



**Tasmanian Salmonid Growers Association Ltd.**

ABN 27 009 590 729

## **Proposal P1017 – Criteria for *Listeria monocytogenes* – Microbiological Limits for Foods**

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### **Background**

The TSGA is Tasmania's peak body, representing salmon growers within Tasmania. It is a not for profit organisation established by its grower members over 20 years ago. The association is charged with representing the industry, by working with federal and state governments and their regulatory agencies. The association is charged with representing the industry, by working with federal and state governments and their regulatory agencies. The value of salmonids production increased by 13 per cent to \$369.1 million in 2009–10, to surpass rock lobster as Australia's highest earning fisheries product, according to Australian fisheries statistics 2010, released by ABARES on 30 August 2011. With respect to the issue of listeria within the industry sector that the TSGA represents, our first priority is food safety and human health.

Under current legislation (i.e. section 1.6.1 of the FSC) member products that will be most impacted generally fit into the category of RTE (Ready To Eat) processed finfish products. This allows for 1 out of 5 samples to have up to 100 cfu/g (i.e.  $n=5$ ,  $c=1$ ,  $m=0$ ,  $M=1$ ). Under the proposed changes Tasmanian salmon industry products will generally fit into the 'growth can occur' microbiological criteria; thus, the 'nil tolerance' criteria will apply (i.e.  $n=5$ ,  $c=0$ ,  $m=$  not detected in 25 g). This will have the greatest impact on cold smoked products, and to a lesser extent, hot smoked products.

Cold Smoked Salmon (CSS) is typically processed by salting, curing and smoking the product at ~20–30°C for several hours. The process results in a product with a WPS (Water Phase Salt Concentration) of 3 to 8%, a pH of 5.9 to 6.3, and smoke components of 3–13 ppm of phenols.<sup>1</sup> Although the process seems to result in a reduction in number of *L. monocytogenes* cells, it is widely recognised that there is no acceptable means to control the pathogen from a CCP (Critical Control Point) perspective to ensure its absence in CSS.<sup>2–3</sup> Hot smoked products have similar physio-chemical properties, but are smoked at a higher temperature; thus, there is potential to add a listeria-cidal step depending on the product quality profile being sort.

*L. monocytogenes* is capable of growth at 0–42°C, at pH 4.3–9.0 and in excess of 10% aqueous phase salt concentrations. Thus, the physio-chemical properties of vacuum packed CSS and its processing will not prevent its growth. Further exacerbating the issue is that the bacterium is very ubiquitous in wet environments containing organic material, such as food processing factories. Thus, contamination of raw material in such environments is inevitable,<sup>3</sup> and the literature supports this

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with prevalence levels of 9-33%, 0-29%, 6-24%, 75% and 79% being observed in Norway, Italy, Switzerland, New Zealand and the USA respectively for CSS products.<sup>2</sup> Based on industry sampling and testing, levels within these ranges are also observed from Australian manufacturers.

***The TSGA's preferred approach is Option 1 with modification (as detailed below). Our second preference is Option 3 (status quo).***

The TSGA offers the following comments on the three options described in Proposal P1017.

### **Comments on Option 1:**

The transition from a 'tolerance' criteria in the existing legislation, to the 'nil tolerance' in the proposed change (option 1) will have a **significant** impact on cold smoked products due to the aforementioned factors; namely, process/product properties do not prevent growth, and the ubiquitous nature of the organism, and its subsequent potential for contamination are inevitable. Given the foregoing, the introduction of a nil tolerance criteria could result in significant market failure for this product format and would have wide reaching economic ramifications for the whole sector. If 75% of CSS contained detectable levels of *Listeria* (based on reported prevalence of *Listeria* in NZ CSS), this product format would be not meet the national food safety standards and would incur an immediate economic loss to the sector. Reduced consumer trust in the overall product category may also cause flow on economic losses to other products such as hot smoked salmon.

Critical to this issue is the assessment of whether cold smoked and hot smoked salmon are deemed to be able to support the growth of listeria. ***The TSGA acknowledge the references FSANZ have provided to assist with evaluations on the ability of foods to support growth, however we request further clarification and guidance from FSANZ as to what specific protocols should be employed to demonstrate that growth of Listeria will not occur in a food during the expected shelf life.*** This request is consistent with CAC/GL 61 – 2007 which states that national governments considering the implementation of such criteria should provide guidance to the industry on these protocols. The TSGA also support FSANZ developing further guidance on appropriate methods of analysis.

