

# **Securing Safety Across the Supply Chain**



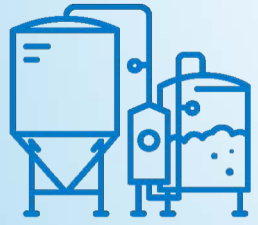
**From Cow  
to Cart**

**Nick Alfano, EVP and GM Global Food and Beverage, Ecolab**  
**John Carter, Vice President Quality, EDP and Resources Efficiency, Danone**  
**Ruth Petran, VP Food Safety and Public Health, Ecolab**  
**Zhinong Yan, Executive Director Food Safety Collaboration Center, Walmart**

# Every Year, Ecolab Sees and Supports:

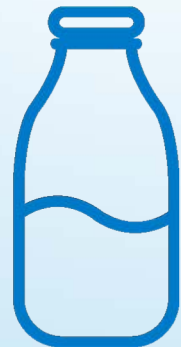
**5000+**

Food and beverage plants



**42%**

of the processed **milk supply**



**31 billion**  
Clean hands



**200,000**  
Quick Serve Restaurants

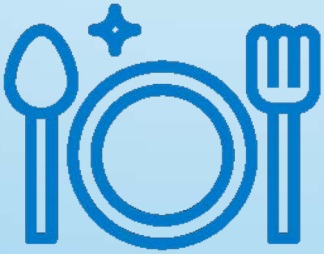


**500+**

Beverage plants and **breweries**

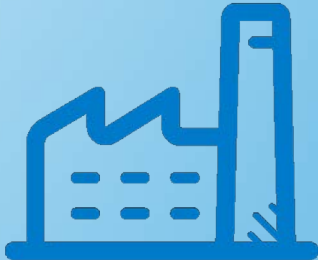
**45 billion**

Restaurant meals



**27%**

of the world's **processed food**



Better  
Quality

Greater  
operational  
efficiency

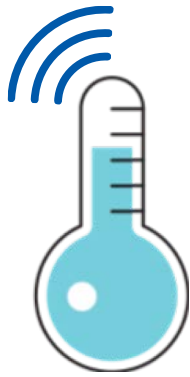
Reduced  
food safety  
risk

**DATA + INSIGHTS + ACTION**

# Supply Chain Dynamics



**COW**



**Transport  
and Storage**



**Processing**



**DC's and  
Transport**



**CART**

A black and white cow is standing in a milking parlor. The cow is positioned in a metal stall, and its udder is being milked by a milking machine. The machine is connected to a network of pipes and hoses. The floor is dark and appears to be made of a composite material. The background shows other stalls and the structure of the milking parlor.

**Dr. Ruth Petran**  
**Vice President Food Safety and Public Health, Ecolab**

Identify  
Relevant  
Hazards

Ensure  
Control

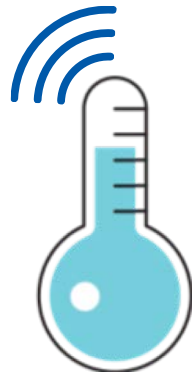
Utilize New  
Tools

**SAFETY + QUALITY + GROWTH**

# Supply Chain Dynamics



**COW**



**Transport  
and Storage**



**Processing**



**DC's and  
Transport**



**CART**

# Identification of the Risk-Based Target(s) in Dairy

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## TOP CONCERNS

Spoilage

Pathogens

Regulations

Compliance

Inspection Findings



How to  
Start?



