codex alimentarius commission

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

WORLD HEALTH ORGANIZATION

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Agenda Item 8 **CX/FFP 06/28/8**

JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX COMMITTEE ON FISH AND FISHERY PRODUCTS

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PROPOSED DRAFT STANDARD FOR SMOKED FISH
GOVERNMENT COMMENTS AT STEP 3
(European Community, New Zealand, United States)

EUROPEAN COMMUNITY

The European Community and its 25 Member States (ECMS) would like to submit the following comments:

1 Scope – The ECMS propose that the following text be added at the end of the existing paragraph to further clarify the scope of the standard:

"The standard also does not apply to smoke flavoured fish where liquid smoke has been applied directly by coating, spraying, bathing or injecting, unless one of the smoking processes defined at section 2.2 has also been undertaken".

6.1.1 Name of Food – The ECMS reiterate the previous EC written comments (CX/FFP 05/27/9) that "where liquid smoke is used it must be declared on the label". We, therefore, suggest that the square brackets are deleted and the sentence is maintained.

6.3 Labelling of Retail Packages – The ECMS agree, in principle, with the statement that there should be clear labelling of the product if it has been previously frozen and subsequently sold thawed / chilled where not to do so would mislead the consumer. We suggest that the statement could be further qualified by adding following new text at the start of this section:

"Where a consumer could be misled by the omission of such an indication, it must be clearly stated on the labelling….. sold as a refrigerated product".

6.4 Labelling of Non-Retail Containers – We suggest that the text here is revised to make this section consistent with food labelling provisions laid down in the Codex Procedural Manual as well as other CCFFP standards (e.g. minced fish (Codex Stan 165-1989, Rev.1-1995), salted Atlantic herring and salted sprat (Codex Stan 244-2004) etc.). That is, it should be revised to read:

"Information specified above shall be given either on the container or in accompanying documents, except that the name of the product, lot identification, and the name and address of the manufacturer or packer as well as storage instructions, shall appear on the container.

However, lot identification, and the name and address of the manufacturer or packer may be replaced by an identification mark provided that such a mark is clearly identifiable with accompanying documents".

7.4 Determination of Dead Parasites – The ECMS would like to repeat the previous suggestion (CX/FFP 05/27/9) that the title and reference in the paragraph should be consistent with the title of Annex IV, that is "Determination of the presence of visible parasites".

NEW ZEALAND

Use of Liquid Smoke

The standard as drafted prohibits the use of liquid smoke except as a material to be heated to "smoke" the fish. We are unclear as to what, if any benefit would be obtained from such a process over and above a conventional smoking process. The primary use of liquid smoke is as a dip or spray to flavour the product, often in conjunction with a heating process.

It is understood that such products are not "smoked" in the traditional sense, however, we believe that the scope of this standard should be expanded to incorporate such products for the following reasons:

(1) The end products are similar in flavour, texture and composition including microbiology to those prepared using traditional smoking methods.

(2) Hazards inherent in the process are similar to those present in traditional smoked products

(3) To not include these products under this standard, may lead to a further standard to cover such products being proposed. This does not seem desirable when the addition of a few words to this standard would adequately cover these products.

To give effect to the inclusion of liquid smoke in the proposed draft standard, New Zealand proposes the following amendments:

Title

This should be amended to read

"Proposed Draft Standard for Ready-to-eat Smoked and Liquid-Smoked Fish".

2.1 Product Definition

The first paragraph should be deleted and replaced with:

"Smoked fish is prepared from fresh or frozen fish treated with smoke. Liquid-smoked fish shall be prepared from fresh or frozen fish treated with liquid smoke. Smoked or liquid-smoked fish should have smoked sensory characteristics."

2.2 Process Definition

Delete the dot point that starts "Liquid Smoking…" and replace it with:

- "Liquid Smoking – Fish are treated with liquid smoke, either by direct application, or regenerated from smoke condensates."

6.1 Name of the Food

Paragraph 6.1.1 should be amended to read:

" The name of the product as declared on the label shall contain the word "Smoked" or "Liquid Smoked" in combination with the name of the fish appropriate to the species of fish in accordance with the law, custom, or practice in use in the country of distribution, and in a manner not to mislead the consumer. "

Annex 1

New Zealand recognises that a higher level of salt content (3.5%WPS) may be necessary in countries where *C. botulinum* is endemic in the processing environment. In New Zealand 3.0%WPS has been considered sufficient because *C. botulinum* type E is not present in our processing environment. New Zealand is currently undertaking a risk profiling exercise to confirm our *C. botulinum* status and anticipates being in a position to make recommendations to the next meeting of the CCFFP on criteria that should be considered by a country in determining a suitable water phase salt content for these products.

