



# **APPLICATIONS OF MICROBIOLOGICAL RISK ASSESSMENT IN THE FOOD CHAIN**

## **CONCLUSIONS**

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# Lessons learned (1)

- **(Microbiological) RA is the scientific basis for food safety policy decisions**
  - Qualitative RA  $\leftrightarrow$  Quantitative RA
  - Hazard-based management  $\leftrightarrow$  Risk-based management
- **RA has its limitations:**
  - Theoretical and philosophical considerations
  - Proper communication of uncertainty / lack of knowledge is great challenge
  - Alternative methods (i.e. scenario analysis, ...) = useful



# Lessons learned (2)

## Case studies demonstrate the possibilities of QMRA i.e.:

- To propose performance objectives and control options on *Campylobacter* in broiler meat
- To quantify *Campylobacter* risk reduction strategies / public health benefits
- To quantify the risk of exposure to cephalosporin resistance transfer by broiler meat consumption
- To quantify the risk of listeriosis from consumption of smoked salmon + quantify impact of risk factors



# Lessons learned (3)

- **MRA by food industry = safety assessment**
  - endpoint is safe products and process design
  - to achieve (microbiological) product quality and safety
- **Recent outbreaks have shown that hygiene of plant-based foodstuffs needs more attention including the input streams**
  - Ex. of web-based RA tools to enable growers to complete a RA for water use, manure and workers hygiene (UK)



# Lessons learned (4)

- **Need for continued alertness for emerging issues / emerging eating habits, ...**
- **Special attention to be paid to risks of particular production methods associated with raw / ready-to-eat food**
- **Zero risk does not exist  $\leftarrow \rightarrow$  'Acceptable' risk**
- **(Good) best hygienic practises to be applied from farm-to-fork, by all sectors of activity, for all crops, ...**