# Methods of control

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## INCOMING

**High quality ingredients**  
**Proper Storage**  
**Decontamination**  
**Wash and Sanitize**



## POST-PROCESSING

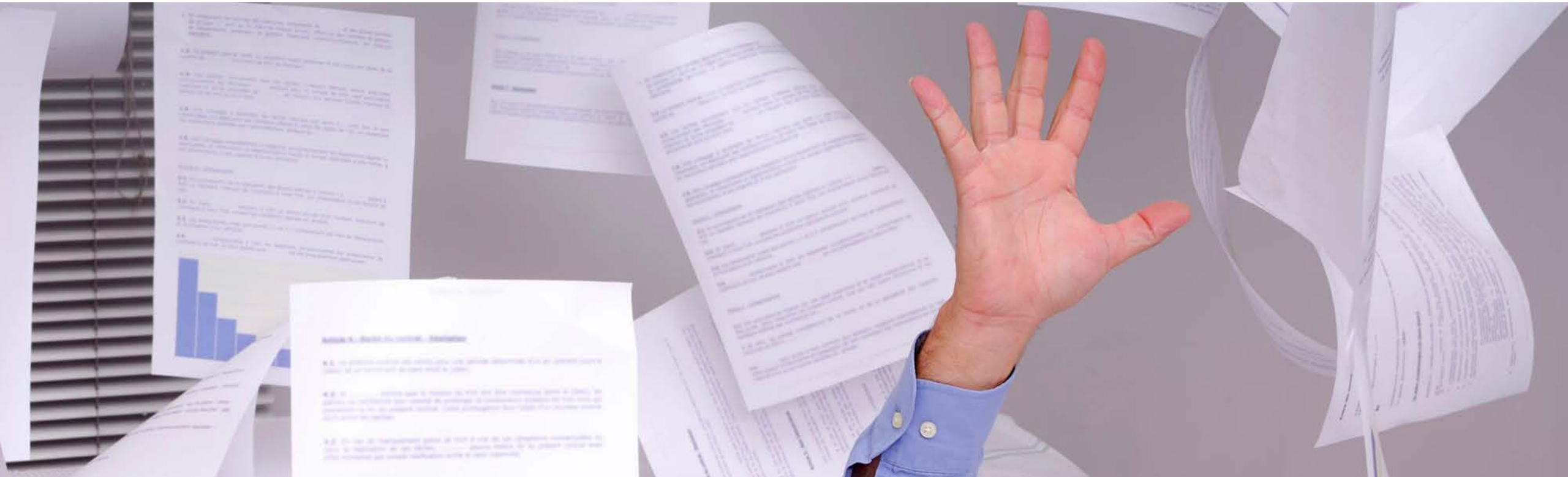
**Prevent cross contamination**



## STORAGE & DISTRIBUTION

**Proper temperature control**

We collect lots of data.

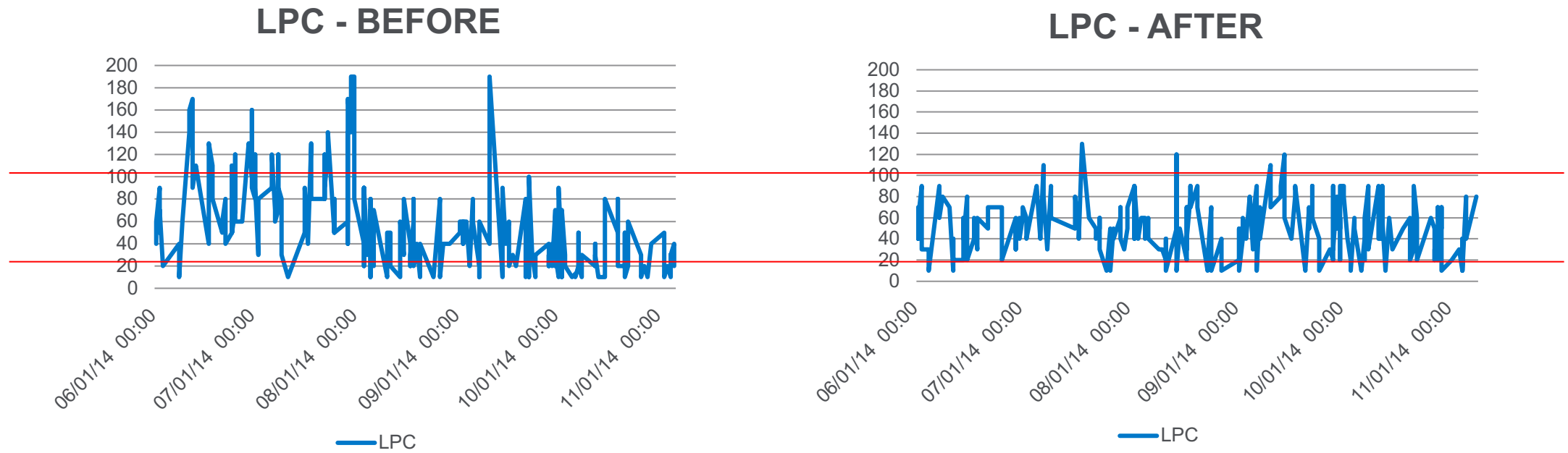


We need **actionable** insights!



