Seek and Destroy:

Responding to Listeria Positives

Today's Presenter:

Steve Tsuyuki

The Acheson Group

FSMA FRIDAY

Monthly Industry News, Updates & Trends for Food, Beverage, & CPG Manufacturers

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What is FSMA Fridays?

- ✔ Monthly FSMA Related News
- ✔ Regulation Changes & Updates
- ✔ Industry Trends
- ✔ Q&A with TAG

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A global food safety and public health consulting group made up of seasoned industry experts.

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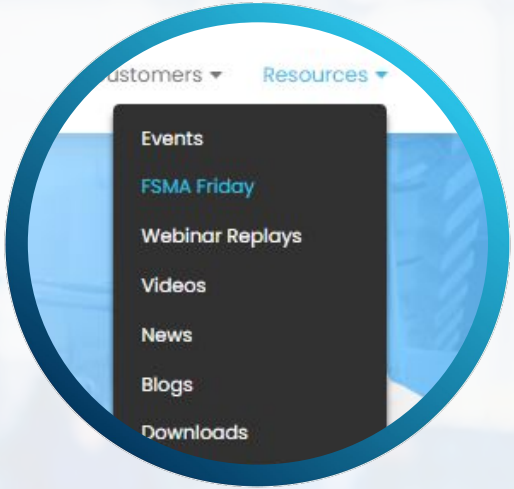
Award-winning digital plant management platform to visualize plant-wide performance and better control quality, yield & production optimization.

Before We Get Started...

- ✔ Only panelist microphones are on
- ✔ Ask questions! (Q&A at end)
- ✔ Recording link will be shared
- ✔ Audio issues: use call-in number



Watch prior FSMA Friday recordings at
safetychain.com > Resources > FSMA Friday

Meet Your FSMA Friday Speaker

Steve Tsuyuki

Senior Advisor, Food Safety

Prior to joining TAG as a Senior Advisor, Food Safety, Steven Tsuyuki spent his entire 40+ year career in the food industry for multinational companies that manufacture and sell meat products, pet food, and confectionary products. He has held senior roles in sanitation, food safety, quality assurance, operations and Six Sigma.

Before joining TAG, Steven retired from Maple Leaf Foods in the role of Senior Director – Corporate Sanitation and the Environmental Monitoring Program (EMP). For the past 17 years, Steven led the development and execution of the EMP post 2008 Listeriosis event. Most recently, he led the company-wide deployment of a strategy to standardize sanitation practices to improve performance and drive effectiveness and efficiency outcomes across 20+ facilities, including hatcheries, harvest plants, and RTE processing plants.

Steven connects with all levels and all functions within an organization. He is just as comfortable on the plant floor as he is in the boardroom. Since 2009, he has been a presenter at the Meat Institute Advanced Listeria Control workshop and an industry speaker and author.

Steve lives in Oakville, Ontario, Canada and enjoys tennis, staying fit, and enjoying family life.

Agenda

01.

Recent Regulatory Updates

02.

Seek and Destroy: Responding to Listeria Positives

03.

Q&A

04.

SafetyChain Demo

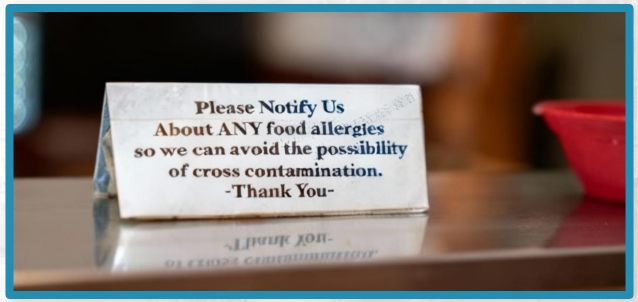
Recent Regulatory Updates Overview

Headline

- On May 6, 2026 FDA announced the launch of one-day inspectional assessments to strengthen and expand oversight. The pilot is part of a broader initiative to make its inspectional resources more targeted and efficient.

