Scientific Challenges and Cost-Effective Management of Risks Associated with Implementation of Produce Safety Regulations

Key Takeaways
"Risk-Based Thinking for Agricultural Food Safety"

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Top 5

1) A produce safety hazard is any biological, chemical, and/or physical agent with the potential to cause an illness or injury because of produce consumption or handling.
2) Produce safety risk considers how likely the illness or injury is to occur and the severity of the illness or injury as a result of the produce safety hazard.
3) Assessing risk involves the scientific process of identifying how "big" a risk is and what factors may control it, while risk management considers the choice of practical actions to reduce that risk.
4) Risk-based thinking can provide focus and clarity to more effectively manage produce safety risks. Hazard-based thinking encourages 100% control of hazards (which is seldom possible).
5) Risk-based thinking approach in produce safety can help risk managers (i.e. growers) make more science-informed decisions about risk reduction.

Additional Reading

Bihn EA, Schermann MA, Wszelaki AL, et al (2014). National Good Agricultural Practices Program Decision Trees. https://gaps.cornell.edu/educational-materials/decision-trees/.

De Keuckelaere A, Jacxsens L, Amoah P, et al (2015). Zero Risk Does Not Exist: Lessons Learned from Microbial Risk Assessment Related to Use of Water and Safety of Fresh Produce. Compr Rev Food Sci Food Saf 14:387–410. https://doi.org/10.1111/1541-4337.12140.

Jaykus L, Dennis S, Bernard D, Claycamp HG, Gallagher D, Miller AJ, Potter M, Powell M, Schaffner D, Smith MA, Ten Eyck T. (2006). Using Risk Analysis to Inform Microbial Food Safety Decisions. Issue Paper 31. CAST, Ames, Iowa. https://www.cast-science.org/wp-content/uploads/2018/12/microbial_ip.pdf.

Schaffner DW (2007). Microbial Risk Analysis of Foods, 1st edition. ASM Press, Washington, D.C.

FAO and WHO (2021). Microbiological Risk Assessment – Guidance for food. FAO and WHO, Rome, Italy. https://www.fao.org/documents/card/en/c/cb5006en/.

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