# Improved Consistency on Farm with Enhanced Sanitation

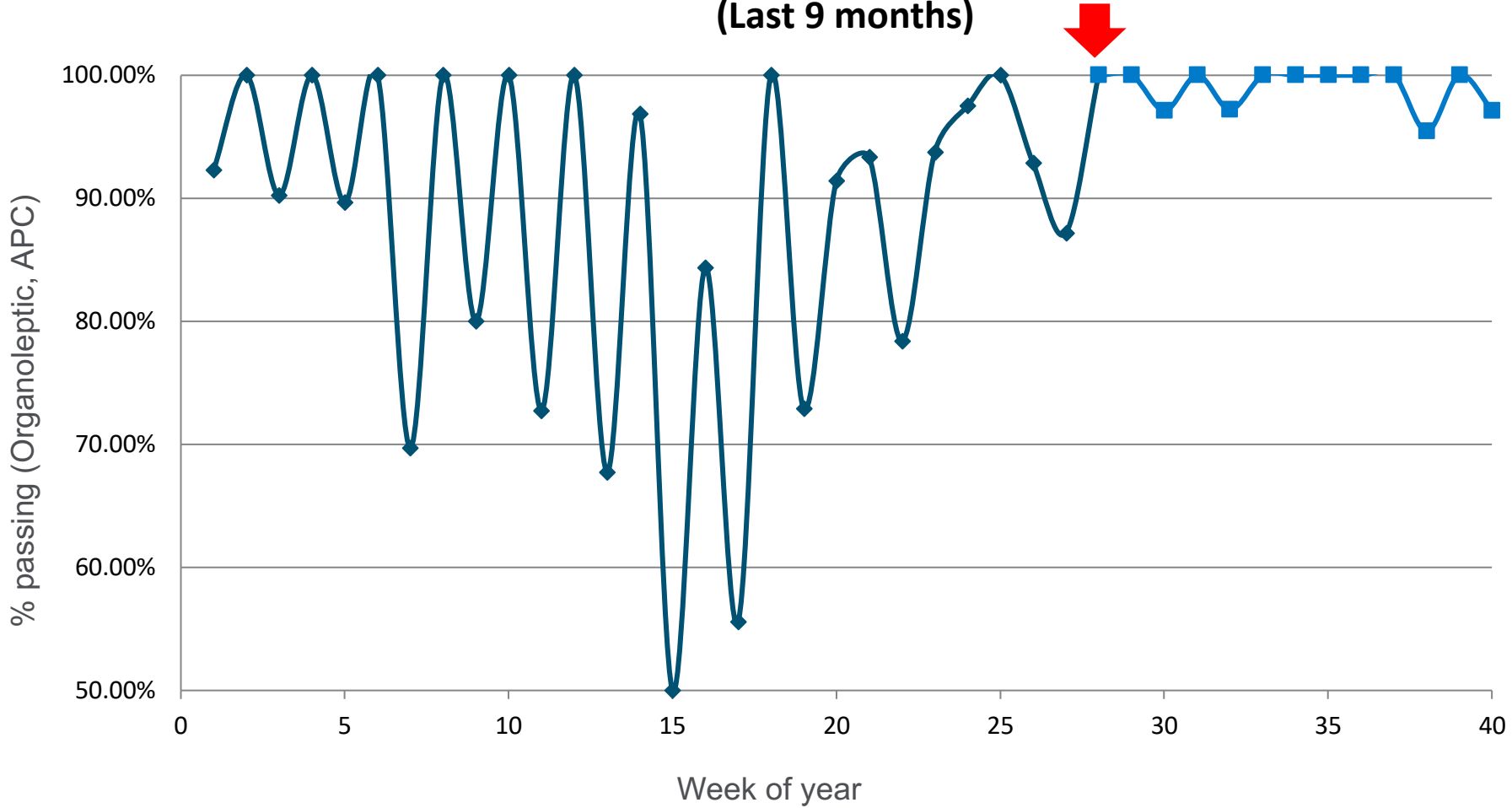
## Lab Pasteurized Counts (LPC) – Improved Consistency



Large rotary milking system

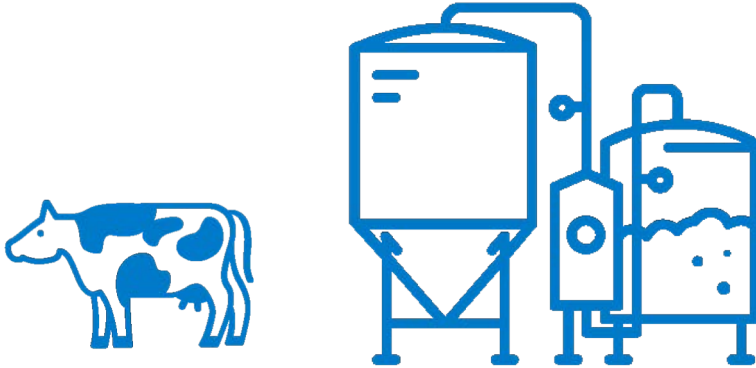
# Fluid Milk Producer Improves Shelf-life Consistency

**% of Chocolate Milk “Passing” Organoleptic Testing at Code by Week (Last 9 months)**



# Moving to Digital Solutions on the Farm

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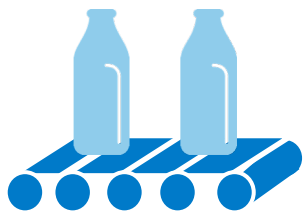


