CODEX ALIMENTARIUS COMMISSION

Food and Agriculture Organization of the United Nations

World Health Organization

Viale delle Terme di Caracalla, 00153 Rome, Italy - Tel: (+39) 06 57051 - Fax: (+39) 06 5705 4593 - E-mail: codex@fao.org - www.codexalimentarius.org

Agenda Item 8 **CX/FFP 15/34/9 Add.1**

Original language only

JOINT FAO/WHO FOOD STANDARDS PROGRAMME

CODEX COMMITTEE ON FISH AND FISHERY PRODUCTS

Thirty-fourth Session

Ålesund, Norway

19 – 24 October 2015

CODE OF PRACTICE FOR FISH AND FISHERY PRODUCTS (OPTIONAL FINAL PRODUCT REQUIREMENTS FOR COMMODITIES/APPENDIX ON MAP)

Comments in reply to CL 2015/1-FFP submitted by India, Norway and the United States of America

INDIA

Appendix I Modified Atmosphere Packaging

Specific Comments:

Para 2: For White Fish….

The text may be modified as under:

For White**/Lean Fish…**

Rationale: "Whitefish" is a term commonly used in Northern America and Europe to refer to mostly bottom dwelling fishes having low fat content like cod, saithe, haddock, whiting, plaice, redfish, ling, hake, etc. This terminology is not very common in other parts of the world. EC regulation 2406/96 classifies 25 categories of fish under whitefish, namely Haddock, cod, saithe, pollack, redfish, whiting, ling, hake, Ray's bream, anglerfish, pouting and poor cod, bogue, picarel, conger, gurnard, mullet, plaice, megrim, sole , dab, lemon sole , flounder and scabbard fish. Going by this categorization, many of the tropical fish species with low fat content cannot be classified as whitefish.

The sentence "*For white fish gas mixtures containing 35-45% CO_2, 25-35% O_2 and 25-35% N_2 are recommended*" essentially refers to low fat content fishes only, which are otherwise known as lean fish. Therefore, we may include "white/lean fish".

Line 2, 5 and 6 of Para 2: Editorial corrections to CO_2, N_2 and O_2.

Last line of Para 2: Any reductions in this ration can result in an impaired shelf-life extension.

The text may be modified as under:

Last line of Para 2: Any reductions in this ~~ration~~ **ratio** can result in an impaired shelf-life extension.

Rationale: Typographical error.

Para 3: The extent to which the shelf-life…..

India suggests adding the following text:

The MAP product should be kept in chilled condition maintaining a temperature of 0-3^{0}C.

Rationale: The good process control for MAP should include the mandatory advisory of keeping the product below 3^{0}C during all stages of transportation and storage. This is essential to keep the Clostridium botulinum under check, which can otherwise germinate leading to formation of botulinum toxin making the product hazardous for human consumption.

Para 3:

Line 3: Determination of the shelf life of a particular product should be by a suitably qualified

person such as a food technologies or microbiologist.

The text may be modifies as under:

Determination of the shelf life of a particular product should be by a suitably qualified person such as a food ~~technologies~~ **technologist** or microbiologist.

Rationale: Typographical error.

APPENDIX III

OPTIONAL FINAL PRODUCT REQUIREMENTS- FRESH, FROZEN AND MINCED FISH

1.1 Quick Frozen Finfish, Uneviscerated and Eviscerated.

Defect:

c) Surface defects:

The following text may be added against Surface Defect under Recommended Defect Description:

Defect	Recommended Defect Description
c) Surface defects:	**Loose scales: Loosened scales on the surface**

Addition of following point after d)

e) Freezer Burn:	**Dry, white crumbly spots on frozen seafood caused by dehydration. A sign that either the fish has been in the freezer for a long time, or was not properly protected prior to freezing.**

1.2 Quick Frozen Fish Fillets

Defect	Recommended Defect Description
d) Skin and black membrane…..	Skinless fillets……..

The text may be modified as under:

d) **Presence of** skin and black membrane……	~~Skinless~~ **Presence of skin or black membrane in** fillets**…….**
e) Black Membrane or Belly Lining.....	Skin-on fillets…..

The text may be modified as under:

e) Black Membrane or Belly lining……	~~Skin-on~~ **Presence of black membranes or belly linings in** fillets…..
f) Scales: Attached to skin……	Skin-on fillets – scaled.....

The text may be modified as under:

f) **Scales attached to skin**	~~Skin-on fillets – scaled~~ **Presence of skin alongwith scales on the surface of skinless final products……..**
Loose Scales	**Skinless fillets with loose scales on surface, (**~~M~~**m**ore than 5, or…..**)**

Addition of following point after f):

Freezer Burn:	**Dry, white crumbly spots on frozen seafood caused by dehydration. A sign that either the fish has been in the freezer for a long time, or was not properly protected prior to freezing.**
k) Packaging Material	Each instance.

The text may be modified as under:

k) **Adhered** Packaging Material	**Presence of adhered packaging materials on the surface of the product.**
l) Viscera	Each instance of the internal organs.

