

The Microbiological Needs and Emerging Challenges of the Microbiologists of the Food Industry

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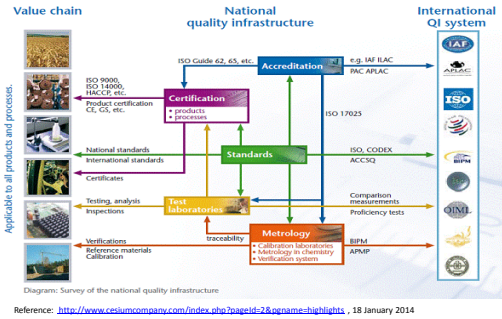
Round the Table Discussion
National Academy of Science and Technology (NAST)
Acacia Hotel, Alabang, Muntinlupa City
January 27, 2014

Outline

- The nature of the microbiological needs of the Food Industry
- The emerging local and global challenges Microbiologists will face
- The different strategies to cope up with the demands of time

The nature of the microbiological needs of the Microbiologists of the Food Industry

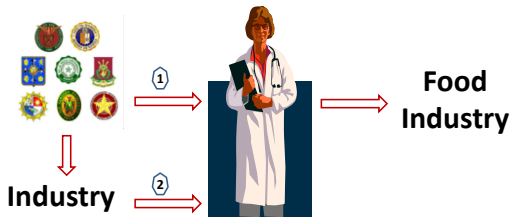
The nature of the microbiological needs of the Food Industry



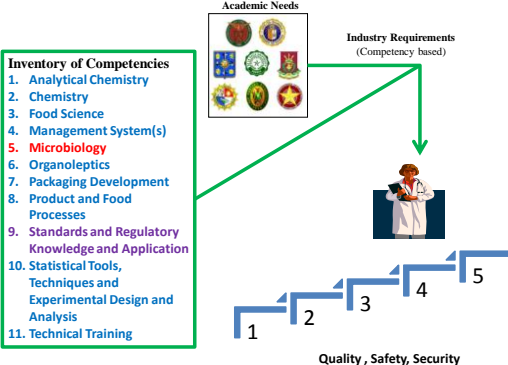
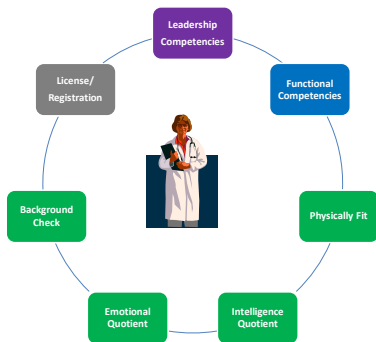
“There is no science without measurements, no quality without testing and no global market without standards”

—Commission of the European Union, 2006

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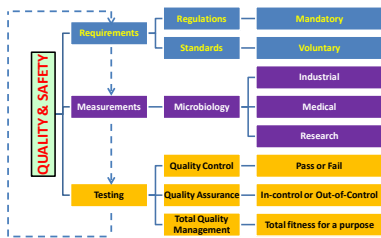


The nature of the microbiological needs of the Food Industry



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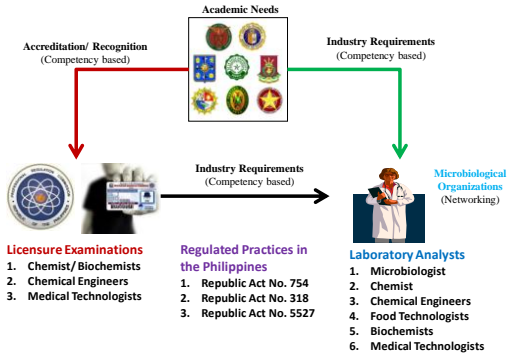
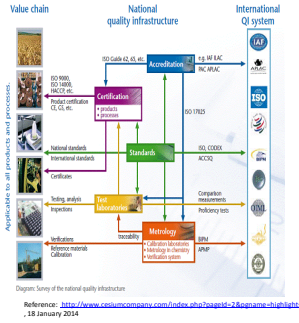
- **Quality** – Fitness for a purpose; Degree to which a set of inherent characteristic fulfills requirements (ISO 9000:2005, 3.1.1)
- **Safety**-the quality of averting or not causing injury, danger, or loss (<http://dictionary.reference.com/browse/safety>, 18 January 2014)



The nature of the microbiological needs of the Food Industry

Classification of Requirements

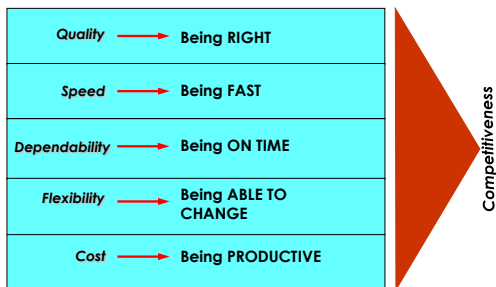
- 1. Management Requirements
- 2. Technical Requirements
- 3. Safety and Security Requirements



The nature of the microbiological needs of the Food Industry



Performance objectives for quality



The emerging local and global challenges Microbiologists will face

Local/ National Level

1. Technical Requirements – Personnel

- Regulated/Mandatory (Licenses)
 - FDA-Philippines
 - DOH
 - DENR
 - Others
- Voluntary
 - Accreditation to PNS ISO/IEC 17025
 - Others