**Low/no  
detergent  
use**

**Skipped  
washes**

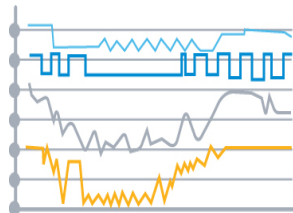
**Low  
temperature  
washes**

# Moving to Digital Solutions at the Plant



10 lines  
per plant

+



15 washes  
per line

+



10,000 data  
points per wash

=



1,000,000+  
CIP data points per  
plant per day



REAL TIME  
VISIBILITY



REAL TIME  
**RESOLUTION**

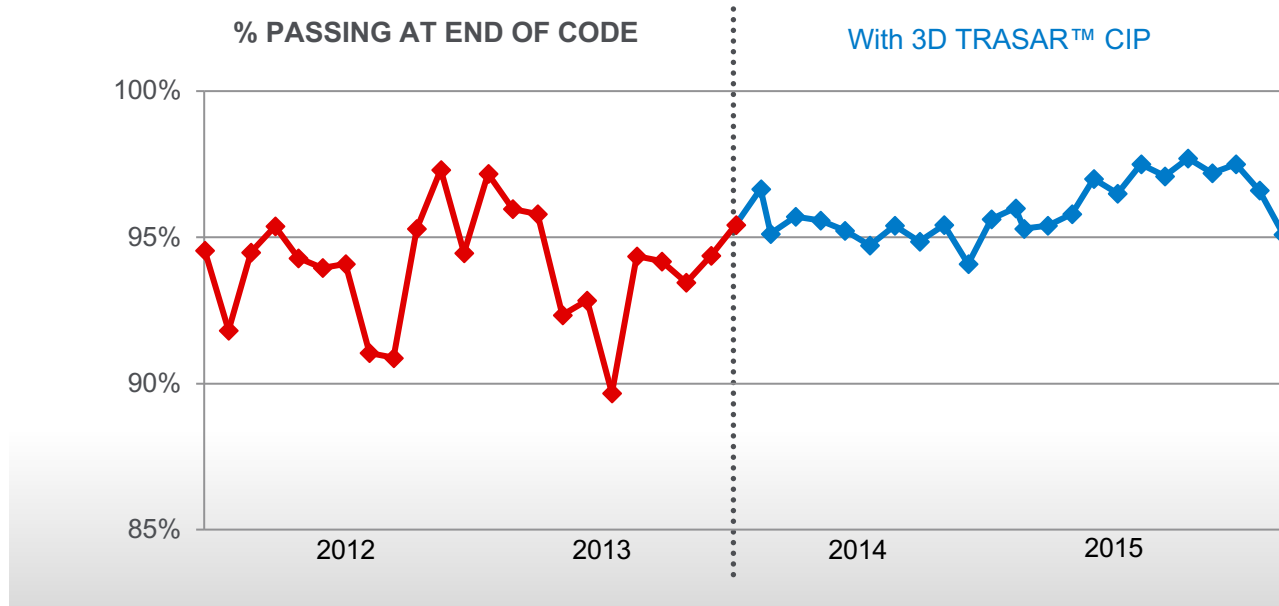


REAL TIME  
**RESULTS**

- Quality
- Productivity
- Cost
- Sustainability

# Fluid Milk Producer Improves Shelf-life Consistency

## CHALLENGE



## WHAT WE DID

- Driving consistent execution of SSOPs
- Identified compelling events, such as missed steps, missed chemistry, partial washes

## RESULTS

Average  
**PASSING**  
at end of code  
INCREASED

**↑ 2** Percentage points

# The Next Wave of the Digital Evolution







**GFSI Tokyo 7.3.2018**

**Breakfast Session**

**John Carter, VP Quality, Danone**

# OUR DANONE QUALITY AMBITION





## OUR PLEDGE

We are making a commitment to our farmer partners and consumers to further improve sustainable agriculture practices for our milk supply, increase transparency for all of our products and evolve to more natural, not synthetic and fewer ingredients for flagship brands.





## OUR PRIORITIES

To gain greater transparency about our main ingredient, we now source all the milk we use directly from farms we know. We are committed to preserving the environment, strive to conserve natural resources and respect the delicate balance between ecosystems and natural cycles.

