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Autor: Duke-Rohner, Maggie

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Focus on Product for Prevention*

Maggie Duke-Rohner

Nestec SA, Avenue Nestlé 55, CH-1800 Vevey

e-mail: Alcia-Maggie.Duke-Rohner@nestle.com

Summary

Achieving food safety must be top priority for all associated with the food industry.

The arrival of ISO 22000 has highlighted further the need for all members of the food supply chain to ensure that safe food can be produced.

Manufacturers of food therefore have to recognize where efforts must be concentrated for prevention of potential food contamination. This is done through application of HACCP and its prerequisite programme.

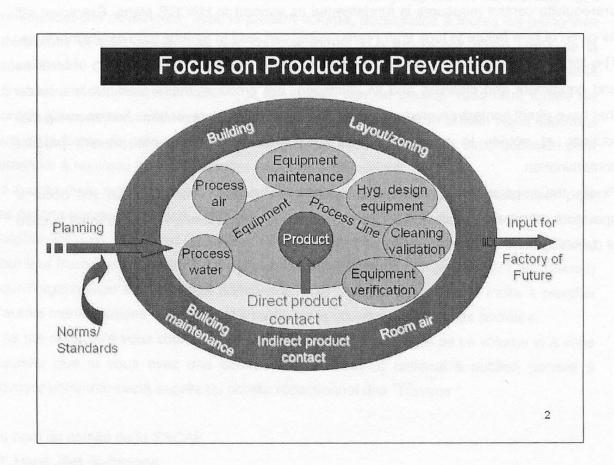
The latter focus on the product for knowing what must be done for prevention. Experience shows that sometimes the impact of prerequisites is underestimated. Management of the prerequisite control measures is fundamental as support to HACCP plans. Examples will be given of how failure to look after prerequisites can lead to serious food safety incidents. The list of prerequisites is long including for example zoning, hygienic design of facilities and equipment and cleaning and its validation. But amongst these prerequisites, those that have direct contact on product are priority in actions for prevention. Just ensuring that routines at entries to a process area are under control will not prevent product contamination.

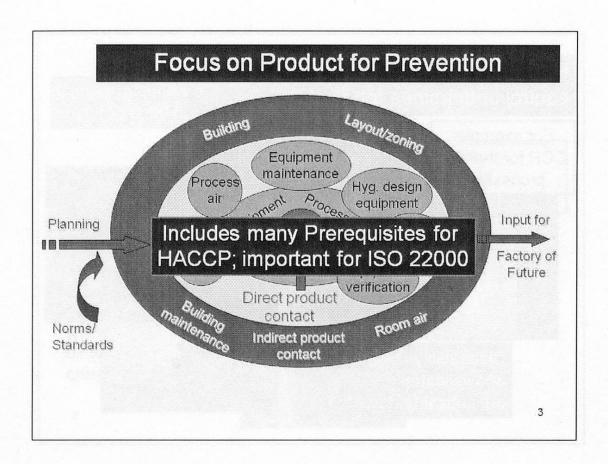
Finally the impact of operators must never be forgotten. Problems can still occur if operators do not understand what has to be done for prevention and how to react in case of deviations.

^{*} Lecture presented at the conference "Hygienic Design" on September 11-12, 2008 in Zurich

