

HACCP for Safe Food

(not just for the certificate)

Food Safety Training & Food Safety Culture
– career-long perspectives

Presented by: *Donna F. Schaffner*



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HACCP for Food Safety – not just for a certificate

Food Safety Training & Food Safety Culture – Donna's perspective's

After many years of teaching HACCP classes (*Hazard Analysis Critical Control Points*) and training employees for HACCP in my own corporate food safety roles, my perspectives have changes. In my naïve youth, I thought that people just needed to be given the right information, and then things would just magically “work”.

From a much more experienced perspective, it is obvious that people still need the right information, but they also need to be motivated and empowered to utilize that information consistently and correctly, or else things do not “work” as intended.



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The HACCP Team Leader(s) need to have the work experience and expertise to tie-together the information from the Hazard Analysis over ingredients/materials/packaging and process and relate it to the day-to-day job functions of each employee. **Obviously, that cannot be accomplished if the person doing the HACCP training is someone from the HR department with no understanding of the material being “taught”.**

Companies often fail to understand the importance of the HACCP trainer and how their delivery and connection to the students can be a motivation for the employees to do a great job of protecting food safety on a day-to-day basis... or NOT.



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Frequent mistake: Thinking that “Training” is a one-and-done proposition, going through the motions without looking at the effectiveness of employee implementation or the rigors needed to achieve effective oversight.

Companies will often run a series of training classes and focus on getting those sign-in sheets to satisfy auditors and regulators [make sure all the boxes are checked...] **without paying enough attention to whether the employees are actually understanding what was told to them, and that what employees are thinking is what the trainer actually meant!**



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A training “challenge” is having employees from multiple backgrounds and languages in the same class session. Employees “getting by” on-the-job using informal translators are often exposed to information that is limited or just wrong regarding the SOPs or SSOPs due to poor language translation skills

HACCP trainers need to present information to employees in a way that they understand; using verbal ‘translators’ if needed. Written translations only help if the employees read in that language. Pictorial translations or training videos are typically better understood than plain text.

Explaining WHY things must be done in a particular way fosters better understanding & prompts student questions letting trainers know they are not understanding information.



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Another often overlooked truth: the best investment of training \$\$\$ is for the supervisors. **The people who oversee the daily operations and verify that line employees are working the right way to accomplish food safety are in the most need for understanding the HACCP Plan and its details.**

Supervisors sets the example: if they are heard talking to one another criticizing a new SOP or SSOP the line workers tend to just ignore it, assuming that it will just “go away” again with time *(because that often happened in the past?)*

Line workers who are held accountable for how much product goes out the door tend to try to “hide” product defects for fear of losing their jobs. **For the right kind of *Food Safety Culture* to exist, all employees must trust their supervisors and be able to ask questions when they are not sure of a procedure or if conditions of product is “right”.**



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“Food Safety Culture” is a current catch-phrase for describing if your employees are actively involved and understanding what is expected of them, after being “properly trained”, and then DO the right things.

Other speakers will talk about those “details” in the Hazard Analysis that are essential for employees to know and implement correctly, in order for SAFE FOOD to be the outcome.

Most important: line level employees must feel that **Food Safety is a priority for their bosses and the company as a whole**; there is a conflict if bonuses are tied to production numbers or year-end sales.



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A woeful merry-go-round that happens in some companies is when employees who are found to not be performing as expected are promptly let-go because of 'liability reasons' and replaced, but the people hired to replace them have NO training or understanding to do a better job. **There is a very real possibility that Food Safety issues will go un-noticed before the new employee has enough knowledge or experience to know what is an "issue" because they lack comparisons.**

How many of those past food recalls, injuries and illnesses could have been prevented, if the people handling the food had understood Food Safety implications of their actions? **What about in YOUR COMPANY'S FUTURE?**



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Ensuring that Food Safety training is conducted by knowledgeable SMEs (Subject Matter Experts) who can correctly answer all of the employee's questions and relate the “theory” to individual job functions is essential to having an effective HACCP plan and Food Safety program that produces safe food.

Do not make the mistake of thinking that just because a person has an advanced degree or has a resume that says they are knowledgeable about Food Safety facts, that they are automatically a good lecturer or communicator or **teacher!** [When hiring consultants: Ask for references & actually **CALL** the references.]



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Finding SMEs who can also relate to the employees attending training is perhaps the biggest challenge for many companies. **You can find quite a few of the nations best trainers and SMEs walking around at this conference,** or if you are reading this presentation at a later date, you can contact me for recommendations, based of the type of products you make and the type of expertise that you need. I'll be happy to make introductions!

And that concludes my part of this presentation.
Any questions?



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Food Safety Summit 2024

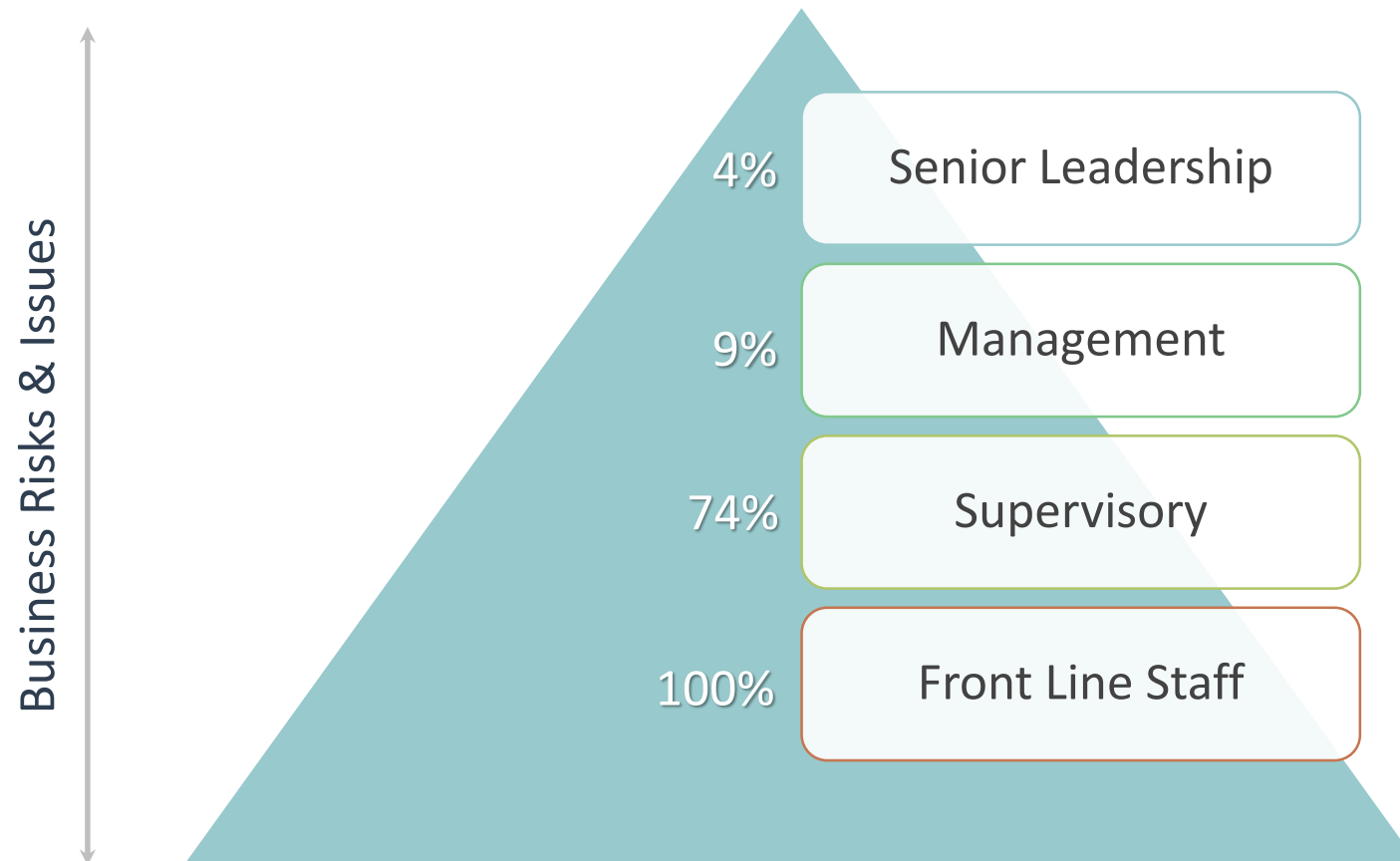
HACCP for Safe Food: Not Just for the Certificate