Headline

- FDA is hosting a virtual public meeting on June 15, 2026, to give the public an opportunity to share information on implementation of the Food Traceability Rule and areas of remaining concern, specifically as they relate to lot-level tracking and flexibilities for compliance. The meeting is free, but registration is required on the FDA website or through the Partnership for Food Traceability: https://pftraceability.org/fda-meetings/.



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Seek and Destroy: Responding to Listeria Positives

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Meat Institute Created *Foundations of Listeria Control* Course

Basic Listeria control training is available on the Meat Institute website.

Meat Institute | Meat Foundation

The basic course is interactive, self paced and it is free to EVERYONE!

1. Click on the website: https://www.meatinstitute.org/foundations-of-listeria
2. Click the Resource tab and select "Foundations of Listeria" for the course.

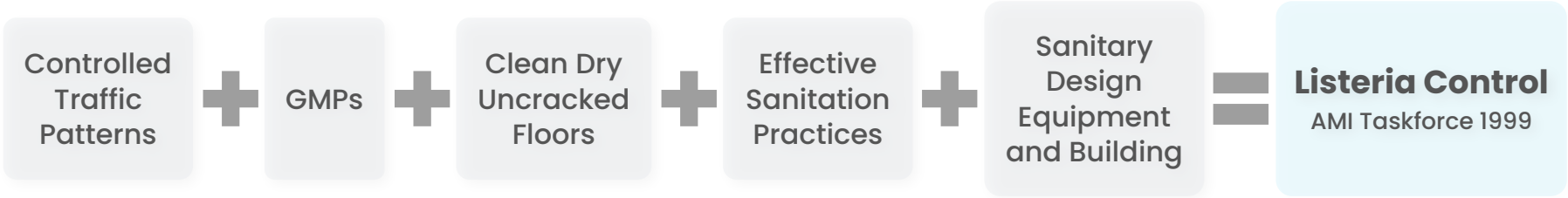
Learning Objectives

Listeria Control equation is the foundation for **any** Ready-To-Eat (RTE) pathogen control program.

Environmental Monitoring (EM) is **not** a control measure. It is a verification procedure to test whether the plant's *Listeria* control measures are working as intended.

Seek and Destroy is a process that drives facility improvement when EM positive findings are addressed by implementing corrective actions that are both effective and sustainable.

The *Listeria* Control (LC) Equation



- *Listeria* Control equation was developed by the original AMI presentation team in the late 1990's as part of developing the original Advanced *Listeria* Control workshop.
- The equation is foundational for plants to execute *Listeria* control in the post lethality exposed product areas.

Poll 1

Are you familiar with the *Listeria* Control Equation?

A **Yes** — I know all five control factors

B **Somewhat** — heard of it but don't know all the details

C **No** — this is new to me

D **I know the concept, but by a different name**

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Every *Listeria* Control Factor has a Plant Controllable Purpose

Controlled Traffic Patterns	**Segregation:** Movement management of people, equipment, and tools into post lethality exposed product areas.
GMPs	**Protect Against Adulteration:** Front line employees handling post lethality exposed product.
Clean Dry Uncracked Floors	**Stop Spreading and Shedding:** Floors, (walls and ceiling) maintained and kept dry.
Effective Sanitation Practices	**Cleaned/Sanitized to a Microbial Level:** 7 step sanitation process, operational sanitation procedures, and non-daily sanitation tasks validated and verified for task effectiveness and at a frequency that is preventive in nature.
Sanitary Design Equipment and Building	**Eliminate Harborage:** 1. Sanitary design provides access for cleaning and reduces cleaning burden. 2. Equipment and building "Wear and tear" is addressed through preventative maintenance tasks.

The LC Equation Overlaps with the Prerequisite Program

- Controlled Traffic Patterns
- GMPs

GMPs: Employee hygiene, traffic flow patterns, and general product handling practices.