The text may be modified as under:

l) Presence of Viscera	**Presence of viscera or parts thereof in the finished product**

1.3 Quick Frozen Blocks of Fish Fillet, Minced Fish Flesh and Mixtures of Fillets and Minced Fish Flesh.

f) Black Membrane or Belly Lining……..	Skin-on fillet blocks....

The text may be modified as under:

f) Black Membrane or Belly lining……	~~Skin on~~ **Presence of black membranes or belly linings in** fillet blocks…..
g) Scales (Attached to skin)……	Skin-on fillet blocks (scaled)……..

The text may be modified as under:

g) **Scales attached to skin**	**Presence of skin alongwith scales on the surface of skinless final products**
Loose Scales	**Skinless fillets with loose scales on surface(** ~~M~~**m**ore than 5, or…..**)**

Addition of following point after g)

Freezer Burn:	**Dry, white crumbly spots on frozen seafood caused by dehydration. A sign that either the fish has been in the freezer for a long time, or was not properly protected prior to freezing.**
l) Viscera	Each instance.

The text may be modified as under:

l) Presence of Viscera	**Presence of viscera or parts thereof in the finished product**.
m) Packaging Material	Each instance.

The text may be modified as under:

m) **Adhered** Packaging Material	**Presence of adhered packaging materials on the surface of the product.**

APPENDIX IV

OPTIONAL FINAL PRODUCT REQUIREMENTS- FORZEN SURIMI

1. Primary Quality Attribute

1.1.1. Moisture

The formula of moisture (%) may be modified as under:

$$\text{Moisture (\%)} = \frac{\text{Pre-dry weight (g) - After-dry weight (g)}}{\text{Pre-dry weight}} \textbf{ x 100}$$

Rationale: Typographical error.

1.1.2 pH.

The text may be modified as under:

10 g of the test sample is dispersed in 90 or 190 *ml* of distilled water…….

Rationale: more comprehensive.

1.1.3 Objectionable Matter

The text may be modified as under:

The term “objectionable matter” as used in this item shall mean skin, small bone and any ~~objectionable~~ matter other than fish meat.

Rationale: Repetition of the word “objectionable”.

1.2.1.1 Puncture Test:

B. Stuffing: Stuff a polyvinylidene chloride tube of 48 mm width (30mm in diameter), when flatten, with approximately 150 g (resulting in approximately 20 cm in length) of the meat paste by the use of a stuffer ……..

The text may be modified as under:

B. Stuffing: Stuff a polyvinylidene chloride tube of 48 mm width (30mm in diameter), when ~~flatten~~ **flattened**, with approximately 150 g (resulting in approximately 20 cm in length) of the meat paste by the use of a stuffer ……..

Rationale: typographical error.

2.1.1 Objectionable Matter (Scales)

Second line of the para: Filter the dissolved solution with filter paper (No.2), wash the residue with water, and then dry it at 105 for two hours.

The text may be modified as under:

Filter the dissolved solution with filter paper (No.2), wash the residue with water, and then dry it at 105^{0}**C** for two hours.

2.1.4 Crude Fat Content:

Second line of the Para:

Mash the material uniformly into dry powder, and put it in a cylindrical filter paper

The text may be modified as under:

Mash the material uniformly into dry powder, and put it in a ~~cylindrical filter paper~~ **thimble.**

Rationale: Including the terminology which is being used worldwide.

2.1.6 Pressure Induced Drip

Defrost 50 g of the test sample and put it in a circular cylinder of 35 mm inner diameter and 120-150 mm long made of stainless steel or synthetic resin and having 21 holes of 1.5 mm diameter distant 3 mm …….

The text may be modified as under:

Defrost 50 g of the test sample and put it in a circular cylinder of 35 mm inner diameter and 120-150 mm

Long**,** made of stainless steel or synthetic resin and having ~~21~~ **appropriate number of** holes of 1.5 mm diameter distant 3 mm …..

2.2.2.2 Expressible Moisture

The formula of Expressible Water (%) may be modified for Expressible Moisture (%) as under:

$$\textbf{Expressible Moisture (\%)} = \frac{\text{Pre-pressed weight (g)-after-pressed weight (g)}}{\text{Pre-pressed weight (g)}} \textbf{ x 100}$$

The formula of Water holding capacity (%) may be modified as under:

$$\textbf{Water holding capacity (\%)} = \frac{\text{Expressible water content (g)}}{\text{Total moisture content of pre-pressed sample}} \textbf{ x 100}$$

APPENDIX V

OPTIONAL FINAL PRODUCT REQUIREMENTS - COATED QF FISHERY PRODUCTS

India would like to modify the text in the following table under defect and recommended description:

Type of product	Defect	Recommended Description
Frozen state	**Incomplete or improper Coating**	**Fish sticks (fingers), portions or fillets where the surface is not completely covered by breading and**/or batter.
Thawed state	Presence of Skin and black membranes(does not include sub-cutaneous layer silver lining)	**Presence of skin or black membranes in product**, each piece greater than 3 cm2"
	Scales (attached to skin) Readily noticeable loose scales	**Presence of skin along with scales on the surface of skin less final products** **Readily noticeable loose scales,** More than 5 loose scales except in the case of hake fillets,10
	Presence of Viscera	**Presence of viscera or parts thereof in the finished product**