UNITED STATES

1. SCOPE

- first sentence, revise to read as follows:

"This standard applies to chilled or frozen, ready-to-eat finfish (herein after referred to as "fish") **that have been subject to hot or cold smoking**.

- **end of paragraph**, add new sentence to read as follows:

"Liquid smoke may be used to generate smoke or it may be applied as a flavoring ingredient outside of the smoking process but not as a substitute for smoking."

Reason: This language makes the Scope consistent with revisions we are recommending to the Process Definition. Our proposed revisions to both sections are primarily for the purpose of clarifying that "smoked fish" must be exposed to an actual smoking process. Liquid smoke may be used for actual smoking or as a flavoring ingredient, but when used solely as a flavoring ingredient, the fish must still be exposed to smoke from the burning of wood or other plant material. Our proposal also helps to clarify the types of hot/cold smoked products that are covered in this standard.

2.2 Process Definition, add a definition for "smoking" and list hot, cold, liquid smoking as secondary definitions below. Remove brackets from the definition of "liquid smoking." To read as follows:

- **"Smoking – Fish are subjected directly to smoke exposure sufficient to produce functional effects such as imparting flavor, producing color, and/or affecting surface texture such as by producing a pellicle. Types of smoking include the following:**
  (1) Hot Smoking – Fish are treated with smoke…
  (2) Cold Smoking – Fish are treated with smoke…
  (3) Liquid Smoking – Fish are treated with liquid smoke…"

Reason: The standard was lacking a general definition of the term "smoking." Including this definition answers the implied question as to what constitutes adequate smoking. The brackets should be removed from the definition of liquid smoking because liquid smoke may be legitimately used to generate actual smoke.

2.2 Process Definition, last bullet, "Storage," replace the words "is typically" with "**may be**"

Reason: This sentence was originally drafted to read "may be" but the U.S. requested that it be changed to accommodate Annex 1, which currently includes a temperature as high as 10º C (see bottom of first column). After consultation with Canada, the U.S. now believes that 10º C is too high a temperature for these products and is requesting a modification of Annex 1 as a consequence. The U.S. also believes that the original language in section 2.2 was appropriate and is now recommending that it be re-adopted.

3.6 Decomposition, revise to read as follows:

"**Smoked fish of the families *Scombridae, Scombresocidae, Clupeidae, Coryphaenidae* and *Pomatomidae*** shall not contain more than 10 mg of histamine per 100g fish flesh based on the average of the sample unit tested."

Reason: This standard covers scombrotoxic and non-scombrotoxic fish so, this subsection should be specific to the scombrotoxic fish as was done in other standards such as the Standard for Canned Fish.

4. FOOD ADDITIVES

Comment: The U.S. plans to comment on this subsection at a later date. We are currently drafting language for this subsection and plan to forward that proposal in a separate submission for consideration by the CCFFP.

5. HYGIENE AND HANDLING

- delete the words "Codes of Practice"
- delete brackets around "It is recommended that the"
- delete the bracketed word "shall"

Reason: The words "Codes of Practice" seem to be misplaced in this subsection and deleting them is an editorial correction. The other two suggested changes make corrections so that the sentence conforms to language in the Procedural Manual for this subsection.

5.2 Microbiological Criteria, change the word "shall" to "should"

Reason: Editorial, to comply with the language in the Procedural Manual.

5.6 *Clostridium botulinum,* revise to read as follows:

"Toxins of *Clostridium botulinum* are not allowed in smoked fish products. The formation of *Clostridium botulinum* toxin can be controlled through an application of science-based options that include packaging **and labeling, product temperature (i.e. storage temperature), and the percentage of salt in the water phase. The table shown in ANNEX 1 illustrates some combinations of these types of product attributes.**

Reason: We have been advised that, as originally drafted, ANNEX 1 has generated some confusion because its emphasis on "controls" for *C. botulinum* appear to make it more suitable for a code of practice rather than a standard. To resolve this confusion, we are recommending language that emphasizes that ANNEX 1 provides information about **product attributes** that control *C. botulinum*. Product attributes are matters addressed in standards. In certain respects, ANNEX 1 amplifies aspects of the Process Definition section, i.e. packaging and storage.

***6.1 NAME OF THE FOOD,* 6.1.1, bracketed sentence,** remove brackets and revise to read as follows:

"Where liquid smoke is used **as a flavoring outside of the smoking process, such as in a dip, spray or injection**, it must be declared as an ingredient on the label. **If used solely as a source of smoke by heat vaporization, it need not be declared as liquid smoke on the label.**"

Reason: When liquid smoke is added directly to a product in its liquid form, such as through injection or surface coating, it is considered an ingredient and should be listed on the label. Alternatively, liquid smoke can also be vaporized through heating, during which it becomes, in effect, "smoke." When used in this manner it should not have to be listed on the label (just as wood used to make smoke need not be listed).