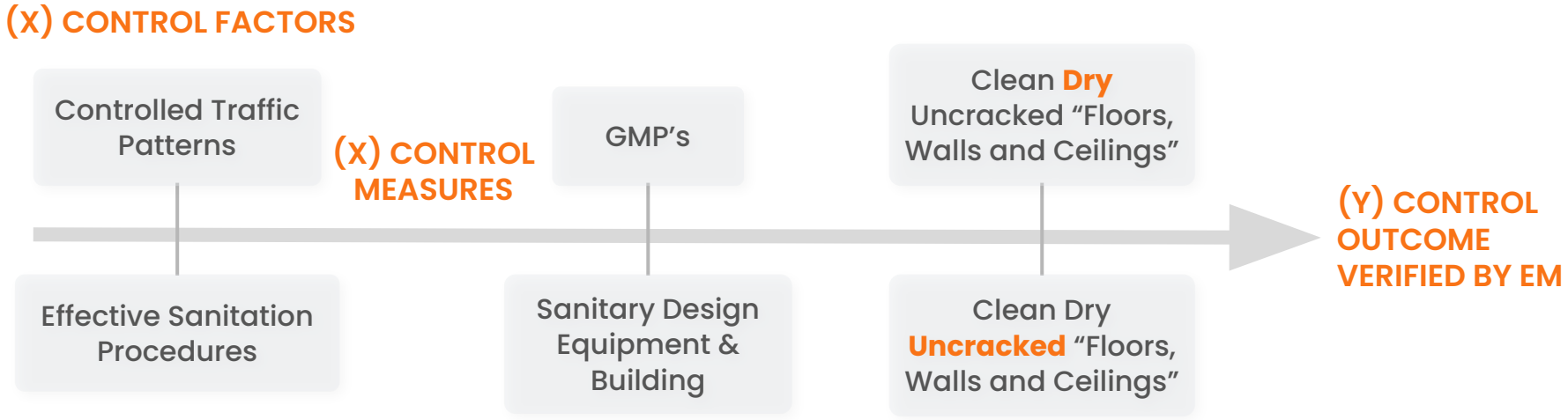
- Effective Sanitation Practices

SSOPs: Routine 7 step sanitation, non-daily cleaning tasks, and housekeeping tasks during production. Tasks must be validated and documented in detail for training and verification.

- Clean Dry Uncracked Floor, Walls and Ceiling
- Sanitary Design Equipment and Building

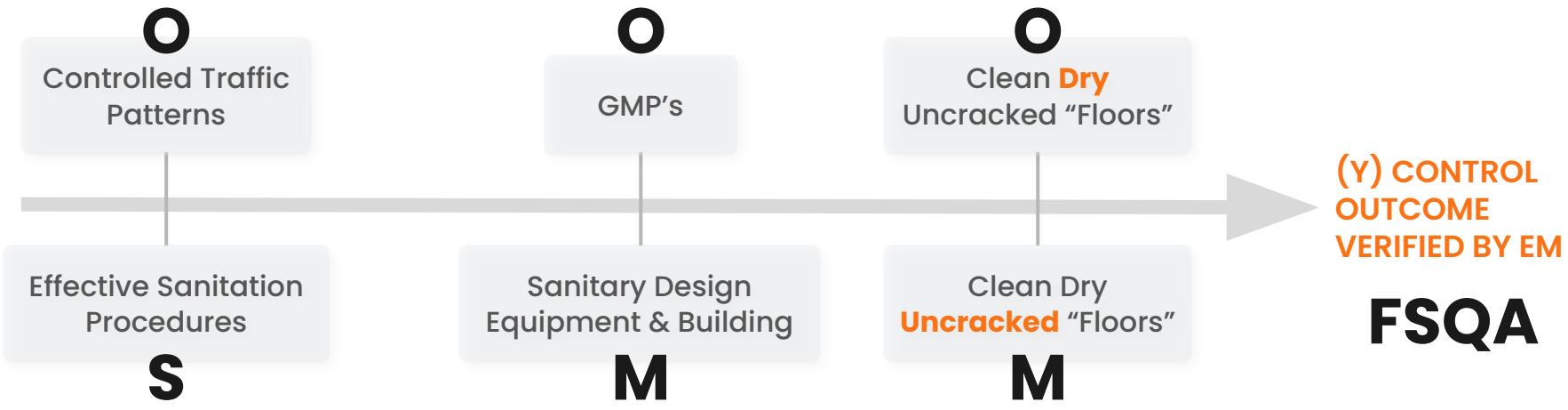
Production Control: Hazard controls for microbes, allergens and foreign material.

