Sanitation Steps: When Digital Transformation Streamlines Monitoring of CIP and Open Cleaning Procedures

September 22, 2021

Moderator: Vidya Ananth, Novolyze, United States

Sponsored by the IAFP Foundation

Please consider making a contribution

This webinar is being recorded and will be available to IAFP members within one week.
Webinar Housekeeping

• For best viewing of the presentation material, please click on ‘maximize’ in the upper right corner of the ‘Slide’ window, then click ‘Escape’ to return to normal view.

• Questions should be submitted to the presenters during the presentation via the Questions section at the right of the screen. Questions will be answered at the end of the presentations.
Webinar Housekeeping

• It is important to note that all opinions and statements are those of the individual making the presentation and not necessarily the opinion or view of IAFP.

• This webinar is being recorded and will be available for access by IAFP members at www.foodprotection.org within one week.
Sanitation Steps: When Digital Transformation Streamlines Monitoring of CIP and Open Cleaning Procedures

IAFP, 22nd Sep 2021
Introduction of Panelists

Vidya Ananth -- Moderator (Novolyze)
Ruth Petran -- Consultant – The Acheson Group and Ruth Petran Consulting LLC
John Donaghy -- Nestlé Switzerland
Anika Bansal -- Bonduelle Fresh Americas
She received her MS in Food Microbiology from Iowa State University and has been in the food industry for over 25 years and has made significant contributions in the areas of food safety, quality and regulatory affairs with a main goal to bend the curve of food borne illness globally. Vidya has held various Food Safety and Quality positions through her journey in the food industry and a few companies to name would be General Mills, The National Food Lab, Safeway, Clorox, Before Brands, Kohana Coffee and now Novolyze. Vidya has helped small and large companies build effective food safety and quality systems using risk-based prevention strategies and has helped build the food safety culture within these organizations. She has collaborated with trade organizations (IAFP, FIMRT, CSPA, PCPC, GMA, ADS) and FDA and USDA, universities and has hosted conferences and chaired many sessions, published patents, papers and a compendium chapter.

An interesting note is that Vidya can converse in 6 languages and engages in humanitarian work during her spare time.

Dr. Ruth Petran is Senior Advisor, Food Safety, for The Acheson Group. As a passionate yet practical food safety scientist, Ruth is also the Principal and Founder of Ruth Petran Consulting, LLC in suburban Minneapolis, Minnesota. Prior to starting her own business, Ruth held technical food safety and public health leadership roles at Ecolab, Pillsbury, and General Mills. Dr. Petran is President of the International Association for Food Protection (IAFP) and served two terms on the US National Advisory Committee for Microbiological Criteria for Foods. She is a Certified Food Scientist and member of the Institute of Food Technologists and chaired the Minnesota Food Safety and Defense Task Force. Her Bachelor’s degree is in Consumer Food Science from Cornell University and she holds an MS in Food Science and a PhD in Public Health both from the University of Minnesota.
Dr. John Donaghy is currently Head of Food Safety at Corporate Quality, Nestlé Switzerland. He previously spent 3 years as Senior Food Safety Microbiologist in Nestlé R&D. Prior to joining Nestlé (2011), worked (15 yrs) as Project Leader in food safety microbiology at Agri-Food & Biosciences Institute (AFBI), N. Ireland, and was formerly Head of Government pathogen analytical laboratory. He is a member of International Commission on Microbiological Specifications for Foods (ICMSF), holds BSc (Biochemistry), PhD (industrial microbiology) and MBA. Current responsibilities include global operational aspects of food safety microbiology, hygiene, allergens and other prerequisite programs across >400 factories and multiple food categories. Leads a team of global experts in HACCP, hygiene and thermal processing, overseeing horizontal implementation of key Nestlé food safety and quality programs at Market and factory level.

Anika Bansal, VP Manufacturing Quality and Microbiology
Bonduelle Fresh Americas, United States

Anika received her Masters of Science in Food Science with an emphasis in Food Microbiology from the University of California, Davis. She is currently working at Bonduelle Fresh Americas as a VP of Manufacturing Quality and Microbiology and responsible for leading all aspects of quality and food safety programs for the manufacturing facilities. She is also a member of Bonduelle Global Food Safety Network group. Prior to joining Bonduelle, she held various Quality and Food Safety positions with Del Monte Foods, Inc. and Earthbound Farm.
Sanitation is a crucial part of ensuring food safety
- A process to manage risks from microbial cross-contamination and allergen cross-contact
- Lapses have and will result in illnesses and deaths
- Required by regulation
- Sanitation has prescribed steps that must be done
  - Preclean + Clean + Sanitize
- Automation, digitization and using data analytics increasingly being used
### Key Elements to Include, Even in the Digital World

- **Monitoring** = Conducting a planned sequence of observations or measurements to assess whether control measures are operating as intended.
- **Verification** = Are the controls actually being properly implemented in a way to control the hazard? Examples:
  - Measuring chemical concentrations
  - ATP swabs, contact plates, microbial count swabs
  - Environmental monitoring for environmental pathogens
  - Record review
- **Validation** = Are the controls actually being properly implemented in a way to control the hazard?
John Donaghy
Head of Food Safety, Nestlé

Digital Solutions for Sustainable CIP

Sept’ 2021
The challenge: Use of Digital Solutions for Water Sustainability agenda

- The 3 R’s
- Minimize Chemical Use
- Environmental Protection

CIP Management
- Data Capture
- Data Visualisation
- Real-Time Decision Making

Global water scarcity
Lack of access to water
WHY ‘Connected’ CIP Process Mastership?

