



NZFSA, MIA and MIRINZ: The need for a collaborative approach to research

Dr Steve Hathaway
Director (Science), NZFSA

<http://www.nzfsa.govt.nz>



NZFSA Goals

- Health protection
- Market access
- Industry efficiency and cost-effectiveness
- Economic growth for NZ



Role of science

- Underpins all NZFSA risk management decisions
- Priority setting in standard development is a critical issue
- Linking NZFSA capability with external NZ capability
- International liaison



Decision-making





Decision-making





Food safety risk assessment

- *Salmonella* Brandenburg (and other salmonellae) in sheep meat
- Major collaborative undertaking with MIRINZ and others
- Public health and market access goals
- Very low probability of food-borne illness
- Evaluation of probability of detection at port-of-entry



Equivalence

Meat inspection procedures

- Mycobacteria PM inspection STDs
- Post mortem inspection procedures e.g. lambs, adult sheep, cattle
- *Cysticercus ovis* inspection and recording system
- Inspection and control for *Mycobacterium bovis*
- Wastage



“Food safety”

Control of hazards in the food chain

- Carcass contamination (enteric pathogens)
- Process hygiene for bobby calves (*E. coli* O157:H7)
- Post mortem inspection for bobby calves (navel ill)
- Inspection and control for *Taenia saginata*
- NMD a powerful food safety indicator



Process assurance

Process validation and verification

- Spray chilling
- PHI
- Assessment of verification programme for retention of water
- Carton handling

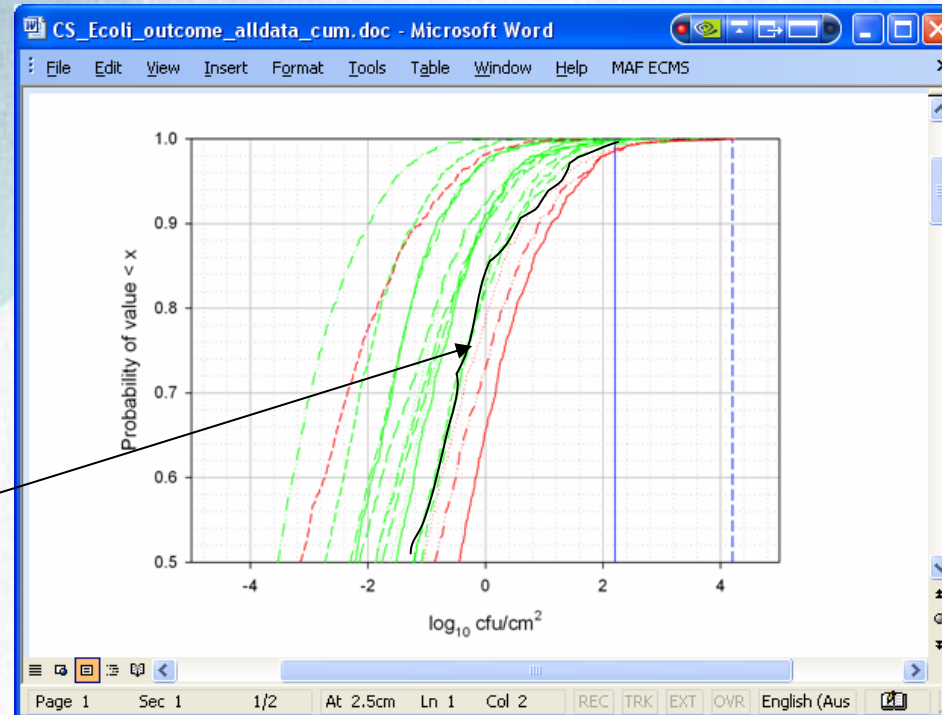


Process Hygiene Index

- Linkage of PHI to premises NMD profiles
- NZFSA advancing the AgResearch modelling tool
 - Initial micro + PHI + predicted distribution of final *E. coli* levels
- Process can be developed & optimised, using chiller function data at premises level

PHI + NMD

- Predicted *E. coli* distribution of counts
- IS6 compliant
Yes, No
- How do we define this “face” as a regulatory limit?
- NZFSA evaluating alternatives for regulatory limits prior to circulating report and recommendations





Where to from here?

Key principles

- “Whole-of-food-chain” approach
- Consultation between stakeholders in setting priorities
- Collaboration between science providers
- International liaison



Control of hazards throughout the food chain

Coordination of MIA, MIRINZ Inc. and NZFSA “decontamination” programmes

- Holistic approach using all food chain inputs
- Coordination with IMPACT (FRST – AgR, ESR, Massey)
- Combinations of hurdles, e.g. decontamination and refrigeration
- Validation of interventions and risk modelling
- Value of bacteriophages?
- Novel decontamination procedures
- Acceptability of decontamination practices



Addressing meat industry priorities

Energy savings vs. meat hygiene

- Reducing “sterilising” temperatures an industry priority
- Complex risk management issue: requires systematic NZFSA and industry inputs
- Need to identify current practices and pick winners
- Validation of alternatives will be a protracted scientific debate



An even bigger picture

Attribution of the risk of foodborne disease to red meat

- Risk-based interventions provide the “ultimate” food safety assurance
- Gross assumptions on the relative importance of red meat vs. other food types (ref. Brandenburg)
- Increased knowledge on food attribution facilitates implementation of highly targeted controls by appropriate stakeholders



Are we making progress?





Conclusions

- NZ has limited research capability and must take a collaborative approach to research
- NZFSA Science Group increasingly acting as research broker and manager
- Acquiring inputs from all stakeholders before research commences is vital
- Success is dependent on a whole-of-food chain approach