

Listeria – prevention is better than cure

Objectives

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Growing and Protecting New Zealand



www.mpi.govt.nz

Overview

1. Welcome
2. Why are we here?
3. *Listeria monocytogenes*
4. *Listeria* guidelines
5. *Listeria* management programme
6. Objectives and focus
7. House rules

Housekeeping



Welcome

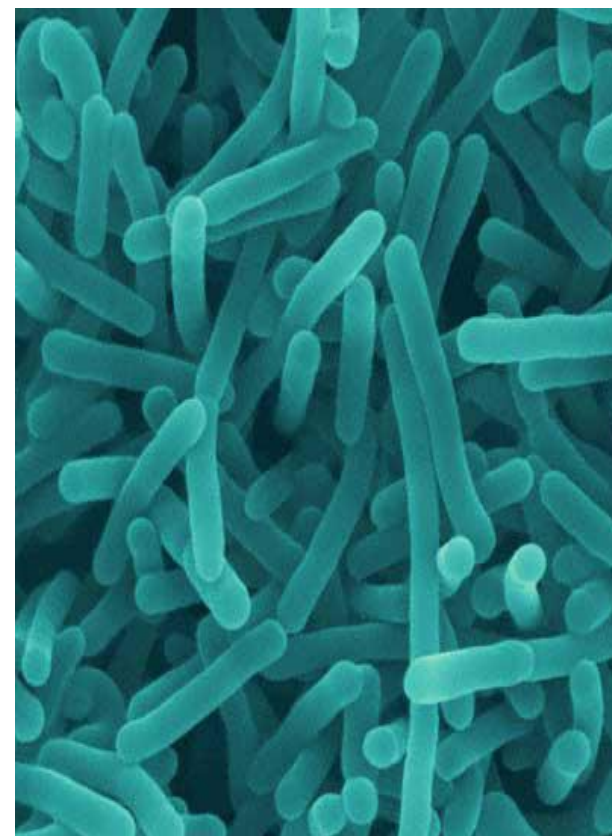
The battle against *Listeria*



Workshop
***Listeria* –**
prevention is
better than cure

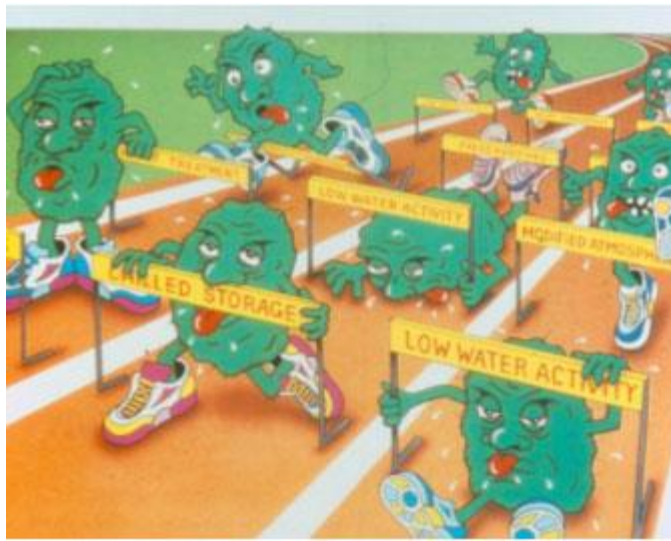
Listeria – a reminder

- Source: Widespread in environment
 - Man, animal, environment
- Illness:
 - Mild flu-like symptoms
 - Severe in susceptible individuals
 - 3-70 (90) days incubation
 - Septicaemia, encephalitis and meningitis
 - Miscarriages for pregnant women
- 85-90% cases are foodborne in NZ
- Problem for RTE foods, that support growth of *Listeria*, are stored chilled and have a long shelf-life