May 8, 2024





Organisational culture and risk visibility





Maturing risk and hazard awareness

Stage 1

The organization relies mostly on external sources and inspections to understand and act on its risks and doesn't identify risks internally.

Stage 2

Actions to manage risks are mostly taken in response to external audits or inspections and internal identification is sometimes incorrect.

Stage 3

Risks are understood and continually challenged by a cross-functional team through planned risk management.

Stage 4

Understanding and reducing risks are an integral part of the organization's continuous improvement efforts.

Stage 5

The organization relies on frontline teams to manage existing risks and to identify new ones through peer observations.



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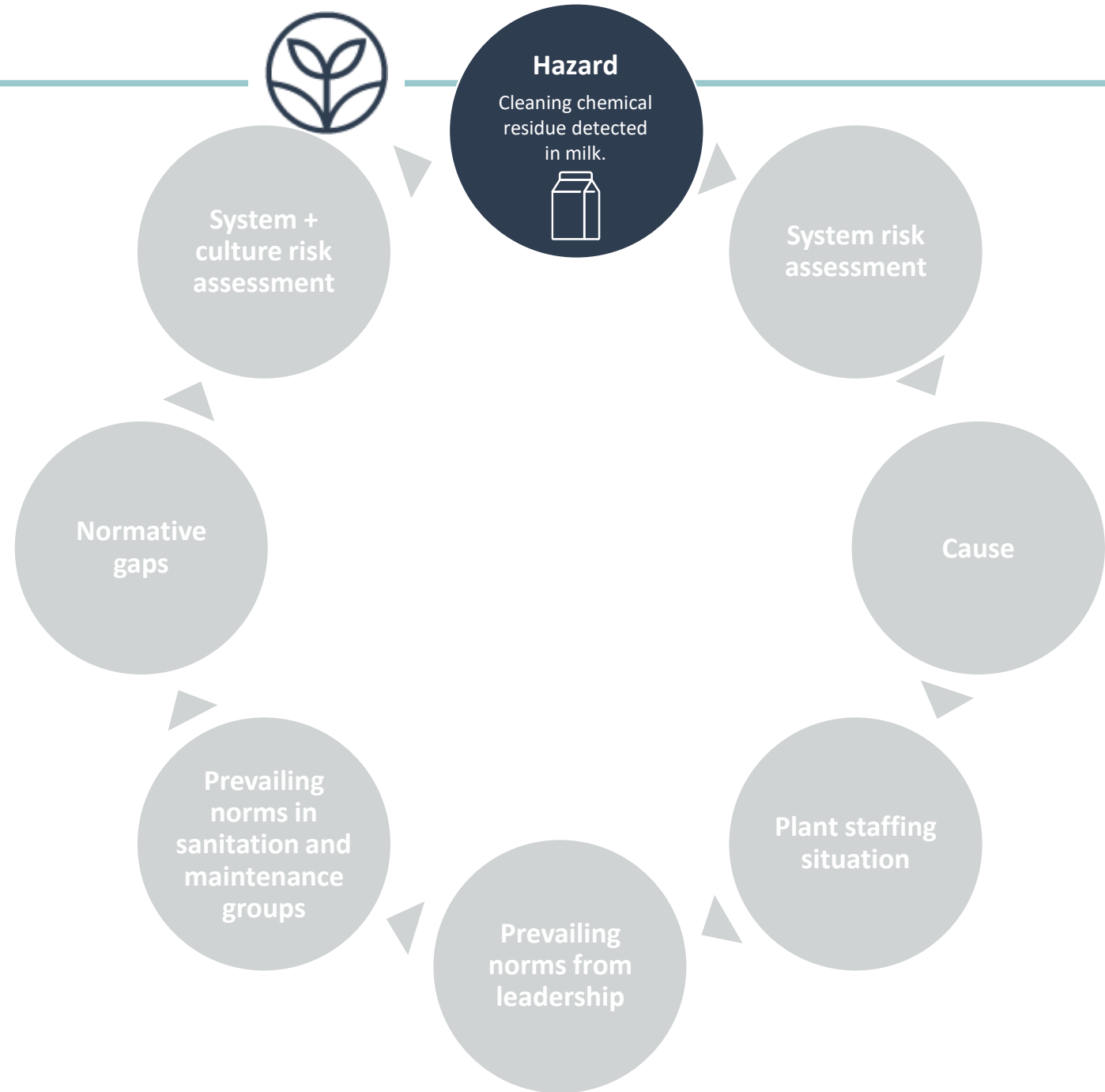