Focus on Product for Prevention

Priorities in the Area of Hygienic Engineering and GMP for Prevention

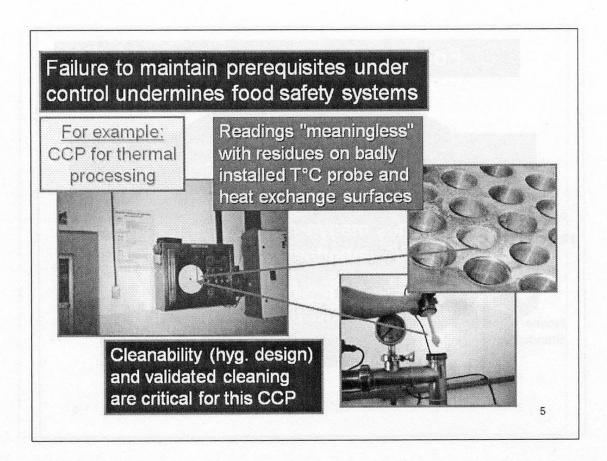


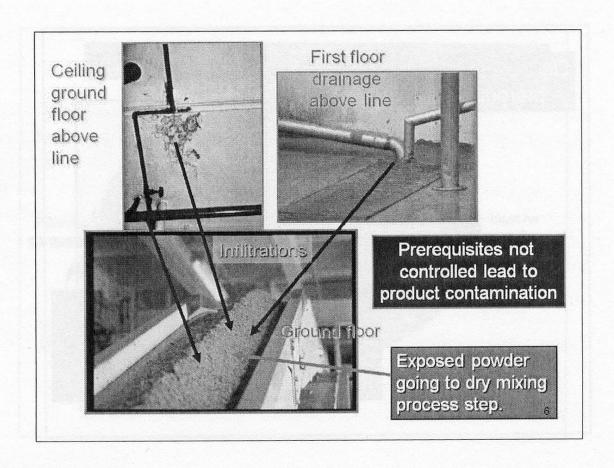


Details of Hygienic Engineering = prerequisites for food safety

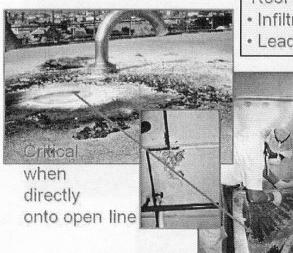
Too often these Prerequisites are seen as givens.....
But they are blocks that support Management Systems for Food Safety. Their impact should never be underestimated!

The root source of many rejected products, withdrawals or even recalls is a "crumbling foundation of such prerequisites"!





ConAgr peanut butter case = cost recall 60 million \$US



Roof leaked leading to:

- Infiltrations onto product
- · Lead to 400 cases of salmonella

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Experience, from years of prevention of such problems, has shown where there is a need to put efforts and investments to prevent contamination.

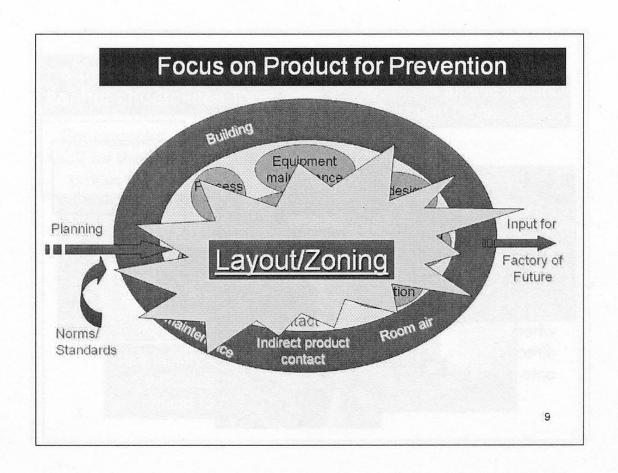
But it is still not always clear:

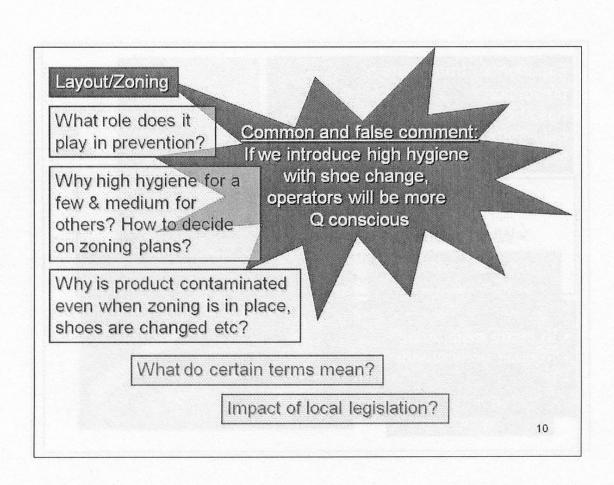
- > What are the priorities for action?
- What should be done first to protect product?
- Where investments should be concentrated?

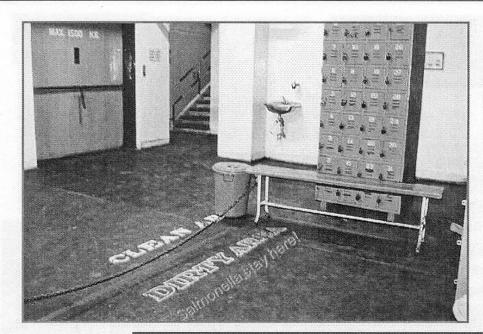
Such cases as described show misunderstandings exist!

