The SQF Code and Environmental Monitoring Programs

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2018 OFVC Food Safety EMP Session
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Session Outline

• The SQF Code and EMP requirements
• Recent recalls
• Benefits and Components of an Environmental Monitoring Program
The SQF Code

SQF Food Safety Code for Manufacturing, edition 8
Applicable to the following Fruit & Vegetable sectors (Food Sector Category-FSC)
FSC 4 – Fruit & Vegetable Packhouses
FSC 14 – Fruit & Vegetable Processing
Not applicable to Primary Production or Storage & Distribution
Environment Monitoring Program

SQF Code for Manufacturing, edition 8
FSCs 7-22; 31-34

2.4.8  Environmental Monitoring

• 2.4.8.1  A risk-based environmental monitoring program shall be in place for all food and pet food manufacturing processes.

• 2.4.8.2  The responsibility and methods for the environmental monitoring program shall be documented and implemented.

• 2.4.8.3  An environmental sampling and testing schedule shall be prepared, detailing the applicable pathogens or indicator organisms to test for that industry, the number of samples to be taken and the frequency of sampling.

• 2.4.8.4  Environmental testing results shall be monitored and corrective actions (refer 2.5.3.1) implemented where unsatisfactory trends are observed.
Benefits of an Environmental Monitoring Program

• Assists the sanitation program to identify and sanitize potential pathogen harborage sites

• EMP data assesses effectiveness of the sanitation program and allocation of resources (time and $)

• Evaluation of results and root cause analysis when positive environmental samples are found ensures proactive responses to potential contamination
Which Pathogens are Important?

- All pathogens potentially can be found in ANY food or ingredient at ANY time!
Recent issues

- *L. mono in Turnip Sticks* (Jan/18)
- *E. Coli in Romaine Lettuce* (Jan/18)
- *E. Coli in Broccoli* (Aug/17)

L. Mono & Salmonella in cantaloupe
Reported Site Recalls 2016/17
(collected by SQF, from USA, Canada, and Australia)

- Biological: 35%
- Chemical: 42%
- Physical: 13%
- Other: 10%

99% mislabeling of allergens
71% from Listeria monocytogenes
Nobody's nose knows
# Edition 8 Requirements

## Basic Requirements for the Plan

<table>
<thead>
<tr>
<th>Responsibility and Methods Documented</th>
<th>Testing Schedule Developed</th>
<th>Applicable Pathogen(s) or Indicator Organisms for that Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Samples to be Taken</td>
<td>Frequency of Sampling</td>
<td>Corrective Action Documented</td>
</tr>
</tbody>
</table>

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One world. One standard.
Goal of a Strong Program

- Main goal of any Environmental Monitoring Program is to find the pathogen of concern
  - The program should aggressively seek out the pathogen
  - Find the issue areas and correct it before it reaches product contact surfaces
  - Prevent contamination of your finished product
  - Not to “just satisfy the SQF requirements”
Components of a Plan

• The Key Component of an EMP:  
  – MANAGEMENT COMMITMENT

• Senior Management needs to support the program by:
  – **Providing resources** – both $ and competent staff
    • Auditor will evaluate as part of 2.1.2.3)
  – **Review** of key performance indicators
    • Auditor could evaluate as part of 2.1.3.1
  – **Support** effective root cause analysis and corrective action
Components of a Plan

• Risk Assessment
  – All manufacturing facilities to develop and implement an EMP
  – Not all facilities have the same risk
  – Therefore, not all programs look the same

Auditor will require a risk-based Method that is documented as per 2.4.8.1
Components of a Plan

• Risk Assessment
  – What pathogens are a concern – E.g. *Listeria monocytogenes*, *Salmonella, E. coli 0157:H7*
  – What is contamination potential
    • RTE, further processed item
  – Complexity of process
  – Lack of sanitary design of equipment
  – Raw and RTE segregation (Zones?)
  – End user susceptibility
  – All Part of 2.4.8.1
Components of a Plan

• Responsibility Defined
  – Who is going to **manage** the program?
  – Who is **sampling** the environment?
  – Who is **performing** the actual tests?
  – Who is **reviewing** results?

Auditor will consider this part of 2.4.8.2
Components of a Plan

• Methods Defined(2.4.8.3)
  – How are sampling sites identified?
  – Transfer Point
    • Transfer Points are temporary hiding spots for the pathogen to grow.
    • The contamination is typically eliminated during the cleaning and sanitizing process.
  – Growth Niche
    • An area which allows bacteria to reside and grow
    • Cannot be easily reached during cleaning and sanitation
    • Results in product contamination
Components of a Plan Con’t

• Methods Defined (2.4.8.3)
  – Sampling procedures – aseptic collection by trained individual
  – Handling of samples
  – Composite or individual samples
  – Testing performed internally/externally?
    • Testing methods used
  – Zoning method used?
  – Include both non-product contact and product contact?
Components of a Plan

• Sampling Schedule (2.4.8.3)
  – What departments/rooms sampled?
  – Timing of actual sampling
    • Before or during production
  – Identify equipment to be sampled
  – Pathogens or indicator organism to test for
    • Based on risk assessment
    • Based on industry experience
  – Number of samples to be taken
  – Frequency of sampling – weekly, monthly, annually
Components of a Plan

• Corrective Action (2.4.8.4)
  – Needs to be defined in the EMP on what is to be done when a test result comes back suspect or positive
  – Investigation/Root cause analysis
  – Re-cleaning and sanitation of the area
  – Retesting protocol
  – Documentation of investigation and corrective actions
  – Product affected
  – Trend analysis
Components of a Plan

• Evaluation of Results (2.4.8.4)
  – Data reviewed by qualified/competent individual
  – Positive or suspect results should lead to an investigation
  – Map to trend results
  – Involvement of food safety team
  – Share with senior management
Guidance and Assistance in EMP’s

- Government
- Industry associations
- Academia
- Customer requirements
Discussion
Contact Information

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