APPENDIX IX

OPTIONAL FINAL PRODUCT REQUIREMENTS - SHRIMPS & PRAWNS

A. FROZEN AND IQF PEEL AND DE-VEIN SHRIMPS OR PRAWN

QUALITY FACTOR

Determination of Grade (quality) by organoleptic analysis

The grade should be determined by examining the product in the frozen, thawed and cooked states, using the table of deduction:

India would like to add the following text:

The grade should be determined by examining the product in the frozen, thawed and cooked states, using the table of deduction**: Each sample shall be rated for overall quality as follows: The acceptance of the commodity is related to the grade based on the score of evaluation. A sample is of reject quality if the total score is above 25 (Grade D) or if the defective pieces are above the maximum tolerance limit for each of the factors even if the total score is 25 or below:**

Total score	Grade
Up to 10	A
10 20	B
21-25	C
Above 25	D

Rationale: The acceptance of the commodity is related to the grade based on the score of evaluation.

Dehydration:

India would like to amend the definition of the defect- "Dehydration" as under:

Dehydration: The loss of moisture from frozen products through evaporation. This may occur if the products are not properly glazed, packaged or stored. Deep dehydration adversely affects the appearance, surface texture and flavour of the product

Rationale: The definition is more explanatory and easy to comprehend.

Black spots:

India would like to like to amend the definition of the defect**- "Black spots" as under:**

Black spots: **Occurrence of black spot that affect the appearance of fresh shrimp.**

Rationale: more explanatory**.**

Extraneous material:

The text may be modified as under:

Extraneous material**/filth**

Rationale: Extraneous material includes filth also.

Broken:

The text may be modified as under:

Broken: **Peeled shrimp of less than four segments**

Rationale: more explanatory.

Evaluation of flavour and odour:

The text may be modified as under:

For the evaluation of odour**,** hold the shrimps or prawns close to the nose for evaluation. If the results of the raw odour evaluation indicate the existence of any off-odour~~s~~, the sample shall be cooked ~~to verify~~ **and** the flavour and odour **be verified.**

~~**Steam method:**~~ **For cooking,** ~~P~~put the sample in a plastic bag, place on a wire rack suspended over boiling water in a covered container and steam for 5 to10 minutes.

India would like to include some additional definitions of defects in the Standard which is as under:

Discoloration: Loss of natural original characteristic colour of shrimp/meat. In many cases the discoloration is due to oxidation of pigment

Deterioration: Decomposed odour/smell when the shrimp is squeezed and held near the nose of the inspecting person

Objectionable foreign matter: Fly, other insects, hair, sand, saw dust, metallic pieces, glass pieces etc.

Hanging Meat: **Attachment of any portion of cephalothorax (head) to the edible portion.**

Non-Uniformity: **Describes the variation between the net weight of the individual pieces and the average weight of the pieces. Variation upto 25% can be considered as uniform.**

Extraneous material/Filth: All the material present in the pack that is n't part of shrimps or prawn and is not dangerous.

Rationale: to make the draft more comprehensive with regard to definition of defects.

Examination for physical defects:

The text may be modified as:

Shrimps or prawns in the sample should be examined for defects (factors) as given below by organoleptic analysis based on the number of pieces:

India has suggested the following modifications in the Schedule of Point Deductions per Sample:

Product State	**Factor scored**	**Method of determining score**	**Deduct**	**Max tolerance for score**	**Max tolerance for Limit**
Frozen	Dehydration	**Nil** **Upto 5%** **From 5.1%to 20% for each additional 5%** **More than 20% for each additional 5%**	**0** **1** **2** **4**	**7**	**20%**
Thaw	Black spot only in shell	Absence **5% or part thereof by count**	0 2		
	Black spot in meat	Absence **5% or part thereof by count**	0 **2**	**2 peeled**	**5% peeled**
	Broken, damaged and pieces	Nil **Each 5% additional or less**	0 **2**	10	10%

	Dehydration	**Nil** **Upto 5%** **From 5.1% to 20% for each additional 5%** **More than 20% for each additional 5%**	**0** **1** **2** **4**		
	Discoloration – shell & meat	**Absence** **Upto 2% by count** **Above 2% up to 5% by count** **Above 5% for each addl 5% thereof by count**	**0** **2** **4** **2**	**10**	**20%**
	Heads and unacceptable Shrimps or prawns	**Upto 2%** **Each 2% additional or part thereof by count**	**0** **1**	**8**	**10%**
	Extraneous material, not dangerous	1 piece 2 pieces **3- 10 piece** **Over 10 piece for each addl 4 piece**	1 2 5 2		
	Uniformity of size	**Non uniform piece - nil** **Each 2% of part thereof by count.**	**0** **1**	**5**	**10%**
	Deterioration	**Nil** **Up to 2% by count** **Above 2% upto 5% by count**	**0** **2** **6** **21**	**6**	**5%**
	Inappropriate peel and de-vein	Absence Over1%;not over 6% Over6.1%;not over10% More than10%	0 1 2 4		
Cooked	Texture	Slight **toughness** Moderate **toughness** Excessive **toughness**	2 4 **11**	**4**	
	Odour	Characteristic **Slight Unpleasant**	0 **2**	**0**	

Rationale: The scoring system evolved in India over the past 50 years is adopted by the industry and has been taken as bench mark by USA and EU for the purpose of trade and generally addresses the requirements as far as shrimp is concerned.