6.3 Labelling of Retail Packages, delete this subsection and renumber section 6.4 to 6.3

Reason: From the standpoint of safety it is not clear why consumers need to be told that a refrigerated product was previously frozen. For that reason we do not support mandatory labeling. For products that contain adequate water phase salt, or are packaged aerobically, the fact that a product was previously frozen is not an important consideration and informing the consumer serves no clear purpose. However, for products where water phase salt is not used, freezing is the only control where the product is packaged in reduced oxygen. If those products were thawed prior to sale, they would be potentially more hazardous. We would not recommend thawing frozen smoked fish products prior to sale under those conditions and are concerned that this labeling provision would have the inadvertent effect of encouraging thawing of product where freezing is the principle control of *Clostridium botulinum*.

7.1 Sampling, 1st paragraph, replace reference with the General Guidelines on Sampling.

Reason: The General Guidelines on Sampling were adopted by the CAC and replace the current Sampling Plans for Prepackaged Foods (AQL-6.5) CODEX STAN 233-1969.

7.1 Sampling, 2nd paragraph

Comment: Clarification needed. Given that for smoked fish products, the primary containers often contain less than 1kg, is this sentence saying that you have to open enough primary containers to achieve 1kg and if so, why?

7.4 DETERMINATION OF DEAD PARASITES, rename this subsection and delete the sentence contained therein to read as follows:

"7.4 DETERMINATION OF THE VIABILITY OF NEMATODES: SEE ANNEX 2"

Reason: The procedures used for parasite analysis in smoked fish are identical to those used for Salted Atlantic Herring and Salted Sprat, as described in the Standard that has been adopted by the CAC. We therefore recommend using the same language and referring to the appropriate annex here to be consistent with the Standard for Salted Atlantic Herring and Salted Sprat. The sentence currently contained within this subsection is inconsistent with the procedures outlined in the annex and should be deleted.

8.3 Parasites, revise the sentence to read as follows:
"The presence of **readily visible** parasites in a sample of the edible portion **of the sample unit detected by normal visual inspection of the fish flesh** (see Annex **4**)."

Reason: This subsection should be consistent with the language used in the Standard for Salted Atlantic Herring and Salted Sprat. The annex referred to should be Annex 4.

9. LOT ACCEPTANCE (i), change reference to General Guidelines for Sampling CAC/GL 50-2004

Reason: The General Guidelines on Sampling were adopted by the CAC and replace the current Sampling Plans for Prepackaged Foods (AQL-6.5) CODEX STAN 233-1969.

ANNEX 1, Title, change to read as follows:

"**ANNEX 1 Combinations of Product Attributes that Minimize the Likelihood of** *Clostridium botulinum* Toxin Formation**"**

Reason: The language that we propose replacing refers to "control and prevention" of *Clostridium botulinum* toxin. This language has generated some confusion because "control and prevention" sound like matters that should be addressed in a code of practice, rather than in a standard. In fact, this Annex refers to product attributes, some of which are initially addressed in the Process Definition section (2.2). The choice presented to the CCFFP in our view, is to select a single attribute to control *Clostridium botulinum*, such as 3.5% water phase salt, or to acknowledge that the science allows for alternative attributes depending upon conditions within the country of sale. This Annex is an attempt to do the latter. It may be appropriate for the code of practice for smoked fish products to address how to achieve these attributes, but we feel that it is essential that they be provided within the standard.

ANNEX 1, Table, Column 1, Title, revise to read as follows: "**Product Temperature (as achieved through** Storage Temperature)"

Reason: To emphasize that Annex 1 provides options for product attributes, consistent with a Codex standard.

ANNEX 1, Table, Column 1, Row 1, delete "0ºC" and replace with **">-18ºC"**

Reason: Clarification. The temperature range above frozen at which *C. botulinum* toxin cannot form is >-18ºC to 3ºC so, the storage temperature listed in the table should reflect this.

ANNEX 1, Table, Column 2, Row 3, replace the double asterisk with a single asterisk

Reason: This is a technical revision to accommodate other comments.

ANNEX 1, Table, Column 3, Title, delete asterisk

Reason: We are recommending that the paragraphs to which the asterisk applies be moved into the introductory paragraphs before the table itself. An asterisk would no longer be needed.

ANNEX 1, Table, Column 3, Row 2, second sentence, revise end of sentence to read as follows:

"…might choose a water phase salt barrier of at least 3% to 3.5% as **an additional barrier**."

Reason: To avoid the use of the term "precaution." That term has potential meaning that would be unintended in this context.