Our key environmental and agricultural priorities



Soil



Water



Biodiversity



Carbon  
and Energy



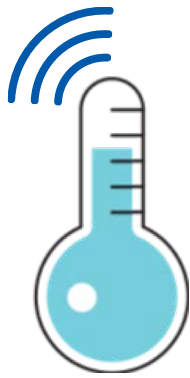
Animal  
Welfare



# Supply Chain Dynamics



**COW**



**Transport  
and Storage**



**Processing**



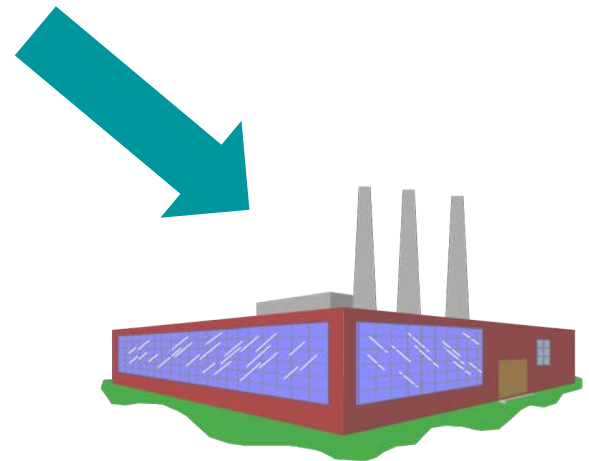
**DC's and  
Transport**



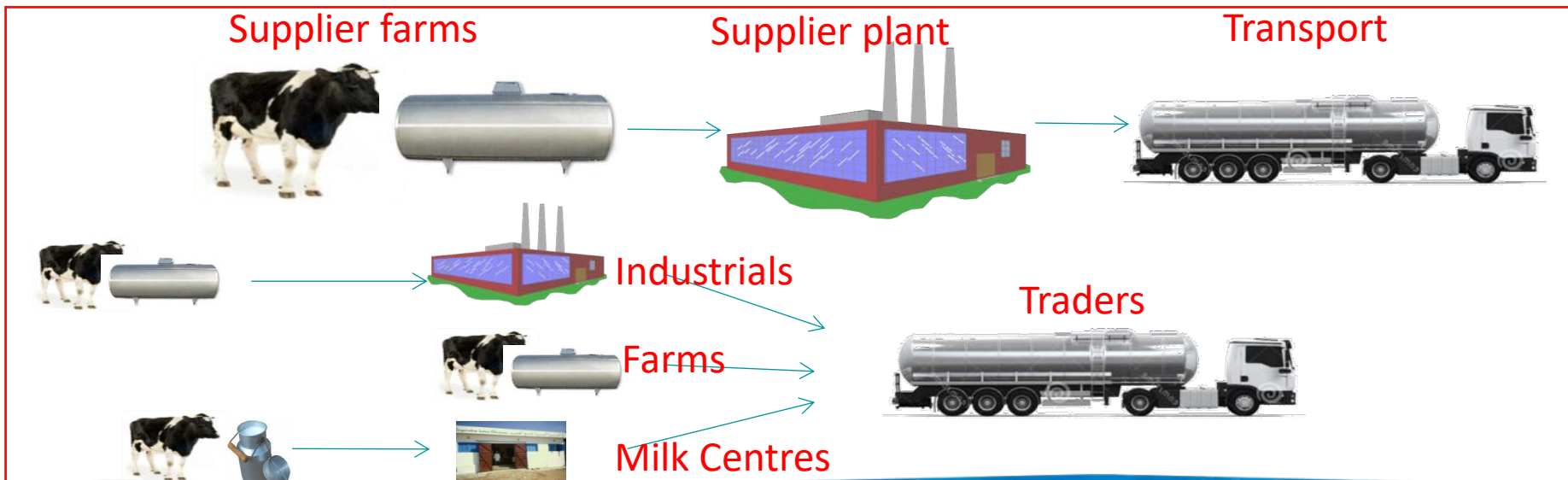
**CART**

# Danone Goal: 100 % traceability to farms

Direct sourcing



Indirect sourcing



Raw Milk  
Cream  
SMC

# Danone Quality Fundamentals

**Feed**



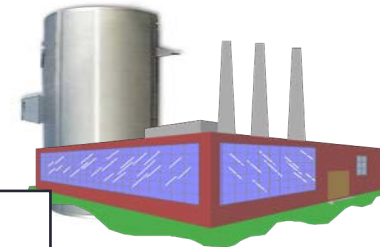
**Farm**



**Transport**



**Plant before process**



**Finished Product**



**Plant reception**

**Food Safety Risk Review**

## The 4 Milk Quality Fundamentals

### **T**raceability

The whole milk delivered to Danone is traced till the dairy farms that produce the milk (including 3rd parties such as coops, other dairy industrial, traders, etc...)

### **R**egulation

The milk is compliant with the local regulation in TPC, SCC, and any other local regulatory requirement

### **A**ntibiotic

ATB tests is applied at milk reception, and the positive tested milk is rejected.