APPENDIX XI

OPTIONAL FINAL PRODUCT REQUIREMENTS – CANNED FISH

1. Canned finfish

Defects:

a) Drained or Washed Drained

Weight

The text may be modified as under:

a) **Insufficient** Drained or Washed Drained Weight

Rationale: Simply writing drained or washed drained weight does not specifically describe a defect.

b) Appearance

Defect: Dressed Fish and Cutlets in Various Packaging Media

Recommended Defect Description: Cutting, Trimming and Evisceration

The text may be modified as under:

Recommended Defect Description: **Improper** Cutting, Trimming and Evisceration.

Rationale: Simply writing Cutting, Trimming and Evisceration does not specifically describe a defect.

Defect: Fillets, Bits, and Flakes in Various Packing Media

Recommended Defect Description: Cutting and Trimming

The text may be modified as under:

Recommended Defect Description: **Improper** Cutting, Trimming.

Rationale: Using the word "Improper" describes the defect.

Defect : Fill of Container

The text may be modified as under:

Defect: **Improper/ Insufficient** Fill of Container **for Fillets**

Rationale: Improper/ insufficient describes the defect.

2. Canned sardines and sardine-type products

Defect: Exuded water (oil packs only)

Recommended Defect Description: Water content expressed as % of net contents of can

The text may be modified as under:

Water content expressed as % of net contents of can

(i) Fish packed in oil >8%

(ii) Fish packed in oil with own juice >12%

Rationale: The information provided in the document was incomplete. %age was not expressed.

4. Canned salmon

Defect:

The text may be included after a) Appearance, under point (iii)

Defect

(iii) Non characteristic filling media

Rationale: As point (iii) under the Recommended Defect Description does not include the defect, therefore defect should be stated as **Non characteristic filling media.**

Defect: b) Bones

The text may be modified as under:

Defect: b) **Presence** of Bones

Rationale: Using the word "Presence" describes a defect.

Defect: c) Colour of flesh

The text may be modified as under:

Defect: c) **Non characteristic** Colour of Flesh

Rationale: Using the word – Non characteristic describes the defect.

NORWAY

1. General comments

We have three general points we would like to raise:

Firstly, in principle Norway supports removing the appendices for Optional Final Product Requirements from the Code of Practice for Fish and Fishery Products (CAC/RCP 52-2003).

Reason: Codex texts should focus on protecting consumer health and those essential quality factors, and not on quality issues of commercial nature used between buyers and sellers. Codex documents should also ensure fair practices in the food trade.

However, secondly, relevant information in the appendices should be inserted into appropriate sections in the Code of Practice or in relevant standards. Norway has specific proposals with regard to salted fish, see comments below.

Reason: In line with how it is done in the introductory part of section 15- Processing of Cephalopods in the Code, relevant product information and description could be supplementary to the Codex standards, might assist those who are engaged in handling, production and trade of fish and fishery products. Furthermore it might facilitate trade and should therefore still be included in Codex text.

At last, regarding Appendix I - Modified Atmosphere Packing (MAP), we support to continue working on this Appendix as agreed upon at CCFFP32 in 2012.

2. Specific comments on Appendix I – Modified atmosphere packaging (MAP)

GOOD PROCESS CONTROLS ARE ESSENTIAL WHEN PACKING FILLETS AND SIMILAR PRODUCTS IN A MODIFIED ATMOSPHERE

Modified atmosphere packing (MAP), in which the composition of the atmosphere surrounding the fillet is different from the normal composition of air, can be an effective technique for delaying microbial spoilage and oxidative rancidity in fish. **The composition of the atmosphere can be changed either by adding a specific gas mixture or by removing the air by vacuum packaging or skin packaging. By skin packaging a film is sealed on top of the tray or the bottom web obtaining a similar condition as vacuum packaging.**