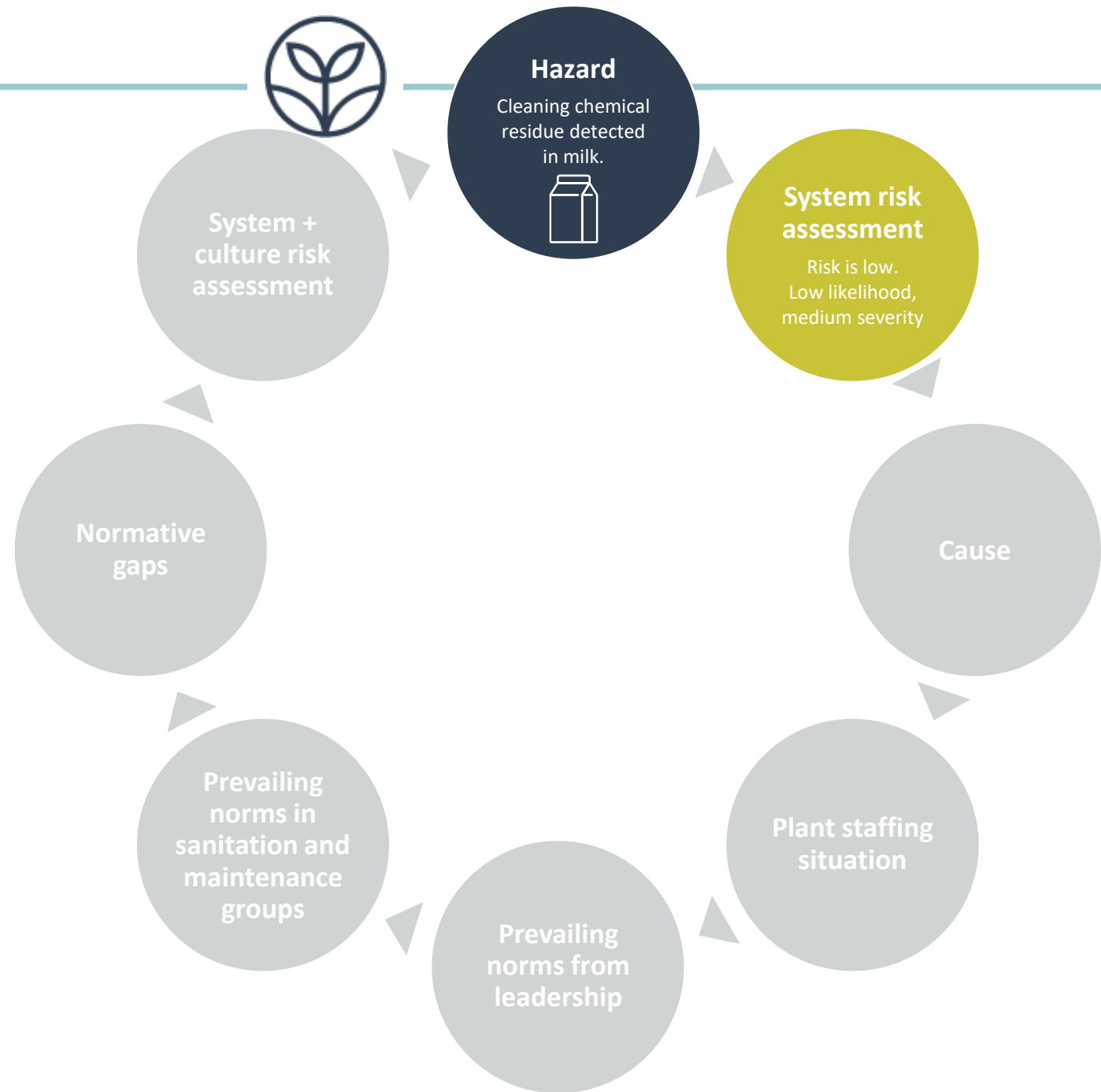
CASE

- Dairy company recalled milk due to cleaning chemicals detected in product.
- A hazard assessed as *Low* likelihood in hazard analysis and not connected to any controls in the plants FSMS.
- Culture maturity assessment stage *Know* on the Cultivate Maturity Model.