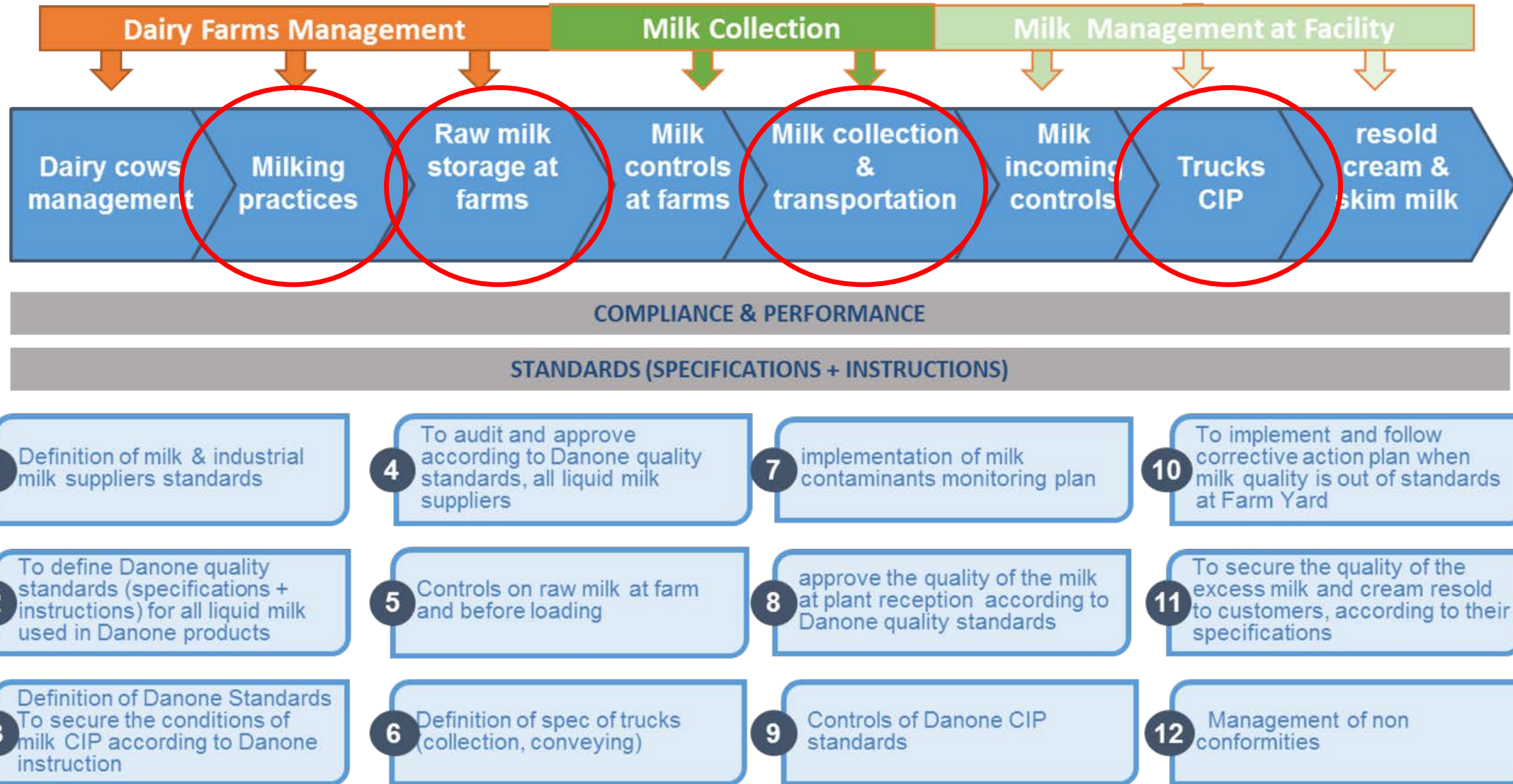
### **C**ontaminant plan

The Danone monitoring plan (SA-INS-DEV-015) is applied



**DANONE** ONE PLANET. ONE HEALTH

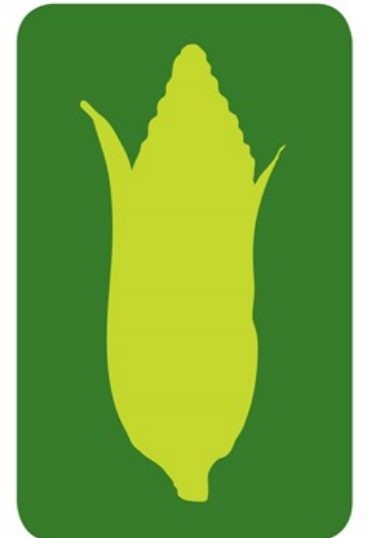
# MILK Q&FS VALUE CHAIN MANAGEMENT SYSTEM





# Digital Strategies in a Retail Environment

Zhinong Yan



# Our Culture



**We respect  
the  
individual**  
so we care  
about their  
safety



**We serve  
our  
customers**  
and do  
it safely



**We strive  
for  
excellence**  
by starting  
with  
safety

# Walmart's Global Presence

## OVER 11,500 UNITS

Today, nearly 260 million customers visit our more than 11,500 stores under 65 banners in 28 countries and e-commerce sites in 11 countries each week. With 2.2 million associates worldwide (1.4 million in the U.S. alone), we continuously work to save our customers money so they can live better.



# 中美商界领袖食品安全对话

## 暨沃尔玛食品安全协作中心启动活动

China-U.S. Business Leaders Food Safety Dialogue &  
Walmart Food Safety Collaboration Center Launch

**Date: Oct 19, 2016**

**Walmart executives, Chinese and American executives, Chinese regulators, academics and industry experts as well as the U.S. Ambassador to China**



**Walmart**   
Food Safety  
Collaboration Center

MISSION

使命

**Advance Food Safety in China so ALL Consumers can Live Better**  
**推进中国食品安全发展，提升中国消费者生活质量**

VISION

愿景

**Provide a platform for all stakeholders to collaborate on high impact efforts that address systemic food safety issues; Position the Center as a food safety leader in China**  
**建造专业平台以推动相关方通力合作解决食品安全系统性问题**  
**致力成为中国食品安全领域的领导者**