The TSGA acknowledge the need for Australia to remain aligned with current Codex requirements to ensure consistency with World Trade Organisation policies. Given this need, it is recognised that in the absence of a comprehensive Australian risk assessment on listeriosis in salmon, it is likely that Australia will ultimately adopt the codex standard and the 'nil tolerance' approach. If such an approach is to be taken, the TSGA request that the following modifications must be considered by FSANZ:

- 1) In 2007 the European Union adopted a modified approach (modified from Codex) to *Listeria* management which allows a level of "tolerance" - it is assumed this has been adopted based on significant supporting food safety research. With the introduction of the Codex guideline in the EU, it was soon recognised by industry that there was a third category; i.e. product that supports growth but does not grow above 100 cfu/g.<sup>4</sup> Subsequently, the associated EU regulation was amended to the following:



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Food Category	Micro-organism	Sampling Plan	Limits	Limits	Stage where criteria applies
1.2 RTE foods able to support growth of <i>L. mono</i> , other than those intended for infants and for special medical purposes	<i>Listeria monocytogenes</i>	5	0	100 cfu/g*	Products placed on the market during their shelf-life
		5	0	Absence in 25 g **	Before the product has left the immediate control of the food business operator, who has produced it

\* This criterion shall apply if the manufacturer is able to demonstrate, to the satisfaction of the competent authority, that the product will not exceed the limit of 100 cfu/g throughout the shelf-life. The operator may fix intermediate limits during the process that must be low enough to guarantee that the limit of 100 cfu/g is not exceeded at the end of shelf life.<sup>4</sup>

\*\* This criterion shall apply to products before they have left the immediate control of the producing food business operator, when he is not able demonstrate, to the satisfaction of the competent authority, that the product will not exceed the limit of 100 cfu/g throughout the shelf-life.<sup>4</sup>

***TSGA strongly recommends that a similar inclusion be made, as although RTE products may support the growth of *L. monocytogenes* it may not grow to sufficient levels to exceed 100 cfu/g, and thus represents a low risk; as recognised by the allowance of 100 cfu/g for products that do not support growth.*** This would allow some degree of tolerance for this microbiological criterion, and opens up options in the event of positives; e.g. a reduction of shelf life to fit within the <100 cfu/g as a possible corrective action.

- 2) ***If option 1 is to be progressed the TSGA request a significant phase in period (e.g. 18 months) to enable industry to meet the new standard.*** Specifically, a phase in period would enable industry to conduct studies to: (a) verify if hot and cold smoked salmon support the growth of *Listeria* using agreed protocols and methods; (b) assess the listeriocidal efficacy of industry wide processes; and (c) to demonstrate compliance with the new limits at the appropriate point in the supply chain.

### Comments on Option 2:

***The TSGA request clarification from FSANZ on what specific 'reference criteria' are envisaged.***

### Comments on Option 3:

The TSGA suggest that the implementation of a new *Listeria* standard is not strongly supported by Australian epidemiological data; there is a lack of science based evidence to suggest that there has been an increase in the number of listeriosis cases through the consumption of Australian smoked salmon. This is supported by the evidence provided in the FSANZ Proposal P1017 which states:

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*'There were 71 notified cases of listeriosis in Australia in 2010 (NNDSS 2012). This equates to 0.3 cases per 100,000 population, which was consistent with the incidence reported over the previous ten years.'*

This indicates that case rates have not changed significantly in the last decade, and 75% of these cases were primarily in individuals aged 60 years or more. However, TSGA noted that there is no current data supplied beyond 2010, clearly this is a critical data gap that should be addressed to ensure management strategies are commensurate with the risk today. ***To assess the need for new microbiological criteria for Listeria in Australia, TSGA recommends that a specific risk assessment be undertaken to evaluate the exposure of consumers to Listeria and the consequential public health impact.*** This risk assessment could then be utilised to inform the basis for transparent well informed microbiological criteria which aim to reduce the burden of illness.

Thank you for the opportunity to comment on this guideline, we look forward to discussing our submission with FSANZ at the upcoming *Listeria* summit on the 20<sup>th</sup> November.

Yours sincerely,



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## **References**

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