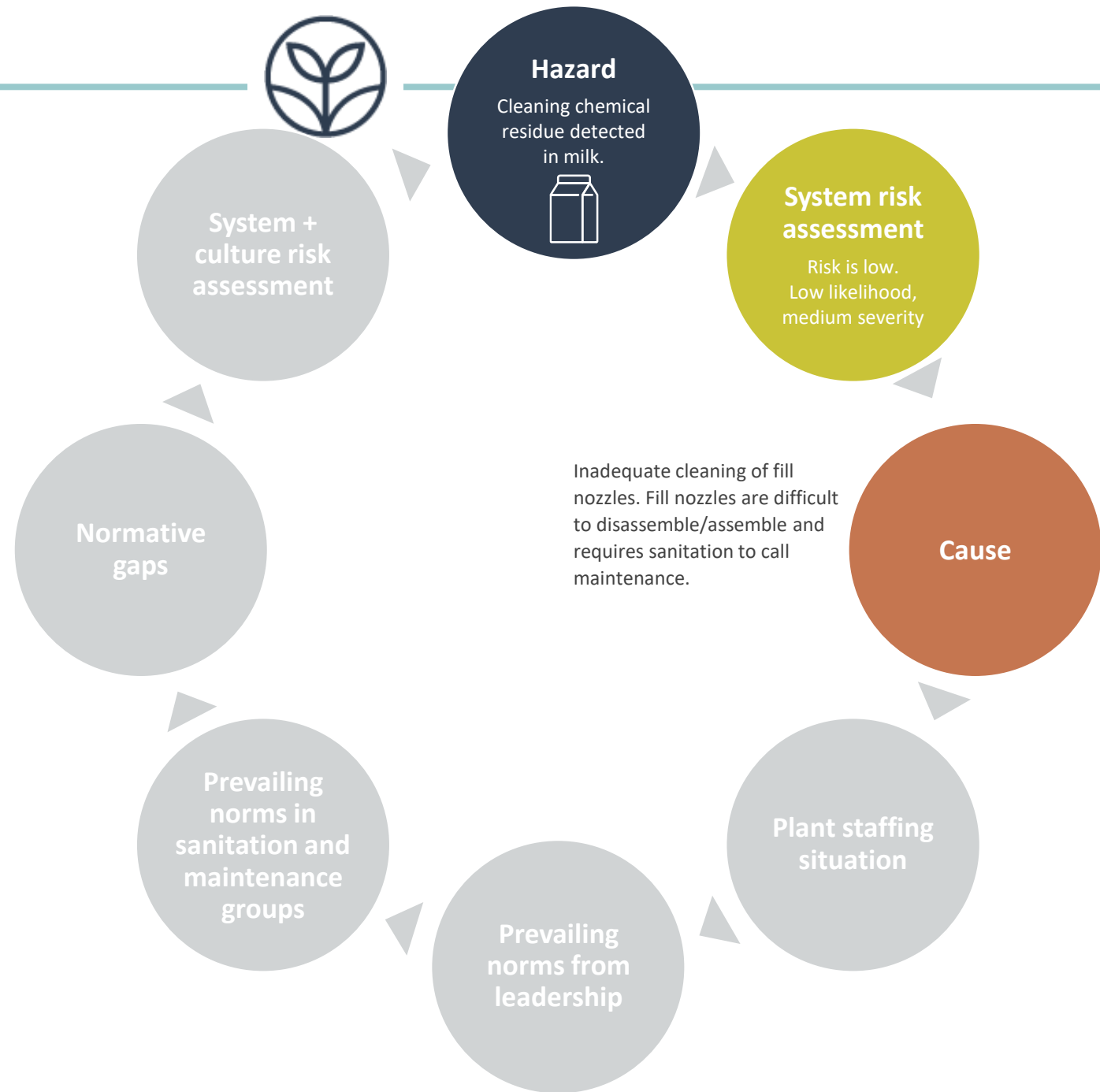
Example: Chemical Residue in Milk



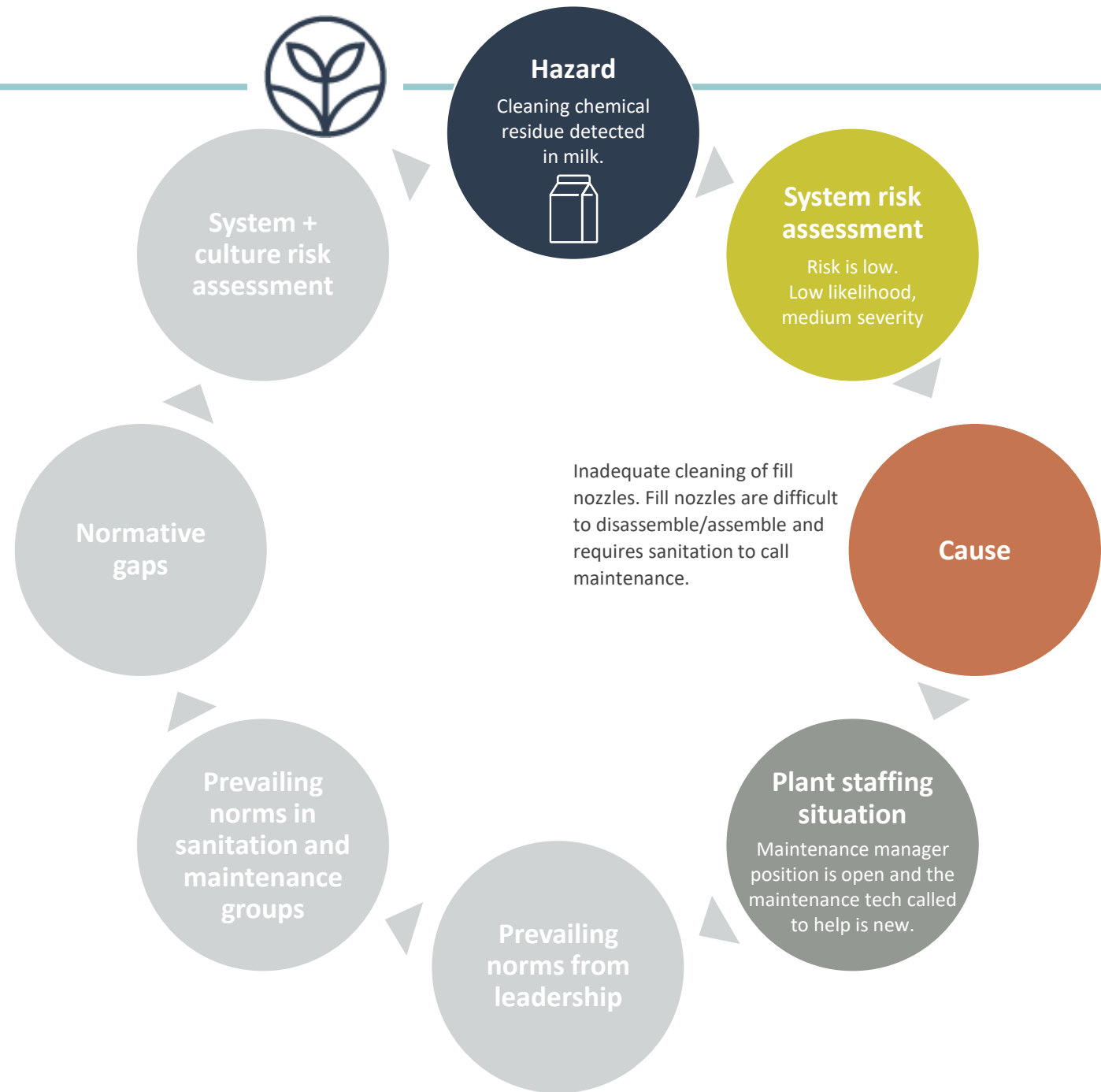
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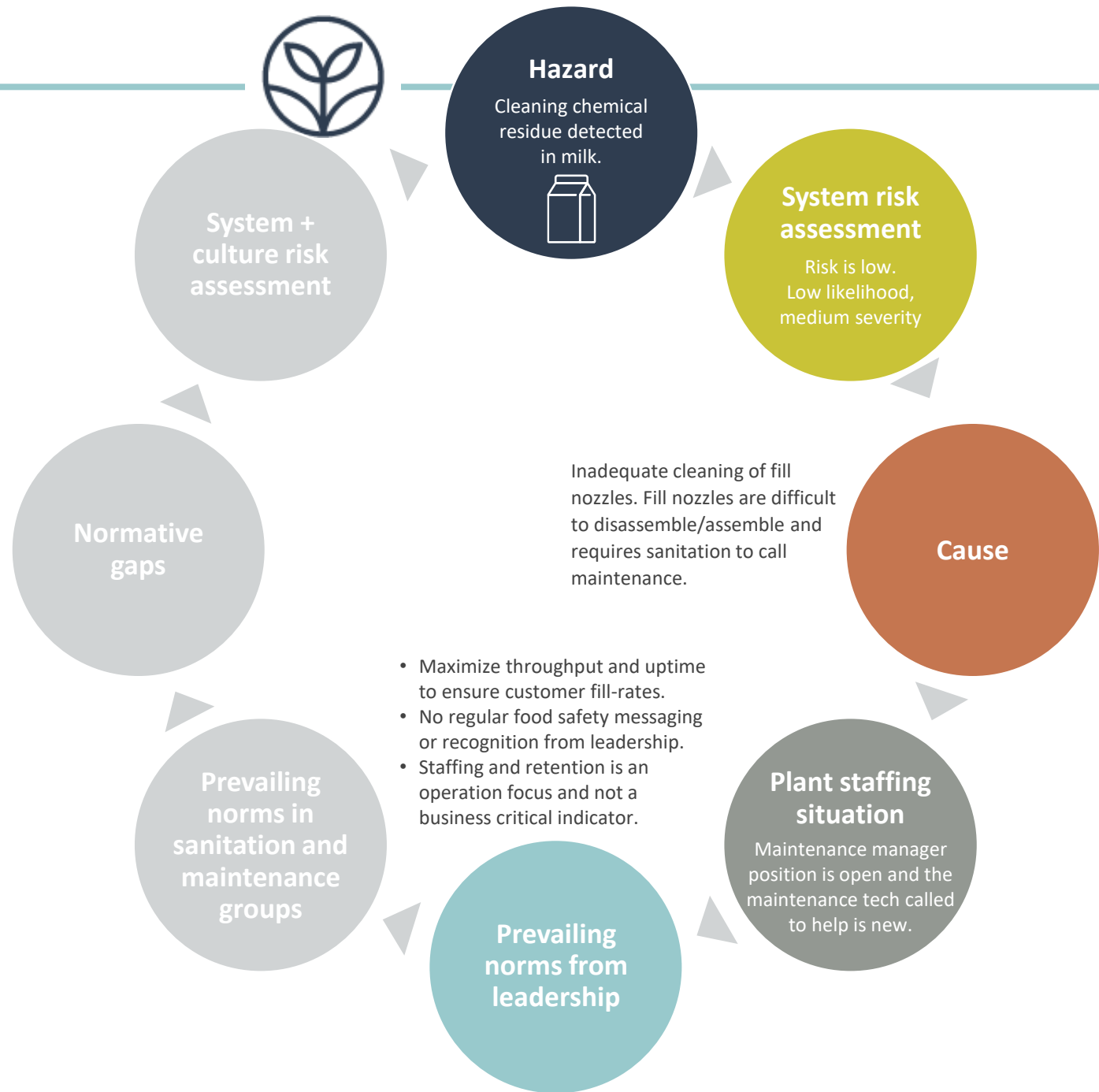
Example: Chemical Residue in Milk



