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FOOD AND AGRICULTURE
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Agenda Item 6

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JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FOOD HYGIENE

Forty first-session

The Loews Coronado Bay Hotel, San Diego, United States of America

PROPOSED DRAFT CODE OF HYGIENIC PRACTICE FOR *VIBRIO* SPP. IN SEAFOOD AT STEP 4

LATE

COMMENTS AT STEP 3 SUBMITTED BY AUSTRALIA, BRAZIL, PERU

AUSTRALIA¹

Specific comments for Appendix IV OF ALINORM 09/32/13

	Suggested text
Paragraph 11. A definition of 'partially treated' should also be included in the footnote (or a cross reference to Section 2.3 'Definitions' included.	
Paragraph 28. Prior to temperature and salinity being considered as criteria for controlling <i>Vibrio</i> spp. in seafood a robust association between these parameters and <i>Vibrio</i> spp. levels in seafood should be established. While the paragraph alludes to undertaking studies to demonstrate the criteria it should be expanded to include that a statistical	<i>"Temperature and salinity should be considered for controlling pathogenic Vibrio spp. in seafood. Where applicable, specific temperature or salinity levels that can be used as control measures should be identified based on epidemiological and exposure studies as well as monitoring of preharvest pathogenic Vibrio levels. Prior to utilising temperature and salinity as control criteria a robust association between levels of pathogenic Vibrio spp. and temperature and salinity should be demonstrated."</i>

¹ These comments from Australia are submitted to replace prior comments submitted in CX/FH 09/41/6. Those comments do not include the proper strikeouts.

association should be shown. Suggest amending the wording as follows:	
Paragraph 29. The paragraph is a bit vague with respect to specifically undertaking 'Risk Assessment' to determine high risk production areas and seasons. Suggest amending the text as follows:	<i>"A risk assessment, including monitoring of molluscan shellfish at harvest for the levels of pathogenic Vibrio spp., should be conducted to determine the regional and seasonal risk of these microorganisms. for the application of Appropriate controls should be applied during times of significant human health risk."</i>
Paragraph 30. As acknowledged in the introduction section it is unclear as to how many <i>Vibrio</i> spp. cells will cause infection in humans. It is therefore difficult to set acceptable levels/criteria for <i>Vibrio</i> spp. in seafood. A confounding factor is that many methods that are used do not distinguish between pathogenic and non pathogenic strains of <i>Vibrio</i> spp. therefore it may be overly conservative/punitive to set a 'nil tolerance' level. Therefore suggest altering this paragraph to remove the reliance on testing/monitoring criteria as follows:	<i>"When testing/monitoring criteria, If high risk times are able to be defined established by a via risk assessment the following control measures could be employed to manage and mitigate the risk: are exceeded, closing the harvesting area or issuing a public warning, restricting the time to refrigeration, diverting product into cooking or post-harvest processing (vibriocidal treatment). should be considered"</i>
Paragraph 32. In areas in which molluscan shellfish are grown sanitary surveys should be undertaken. A sanitary survey identifies all potential sources of faecal pollution and establishes harvesting criteria to ensure that shellfish are harvested at times when the area is not impacted. Suggest amending the text as follows:	<i>"For seafood grown in coastal locales, especially in cholera-endemic areas, care should be taken to avoid contamination of seafood with faecal cholerae V. cholerae. For molluscan shellfish a sanitary survey of the production area should be undertaken and harvesting criteria established to ensure that shellfish are not contaminated with faeces when harvested."</i>
Paragraph 34. Suggest that the CCFFP definition of 'clean water' be included in the list of definitions in this guideline. Suggest amending the text as follows:	<i>"For the storage and handling of seafood aboard fishing vessels, the use of seawater taken near the seashore or from the region near the mouth of drain or river contaminated with sewage should not be undertaken be avoided."</i> <i>[taken and not undertaken ?]</i>
Paragraph 58. <i>Vibrio</i> spp. that has been internalised in seafood via digestive or filtration processes is unlikely to be easily washed out using clean water. Washing with clean water could play a role in limiting surface contamination of animals and fomites. Suggest amending the	<i>"An adequate supply of clean water should be available for handling and washing of seafood and fomites to limit the load of pathogenic Vibrio spp.."</i>