For white fish gas mixtures containing **CO_2 added O_2 and/or N_2 are recommended. The composition of the gas mixture may vary a lot (the ranges may be, but not limited to** 35-**60** ~~45~~% CO_2, 25-**60** ~~35~~% O_2 and 25-**40** ~~35~~% N_2 ~~are~~). ~~recommended.~~Gas mixtures containing **CO_2 and** ~~up to 60% CO2 in combination solely with~~ N_2 are recommended for oily fish **(40-60% CO_2 and 60-40% N_2). Other concentrations of these gases can be used both for white fish and oily fish. O_2 is preferentially excluded from oily fish in MA packs so as to inhibit oxidative rancidity.** The inclusion of CO_2 is necessary for inhibiting common aerobic spoilage bacteria such as *Pseudomonas* species and *Acinetobacter/Moraxella* species. **By use of MAP spoilage bacteria like Photobacterium can grow.** However, retail packs of fillets or similar products, **with a** too high a proportion of **CO_2** ~~CO2~~ **of** ~~in~~ the **internal** gas mixture can induce pack collapse **and** excessive drip. **Too long storage time** ~~and~~may cause bleaching. Other gases, **N_2** ~~N2~~and **O_2**~~O2~~, are included as diluents to prevent these effects. ~~O2 is preferentially excluded from oily fish in MA packs so as to inhibit oxidative rancidity.~~A gas/product **volume** ratio~~n~~ of 3:1 is commonly recommended. Any reductions in this ration can result in an impaired shelf-life extension. **Use of for example CO_2 emitter (a liquid absorber that develops CO_2 gas inside the package) allow for increasing the amount of product and can also prevent pack collapse.**

The extent to which the shelf-life of the product can be extended by MAP will depend on the species, fat content, initial bacterial load, gas mixture, **gas/product ratio**, type of packaging material and, especially important, the temperature of storage. Determination of the shelf life of a particular product should be **performed** by a ~~suitably~~ qualified person ~~such as a food technologies or microbiologist~~ **and by use of recommended methods**. Since fish can be contaminated with *Clostridium botulinum* type E great care has to be exercised when determining the shelf life. Although it is generally accepted that *Clostridium botulinum* does not grow at temperatures below +3^{o}C other factors, e.g. salt content or pH etc. can also have an inhibitory effect. Thus when determining the shelf life of MAP fresh fish it is advisable to do challenge tests on the product which accurately reflect the product conditions and storage and distribution environment. It is very important to note that the inclusion of O_2 does not preclude the growth of *Clostridium botulinum* type E and temperature control throughout the shelf life of the product is very important. In many circumstances it is considered undesirable to use ice to cool these packs and therefore mechanical refrigeration methods are preferred.

Seal integrity of MA packs is a critical control point since it determines whether a MA pack is susceptible to external microbial contamination and air dilution of the gas mixture. Essential checks on heat sealing should

include proper alignment of the sealing heads or jaws, dwell time, temperature, pressure and machine speed. Great care should be taken to ensure that the seal area is not contaminated with product, product drip or moisture since seal integrity may be reduced. In addition, the quality of the film used is important, particularly with regard to gas permeability, and only film with a clearly defined specification from reputable manufacturers should be used.

Maintenance of the correct gas mixture injected into MA packs is essential to ensure product quality, appearance and shelf life extension. For these reasons routine gas analysis of MA packs should be included as part of the process control. Analysis of the gases within MA packs can indicate faults with seal integrity, MA materials, MAP machinery or gas mixing prior to flushing. The use of continuous gas analysers is recommended. Immediate gas analysis following packing is necessary as CO_2 absorption takes place rapidly.

3. Specific comments on Appendix VI - Optional products requirements for salted fish

Part 1 of the Appendix VI is already adopted as Optional requirements – Salted fish in the Code (CAC/RCP 52-2003). We would like to keep this part, but moving it to the introductory part of Section 11 – Processing of salted and dried salted fish in the Code.

Reason: Relevant information already adopted as Codex text, should still be in the Code as it might facilitate trade. This would be in line with the introductory part of Section 15 - Processing of Cephalopods in the Code.

1. The introductory part

We suggest inserting the introductory part of Appendix VI into a new paragraph XXX, in Section 11 in the Code.

These products specifications describe the optional defects for salted fish. The descriptions of optional defects will assist buyers and sellers in describing those defect provisions. These descriptions are optional and are in addition to the essential requirements prescribed in the appropriate Codex product standards.

2. Section 1 Product designation of salted fish of Gadidae family

We suggest amending the text and inserting it into a new paragraph XX in Section 11 in the Code.

~~Products from the following species~~ **Product designation of salted fish from the mentioned species**, all belonging to the Gadidae family **with reference to the Codex Standard for salted fish and dried salted fish of the Gadidae family of fishes (CODEX STAN 167-1989**), **are products** that have been bled, gutted, beheaded and split so that approximately two-thirds of the backbone is removed, washed and fully saturated with salt. Salted fish used for production of dried salted fish shall have reached 95-percent salt saturation prior to drying.

3. The table in Section 1

We suggest writing the table as sentences in a new paragraph X in Section 11 in the Code as already done in Section 15 - Processing of Cephalopods.

This section applies to fresh, salted and dried salted fish of the following species, all belonging to the Gadidae family, Cod (*Gadus morhua*), Pacific cod (*Gadus macrocephalus*), Polar cod (*Boreogadus saida*), Greenland cod (*Gadus ogac*), Saithe (*Pollachius virens*), Ling (*Molva molva*), Blue ling (*Molva dypterygia*), Tusk (*Brosme brosme*), Haddock (*Gadus aeglefinus/Melanogrammus aeglefinus),* Forkbeard (*Phycis blennoides)* and Pollock (*Pollachius pollachius*) **intended for human consumption.**

4. The last paragraphs of Part I Quality classification can be deleted.

Reason: These are not essential for consumer protection or as quality factors, but quality issues of commercial nature used between buyers and sellers.