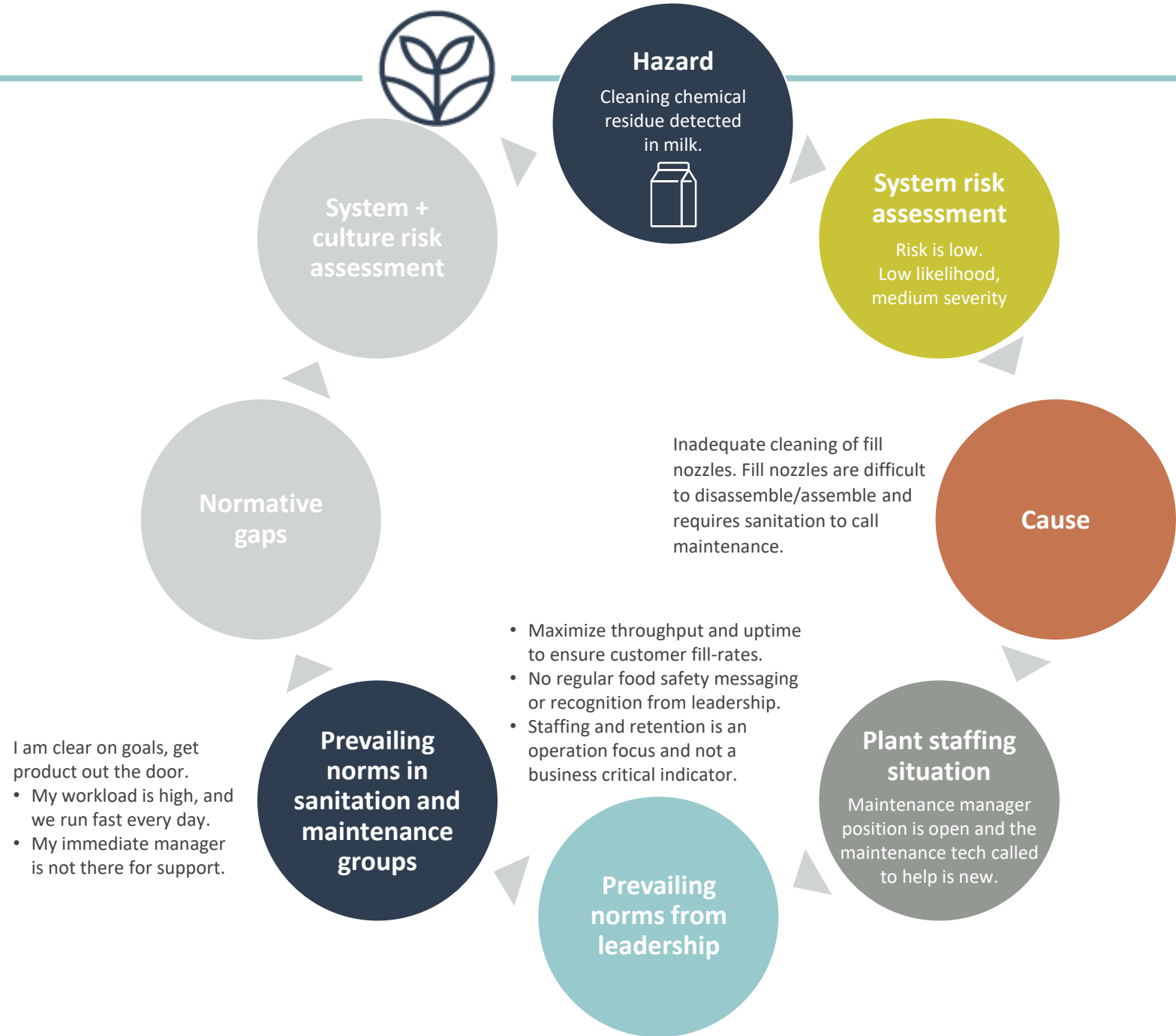
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Example: Chemical Residue in Milk



Example: Chemical Residue in Milk



Example: Chemical Residue in Milk



Hazard
Cleaning chemical residue detected in milk.

System risk assessment
Risk is low.
Low likelihood, medium severity

Cause

Plant staffing situation
Maintenance manager position is open and the maintenance tech called to help is new.

Prevailing norms from leadership

Prevailing norms in sanitation and maintenance groups

Normative gaps

System + culture risk assessment

Vacancies and retention in critical roles and it is the local group who have responsibility to manage.
Unbalanced messaging — production numbers only.
Commercial goals in the absence of food safety and other operational risks.

Inadequate cleaning of fill nozzles. Fill nozzles are difficult to disassemble/assemble and requires sanitation to call maintenance.

- Maximize throughput and uptime to ensure customer fill-rates.
- No regular food safety messaging or recognition from leadership.
- Staffing and retention is an operation focus and not a business critical indicator.

I am clear on goals, get product out the door.

- My workload is high, and we run fast every day.
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Food Safety & Psychosocial Risks

Where Food Safety Culture and Systems Collide: Do You Know Your Company's Psychosocial Risks?

