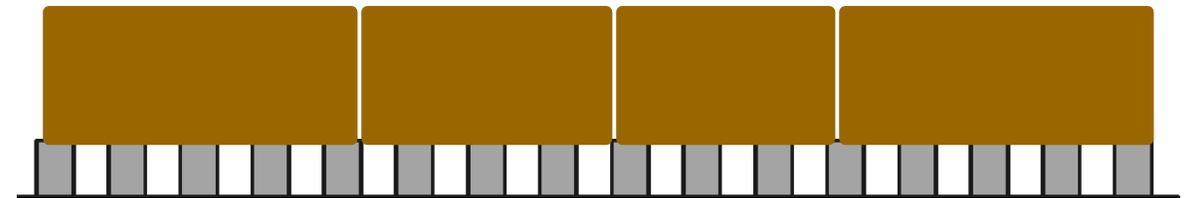
Key Factors to Proper Airflow

Ensure proper flooring that will enable air to travel under the pallets.

- When using pallets, use 3-way pallets and position pallets with air channels open.
- Do not obstruct floor under cargo as it can prevent air from reaching cargo, creating a hot spot.
- Slip sheets and hand stacking are not good for temperature management as there is higher risk of improper space between cargo limiting air channels.



Duct Board Floor - Pallet



Duct Board Floor – Hand Stacked



Duct Board Floor – Slip Sheets



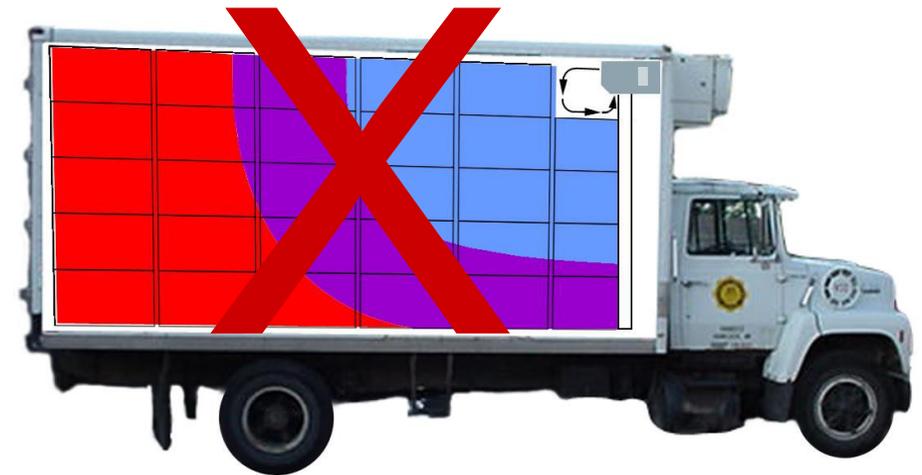
“T” Floor

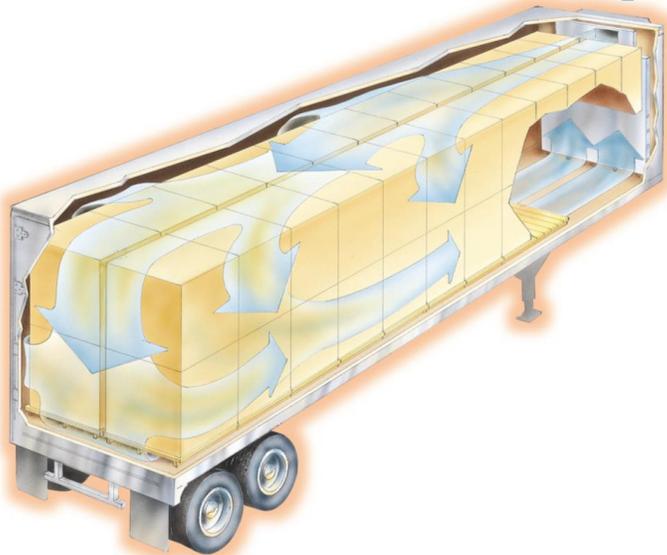
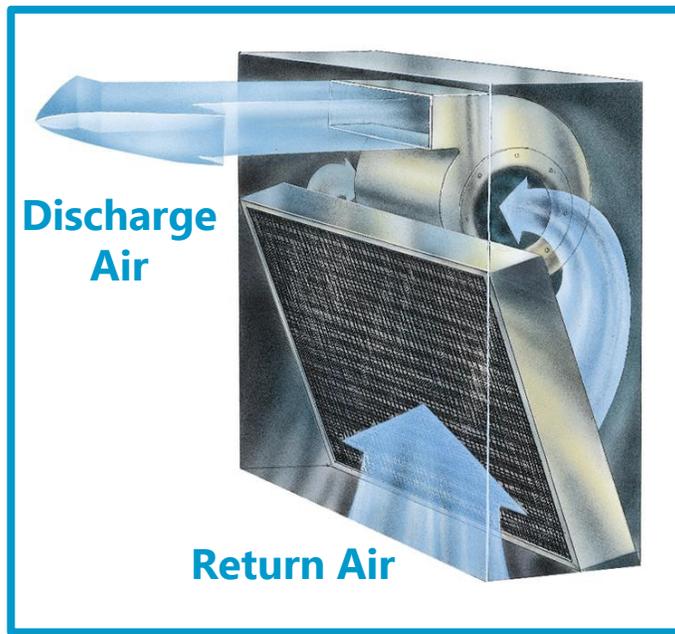


Key Factors to Proper Airflow

Provide adequate air space between top of cargo and ceiling.

- Too little space causes air to short cycle.
 - Short cycling is when air is unable to travel sufficiently within the trailer and the cool air feeds back into the refrigeration unit leading it to believe the trailer temperature is accurate.
 - In the case of short cycling, obstructed air channels can block the cool air and actually push it back to the trailer refrigeration unit and cargo temperature will rise and risk a temperature excursion.
- Do not load product tight against the unit, walls or doors to avoid short cycling.





Key Factors to Proper Airflow

Do not block unit evaporator outlet or the return air inlet as it restricts air flow.

- Return air must be unobstructed as restricted airflow can cause product damage to due to air not reaching cargo properly.