Global/ International Level

1. Technical Requirements – Personnel

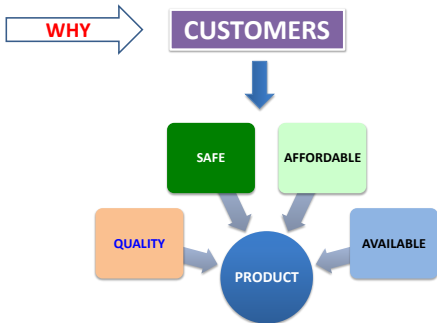
- Accreditation to ISO/IEC 17025
- ILAC Goal:
"One standard, one test, accepted everywhere."
- ASEAN 2015

The different strategies to cope up with the demands of time

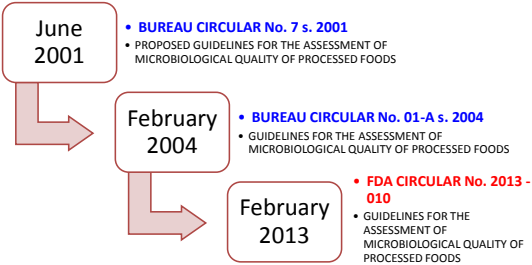
The different strategies to cope up with the demands of time

1. Purpose driven
2. Check the requirements
3. Check the process
4. Check the output
5. Engage in continual improvement
6. Think global
7. Be a learning organization

1. Purpose Driven



2. Check the Requirements



2. Check the Requirements



Milk and Dairy Products

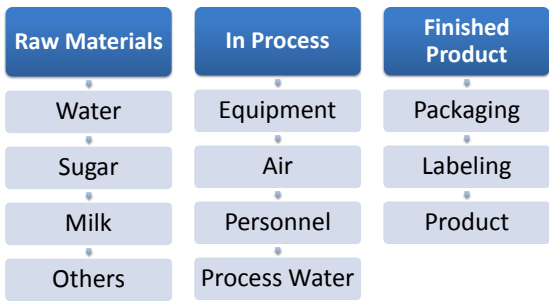
FOOD DESCRIPTION	TEST/MICROORGANISM	n	c	m	M
Milk Powders (e.g. whole, nonfat or filled milk, buttermilk, whey & whey protein concentrate) (intended for children more than 36 months of age and adults)	Salmonella/25g, normal routine	10	0	0	
	Salmonella/25g, for high risk population	30	0	0	
	SPC/APC, cfu/g	5	2	5x10 ³	5x10 ⁴
	Enterobacteriaceae cfu/g	5	1	10	10 ²

Legend: n = number of sample units selected from a lot of food to be examined
 m = acceptable level of microorganisms determined by a specified method; the values are generally based on levels that are achievable under GMP
 M = level at which which exceeded in one or more samples would cause the lot to be rejected as this indicates potential health hazard or imminent spoilage
 c = maximum allowable number of defective or marginally acceptable units

3. Check the Process

<p>Micro Lab.</p> <ul style="list-style-type: none"> Personnel Accommodation & Environmental Conditions Method Validation Equipment Measurement Traceability Handling of Samples Assuring quality of test results Reporting of results 	<p>Monitoring/ Sampling Plan</p> <ul style="list-style-type: none"> Raw Materials In Process Samples Finished Product 	<p>Other Initiatives</p> <ul style="list-style-type: none"> Trade Monitoring
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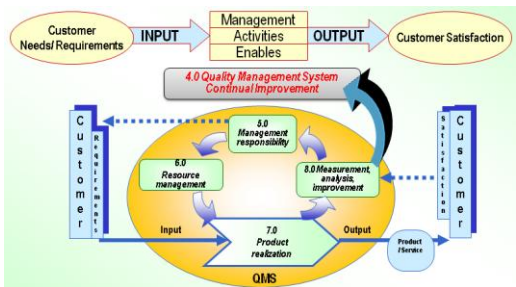
3. Check the Process



4. Check the Output

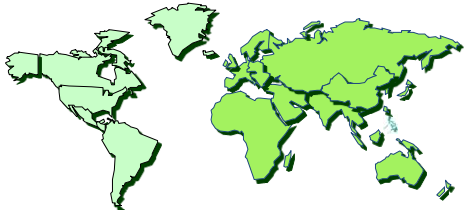


5. Engage in Continual Improvement

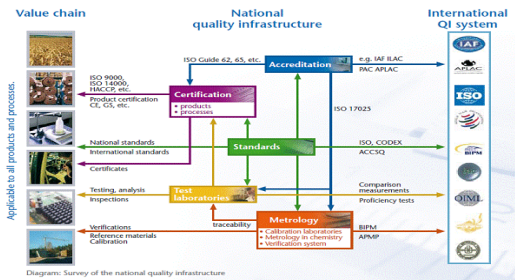


Reference: http://www.iso.org/iso/9001_section_4_quality_management_system.html ; 18 January 2014

6. Think Global



6. Think Global



Reference: PTB Germany

7. Be a Learning Organization



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—Commission of the European Union, 2006

References

- <http://www.cesiumcompany.com/index.php?pageId=2&pgname=highlights>, 18 January 2014
- http://www.isorequirements.com/iso_9001_section_4_quality_management_system.html , 18 January 2014
- <http://dictionary.reference.com/browse/safety>, 18 January 2014
- ISO 9000:2005, 3.1.1
- PTB Germany
- *Quality Concepts, Standards and Practices Towards the 21th Century* by Dr. EABernal presented during the PSM Cluster 1 Symposium at Miriam College, Quezon City, Philippines, 14 September 2013

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THANK YOU