Psychosocial risks become important to food safety when they have the potential for causing psychological or physical harm, and when they lead to deficiencies in expected food safety behaviors

By Lone Jespersen, Ph.D., Founder and Principal, Cultivate SA and Bob Lijana, M.Sc., Editor-in-Chief, Cultivate SA



Photo credit: uuott/Creatas Video via Getty Images



SCAN ME

Thank you

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Hazard Analysis – the difference between a flawed HACCP plan and one that adds value for safer food

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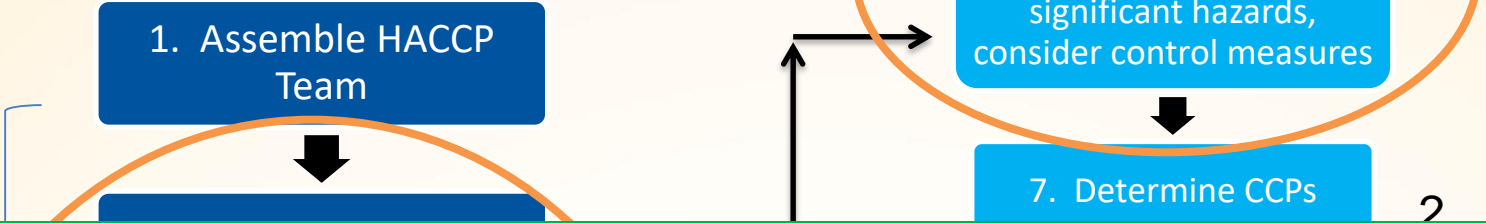
Sara Mortimore

May 8th, 2024



5 - Second Rule: True or False?

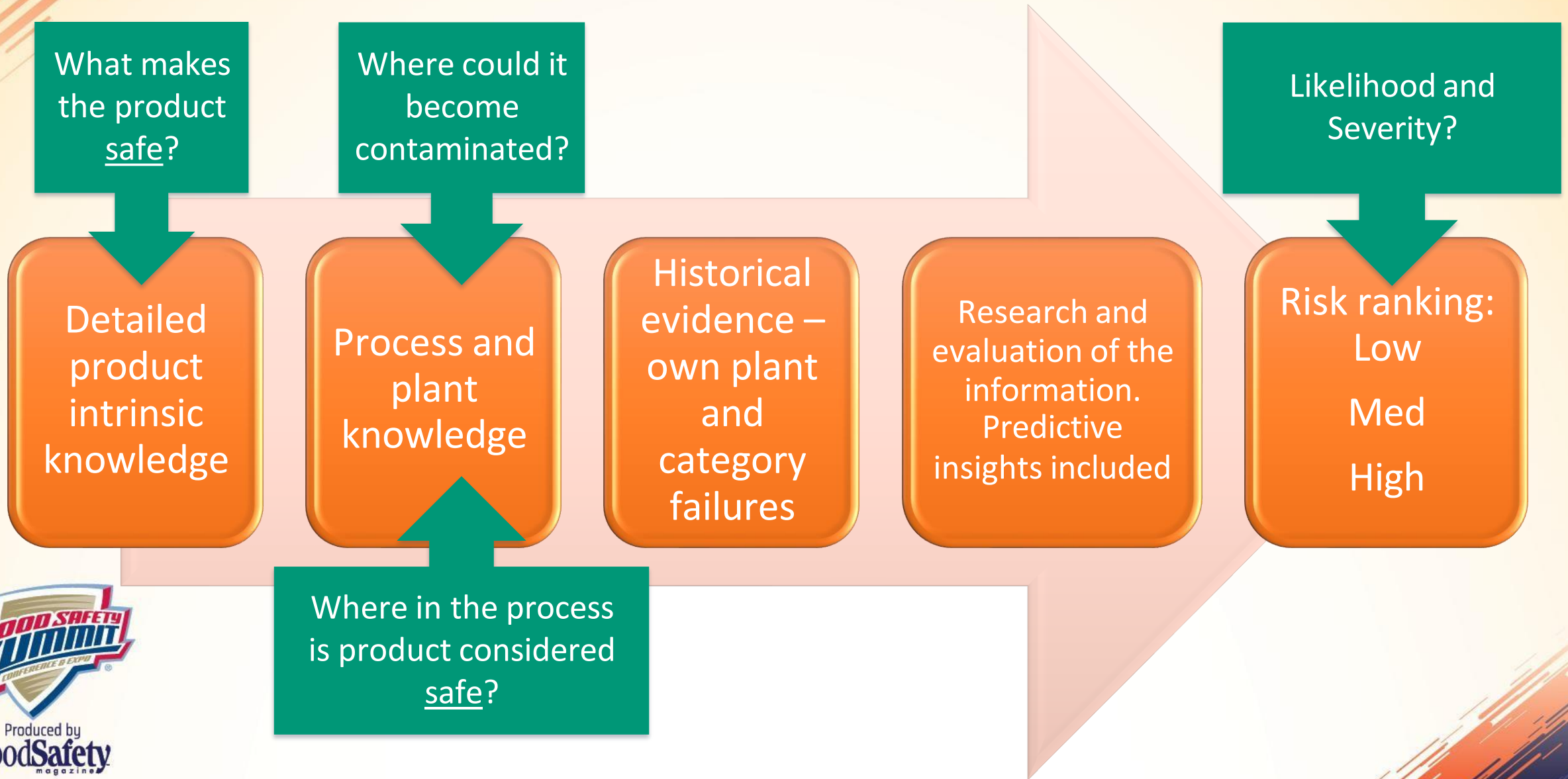
Logic Sequence for the Application of HACCP (Codex 2023)



The robustness of the hazard analysis is dependent on the preparatory steps, and the robustness of the HACCP and food safety plan is dependent on principle 1, the hazard analysis



Hazard analysis and risk assessment requirements



Understanding the Product and Process: **what** makes this product safe?

Recipe / intrinsic control factors
Principal process technologies

Principal raw material types and supply chain controls

Packaging and finished product state

Abuse potential: what happens if.....?