Goal: Protect FCS by Creating a "Tortuous Path" For *Listeria*



Effective environmental control in the post lethality exposed product areas requires multiple hurdles by designing out risk or managing risk through the compliance to procedures.

Listeria Control Requires the Participation of an Entire Village



Operations, Sanitation, Maintenance and FSQA must have ownership and accountability to execute an effective *Listeria* control program.

The plant S&D team includes: **O**: Operations, **M**: Maintenance, **S**: Sanitation, and **FSQA**: Food Safety and Quality Assurance

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Seek and Destroy (S&D)

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Poll 2

True or False: In Seek & Destroy, “Seek” is simply the monitoring program that triggers “Destroy” cleanup when *Listeria* is found.

A **True** — finding *Listeria* triggers cleanup at that location

B **False** — “Seek” is a full investigation to find the contamination source and transfer vectors

C **Partially true** — monitoring starts it, but “Seek” goes much further

D **False** — “Destroy” means sustainable corrective actions, not just spot cleaning

Seek and Destroy – Biased to Remediation or Investigation?

Remediation ..... Investigation

CSI

Seek: Find it

&

Destroy: Fix it

EM Positive Triggers a “Destroy” Response to “Seek” (Found it)

Whac-A-Mole Attributes

1. All the effort is on remediation (destroy), involving intensified cleaning on the affected equipment or infrastructure where the positive was found.
2. Outcome focused on achieving three consecutive negative results to minimize plant disruptions.
3. When a root cause has not been determined, the plant has moved on and resumed regular production..

EM Positive Triggers an Investigative Response (Find it)

Seek: Find it (contamination source and associated transfer vectors).
&
Destroy: Fix it (effective and sustainable corrective actions).

Seek Attributes:

1. Uses an **investigative** approach (think CSI investigation) to determine how Listeria moved from the contamination source to the surface where the positive was found.
2. **Investigation** is a "Team Sport" involving Operations, Maintenance, Sanitation, and FSQA.
3. **Investigative** swabbing is targeted and the swabbing methods are different from routine swabbing.

“Seek” Starts with Observations, Questions and Data Gathering

Upon receipt of the positive finding, organize a team to observe the affected line and equipment.

- Is the **flow** of product, people and equipment in the areas that post-lethality exposed product is handled acceptable? Any non-routine activities?
- Are **GMPs** being followed when handling post lethality exposed product? Recent concerns over production performance? Production downtime? OT? Higher rework levels?
- Are the **floors** dry and in good condition?
- Recent concerns over **sanitation** performance?
- **Observe** “wear and tear” on equipment and infrastructure that may be contributing factors?
- ***Talk*** to the front-line operators and sanitors from the affected line to understand the current state and ask them what has changed recently that may be creating risk.
- **Compile data:** Production records, GMP Audits, Sanitation performance, maintenance records, and **contextualize** the situation so everyone can participate.

Brainstorm Possible Causes as a Team

A positive finding means that one or more of the control factors have **FAILED**.

- Discuss, debate and brainstorm possible causes:
  - Do not be influenced by the loudest voice in the room.
  - Prioritize a list of up to 3-4 possible causes.