Objectives of this conference:

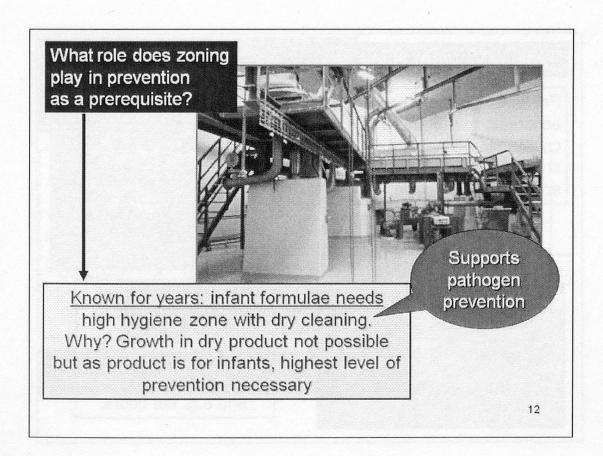
- To share experience
- To build understanding
- To see priorities for action at factories for prevention

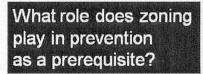


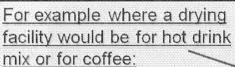




Zoning is only useful if the barriers and rules are clear and logical

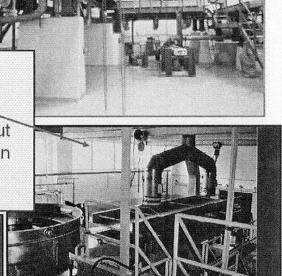






Dry cleaning still important but as product is for older children and adults, less protection is necessary.

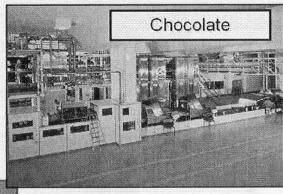
Impacts on investment being made on details of building, types of filters, etc.



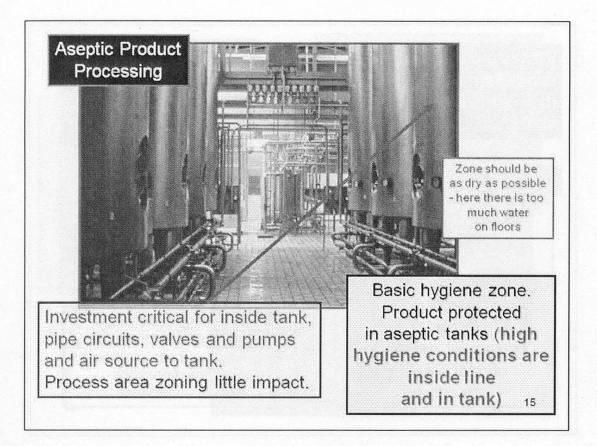
Typical Medium Hygiene Processes

Prevention is planned according to product and consumer. All building and zoning details are accordingly designed





Design details have common objective: No or less water = less risks of contamination and e.g. flat floors



Question often asked!
Why is product contaminated
even when zoning is in place,
room air filtered, shoes changed etc?

Making a zone high or medium hygiene and introducing shoe change and other routines at barriers will not on their own stop product contamination! Contamination still occurs within high/medium hygiene zones:

- If associated directly with equipment, there are hollow bodies, poor installations and services = 1st priority.
- If near line, there are cracks in floors and leaks from ceilings
- = 2nd priority (but = 1st if drips go onto line!)

Critical within zone is to always keep focused on product contact and prerequisite priorities

But also important are the operators. Problems of product contamination will still occur if they do not understand what has to be prevented and how.

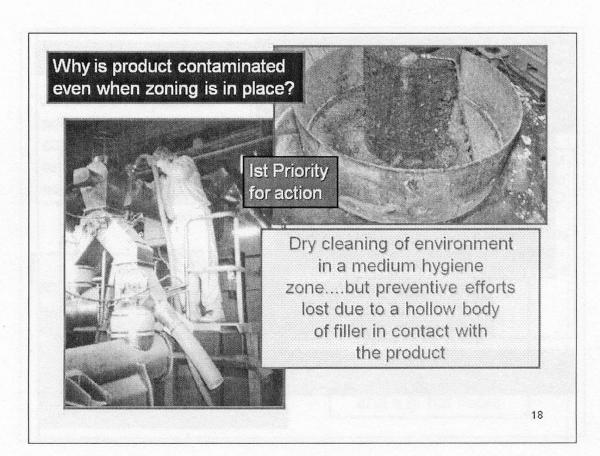
Why is product contaminated even when zoning is in place, room air filtered shoes are changed etc?