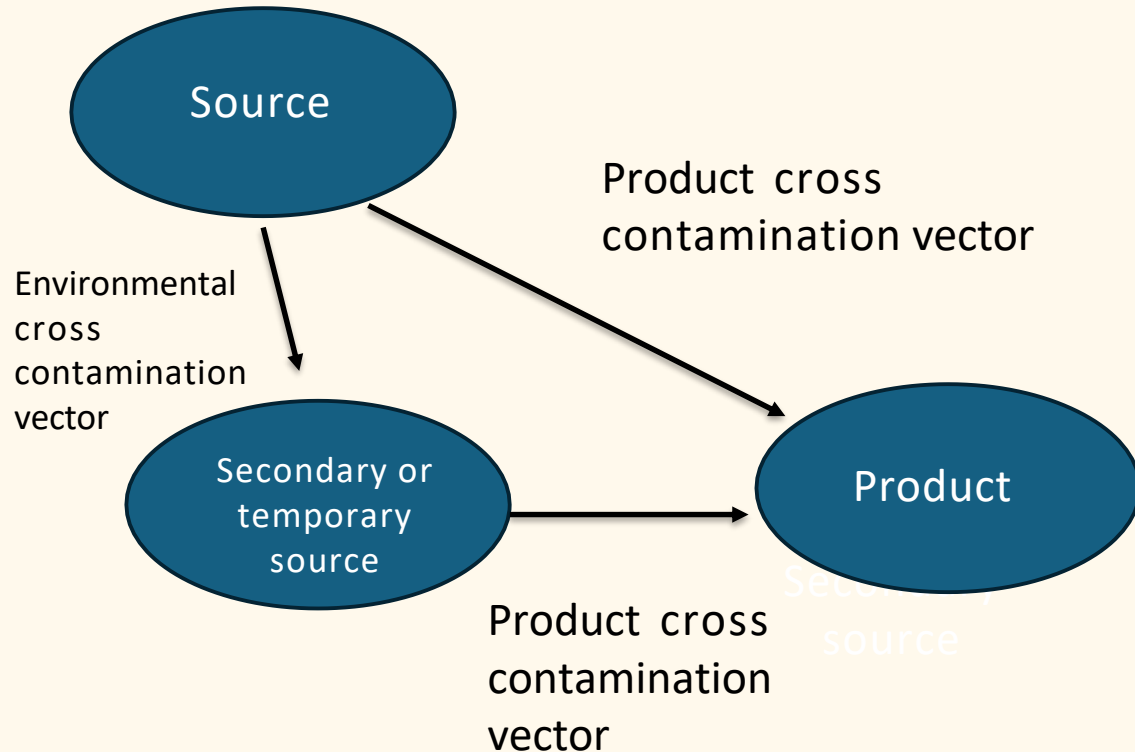
We need to know at which point in the process does the product transition from “raw” to ready to consume – or becomes vulnerable i.e. we are doing nothing further to make it safe.

Focused opportunity area:

- **Process flow diagrams and plant layout:**
 - are often incomplete/inaccurate
 - do not consider required hygiene zones and transfer points in the plant
 - do not include inspection and sampling points
 - are not verified as correct via an on-site walk through and discussion *prior* to doing the hazard analysis
- Which means that...?
 - The hazard analysis **does not cover the entire process**

Hazard analysis: The process of collecting and evaluating information on hazards identified in raw materials and other ingredients, the environment, in the process or in the food, and conditions leading to their presence to decide whether these are significant hazards

Sources and vectors of product contamination need to be identified as part of the process flow verification and analyzed as part of the hazard analysis



Sources of contamination include

- **Harborage sites** - physical areas in which pathogens can lodge (survive) and be protected from cleaning and disinfection actions
- **Growth niche** - a harborage site that provides an environment suitable for growth, i.e. food, water, temperature, oxygen and lack of competition from other microbial flora

Vectors of contamination are anything (e.g., air, water and other liquids, physical objects, people) that **transfers a pathogen** from one place to another

Hazard analysis in the processing environment

Consider **SOURCES** of contamination

- Raw material control (supply chain preventive controls)
- Utilities (air, water)
- Pest control
- People:
 - Hygienic work wear and entry procedures,
 - Contractor, construction and visitor procedures

Prevent entry

Kill or remove

- Hazard reduction step e.g. heat kill
- Cleaning and sanitation procedures
- Sanitary design of equipment and facility for cleanability

- Control of water
- Sanitary design of equipment and facilities (harborage and niche areas)
- Frequency of cleaning and sanitation
- Time/temp control

Control growth

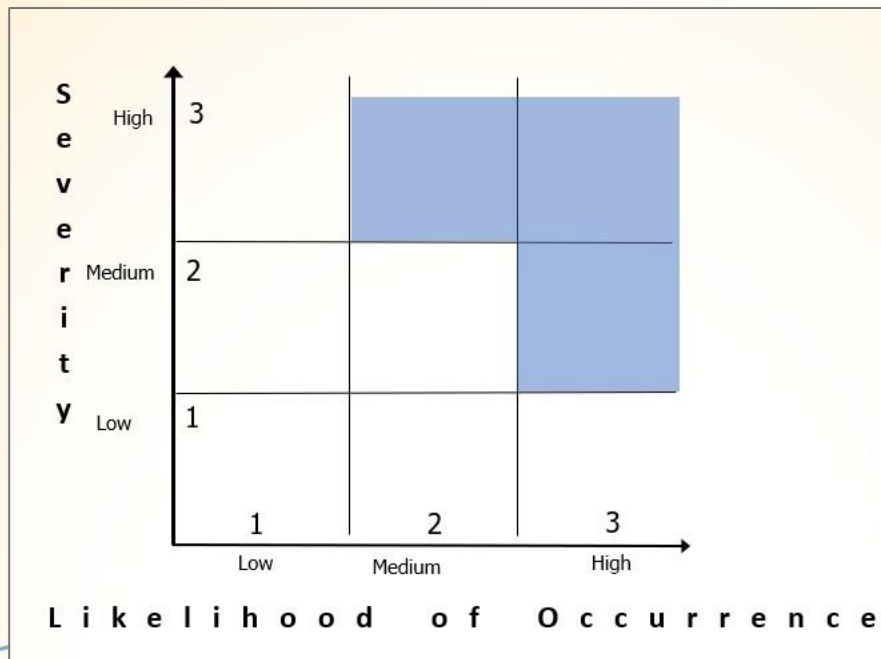
Consider **VECTORS** of contamination

Control transfer

- Raw material, personnel traffic patterns and hygiene junctures
- Separation of pre- and post-lethality areas
- Inspection and sampling points
- Control of product and environmental vectors

Focused opportunity area: identifying the significant hazards

Common opportunity relates to assessing the likelihood of occurrence
assuming that controls are in place



Significant hazard: A hazard identified by a hazard analysis as *reasonably likely to occur* at an unacceptable level in the *absence of control*, and for which control is essential given the intended use of the food.

Likelihood rating is **informed by** plant history, industry trends and **influenced by** organizational culture.

Identifying the significant hazards taking the existing controls into account

Step	Hazard and source	Control measure	Likelihood of occurrence	Severity	Significant? Y/N

Step	Hazard and source	Likelihood of occurrence	Severity	Significant? Y/N	Control measure



Focused opportunity area: to improve specificity

- **Hazard analysis**
 - **Type of pathogen**
 - Specific organism
 - Resistant forms (e.g. spores, cysts)
 - Toxin producers
 - Vegetative (non spore formers)
 - **Toxicological hazards**
 - Heavy metals
 - Pesticides
 - **Hazard manifestation**
 - Presence
 - Contamination
 - Survival
 - Growth
 - Behavior under different conditions

The same can be said of control measures e.g.

- Supplier control,
- GHPs

Common opportunity area – legacy systems

- Challenge existing hazard analysis and food safety controls as captured in the HACCP plan:
 - are they acceptable based on information and technologies available today?
 - consider root cause of recent industry failures, and predictions based on analytics?
- The HACCP mindset should be dynamic, findings may not fit the existing control and monitoring schedules.
- Many more sources of information now readily available and improved mechanisms to utilize internal data



Hazard analysis must be comprehensive and dynamic. . .