Develop a Swabbing Plan to Identify Sources and Transfer Vectors

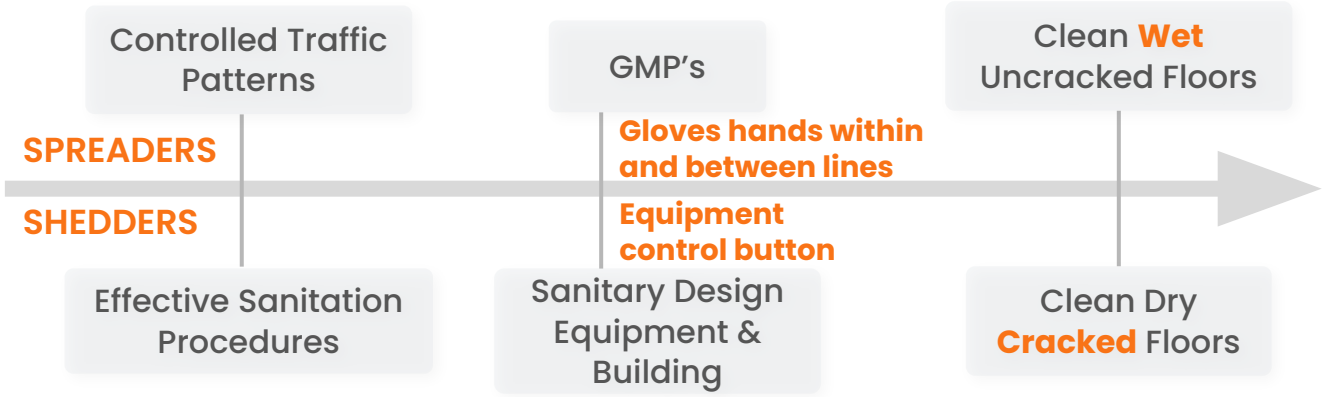
Investigative swabbing must be different from "routine" swabbing procedures. Use different types of investigative swabbing tools to confirm possible causes:

Spreaders(Move contamination from one surface to another surface through a transfer vector):

- Testing control measures to control cross contamination and spread.
- Swabbing strategies can start with a vector approach but could lead to time series sampling when the area of concern has been narrowed.

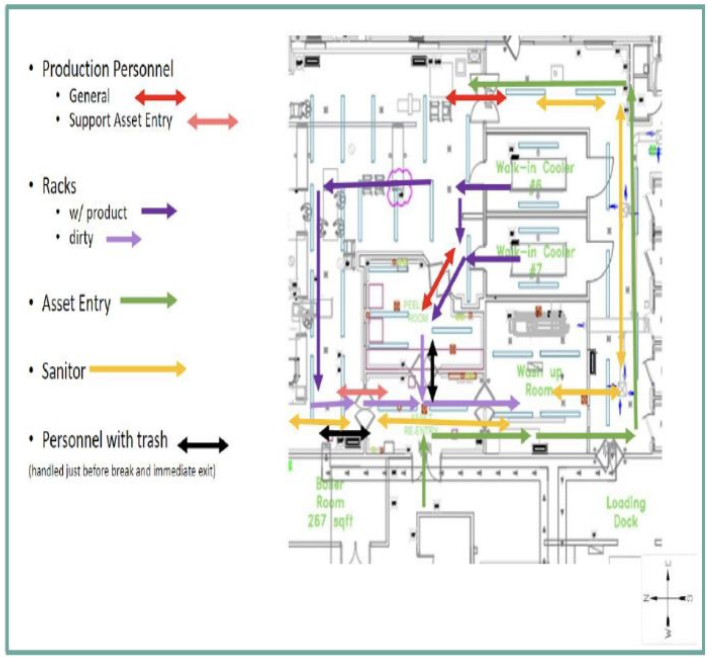
Shedders (Harborage site contamination):

- Rinsate or post rinse swabbing during sanitation ("weeping water swabbing").
- Equipment dismantling: Clean, dismantle one additional layer, swab, dismantle another layer, swab. Repeat as needs. ("peeling onion" approach to swabbing).