The introductory part of Section 11 - Processing of salted and dried salted fish, is then to read with the text moved from Appendix VI:

SECTION 11 – PROCESSING OF SALTED AND DRIED SALTED FISH

In the context of recognizing controls at individual processing steps, this section provides examples of potential hazards and defects and describes technological guidelines that can be used to develop control measures and corrective action. At a particular step, only the hazards and defects that are likely to be introduced or controlled at that step are listed. It should be recognized that in preparing an HACCP and/or DAP plan it is essential to consult Section 5, which provides guidance for the application of the principles of HACCP and DAP analysis. However, within the scope of this Code, it is not possible to give details of critical

limits, monitoring, record-keeping and verification for each of the steps as these are specific to particular hazards and defects.

This section applies to fresh, salted and dried salted fish of the following species, all belonging to the Gadidae family, Cod (*Gadus morhua*), Pacific cod (*Gadus macrocephalus*), Polar cod (*Boreogadus saida*), Greenland cod (*Gadus ogac*), Saithe (*Pollachius virens*), Ling (*Molva molva*), Blue ling (*Molva dypterygia*), Tusk (*Brosme brosme*), Haddock (*Gadus aeglefinus/Melanogrammus aeglefinus*), Forkbeard (*Phycis blennoides*) and Pollock (*Pollachius pollachius*) intended for human consumption.

Salted fish and fish products and dried salted fish and fish products (i.e. klippfish) should be sound and wholesome, well prepared and packaged so that they will be protected from contamination and remain attractive and safe to eat. In order to maintain the quality of fish, it is important to adopt quick, careful and efficient handling procedures.

Product designation of salted fish from the mentioned species, all belonging to the Gadidae family with reference to the *Codex Standard for salted fish and dried salted fish of the Gadidae family of fishes* (CODEX STAN 167-1989), are products that have been bled, gutted, beheaded and split so that approximately two-thirds of the backbone is removed, washed and fully saturated with salt. Salted fish used for production of dried salted fish shall have reached 95-percent salt saturation prior to drying.

These products specifications describe the optional defects for salted fish. The descriptions of optional defects will assist buyers and sellers in describing those defect provisions. These descriptions are optional and are in addition to the essential requirements prescribed in the appropriate Codex product standards.

4. Specific comments on other Appendices in the Code

Norway has no further comments other than the general comment.

UNITED STATES OF AMERICA

(i) General Comments

The Appendices contain defect definitions and analytical methods, but do not contain "product requirements." The headings should be revised accordingly to avoid confusion.

It is understood that appendices can be moved to the FAO website (CCFFP 33), however they would still need to be completed and they contain essential quality information that is relevant to CCFFP objectives and would be better located within Codex documents.

Many of the quality factors are widely used in trade to determine acceptability of shipments. If a commodity is customarily rejected in trade for an unacceptable level of a defect, then that defect is an essential quality factor. The Codex Procedural Manual (Section II – Elaboration of Codex Texts) states that essential quality factors should be included in the commodity standard and references to tolerances for defects should be included in an appendix.

Some of the quality criteria removed from standards are not essential, such as the grading schedules, however many of the quality defects in the Appendices are essential at some level and should be reconsidered for inclusion in commodity standards.

The essential quality factor definitions and methods should at least be retained in the COP without limits in order to help standardize the terms and methods used in international trade. This information can also be used when reviewing and updating commodity standards.

The defect provisions in commodity standards and their sampling and acceptance criteria have opportunity for improvement and should be reviewed in conjunction with work on the Appendices. Commodity standards have a broader purpose than public health regulations, which are primarily concerned with consumer protection. The primary use for commodity standards is to standardize a widely traded commodity product to a minimal acceptable quality for fair trade. Commodity standards refer to cross-cutting general standards for food safety provisions. The commodity standard is needed for the essential quality provisions, and should contain limits for all essential quality factors.

(ii) Specific Comments for Appendices I, III, IV, V, VI, VII, IX and XI

Appendix I, Modified Atmosphere Packaging

The United States supports the concept of providing guidance on Modified Atmosphere Packaging (MAP), however the scope of Appendix I should be clarified.

MAP guidance is important for the control of *Clostridium botulinum*, and was covered in detail in the *Standard for Smoked Fish, Smoke-Flavoured Fish and Smoke-dried Fish* (CODEX STAN 311-2013). Therefore, the context for Appendix I is not clear. Should Appendix I attempt to cover all fish and fishery products, or should fish covered by a commodity standard have MAP / *C. botulinum* guidance within the standard?

Appendix III, Fresh, Frozen and Minced Fish

General comments

This section contains definitions for essential quality defects. These definitions are the common framework used by buyers and sellers to agree on product quality. They should be included within Codex to standardize trade terminology and expectations.