paragraph as follows:	
<p>Paragraph 65. In section 65 and 81 three scenarios are raised: (a) maintenance of raw product during processing as close as possible to 0°C (if other pathogenic bacteria species may also be hazards) (b) maintenance of raw product during processing at 10 °C or lower (for <i>Vibrio</i> control) and (c) storage of live product at the lowest temperature tolerable for the species. Other pathogenic bacterial species such as <i>Listeria</i> are always potential hazards in seafood. While this guideline is specifically about <i>Vibrio</i> it needs to reflect best practise for seafood processors therefore the criteria of 10 °C or lower should be discluded from the guideline and the recommendation of processing being undertaken at temperatures as close as possible to 0 °C should be included. A sentence should be added to paragraph 65 to note that storage of live product should be undertaken at the lowest temperature tolerable for the species. Suggest amending the paragraph as follows:</p>	<p><i>The Code of Practice for Fish and Fishery Products indicates maintaining the product at temperature as close as possible to 0°C. For pathogenic <i>Vibrio</i> spp., a temperature of 10°C or lower is adequate to prevent growth. However other potential bacterial pathogens may be present and therefore the facilities should be capable of controlling ambient temperature to ensure that product temperature of raw seafood during processing is as close as possible to 0°C. during processing of raw is maintained at a temperature of 10°C or lower. Processing and storage of live seafood should be undertaken at the lowest temperature tolerable for the species."</i></p>
<p>Paragraph 78. Critical parameters should be given to ensure that the inactivation technologies that may be used are vibriocidal. For example if heating is used as a vibriocidal step what time/temperature parameters are feasible.</p>	
<p>Paragraph 99. Consideration should be given to including a recommendation that data loggers could be included in initial shipments to fully define and understand the 'cool chain' especially during transportation.</p>	
<p>Paragraph 103. Some seafood is produced in areas which have been demonstrated through testing and epidemiology to be of low risk with respect to</p>	<p><i>In addition, countries should give consideration to labelling of unpackaged live or raw seafood that is at high risk of being contaminated with <i>Vibrio</i> spp., so that consumers are adequately informed with respect to the safety and true nature (alive or not alive) of these products. In particular, labelling should alert at risk consumers to</i></p>

<p><i>Vibrio</i> spp.. When seafood is produced in areas such as these the risk of consumers becoming infected and ill from <i>Vibrio</i> spp. after consumption is significantly reduced/negligible (as evidenced through epidemiological case studies). Seafood is an extremely important/essential source of protein and nutrients for ~ 1 billion people globally and to label all seafood as ‘high risk’ may jeopardise the health of these consumers. Therefore the recommendation of labelling all unpackaged live and raw seafood to alert consumers to the risk is not warranted. It has been demonstrated previously through food borne illness that consumers do not consistently read or follow labelling instructions on products, additionally consumers often do not cook seafood thoroughly enough to inactivate pathogenic bacteria. High risk consumers may receive better advice as to potential hazards in seafood through targeted education given by medical practitioners. Suggest the amending this section as follows:</p>	<p>avoid or cook those products. Any treatment (e.g. heat treatment), that is applied to the product should be mentioned on the label (if present) if consumers would be misled by its omission.</p>
<p>Paragraph 106. High risk consumers may receive better advice as to potential hazards in seafood through targeted education given by medical practitioners. Suggest amending this section as follows:</p>	<p><i>“Liver disease is a prominent risk factor for human infection with pathogenic <i>Vibrio</i> spp., especially <i>V. vulnificus</i>. Additional risk factors include diabetes, haemochromatosis and HIV/AIDS⁹. Subpopulations with increased susceptibility should follow the advice below: avoid the consumption of raw or partially treated seafood; and heat seafood thoroughly before consumption. Consideration should be given to providing medical practitioners with concise information on the risks associated with consuming raw or partially treated seafood for dissemination to high risk consumers.”</i></p>

BRAZIL

Brazil congratulates the drafting group led by Japan for the advances obtained. Continuing the revision of the document, the alterations in the items described below are suggested.