STRATEGY

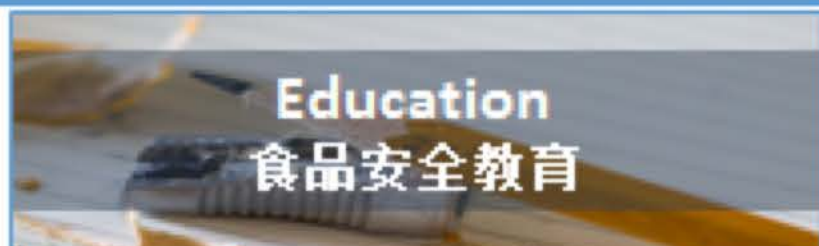
战略

**Advance practical and impactful food safety solutions through innovation, education, and policy support**  
**开展创新、教育和政策支持等项目实践，推进食品安全务实有效的解决方案**



**Innovation**  
**食品安全科技创新**

- Poultry Excellence In China
- Blockchain Food Traceability
- Predictive Risk Analysis



**Education**  
**食品安全教育**

- National Children's Food Safety Protection Campaign
- Emerging Issues In Food Safety Lecture Series



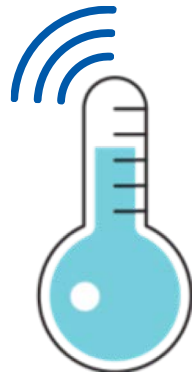
**Policy Support**  
**支持食品安全政策制定**

- Sam Walton Food Safety Law Chair
- China Food Safety Leadership Workshop

# Supply Chain Dynamics



**COW**



**Transport  
and Storage**



**Processing**



**DC's and  
Transport**



**CART**

# Distribution Center Operations



# Logistics Food Safety High Five



## Top 5 Food Safety elements impacting Distribution Centers

1

Be Clean, Be Healthy

2

Keep it Cold, Keep it Safe

3

Don't Cross Contaminate

4

Clean as You Go

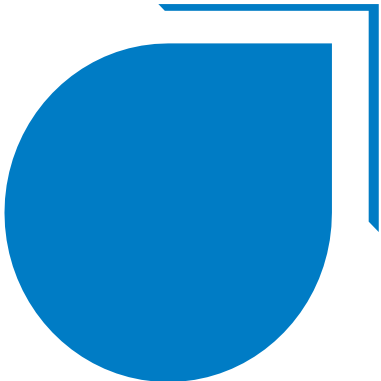
5

Wrap It, Tag It (Recalled Items)

Copyright of Walmart



# Food Safety Cold Chain Compliance



## **FOOD SAFETY**

Policy, procedure, regulatory compliance programs



## **Quality Control**

Receiving processes, temperature verification, quality checks, Dairy HACCP, Preventive Controls



## **Quality Assurance**

Storage processes, storage temperature control, cross-contamination prevention, palletizing, loading



## **Compliance Safety Asset Protection**

Policy, procedure, regulatory compliance verification. Food safety one of many compliance programs verified.









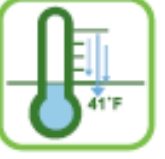


# Store Operations



# Food Safety High Five

Know the High Five, and follow them while working with food.

1	<p><b>Be clean, be healthy</b></p> <ul style="list-style-type: none"> <li>Wash hands when necessary</li> <li>Do not work with food if you are ill</li> <li>Never touch ready-to-eat food with bare hands</li> </ul>	  	<p><b>Sea Limpio, Sea Saludable</b></p> <ul style="list-style-type: none"> <li>Lávase las manos cuando sea necesario</li> <li>No trabaje con alimentos si está enfermo</li> <li>Nunca toque alimentos listos para comer con las manos desprotegidas</li> </ul>
2	<p><b>Keep It cold, keep it hot</b></p> <ul style="list-style-type: none"> <li>Keep cold foods at 41°F or below</li> <li>Keep hot foods at 140°F or above</li> </ul>	 	<p><b>Manténgalo Frío, Manténgalo Caliente</b></p> <ul style="list-style-type: none"> <li>Mantenga los alimentos fríos a 41°F o menos</li> <li>Mantenga los alimentos calientes a 140°F o más</li> </ul>
3	<p><b>Don't cross contaminate</b></p> <ul style="list-style-type: none"> <li>Do not store raw foods over cooked or ready-to-eat foods</li> <li>Never prepare ready-to-eat foods on the same surface or with the same utensils used to prepare raw animal proteins</li> </ul>		<p><b>No Ocasione Contaminación Cruzada</b></p> <ul style="list-style-type: none"> <li>No almacene alimentos crudos encima de alimentos cocidos o listos para comer</li> <li>Nunca prepare alimentos listos para comer sobre la misma superficie o con los mismos utensilios usados para preparar proteínas animales crudas</li> </ul>
4	<p><b>Wash, rinse &amp; sanitize</b></p> <ul style="list-style-type: none"> <li>Properly wash, rinse and sanitize all food contact utensils and equipment</li> </ul>		<p><b>Lavar, Enjuagar y Desinfectar</b></p> <ul style="list-style-type: none"> <li>Lave, enjuague y desinfecte apropiadamente todos los utensilios y equipo que haga contacto con los alimentos</li> </ul>
5	<p><b>Cook it &amp; chill it</b></p> <ul style="list-style-type: none"> <li>Cook food until it reaches a proper internal temperature</li> <li>Rapidly cool food to 41°F or below</li> </ul>	 	<p><b>Cocínalo y Enfríalo</b></p> <ul style="list-style-type: none"> <li>Cocine los alimentos hasta que alcancen una temperatura interna apropiada</li> <li>Enfría rápidamente los alimentos a 41°F o menos</li> </ul>