The levels of these defects are essential to final product acceptability, and this information should be included in the appropriate commodity standards. However, until commodity standards are reviewed, the United States agrees with the previous decision to list the defects without limits in the Code of Practice as an appendix or in Section 8 of the COP.

Appendix III is nearly complete, and we support its inclusion with the specific comments below.

Specific comments

Title

Comment: Revise as follows:

OPTIONAL ~~FINAL PRODUCT REQUIREMENTS –~~ **QUALITY ASSESSMENT TERMINOLOGY FOR** FRESH, FROZEN AND MINCED FISH

Rationale: The document contains quality assessment terms and their definitions. It does not contain product requirements (i.e., there are no limits.)

Introduction

Comment: Revise as follows:

> ~~These end product specifications describe the optional defects for quick frozen fish. The descriptions of optional defects will assist buyers and sellers in describing those defect provisions, which are often used in commercial transactions or in designing specifications for final products.~~
>
> The following **quality assessment terms and** definitions are ~~recommendations~~ for **optional** use by purchasers ~~or~~ **and** sellers of quick frozen fish in designing specifications for final product. ~~These specifications are optional and are in addition to the essential requirements prescribed in the appropriate Codex Product Standards and may be appropriately applied for purchases or sales of fresh fish.~~

Rationale: The defect terms and definitions are not specifications, but are used to design and interpret specifications.

1.2 Quick Frozen Fish Fillets - j) Bones

Comment: Revise as follows:

> Any bone greater than or equal to 10 mm in length or with a diameter greater than or equal to 1 mm; any bone ~~greater~~ **less** than or equal to 5 mm in length is not to be considered if the diameter is not greater than or equal to 2 mm. The foot of a bone (where it has been attached to the vertebra) shall be disregarded if its width is less than or equal to 2 mm or if it can be easily stripped off by a finger nail**.**

Rationale: Correction, from standard.

1.3 Quick Frozen Blocks, etc - a) Block irregularity (applies only to blocks intended for cutting into cores for fish slices or portions)

Comment: Revise as follows:

> Deviation from declared (nominal) dimensions:
>
> Length, width and thickness
>
> (i) Over 5mm in any dimension.
>
> (ii) Edges (formed by two surfaces)

A gap greater than 10 mm between the actual and ~~true~~ **declared** edge.

(iii) Angles (formed by three edges)

A gap greater than 10 mm between the actual and ~~true~~ **declared** corner.

Rationale: "Actual" and "true" mean the same thing.

Appendix IV, Frozen Surimi

General comments

This section contains the methods necessary to determine the essential quality factors for surimi (e.g. moisture content, pH, gel strength, deformability, objectionable matter, cooked color.) These criteria could be used to create a surimi standard. Note that Section 9 (Processing of Frozen Surimi) of the Code references this appendix for additional information on quality factors.

This section is the result of much work by one or more surimi experts; however, it is in draft condition and needs further work. We recommend that CCFFP complete work on this section when time permits. It can go in the COP, either as an appendix or in Section 9. If a surimi standard is developed, the methods could be included in an annex.

Specific comments

Title

Comment: Revise as follows:

OPTIONAL ~~FINAL PRODUCT REQUIREMENTS –~~ **METHODS FOR TESTING QUALITY ATTRIBUTES OF** FROZEN SURIMI

Rationale: The document contains surimi test methods, but does not contain product requirements.

Introduction

Comment: Revise first paragraph as follows:

> These **testing methods for surimi quality attributes** ~~end product specifications describe the optional defects for frozen surimi. The descriptions of optional defects~~ will assist buyers and sellers in describing **and measuring** those ~~defect provisions~~ **quality attributes** which are often used in commercial transactions ~~or in designing~~ **and** specifications for final products.

Rationale: The defect definitions are not specifications, but are the methods used to measure surimi essential quality factors.

Appendix V, Coated QF Fishery Products

General comments

This section contains definitions for essential quality defects. Excess levels of any of these defects (e.g., broken, coating voids, deep dehydration) would render breaded products unacceptable in international trade. Note that this section is referenced in the COP, Section 10.2 (Processing of Quick-Frozen Coated Fish Products.)

This section needs more work. For example, the definition for "size uniformity" is vague, and a more precise term and definition is needed for "coatings."

- The United States recommends completing work on this section and retaining it in the Code of Practice (either as an appendix or in Section 10). Ideally, limits for these essential quality factors should be reconsidered for the *Standard for Quick Frozen Fish Sticks (Fish Fingers), Fish Portions and Fish Fillets – Breaded or in Batter* (Codex Stan 166-1989.)

Specific comments

Title

Comment: Revise as follows:

OPTIONAL ~~FINAL PRODUCT REQUIREMENTS –~~ **QUALITY ASSESSMENT TERMINOLOGY FOR** COATED Q**UICK** F**ROZEN** FISHERY ~~-~~PRODUCTS

Rationale: The section contains terms and definitions, but does not contain product requirements. Note that it is not clear if this section applies to all fishery products because breaded shrimp are covered in a later section.