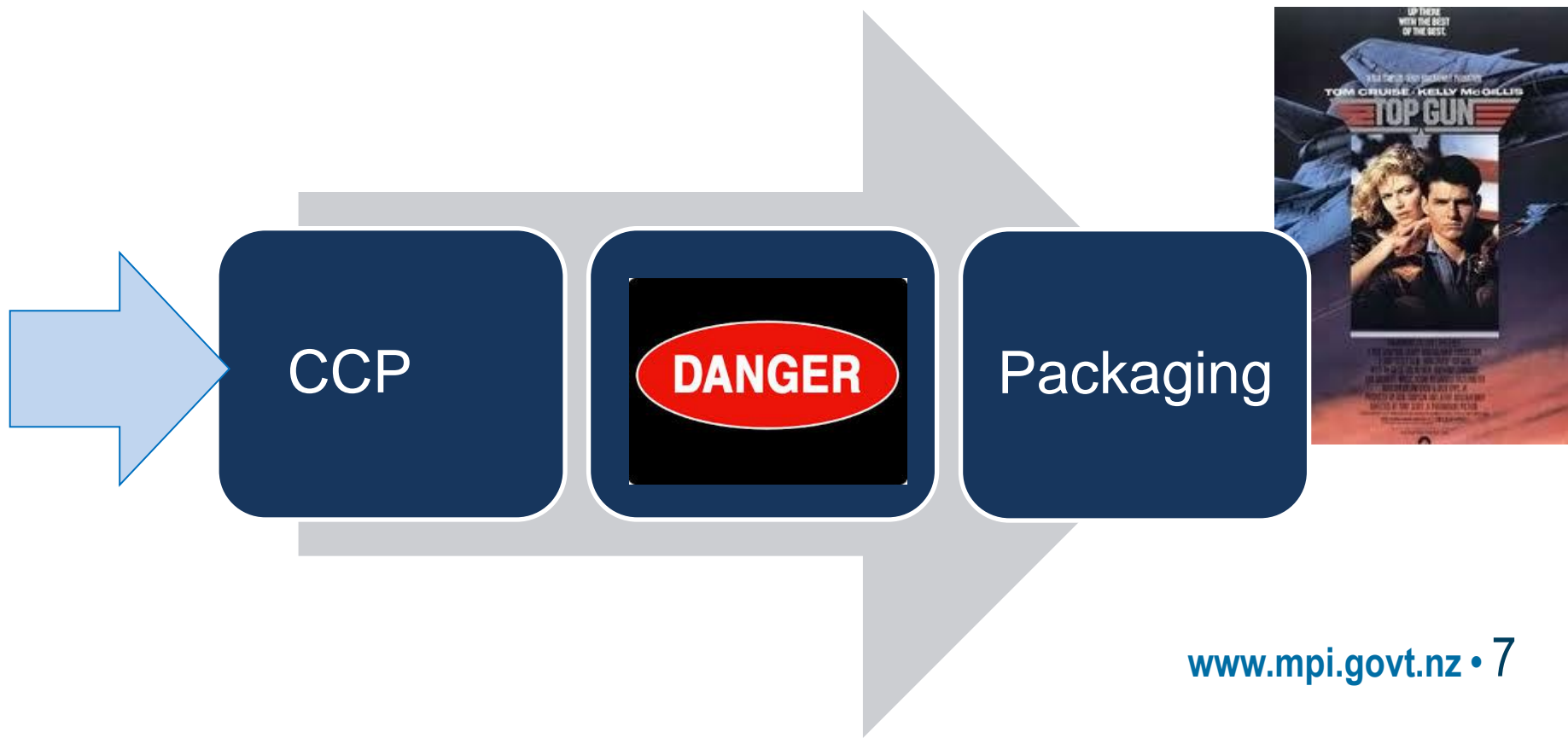
L. monocytogenes

- Killed by 'normal' processing, e.g. cooking, pasteurisation, etc.
- Attaches to surfaces and forms biofilms
- Processing contaminant
- Factors that control growth:
 - a pH below 4.4
 - an $a_w < 0.92$
 - combination of $\text{pH} < 5.0$ with $a_w < 0.94$
 - Storage $< -1^\circ\text{C}$



When is a food in danger from *Listeria*?

- The danger zone; the time when a RTE food is exposed before final packaging



MPI *Listeria* risk management strategy

- Performance Target (2008 – 2013):
 - No increase in the incidence rate of foodborne listeriosis in 5 years
- Key objectives:
 - develop control measures that are practical, feasible and cost effective
 - implement appropriate control measures based on well-informed decisions
 - design and implement an ongoing monitoring and review programme

Microbiological limits

Legislative

- Food Standards Australia New Zealand, Standard 1.6.1 – Microbiological Limits for Food with guidelines criteria (FSANZ, 2001)
 - DPC1: Animal Products (Dairy) Approved Criteria for General Dairy Processing
 - Animal Products (Specifications For Products Intended For Human Consumption) Notice 2004