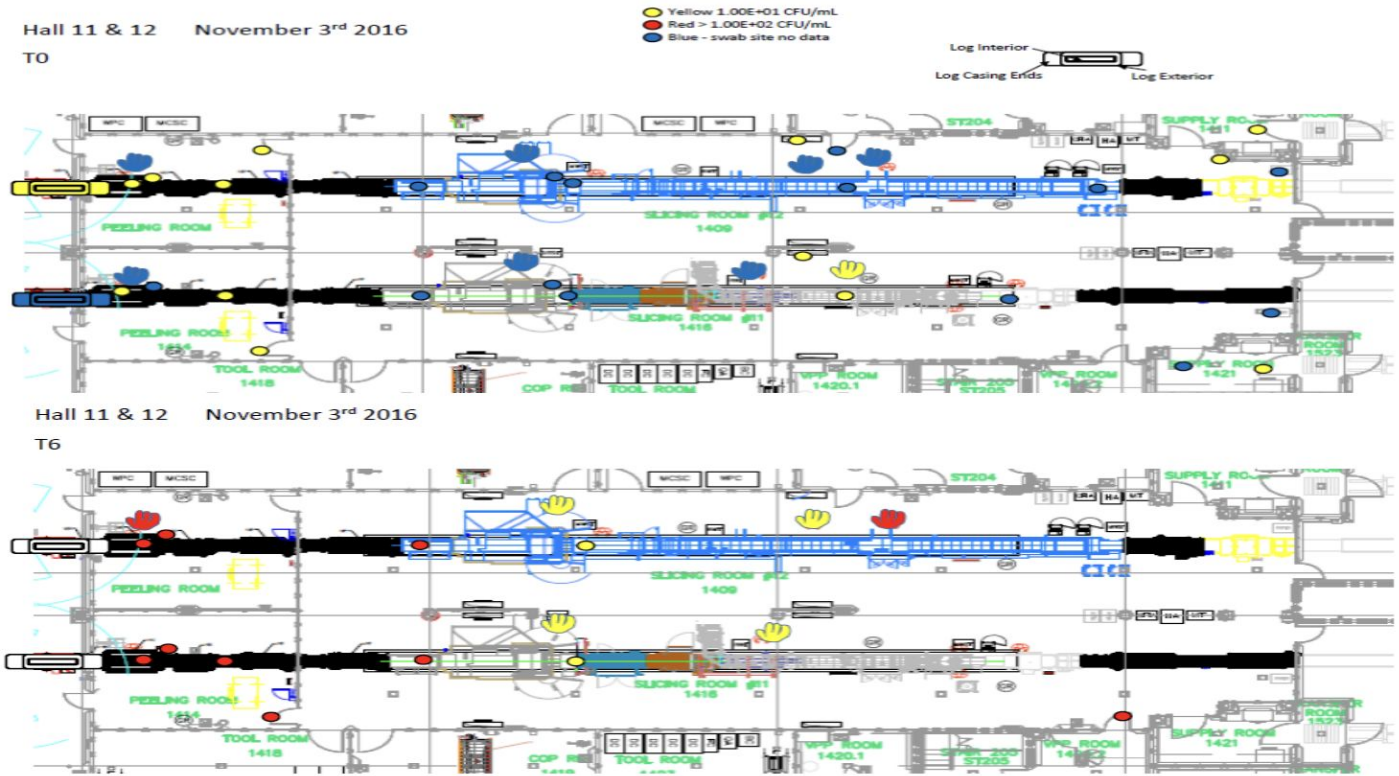
Swabbing for Spreaders – Time Series Sampling

Floor Cross-Contamination due to Foot Traffic (revealed during camera review)



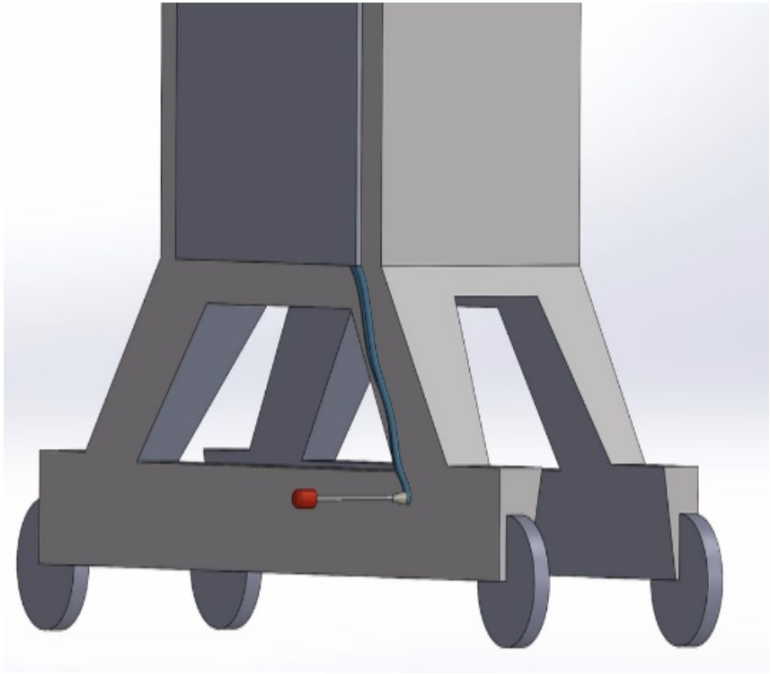
- The value of surveillance cameras provide the ability to watch the movement of product, people and equipment over a period of time.
- Time series sampling enables the ability to make visible what is not visible.
- To “catch” Listeria in motion from the moment it first appears AND how it spreads in the processing environment, sampling plans must be developed at a frequency that captures ALL the movement that is in the investigation scope.