*Considering all the likely ways that hazards can manifest
in the absence of control*

Having a greater understanding of. . .

- *The intrinsic safety factors in the products under consideration.*
- *The representative process flow*
- *The equipment products are made on - and the environment that they are made in:*
 - *The sources and vectors of contamination*
- *How hazards manifest*
- *The inclusion of predictive analytics and internal data*

. . . could prevent failures by strengthening existing control measures

*and, enable a more focused
assessment of what is necessary for
food safety*



Thank you

Sara Mortimore

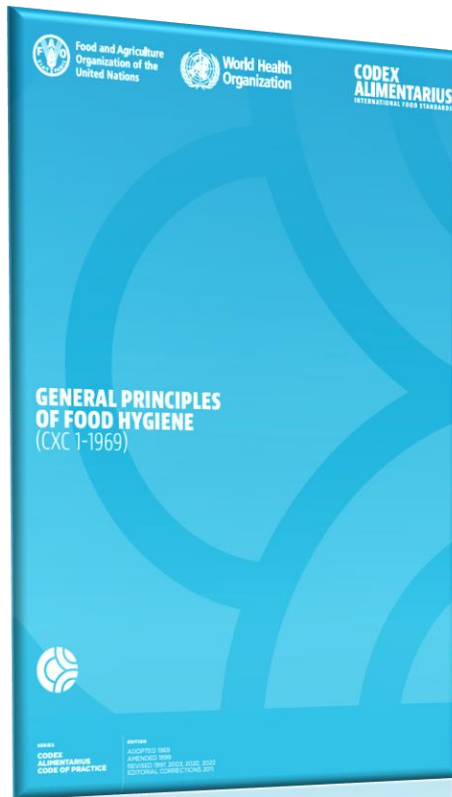
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HACCP for Safe Food: Not Just for the Certificate

Andrew Clarke
Senior Director Quality Assurance



1. Assemble HACCP team

2. Describe product

3. Identify intended use

4. Construct flow diagram

5. On-site confirmation of flow diagram

6. List all potential hazards, Conduct a hazard analysis to identify significant hazard(s) Consider control measures

7. Determine CCPs

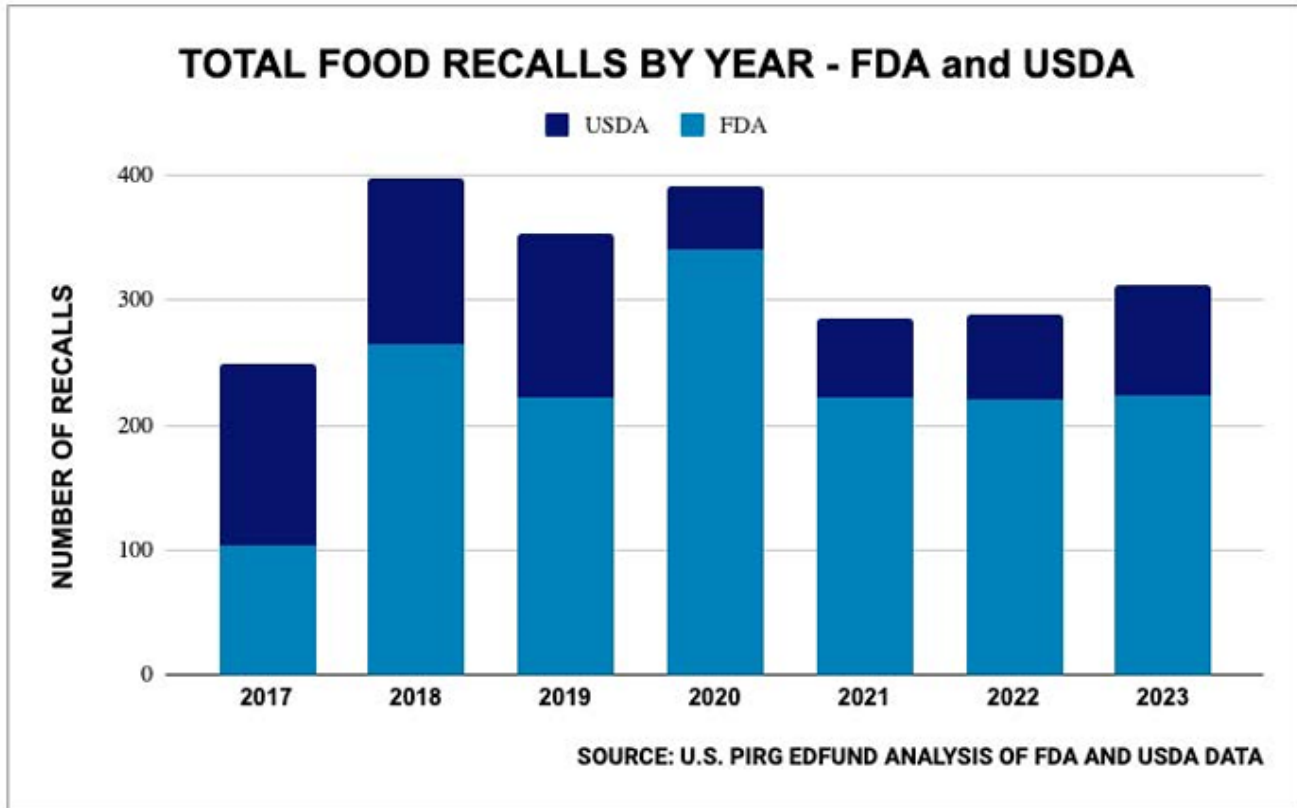
8. Establish validated critical limits for each CCP

9. Establish a monitoring system for each CCP

10. Establish corrective actions

11. Validate the HACCP plan and establish verification procedures

12. Establish documentation and record keeping



Reference: Food For Thought 2024 T. Murray PIRG (APRIL 2024)

<https://publicinterestnetwork.org/wp-content/uploads/2024/04/FOOD-FOR-THOUGHT-426-12p.pdf>

1. Assemble HACCP team

- Training versus competency challenges
- Expectations not understood
- Meeting output inadequate

5. On-site confirmation of flow diagram

- Limited confirmation activities
- Inexperienced team members
- Transfer, storage points and equipment missed

6. List all potential hazards, Conduct a hazard analysis to identify significant hazard(s) Consider control measures

- Hazards identified not specific – pathogens, extraneous matter.....
- Challenges with hazard analysis
- Control measures listed, working effectively?

**8. Establish validated
critical limits for each
CCP**

- Validation lacks technical depth
- Consideration of monitoring and verification tasks missing
- Significance of process variation not considered

**10. Establish
corrective actions**

- Actions taken but trends are missed
- Incomplete Root Cause Analysis
- Isolated ownership and reluctance to report issues

**12. Establish
documentation and
record keeping**

- Verification checks missing
- Documentation cumbersome
- Challenges with the storage of information

THANK YOU



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