- Five basic principles of safe food handling
  - Created in 2010
- Most important practices or behaviors
- Risk-based approach
  - CDC's most common contributing factors
  - FDA Retail Risk Factors

# Food Safety High Five

1

**Be Clean**

**Be Healthy**

2

**Keep it Cold**

**Keep it Hot**



3

**Don't Cross Contaminate**

4

**Wash, Rinse and Sanitize**

5

**Cook it and Chill it**



# SPARK — Sustainable Paperless Auditing and Recordkeeping System



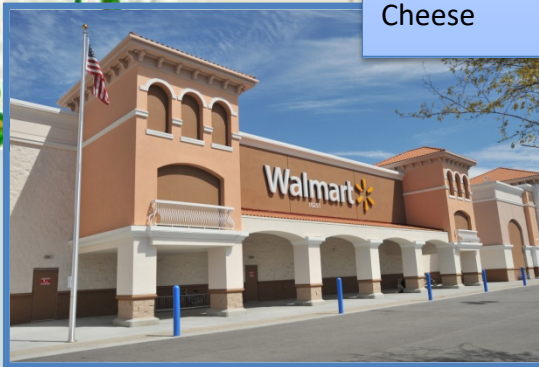
- Web based automated system
- Preset Food Safety Tasks
- Bluetooth Technology
- TMD & PDA
- Website



# 30,000 Foot View with Clarity & Granularity

## Manager Checklist

02/14/18	Time	Temp	userid
Dairy- Milk	09:57	34.2°F	Dsrogers
Dairy- Cheese	13:33	38.6°F	Dsrogers
Dairy- Cottage Cheese	16:08	39.3°F	Dsrogers





# Cold Chain Management- Stores

Store / Club: \_\_\_\_\_ **Cold Chain Receiving Log** Week # \_\_\_\_\_

Receiving directions for all perishable food deliveries

1. Check the temp of one pallet per temp zone with an IR or digital thermometer as they are removed from the truck.
2. Document the pallet temp on the receiving temperature log.
3. Inspect all pallets for proper separation of raw/ready-to-eat food and raw species.
4. If the proper temperature is met move product to the proper cooler/freezer immediately.

**Note: IR and Digital thermometer have accuracies of ±2°F.**

5. If pallet(s) are not within proper temperature guidelines call a member of management.
6. Member of management must use a digital thermometer to re-check pallet temperatures.
7. If pallet(s) are not at correct temp, mgmt should insert thermometer into food on the pallet in three separate locations.
8. If product is then found to be above temp range, contact the shipping DC immediately. Store/Club and DC will determine the disposition of product.
9. Contact Food Safety & Health with the store/club and DC on conference call if there are food safety questions.
10. Receiving associates must verify that thermometers are working properly daily.
11. Salaried member of mgmt to review log and sign off to verify proper completion each week

*Note: Stores should document when there is no delivery on a specific day.*

~Frozen Foods ( Must be frozen solid <32°F & below> ) ~Deli, Dairy, Meat, Milk (41°F & below)												
~ PHF < Potentially Hazardous Food> Produce (Produce that must be kept at 41°F and below for safety)												
Cut melons, Bagged salads, Sprouts, Juices, Soy & Tofu products, Salad dressings ( <i>Note: For items that do not require refrigeration for safety, such as whole fruit &amp; vegetables, contact the DC if there are quality concerns upon receiving.</i> )												
Truck/Supplier												
Zone	1	2	3	1	2	3	1	2	3	1	2	3
Time												
Temperature												
Associate												
Corrective Action:												Date:
Truck/Supplier												
Zone	1	2	3	1	2	3	1	2	3	1	2	3
Time												
Temperature												
Associate												
Corrective Action:												Date:
Truck/Supplier												
Zone	1	2	3	1	2	3	1	2	3	1	2	3
Time												
Temperature												
Associate												
Corrective Action:												Date:

- Temperatures Recorded for Every Delivery to Store
- Issues are Reported to the Distribution Center and/or Food Safety Team
- Products moved immediately into walk-in coolers



# Cold Case Management- Stores



- 24-hour Home Office Monitoring
- In-Store process design
  - Rear Loading Coolers,
  - 20 minute stocking rule for sales floor
- Management SPARK Checks



# BlockChain Technology for Transparency



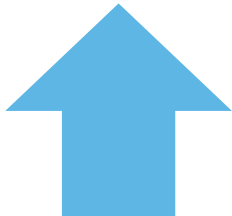
# Driving Food Safety Enhancements with Digital Tools



**Compliance**



**Predictability**



**Optimal Outcomes**