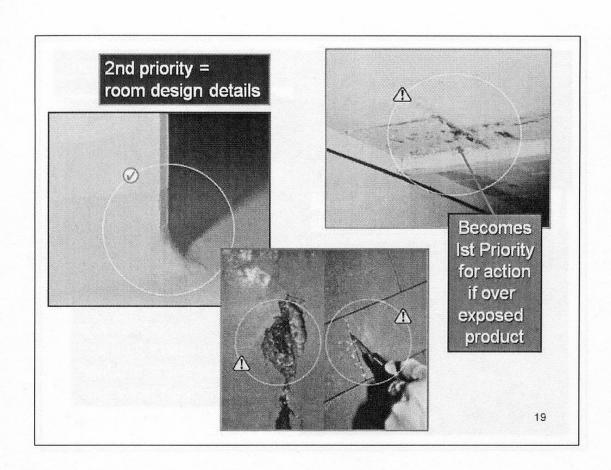
Ist Priority

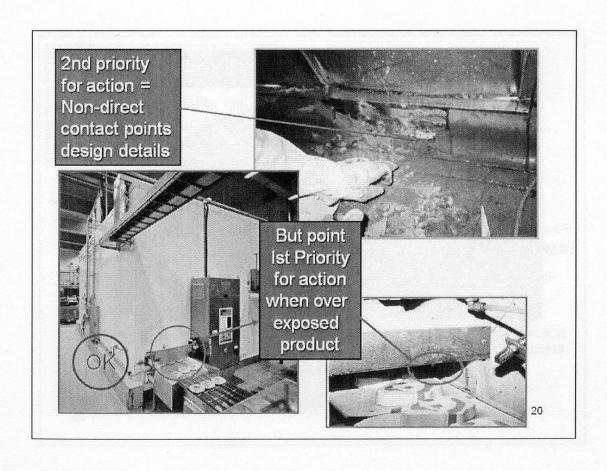
Medium hygiene zone
for ice cream;
experience shows
most critical is protection
from listeria directly
from surfaces
equipment design and
correct cleaning
are critical!

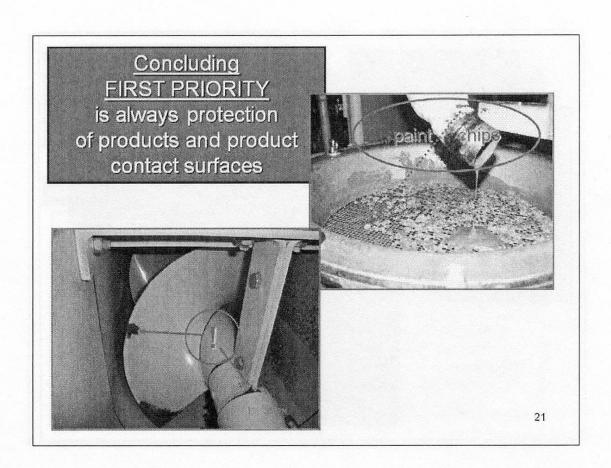


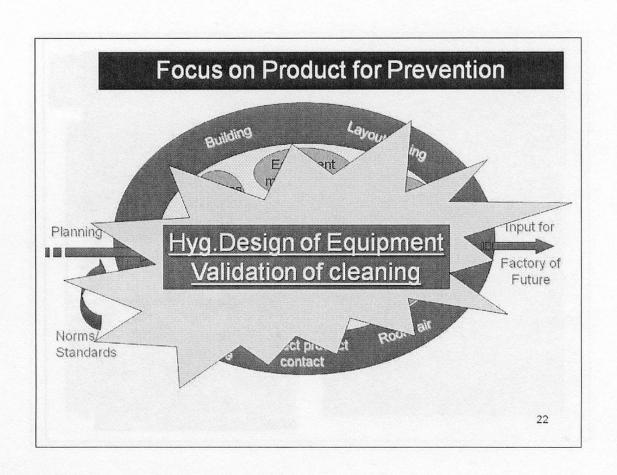
Introducing shoe change will not help if lines are not well CIP'd and contaminated condensation drops onto open product.











