LISTERIA MONOCYTOGENES LIMITS IN READY-TO-EAT FOOD

FOOD SAFETY SCHEMES MANUAL - APPENDIX 2

NSW GOVERNMENT Food Authority

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In July 2014, the revised microbiological limits for *Listeria monocytogenes* were introduced into the Australia New Zealand Food Standards Code (the Code) Standard 1.6.1, '*Microbiological Limits in Foods*'. The limits were revised to acknowledge that ready-to-eat (RTE) food which supports the growth of *L. monocytogenes* increases the risk that the food will contribute to listeriosis, and as such a stricter limit now applies.

The revised limits are:

- for RTE foods that support the growth of *L. monocytogenes*, the previous limit of 'not detected in 25 grams' will still apply.
- where RTE foods do not support the growth of *L. monocytogenes*, a new limit of 'not exceeding 100cfu/g' can be used.

Applying the new limits

The Food Authority will apply the revised limits as follows:

- Where a business can demonstrate that the RTE product will not support the growth of *L. monocytogenes*, the 'not exceeding 100 cfu/g' applies.
- Where a business cannot demonstrate that the RTE product will not support the growth of *L. monocytogenes*, the 'not detected in 25g' applies.
- Where a RTE food will support the growth of *L. monocytogenes*, the 'not detected in 25g' applies.

What are RTE foods?

Standard 1.6.1 of the Code defines RTE foods as a food that:

- is ordinarily consumed in the same state as that in which it is sold; and
- will not be subject to a listericidal process before consumption; and
- is not one of the following –
  - shelf stable foods;
  - whole raw fruits;
  - whole raw vegetables;
  - nuts in the shell;
  - live bivalve molluscs.

In terms of the Food Safety Schemes, any food that does not require further processing before consumption would be regarded as RTE.

Demonstrating *L. monocytogenes* growth will not occur

Information on the food characteristics, shelf life and growth rate can be used to determine whether a RTE food can or cannot support the growth of *L. monocytogenes.* These criteria are included in the Standard 1.6.1 of the Code and are based on international guidelines and standards.

Food characteristics and shelf-life

Standard 1.6.1 includes defined physical and chemical criteria for RTE foods that will not support the growth of *L. monocytogenes*:

- the food has a pH less than 4.4 regardless of water activity; or
- the food has a water activity less than 0.92 regardless of pH; or
- the food has a pH less than 5.0 in combination with a water activity of less than 0.94; or
- the food has a refrigerated shelf life no greater than 5 days; or
- the food is frozen (including foods consumed frozen and those intended to be thawed immediately before consumption).

While Standard 1.6.1 has defined criteria for pH and water activity, there are other recognised criteria for assess the shelf stability of processed meats[1]. *L. monocytogenes* is considered not to grow in cured and/or dried meat products with the following characteristics:

- pH ≤5.2 and water activity ≤0.95; or
- pH <5.0; or
- Water activity <0.90.

Businesses will be required to provide evidence of any of the above to demonstrate that the RTE food does not support the growth of *L. monocytogenes*. This can include:

- laboratory analysis for pH and water activity – the laboratory analysis would need to be reconfirmed should the product formulation or processing change. Further, it would be expected that the analysis be repeated at least yearly.
- product specification – verification that the product has a refrigerated shelf-life of no greater than 5 days or is a frozen food.

Growth rate

If none of the above applies, the Standard 1.6.1 of the Code also allows RTE products where the growth of *L. monocytogenes* is limited as being regarded as not supporting the growth of the microorganism. This includes:

- Where the level of *L. monocytogenes* will not increase by greater than 0.5 log cfu/g over the food's stated shelf life.
- Where the product does not receive a listericidal process, the level of *L. monocytogenes* does not exceed 100 cfu/g within the expected shelf life.

Where businesses intend to use limited growth rate, the business will be required to provide evidence that the food meets the above criteria. Further information on how this can be achieved can be found in the FSANZ publication '*Guidance on the application of microbiological criteria for Listeria monocytogenes in RTE food*', which can be found on their website (www.foodstandards.gov.au).

[1] Leistner and Rodel; ICMSF, MLA *Guidelines for the safe manufacture of smallgoods*

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