ANNEX 1, Table, Column 3, Row 5, revise to read as follows:

"5% Water Phase Salt **provides complete protection**"

Reason: To clarify the reason for 5% water phase salt in this situation.

ANNEX 1, Table, Column 4, Row 1, change to read as follows:
"This is the temperature range above frozen at which *C. botulinum* toxin cannot form. Temperature monitoring **is needed for** each package**, e.g. time temperature integrators, to ensure that the temperature does not exceed 3ºC."**

Reason: Clarification

ANNEX 1, Table, Column 4, Row 2, first sentence, revise to read as follows:

"**When these products are packaged aerobically, 5ºC is the maximum recommended** storage temperature for the control of pathogens and for quality."

Reason: Clarification

ANNEX 1, Table, Column 4, Row 3, change to read as follows:

"*C. botulinum* cannot form when product is frozen. **In the absence of adequate water phase salt,** toxin production can occur after thawing, so labeling information about the need **for the consumer** to keep **the product** frozen, to thaw **it** under refrigeration, and to use **it** immediately after thawing**,** is important."

Reason: Clarification

ANNEX 1, Table, Column 4, Row 5, revise to read as follows:

"**At these temperatures or higher** non-proteolytics (*C. botulinum*) are controlled **when water phase salt is 5%. Proteolytic strains of *C. botulinum* start growing above 10ºC, however.**

It should be noted that the temperature range of >5ºC to 10ºC is not recommended for smoked fish products because of the possibility of growth of other microorganisms. It is included in this Annex solely to provide information about attributes affecting *C. botulinum* toxin formation when packaging is reduced oxygen."

Reason: Clarification

ANNEX 1, first asterisk, first sentence, revise to read as follows:
"As an alternative to water phase salt, **certain time/temperature parameters can minimize the likelihood that *C. botulinum* will grow in the product**."

Reason: To clarify that this Annex refers to product attributes. The proposed revision would replace language that refers to "controls."

ANNEX 1, first asterisk, second paragraph, first sentence, revise to read as follows:

"However, in countries where consumer acceptance and regulatory enforcement of shelf life are not norms, continuous monitoring such as that provided by time/temperature integrators on consumer packages **can** be **an important adjunct to labeling in** the country where the product will be consumed."

Reason: To clarify that time/temperature integrators are a monitor of temperature and not a part of labeling.

ANNEX 1, first asterisk, both paragraphs, delete the asterisk and move both paragraphs to the introductory material before the table. They would be the second and third paragraphs of the introduction.

Reason: To emphasize the importance of shelf life considerations as described in these paragraphs. Shelf life is an important factor in some countries. The table itself does not address shelf life because the original workgroup that convened in Denmark concluded that the various possibilities for shelf life would be too difficult to capture within the table.

ANNEX 1, second asterisk, replace the double asterisk with a single asterisk

Reason: We have suggested moving the paragraphs contained under the first asterisk to the introductory paragraphs before the table so, the second asterisk would then be single rather than double.

ANNEX 1
Comment: If all the U.S. suggestions on the Annex are incorporated into the standard, a revised version of the Annex would read as follows (with the table on second page):

ANNEX 1
Combinations of Product Attributes that Minimize the Likelihood of *Clostridium botulinum* Toxin Formation

Countries where the products are to be consumed can be expected to make their science-based risk management choices within this framework, i.e., select some options and exclude others, based on conditions within the country (e.g., nature and enforcement of refrigeration and shelf life controls; transportation times and conditions; variability in amount of salt in the water phase that could occur despite best efforts to achieve a required percentage, etc.), and the level of protection that the country chooses for itself for this particular risk.

As an alternative to water phase salt, certain time/temperature parameters can minimize the likelihood that *C. botulinum* will grow in the product. *C botulinum* cannot grow and produce toxin at or below 3ºC. Other time/temperature combinations exist that similarly control the formation of toxin (Skinner,G.E. and Larkin,J.W. (1998) Conservative prediction of time to *Clostridium botulinum* toxin formation for use with time-temperature indicators to ensure the safety of foods. *Journal of Food Protection* **61**, 1154-1160). Where enforcement of shelf life as well as consumer acceptance of shelf life are norms, the country may select a system that relies on the combination of existing storage temperature conditions (i.e. during transport, retail storage, and consumer storage) and shelf life limitations.

However, in countries where consumer acceptance and regulatory enforcement of shelf life are not norms, continuous monitoring, such as that provided by time/temperature integrators on consumer packages can be an important adjunct to labeling in the country where the product will be consumed. The necessity for time/temperature integrators exists because, unlike freezing, temperature control through refrigeration is not a visual condition and cannot be determined without an additional monitoring control.