TITLE

Brazil agrees to the amendment proposal to the title of the code in order to reflect a similar title use in other recent CCFH documents.

[Proposed Draft Guidelines on the Application of General Principles of Food Hygiene to the Control of Pathogenic *Vibrio* spp. in Seafood]

5.2.2.3 Food processing practices (paragraph 78, page 61)

Brazil agrees that the square brackets should be removed and the proposed sentence be retained in the Proposed Draft, as the use of these technologies should be allowed by competent authority.

78. For pathogenic *V. parahaemolyticus*, several possible inactivation technologies have been reported such as high pressure and mild heating. [The use of these technologies should be done in accordance with the legislation of the country of retail sale.]

9.3 Labelling (paragraph 103)

The below information to consumers may be provided through multiple channels such as national media, food hygiene trainers, pamphlets and school curriculae. Labels should be used in prepackaged foods and should include mandatory labeling requirements.

103. [In addition, countries should give consideration to informing adequately consumers with respect to the safety and true nature (alive or not alive) of unpackaged live or raw seafood. In particular, consumers should be alert at-risk to avoid or cook those products. Any treatment (e.g. heat treatment), that is applied to the product should be mentioned on the label (if present) if consumers would be misled by its omission.] ~~In addition, countries should give consideration to labelling of unpackaged live or raw seafood, so that consumers are adequately informed with respect to the safety and true nature (alive or not alive) of these products. In particular, labelling should alert at-risk consumers to avoid or cook those products. Any treatment (e.g. heat treatment), that is applied to the product should be mentioned on the label (if present) if consumers would be misled by its omission.~~

10.1 Awareness and responsibilities (paragraph 108, page 63)

It suggested to be excluded the last sentence in this paragraph term “developing countries”, considering that there is no reason to recommend Principle of Food Hygiene differentiated to developing countries.

108. [Industry (fishermen, primary producers, manufacturers, distributors, retailers and food service/institutional establishments) and trade associations play an important role in providing specific instructions and/or training to employees and consumers etc. for the control of pathogenic *Vibrio* spp. ~~Special consideration shall be given to developing countries, taking into consideration their fishing techniques, including small fisherfolks.]~~

This section is more appropriate to aware those engaged to food operations of their role and responsibility in protecting seafood from contamination or deterioration. It is proposed to delete “and consumers etc.” from this paragraph.

108. [Industry (fishermen, primary producers, manufacturers, distributors, retailers and food service/institutional establishments) and trade associations play an important role in providing specific instructions and/or training to employees and consumers etc. for the control of pathogenic *Vibrio* spp. ~~Special consideration shall be given to developing countries, taking into consideration their fishing techniques, including small fisherfolks.]~~

PERU

ANEXO IV

Sobre las:

Características generales de las cepas patógenas de las especies de *Vibrio*.

Se puede tener en cuenta lo siguiente:

1. Entre las 48 diferentes especies actualmente reconocidas en el género *Vibrio* perteneciente a la familia *Vibrionaceae*, 11 son identificadas como patógenas para el Hombre. De ellas, *Vibrio cholerae*, *V. parahaemolyticus* y *V. vulnificus* son los vibrios de mayor trascendencia patógena tanto por su habilidad para causar enfermedad como por la magnitud de la carga de enfermedad que ocasionan. Entre los vibrios patógenos, sólo cepas de *V. cholerae* toxigénicas de los serogrupos O1 y O139, agentes causales del cólera, tienen la habilidad de causar epidemias y pandemias. Hasta muy poco tiempo atrás, otros vibrios incluyendo *V. parahaemolyticus*, eran asociados sólo con infecciones esporádicas o brotes epidémicos localizados.
2. *Vibrio parahaemolyticus* causa gastroenteritis asociada al consumo de pescados y mariscos contaminados, crudos o insuficientemente cocidos. Los síntomas incluyen diarrea con cólicos abdominales, náuseas, vómitos, cefalea y fiebre de baja cuantía. El período de incubación promedio para la enfermedad por *V. parahaemolyticus* es de 15 horas oscilando entre 4 y 96 horas. La afección es auto-limitada, de moderada severidad y dura en promedio tres días en pacientes inmunocompetentes. Dos hemolisinas de *V. parahaemolyticus*, hemolisina directa termoestable (*thermostable direct haemolysin* -TDH) y hemolisina relacionada a TDH (*TDH-related haemolysin*-TRH), son importantes factores de virulencia y la presencia de una de ellas, o ambas, están asociadas con cepas de origen clínico pero no con las de procedencia medioambiental. El mecanismo patogénico global para *V. parahaemolyticus* está aún poco esclarecido, aunque Tdh tiene efectos hemolíticos, enterotóxicos, cardiotóxicos y citotóxicos. El sistema de serotipificación de *V. parahaemolyticus* incluye 13 diferentes antígenos O y 71 diferentes tipos K, y la determinación de serotipos por combinación O:K ha resultado ser útil para el estudio epidemiológico de la enfermedad. A diferencia de lo que sucede con *V. cholerae*, no hay asociación de un serotipo en particular con enfermedad, y de los actualmente 71 tipos O:K reconocidos en *V. parahaemolyticus*, todos pueden causar gastroenteritis.
3. Se debería colocar en la introducción lo siguiente:

Las causas que con mayor frecuencia contribuyen a la aparición de casos y brotes en la población incluyen el consumo de productos del mar crudos, marinados sin calor, parcialmente cocidos con calor y completamente cocidos con calor; la defectuosa o ausente refrigeración que favorece la multiplicación del microorganismo; el manejo inadecuado de los alimentos en las cocinas lo cual propicia la contaminación cruzada de los alimentos marinos crudos a los cocidos.

Dada la importancia que revisten los vibrios patógenos en productos marinos que se consumen crudos, marinados sin calor, parcialmente cocidos con calor y completamente cocidos con calor, los objetivos específicos del presente Anexo están orientados a evitar la contaminación de dichos alimentos y a la prevalencia de estos como factores de riesgo para el desarrollo de gastroenteritis aguda, septicemia primaria, infección de herida y septicemia secundaria.

4. Respecto a la definición de **Refrigeración**, deberá ser concordante con lo establecido en el Código de Prácticas para el Pescado y los Productos Pesqueros sobre todo en lo que respecta a los rangos de temperatura, caso contrario debería retirarse.

5. La definición de **alimento de origen marino** que se propone es la siguiente, cualquier producto de origen animal o vegetal procedente del mar destinado al consumo humano.
6. En el párrafo 30, se debe añadir que cuando se superen los límites establecidos antes de reaperturar las áreas de cosecha deberán demostrar con evidencia científica que dichas zonas se encuentran dentro de los límites permisibles que no causen daño al consumidor.
7. En el anexo 35, tiene correlación con la definición de temperatura sino se coloca acá la temperatura no se puede dejar tan abierto en razón que este es un producto final y ya no hay un proceso siguiente que elimine el peligro, asimismo la fabricación de hielo debe incidirse que se realice con agua potable y no utilizar el termino de agua limpia.
8. En el párrafo 58, reemplazar el término de agua limpia por agua potable.
9. En el párrafo 65, mantener los alimentos de origen marino a menos de 10°C quiere decir que pueden estar a 9 ó 9.5, siendo un riesgo de desarrollo lo ideal es que se mantengan en temperaturas de refrigeración es decir por debajo de los 5°C.
10. En el párrafo 69 se define HACCP como “análisis de riesgos” siendo lo correcto “análisis de peligros”.