In order to:

➢ Reduce cleaning and validation time

➢ Reduce chemicals and water consumption during the CIP

➢ Avoid CIP food safety incidents

➢ Reduce cost and emissions

➢ CIP process more effective, faster, less expensive and less aggressive to the environment

Digital Capture = Data analyses

Sensors in CIP = Product removal measurement

CIP Recovery = Chemicals and water recovery and re-use
Integrating Digital capture Tools and Visualisation

**FEATURES**

- CIP dashboarding
- CIP Consumption
- CIP recipe visualization
- CIP Trending
- Benchmark on CIP circuits
- Embedded Light IN CIP

Digital Capture = Data analyses

Sensors in CIP = Product removal measurement

CIP Station

- UV Lamp
- Fluid stream
- Detector
- Window
Making a Difference: Time Savings, Water Saving, Chemical saving

<table>
<thead>
<tr>
<th>Couleur</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Pre-Rinse</td>
</tr>
<tr>
<td>30</td>
<td>Caustic</td>
</tr>
<tr>
<td>40</td>
<td>Intermediate Rinse</td>
</tr>
<tr>
<td>50</td>
<td>Acid</td>
</tr>
<tr>
<td>60</td>
<td>Final Rinse</td>
</tr>
<tr>
<td>70</td>
<td>Emptying</td>
</tr>
<tr>
<td>80</td>
<td>Technical End</td>
</tr>
</tbody>
</table>
Digital Transformation in Sanitation

Anika Bansal
VP Manufacturing Quality and Microbiology
A journey from paper to digital world...
How Sanitation fits in to Digitalized Food Safety System?
ELEMENTS OF EFFECTIVE OPEN SANITATION

1. **STEP 1**: Dry Clean, Disassemble
2. **STEP 2**: Pre-rinse
3. **STEP 3**: Apply detergent and Scrub
4. **STEP 4**: Post rinse
5. **STEP 5**: Self-inspection
6. **STEP 6**: Pre-op inspection
7. **STEP 7**: Sanitize and assemble

Effective Training
Sanitation Standard Operating Procedures
EFFECTIVE TRAINING AND SSOPs

- Various training methods can be used to train a sanitor. What matters- are those methods effective?
  - Classroom teaching
  - On the job training
  - e-learning etc.
- Training Tools: SSOPs in simple format with less words and more pictures, Recorded Videos
- SSOPs accessibility
  - Closer to point of use
Sanitation Effectiveness (Pre-op)

- Pre-op visual inspection is one of the important tools to verify sanitation effectiveness.
- Let pre-op data talk to you but for that capturing information digitally is a key.
- Key success factors:
  - Simple digital form with minimal data entry
  - Paint the data in easy to understand format

<table>
<thead>
<tr>
<th>Site Number</th>
<th>Site Description</th>
<th>Sanitary Condition</th>
<th>Photos</th>
<th>Corrective Actions</th>
<th>Post Re-clean Sanitary Condition</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.01</td>
<td>Walls / Doors / Floors / Drains / Covers</td>
<td>Satisfactory</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1.02</td>
<td>Hooks / Lockers / Sinks / Storage Units</td>
<td>Satisfactory</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1.03</td>
<td>Overhead Lights / Covers / Ceiling</td>
<td>Satisfactory</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1.04</td>
<td>Shoe Sanitizer / Brushing Machine</td>
<td>Satisfactory</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4.05</td>
<td>Hopper / Belt / Frame</td>
<td>Unsatisfactory</td>
<td>🚰</td>
<td>Re-clean immediately</td>
<td>Satisfactory</td>
<td>-</td>
</tr>
<tr>
<td>4.06</td>
<td>Incline Conveyor / Belt / Frame</td>
<td>Unsatisfactory</td>
<td>🚰</td>
<td>Re-clean immediately</td>
<td>Satisfactory</td>
<td>-</td>
</tr>
</tbody>
</table>
THANK YOU  MERCI
ASANTE  DANKE SCHONE
GRACIAS  ANKOSI
SHUKRIYA  OBRIGADO
DANKU  NANDRI  DANKIE
MAHALO
Questions?

Questions should be submitted to the presenters via the **Questions section** at the right of the screen.
Contact Information

• rlpetran@gmail.com
• johnanthony.donaghy@nestle.com
• anika.Bansal@Bonduelle.com
• vidya.ananth@novolyze.com
This webinar is being recorded and will be available for access by IAFP members at www.foodprotection.org within one week.

Not a Member? We encourage you to join today.
For more information go to: www.FoodProtection.org/membership/

All IAFP webinars are supported by the IAFP Foundation with no charge to participants.

Please consider making a donation to the IAFP Foundation so we can continue to provide quality information to food safety professionals.