The role of hazard- and risk-based approaches in ensuring food safety

Background
Food legislation in the European Union and elsewhere includes both hazard- and risk-based approaches for ensuring safety. In hazard-based approaches, simply the presence of a potentially harmful agent at a detectable level in food is used as a basis for legislation and/or risk management action. Risk-based approaches allow consideration of exposure in assessing whether there may be unacceptable risks to health.

Scope and approach
The advantages and disadvantages of hazard- and risk-based approaches for ensuring the safety of food chemicals, allergens, ingredients and microorganisms were explored at an ILSI Europe workshop.

Key findings and conclusions
It was concluded that both types of approach have their place, depending on the context. However, problems can arise when both types of approach are used in regulation by separate agencies that address different aspects of the same agent/substance present in food. This separation of decision-making can result in hazard-based restrictions on marketing and use, whereas risk-based assessments for those exposed show there is reasonable certainty no harm will result. This in turn can lead to contradictory, confusing and ultimately unnecessary actions. Use of hazard-based approaches for foods also means that comparisons with benefits for nutrition and food security cannot be undertaken. This has the potential to lead to bias in the overall conclusions of regulators and risk managers, who may not have been presented with the benefits of particular foods. The value of risk-based approaches is becoming increasingly recognised.

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