Guidelines

- 'Microbiological Reference Criteria for Food' published by the Ministry of Health, 1995.
- Food Standards Australian New Zealand 'Guidelines for the microbiological examination of ready-to-eat foods (FSANZ, 2001)

Limits for *L. monocytogenes* (FSC 1.6.1)

Food		n	c	m	M
Butter made from unpasteurised milk and/or unpasteurised milk products	<i>L. monocytogenes</i> / 25 g	5	0	0	
Soft and semi-soft cheese (moisture content > 39%) with pH >5.0					
All raw milk cheese (cheese made from milk not pasteurised or thermised)					
Unpasteurised milk for retail sale					
Packaged cooked cured/salted meat					
Packaged heat treated meat paste and packaged heat treated pâté					
Ready-to-eat processed finfish, other than fully retorted finfish	<i>L. monocytogenes</i> / g	5	1	0	100

FSANZ review of Standard 1.6.1 – P1017

- Adoption of *Codex Alimentarius* criteria
- Proposed microbiological criteria for *L. monocytogenes* in RTE foods
 - Ready-to-eat foods in which growth of *L. monocytogenes* will not occur (<100 cfu/g)
 - Ready-to-eat foods in which growth of can occur (not detected in 25 g) *L. monocytogenes*
 - <http://www.foodstandards.gov.au/foodstandards/proposals/proposalp1017criteri5439.cfm>

Listeria Guidelines

Ministry for Primary Industries
Manatū Ahu Matua



Guidance for the Control of
Listeria monocytogenes
in Ready-to-Eat Foods
Part 1: *Listeria* Management and Glossary

ISBN No: 978-0-478-40479-1 (online)

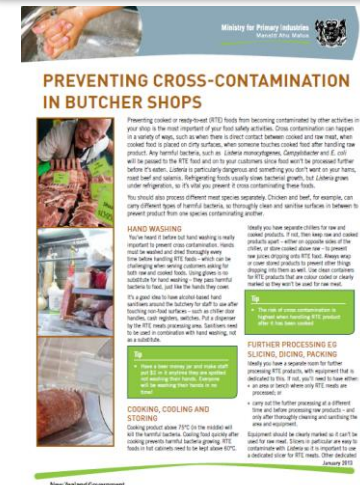
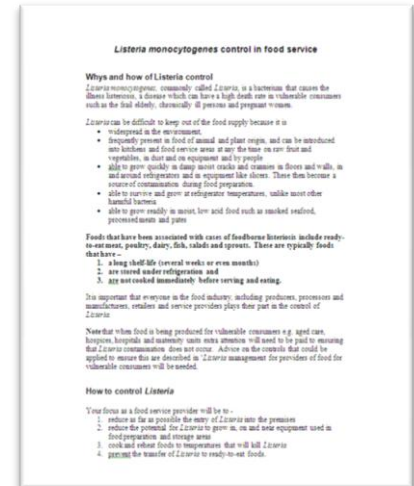
November 2012

- Guidance for the Control of *Listeria monocytogenes* in ready-to-eat foods
 - Part 1: *Listeria* Management and Glossary
 - Part 2: Good Operating Practices
 - Part 3: Microbiological testing for verification of the control of *Listeria monocytogenes*

What's not covered?

Industry specific guidelines, e.g.

- Food service
 - <http://www.foodsafety.govt.nz/industry/sectors/food-service/>
- Bagged leafy salad processors
- Butcher shops and smaller processors of smallgoods
 - <http://www.foodsafety.govt.nz/elibrary/industry/preventing-cross-contamination-in-butcher-shops.pdf>



Other guidelines

How to determine the shelf-life (and date marking) of foods

- <http://www.foodsafety.govt.nz/elibrary/industry/shelf-life-date-marking/index.htm>

- How shelf-life is defined
- Causes of food deterioration and spoilage
- What food becomes unsafe
- How to work out the shelf-life
- How to ensure the safety of chilled foods

The *Listeria* Guidelines

- Specific characteristics of *Listeria*
- Sources of *Listeria* contamination
- The effect of the product characteristics and process

Focus:

- Minimise entry of *Listeria*
 - Identify everything that enters the processing area
 - Apply *Listeria* control measures
- Reduce opportunities for *Listeria* to become established
 - GOP – cleaning and sanitation
- Minimise likelihood of post-processing contamination
 - GOP - separation

