Advanced Sanitation: The Future of Safer Food

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2 Billion More by 2050
Clean Water
Clean Air
Produce More Food
Sanitary Infrastructure
Housing
Education
Healthcare
Transportation
Business Case

- $10 billion opportunity
- Production down time
- Water, chemical and testing
- Personnel costs

Innovation to transform facilities/equipment - More readily cleanable

- Design, materials, surfaces
- Chemicals, natural alternatives, effectiveness
- Technology transfer to food environments
- Applied methods
- Streamlining operations
- Reduce down time
- Harborage sites
- Support automation
- Workforce
- Share best practices
- Get involved at the front end of equipment design
The problem with standards

- Destination is known
Detailed Directions that Support Standards

- Develop outputs and data for equipment, chemicals and facilities
- Connect equipment design with facility needs
- Collaborate on breakthrough innovations for facilities
- Educate (entry level to advanced)
- Portability
- Assess and manage risks

*Make food safety not a competitive advantage*
Food Safety Risks
Business Risks
Risks to Consumers
Changing landscape of the food industry
The Court of Social Media
Regulatory and Workforce Changes
Sanitation Practices are Core to FSMA and Food

FSMA requirements heavily rely on sanitation programs
Scope 97,000 domestic and 109,200 international facilities

All 7 FSMA Rules Have Common Theme
• Prevention
• Control
• Sanitation
• Data
• Ownership
• Proactive Measures
• Validation
• Hygienic Design
Whole Genome Sequencing

- WGS can clearly define foodborne illness outbreaks
- WGS networks are reliable, efficient, and can provide location specificity for outbreak investigations
- Whole genome sequencing is inexpensive, easy to use, has identical sample prep for all pathogens, is the most accurate and high resolution subtyping technique, and a single test yields information about resistance, serotype, virulence factors, etc.
- The need for increased number of well characterized environmental (food, water, facility, etc.) sequences may outweigh the need for extensive clinical isolates

Total Annual Food Sales  Facilities  Production Volume ($)
$250,000  34,600  <0.5%
$500,000  45,900  <1%
$1,000,000  63,500  <2%

11,500 facilities were already classified under the 418(1)(1)(c) of the FD&C Act.

FDAs fiscal year (2016 budget) 1.5 billion for food safety
Increase of $301 million exclusively dedicated to FSMA implementation
14 U.S. Federal Labs
14 U.S. State Health & University Labs
1 U.S. Hospital Lab
9 labs located outside of the U.S.,
and collaborations with independent academic researchers.

>10,000 bacterial genomes in Genome Trakr

Data curation and bioinformatic analyses support by the National Center for Biotechnology Information (NCBI).

NIH and GenomeTrakr network has sequenced more than 110,000 isolates.

Well characterized food manufacturing environments could provide manufacturers with an Alliance Approach – Preventive Approach for manufacturers.
Data based plant sanitation
Contribute to corporate sustainability goals

50%

We committed to halve our food waste globally by 2030.

“Proactively talking with stakeholders allows you to better understand the realities, the risks and the opportunities, and positions you to respond quicker” – ConAgra Brands
• Training in Sanitation
• Workforce evolution for future jobs (scrubbing → automated facility management)
To critically look at issues shared by many and attempt to solve them in a manner that can only be done because of a unique collaboration between these organizations.

Together we are Stronger!
Why an Alliance?