DELIVERY



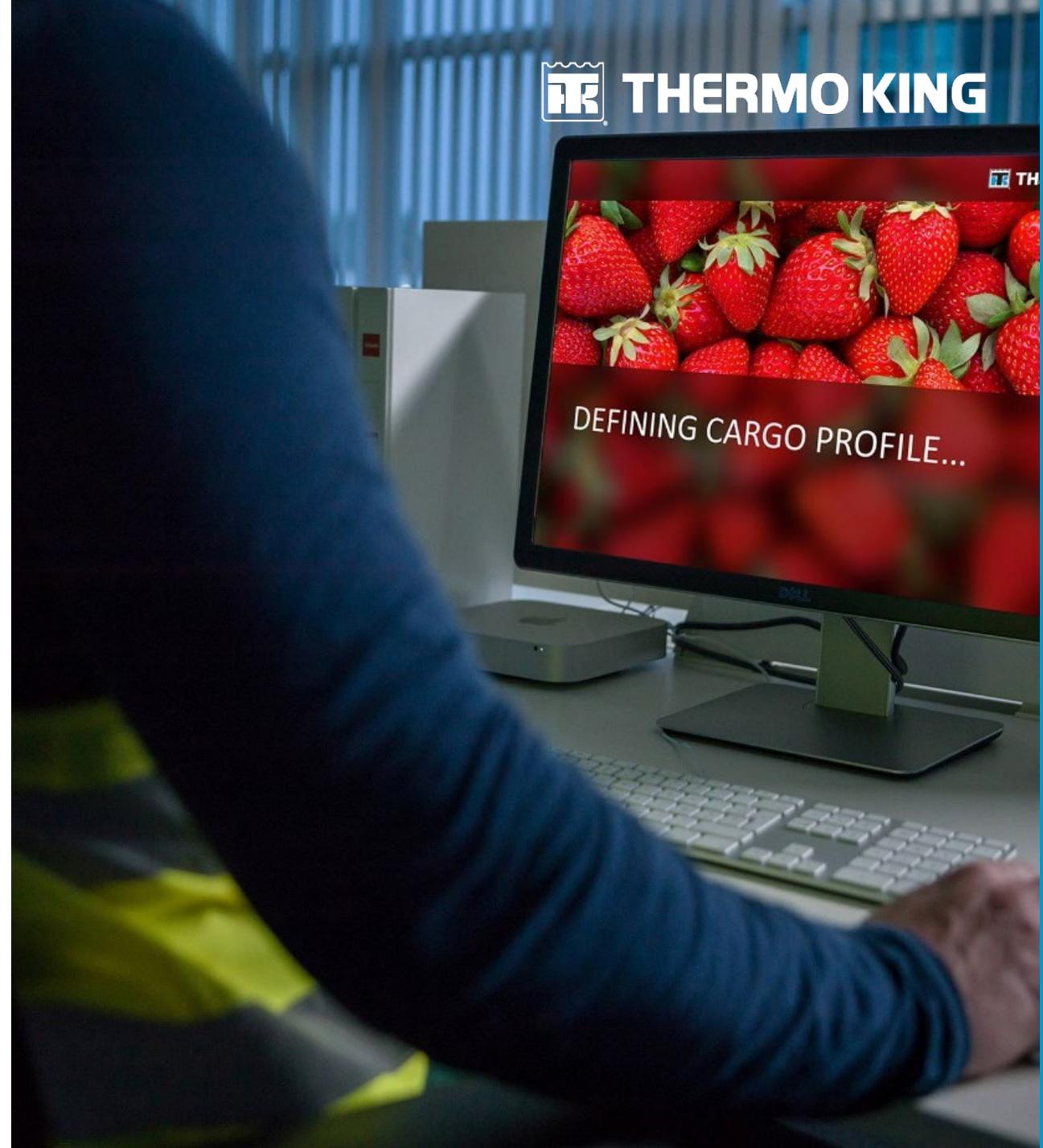
Delivery Best Practices

- Turn unit off before opening doors.
- Open doors, then immediately back trailer tightly to dock to reduce air leakage from trailer.
- To further reduce cold air leakage from trailer, utilize strip curtains.
- Unload product quickly and efficiently to reduce length of door openings.
- There is less impact on trailer temperature if you are tightly sealed to a refrigerated loading dock.
 - There is higher risk of temperature excursion from loading at a non-refrigerated dock.

CARGO MANAGEMENT SOFTWARE

What is OptiSet® Plus?

- A cargo management system designed with preset cargo operating profiles to:
 - **Protect the integrity of your cargo** with tight temperature control.
 - **Reduce driver error** by reducing number of steps require as well as removing ability to select incorrect options.
 - Enhance temperature settings of your cargo while **optimizing fuel usage.**



OptiSet Plus Load Profiles



500+

Cargo profiles to select from our OptiSet library and 64 can be saved for future use.

- A driver friendly cargo management system to select the right set point, load temperature range and operation mode for every load.
- Gain total customization of your operating conditions.
- Results in more consistent product temperature, fewer shipper and driver errors, and improved efficiency of your reefer unit.

ASSET MONITORING

Knowledge is Power



- With TrackKing[®], your fleet gains access to:
 - Real time reefer and asset data
 - Real time reefer alarms and notifications
 - Reefer engine hours for maintenance
 - Historical reports and customized schedules
 - Asset location and geo-fencing
 - 2-way interaction with reefer
 - Remote OptiSet and reefer download