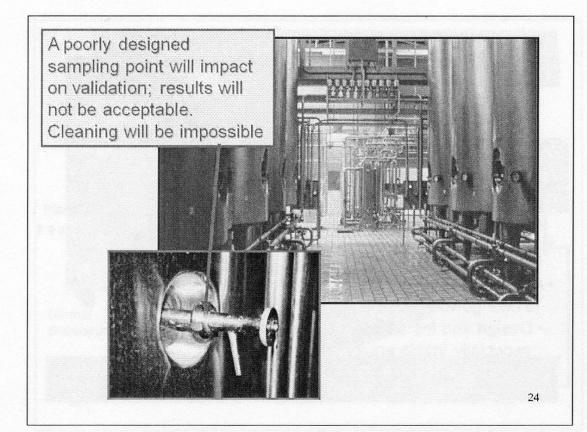
Importance of hyg. design and cleaning validation

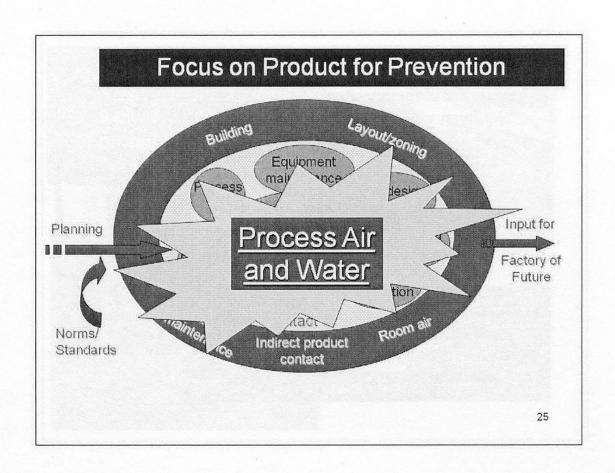
Impact of cleaning often underestimated "Not even a CCP - just a GMP prerequisite"

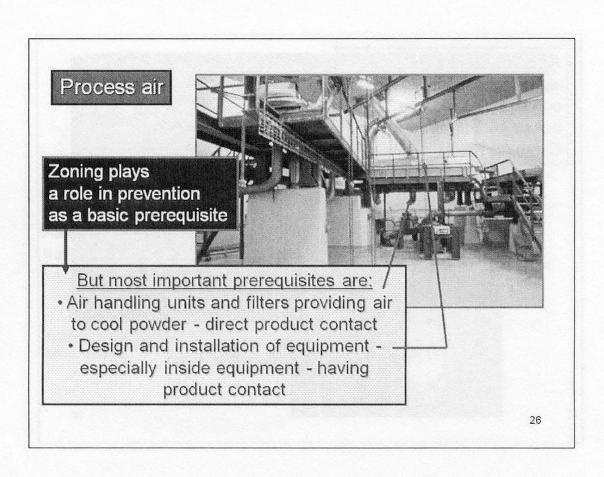
Remember cleaning is:

- · First step of process
- Prepares line for product
- Prepares line for effective and efficient thermal processing

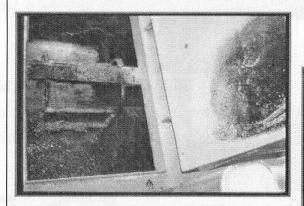
For example: A validated thermal processing step has built in assumption that heat transfer calculations are correct - but what happens if cleaning is ineffective?



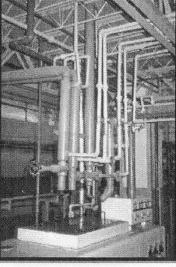




Process Water



Well designed lines but if the tempering water closed circuits are old and not maintained and water quality is not managed risks exist



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Focus on Product for Prevention Layoutizoning Building Equipment maintenance Process Hyg. design Process Line Cleaning Equipment air Input for Planning **Product** validation Process) Factory of water Equipment\ Future verification Direct product contact Room air Norms/ Indirect product Standards contact But do not forget the operators. Problems of product contamination will still occur if they do not understand what has to be prevented and how.

