Global Food Safety: Hygienic Design & Food Safety Audits – Introduction/Overview

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Global Food Safety: Hygienic Design & Food Safety Audits

- **Schmidt** -
  - Introduction & general overview of Global Food Safety Initiatives (GFSI) with respect to food equipment.

- **Josefsberg** –
  - European Hygiene Engineering & Design Group (EHEDG) perspective on GFSI

- **Sayler** -
  - Food industry perspective on GFSI
Alternate Title: Grandpa is Singing to the Choir
**Assigned Tasks:**

- Describe the Importance of Hygienic Equipment Design in Food Safety
- Provide a General Overview of Global Food Safety Initiatives (GFSI)
- Evaluate the Emphasis on Equipment Standards in GFSI Auditing Schemes
“Grandpa – How far have we come in food equipment hygienic design across the food industry?”
New & Improved Milk Pail – Back in the Day
Processing Mushrooms – Back in the Day
Fresh Produce – Back in the Day
Fresh Produce – Back in the Day
Ah Yes. The Good Ol’ Days
Baking Industry – Back in the Day

Courtesy - Univ. Florida Pilot Plant
Juice Pasteurizer Balance Tank – Back in the Day

Courtesy - Univ. Florida Pilot Plant
Juice Pasteurizer Holding Tube – Back in the Day

Courtesy - Univ. Florida Pilot Plant
“But Grandpa – Some of this equipment is still around today. Are we still back in the day?”

“Yes my dear, in some ways we are.”
TODAY’S FOOD SAFETY PROGRAMS – “AUDIT” IS THE WORD OF THE DAY

NEXT ITEM ON THE AUDIT COMMITTEE AGENDA...
RESULTS OF INTERNAL AUDIT’S DEEP DIVE
"Prescriptive equipment standards are now obsolete because of the thorough ‘performance-based’ auditing programs in place today."

**Don’t remember who said this, but am pretty sure it was not Lyle Clem**
“Performance-based” Food Safety Systems??

What Was He Talking About?

- HACCP And SSOPs?
- Auditing Schemes Under Global Food Safety Initiatives (GFSI)?
- Hazard Analysis Risk-based Preventive Controls (PC) Rule Under The FDA Food Safety Modernization Act (FSMA)?
ADVANTAGES OF PERFORMANCE-BASED FOOD SAFETY SYSTEMS

- Require Facilities To Address Food Equipment And Food Contact Surfaces
- Assurance That Equipment Is Properly Installed, Operated And Maintained
- Emphasis On Documentation
But, Where Do You Start Without “Prescriptive Standards”? 
Organizations Involved in Equipment Standards & Related Activities
Other Industry Equipment Standards/Guidelines

- Baking Industry
- ISO 14159 Hygiene Requirements for the Design of Equipment
- American Meat Institute (AMI)
- Grocery Manufacturing Assoc. (GMA)/Sanitary Design Working Group
  - Checklist for Low Moisture Foods
- Others
Food Safety Audits

- NSF
- EHEDG
- 3-A SSI
- Other
Elements of Food Equipment

Hygienic Design

- Materials
- Construction
- Design & Fabrication
- Surface Finish
- Installation
- Operation
- Maintenance
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Hygienic Design

- Materials
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Prescriptive
Performance
Elements of a Holistic Equipment Hygienic Design Program

- **Prescriptive Elements**
  - Hygienic Standards/Criteria
  - Equipment Fabrication

- **Performance-Based Elements**
  - Equipment Fabricator Verification
  - User Verification (Installation, Operation, Maintenance)
  - Auditing/Documentation
Quote From A Regulatory Official**:

“Food equipment is not as important as other factors in regard to root cause of foodborne illness outbreaks – Let’s concentrate on those other factors!”

** I am pretty sure this was not Steve Sims
RESPONSE TO SUCH COMMENTS

- Can You Say, “Listeria”?
- Can You Say, “Salmonella”?
- Can You Say, “Biofilms”?
- Can You Say, “Allergen Cross-Contact”?
- Can You Say, “What is the wisdom of throwing harsh chemicals at equipment not designed for it”? 
Advantages Of Food Equipment Standards

- Provide Specific Design Criteria Based Upon Sound Science & Engineering
- Provide Specificity Relative To Types And Classes Of Equipment
- Facilitate Food Safety Audits (Third Party, Regulatory)
  - Provide A Template Or Guideline For Evaluating Equipment
  - Symbol (Or Marking) On Equipment Provides Assurance That Equipment Has Been Evaluated For Compliance With Design Criteria
Global Food Safety Initiatives (GFSI)

- Nonprofit Foundation Managed by the Consumer Goods Forum – Established 2000
  - Initiated in retail, but with buy-in from food manufacturing

- Committed to “Delivering Equivalence and Convergence Between Food Safety Management System (FSMS) Standards”
  - Strive to minimize duplication
  - Strive to harmonize
  - Strive to decrease the number and multiplicity of audits
Most Common GFSI Recognized Schemes In Food Processing Systems

- British Retail Consortium (BRC) Global Standard for Food Safety
- Food Safety System Certification (FSSC) 22000 Food Products
  - Includes ISO 22000 & ISO 22002-1
- Safe Quality Food (SQF)
- International Featured Standards (IFS)
OTHER GFSI RECOGNIZED SCHEMES

- **Aquaculture Seafood**
  - Global Aquaculture Alliance (GAA) Seafood Processing Standard

- **Red Meats**
  - Global Red Meat Standard (GRMS)

- **Agriculture Sector**
  - Canada Good Agricultural Practices (GAPs)
  - GLOBALG.A.P.
“Grandpa – Has GFSI achieved its goals?”

“Too many questions my dear. Too many questions.”
Are Equipment Standards Given Appropriate Emphasis in GFSI Auditing Programs?
TYPES OF AUDITORS

THERE ARE THREE TYPES OF AUDITORS:

THOSE WHOSE OPINION YOU CAN RELY ON...

...AND THOSE WHOSE YOU CAN'T.
All Equipment Shall Be Constructed Of Appropriate Materials.

The Design And Placement Of Equipment Shall Ensure It Can Be Effectively Cleaned And Maintained.

Equipment In Direct Contact With Food Shall Be Suitable For Food Contact And Meet Legal Requirements Where Applicable.
Safe Quality Food (SQF)

- Equipment Shall Be Designed, Constructed, Operated And Maintained So As Not To Pose A Contamination Threat To Products
- Equipment Shall Be Smooth, Impervious And Free From Cracks Or Crevices
Food Contact Equipment Shall Be Designed And Constructed To

- Facilitate Appropriate Cleaning,
- Of Durable Materials,
- Of Materials Designed For Food Use,
- Be Impermeable And Rust- Or Corrosion-free, And
- Meet Established Principles Of Sanitary Design
Observations – GFSI Auditing Schemes

- Equipment is Addressed
- Equipment Provisions Are Generally Written
- Depth of Equipment Evaluation?
  - Variation Between Auditors
- Are Equipment Standards Used?
  - Recognized “Where Appropriate”
  - Not Required
Time for next speaker