Developing Effective Food Safety Risk Communication with Consumers

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E coli, Spanish cucumber and German bean sprouts - getting it wrong

Germany admits Spanish cucumbers are not to blame for E coli outbreak
Source of outbreak that has killed 16 people remains a mystery as row spreads across Europe and Spain counts cost of ban on its vegetables

The Guardian, 31st May 2011

- Trust and culpability
- Protection of economic interests

Emotional consumer response to food safety

- “Meat from the offspring of a cloned cow was eaten in the UK last year, the Food Standards Agency has said”
- Two bulls from the embryos of a cow cloned in the US were bought by a farm near Nairn in the Highlands, and meat from one was sold to consumers.
- Steve Innes, Newmeadow farmer, says: “We acted in good faith”. BBC News, 4th August 2010

Differences between expert and consumer/citizen perceptions of risk

- Experts
  - Rely on technical risk assessments
  - Use scientific argumentation which does not take account of socio-economic impacts
  - In theory, balance risk against benefits (but it is not always clear how socio-economic benefits, or even technical benefits, are assessed).

- Public
  - Use their risk perceptions to make judgements about risk
  - Require risk communication to take account of their concerns as well as technical risk estimates
  - Emotional (or affective) responses are important.

Frewer et al, in press, Critical Reviews in Food Science and Technology
The follow – on from BSE

- Consumers express concern about animal production systems, but do not wish to be involved in details of animal husbandry
- As a consequence, consumers need to trust regulators and food chain actors
  - Reinvention of national and regional food safety institutions
    - EFSA
    - FSA (UK)
- Decline in consumer trust as a result of BSE crisis
- Transparent and trustworthy
  - Production systems,
  - Product traceability (consumer choice?)
  - Labelling for animal welfare

Issues

- Fraud and standards
  - A food chain (beef post BSE) where these are expected to be applied rigorously
- Public concern
  - (Illegal) economic gain
  - Criminal activity
  - Not focused on food safety
    - The issue of Bute
Technology adoption

How does risk perception influence societal acceptance of novel and emerging technologies?

Novel applications GM animals and improved food security

Aquabounty Salmon

Lactoferrin production (Herman the Bull)

Results of meta-analyses – consumer attitudes to GM Foods

- Plant-related or “general” applications were more acceptable than animal-related applications.
- Pharmaceutical production more acceptable than food applications
- Risk perceptions (associated with both plants and animals) were greater in Europe than North America and Asia.
- Benefit perceptions were greater in North America and Asia than Europe.
- Moral concerns higher in North America and Asia compared to Europe
- Risk and benefit perceptions increased with time everywhere
- Potential to continue to map changes in perceptions and attitude of data added to the data base

Consumers perceptions of GM animals

- Will Perceptions of RISK, BENEFIT or MORAL CONCERNS drive consumer acceptance or rejection of GM foods?
- What should producers do?
- Communication MUST address consumer concerns as well as technical risk issues
  - Concerns about animal welfare, ethics or morality

How societally acceptable are different solutions to delivering sustainable and safe agrifood production

- Insect proteins?
- Precision agriculture?
- Rethinking the landscape?

A systematic review of the food risk communication literature

- Fifty four papers identified
- Certain food issues were of greater interest to researchers (and research sponsors) than others
  - reflecting the occurrence of a crisis, or policy concern.
- Three broad themes relevant to the development of best practice in risk (benefit) communication identified
  - The characteristics of the target population
  - The contents of the information
  - The characteristics of the information sources

Future research

- Need to consider the difference between communications under acute or chronic conditions
- Undertake analysis of long term impacts of communication interventions
- Understand consumer benefit perceptions as well as risk perception
Acute Risks

- Acute risks (in particular when presented in a crisis context) may be difficult to predict in terms of:
  - what type of hazard will occur?
  - when?
  - who will be affected?
- Recommendations will therefore need to focus on the process of communication:
  - Generic guidelines to communication following potential incident.

Chronic risks

- More information regarding the impact of the risk, and who is affected, is available. More feasible to tailor messages according to:
  - consumer/citizen perceptions of the risks and benefits
  - the needs of those most affected
  - in terms of current behaviours and/or habits.

Targeting communication to perceptions and needs of “at risk” groups

- Risk-benefit communication

  e.g. What do “at risk” groups perceive to be the risks and benefits of fish or unpasteurised cheese consumption to be?

Instrumental and accidental introduction of food risks

- Instrumental introduction can be considered in terms of whether it resulted in unintended consequences:
  - communication about mitigation measures and related research activities
  - communication about uncertainties and what is being done to reduce these in real time.
Deliberate contamination

- Information about *enforcement and identification* will be of interest to consumers
- In the case of potential hazards associated with both risks and benefits
  - consumers may lose something from not consuming a particular food, or switching to alternatives

“Big” data and risk communication

- Identify emerging food risk issues
  - Geography?
  - Demographic groups?
- Not inclusive
  - UK population = 65 million
  - UK population on Twitter = 15 million
- People may falsify identities on-line or not exist at all!
- Social media rapidly go out of fashion, in particular if “institutionalised”

What is the role of the social media?

"Big" data and risk communication

What should be communicated?

- Targeted information (dependent on needs of consumers, not communicators)
- Coordinated information on
  - Risk/benefit variability and uncertainty
  - Risk management activities
  - Regulatory priorities
  - Preventative measures being taken
  - Enforcement actions
  - Expertise of risk managers
  - Actions to improve future preparedness
Principles of risk communication
When?

Proactively
• For all potentially contentious issues (e.g. food additives, controversial food technologies)
• For all issues where (groups of) people are at risk
• When new identification, mitigation, or prevention measures are being put into place

Crisis communication
• Rapid communication as soon as a problem is identified
• Risk management measures
• Uncertainty reduction

Thank you
Questions or comments?