Focus of the Guidelines

- Verify that control measures are operating as expected / intended:
 - GOP, and
 - process controls
 - Critical limits
- Data and trend analysis
- Corrective actions or responding to the results of verification

Listeria management programme

Component	Why?
Roles and responsibilities	Identify who is responsible for the LMP. Ensure they have the appropriate authority, competency and knowledge.
Identify where <i>Listeria</i> could occur	Provides a greater knowledge of the food and process. Ensure that potential sources of <i>Listeria</i> are identified. Part of HACCP application
Microbiological limits	Adopt and apply appropriate regulator or food operator-defined limits. Ensures that any measurement/testing is appropriate
<i>Listeria</i> control measures	Apply appropriate controls to minimise entry and limit contamination
Identify any CCPs	Part of HACCP application
Identify any critical limits	Part of HACCP application
Monitoring of GOP and CCPs applicable to control of <i>Listeria</i>	GOP – part of GOP requirements CCP – part of HACCP application
Determine corrective actions when CCP or CL exceeded	Act promptly
Corrective actions when process control fails or <i>Listeria</i> detected	Minimise exposure to consumers and limit potential impact on the business
Review of the LMP	Ensure that this is up to date

Key steps to develop a LMP

1. Identify how *Listeria* can get into your premises
2. Identify control measures
3. Implement control measures
4. Verify effectiveness of control measures

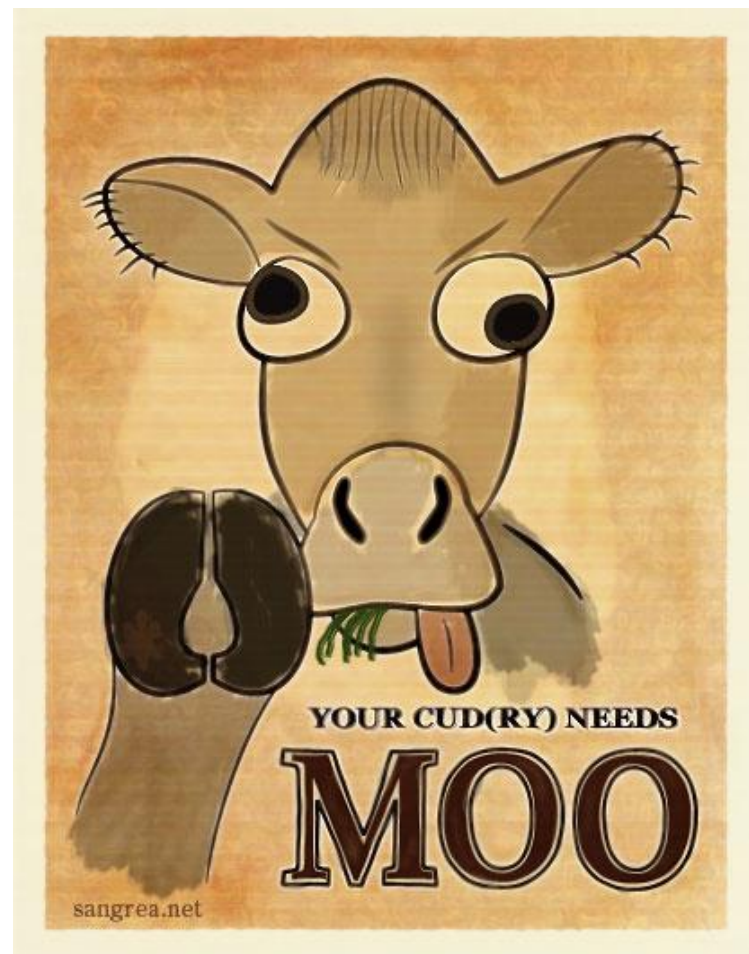
A LMP – How, What?

- Elements may be in a:
 - Risk management programme
 - Food Safety Programme
 - Alternative quality assurance programme
- Steps to develop a LMP:
 - Hazard analysis
 - Know your product and the specific process
 - Is *Listeria* a potential problem?



Workshop: Focus and Objectives

- Prevention not cure
- To understand how to develop a LMP
- To develop an action plan
- What to tackle first, second, etc to help control and minimise *Listeria* contamination



House rules

- Opportunity to share practical tips, stories, etc.



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