Swabbing for Spreaders – Time Series Sampling Example



Swabbing for Spreaders – Post Rinse or Rinsate Sampling

- Created by Dr John Butts, first used at the Land O Frost Arkansas plant in 2003 and shared as part of the NAMI Advanced Listeria course.
- It is a practical method that allows surveillance of those surfaces that are either inaccessible or not practical to swab directly.
- Sampling is performed during sanitation, immediately after pre or post rinse steps (at the normal boosted hot water pressure and volume).
- Tested as a Z3 site for Ls. It is strongly recommended that when rinsate swabs are tested for *Listeria*, duplicate swabs are also taken for TPC.



Post Rinse or Rinsate Sampling Example

- Rinsate swabs collect a “weeping” water sample that can be collected on equipment undersides or where equipment legs meet the floor.
- Rinsate swabbing adds the **third dimension (vertical)** to swabbing intent.

Destroy (Remediation) Must Not Interfere with Investigation

Seek: Find it (contamination source and associated transfer vectors).
&
Destroy: Fix it (effective and sustainable corrective actions).

DESTROY Attributes:

- **Short term** corrective actions minimize further risk but doesn't interfere with the investigation.
- If three negative sampling events are achieved and no contamination source has been identified, the S&D event should continue until the event has been resolved. Leverage other swabbing methods such as TPC and ATP.
- When contamination source and transfer vectors has been determined, effective and sustainable **long term** corrective actions reduce environmental risk.

Destroy - Design Out Vs Compliance Procedure

Risk: Skateboarding outside a large retail shopping mall

- Design out option:
  - Install metal “studs” 3 feet apart.

Managing by Procedures:

- Sign – “No Skateboarding Allowed”
- Compliance – Security surveillance

Real examples of how plants manage risk:

- SOP and Training
- Compliance monitoring
- Indicator site sampling verification

Poll 3

Which best describes a hazard “designed out” in your plant?

A	Replacing hollow conveyor rollers with solid ones
B	Installing sloped floors to eliminate standing water
C	Seamless, crack-free flooring to remove harborage sites
D	**All of the above** — we use multiple design-out approaches

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Poll 4

How does your plant think about drains in a swabbing context?

A	**Contamination source** — high-risk primary *Listeria* spreader
B	**Collection point** — gathers water and contaminants, not a primary source
C	**Both** — it depends on the situation
D	We don't have a defined approach for drains in our program

Treat Drains as a Collection Point

Drains must first be considered as a collect point. Consider:

- Is the floor wet surrounding the drain?
- Where are the sources of water coming from?
- Is the water coming from complex equipment(multiple layers)?
- Is drain water flow correct? Do drains have backflow preventers?

Drains are rarely a source of contamination. Why?

- Drains are routinely cleaned and sanitized along with equipment and infrastructure. Best practice is to use dedicated people with dedicated tools.
- The placement of a backflow preventer mitigates the impact of a drain when backups occur. Do you have a plan when it happens?

Wrap up

- Environmental Monitoring (EM) is verification swabbing to assess whether pathogen control measures are working as intended.
- An EM positive finding triggers Seek and Destroy activities where ALL stakeholders participate and immediate actions are biased to investigation versus remediation.
- The EM positive finding site is rarely the source of the contamination. Finding the contamination source and implementing corrective actions that are effective and sustainable is the goal of every Seek and Destroy event. Designing out risk is better than implementing procedures that manages the risk.

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Questions?

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