Introduction

Comment: Add introduction as follows:

> **The following quality assessment terms and definitions are for optional use by purchasers and sellers of coated quick frozen fishery products in designing final product specifications.**

Rationale: Introduction aligned with Appendix III.

Appendix VI, Salted Fish

General comments

The United States does not support inclusion of the quality classification grades (imperial/superior, universal, and popular.) Some of these criteria are imprecise and subjective, for example, "…somewhat larger defects will be tolerated if the overall impression justifies this…" In addition, many of the quality defects are covered in a more quantitative manner in the *Standard for Salted Fish and Dried Salted Fish of the Gadidae Family of Fishes* (CODEX STAN 167-1989.)

Specific comments

Title and introductory paragraph

Comment: Revise as follows:

APPENDIX VI

~~OPTIONAL FINAL PRODUCT REQUIREMENTS - SALTED FISH~~

> ~~These products specifications describe the optional defects for salted fish. The descriptions of optional defects will assist buyers and sellers in describing those defect provisions. These descriptions are optional and are in addition to the essential requirements prescribed in the appropriate Codex product standards.~~

~~1.~~ PRODUCT DESIGNATION OF SALTED FISH OF GADIDAE FAMILY

Rationale: If the grade classifications are excluded, then the title of Part 1 can be used as the appendix title. Alternatively, move the table of names to the Salt Cod Standard, and remove the appendix.

Appendix VIII – Lobsters and Crabs

General comment

This section applies to lobsters, but appears to anticipate the development of a crab standard.

Three of the defects listed in this section are essential quality factors that are as important as those listed in the *Codex Standard for Quick Frozen Lobsters* (CODEX STAN 95-1981.) Unacceptable "damage" and unacceptable (mushy) cooked "texture" are two of the most common reasons for rejecting frozen lobster shipments. "Soft shell" (due to recent molting) is a less frequent defect that can cause unacceptable product.

Note that the *Standard for Quick Frozen Lobsters*, contains inconsistencies with the "sample unit" and the defect definitions for "deep dehydration" and "discoloration."

We recommend reviewing the defect definitions in the Lobster Standard, and including definitions for "damaged", "soft shell" and "texture," and then Appendix VIII would not be needed.

Specific comments

Quick Frozen Lobsters

Comment: Edit as follows:

Defect	**Recommended Defect Description**
~~a)Appearance~~	~~(i) Not easily separated without thawing when labelled as individually quick frozen.~~
	~~(iii) Colour not generally uniform and non characteristic of the product, species and habitat or areas from which harvested~~
	~~(iii) In the case of products in the shell, the shell is not firm and is broken~~
b) Damaged	Broken telson **(less than two thirds remaining)**, ~~cuts or scars penetrating the shell~~, crushed or **obviously** cracked shell.

c) Soft Shell The shell is easily flexed by hand.

~~d) Opacity The raw meat is not characteristically translucent. (% affected by weight)~~

e) Texture The meat ~~of lobster, rock lobsters, spiny lobsters and slipper lobsters~~ is **objectionably** tough, fibrous, mushy or gelatinous. ~~(% affected by weight)~~.

Rationale:

a) Appearance:

(i) Ease of separation is not an essential quality factor because frozen lobster tails are easily separated when running under cold water to remove glaze before preparation.

(ii) Color of shell and meat is already covered in the Standard.

(iii) Broken and soft shell is covered under (b) and (c).

b) Damaged: The telson (considered part of the presentation) is fragile and can break with poor packaging or rough handling. This is the most common cause for unacceptable broken. If two thirds of the telson is still attached to an individual tail, it may still be considered marginally acceptable. "Scars" are covered by shell discoloration in the Standard. "Cuts" are the same as "cracked shell."

c) Soft Shell: A soft leathery shell when cooked causes consumer complaints. It is an essential quality factor unrelated to harvesting/processing practices.

d) Opacity: Opaque meat may be caused by surface dehydration, which is covered in the Standard. Otherwise, the meat will become opaque when cooked anyway, and if order, flavor, and texture are acceptable this is not an essentially quality factor.

e) Texture: Sometimes lobster tails can turn to mush and almost completely disintegrate when cooked. The cause is not clear. Mushy meat is generally inedible and is an essential quality factor. Percent affected by weight is not applicable to the sample unit of an individual lobster tail, or to the portion cooked when examining lobster meat.

Appendix IX – Shrimps & Prawns

General comment

We recommend retaining definitions for "black spot", "texture", "broken", "pieces", "uniformity", and "veins" in the COP because these are essential quality factors for shrimp trade that should be defined within Codex. Some definitions (e.g. broken, pieces, uniformity, and veins) differ with product form or size, and this section needs more work.

Minimum levels for these essential quality factors should be included in the *Standard for Quick Frozen Shrimps and Prawns* (CODEX STAN 92-1981), without multiple grades. The Standard also needs work on the black spot provision because it does not differentiate between black spot on the shell and black spot on the meat.

The grading schedule for frozen and breaded shrimp provides useful information, but it is complex and requires agreement on 1st and 2nd quality. This differentiation is not widely used in trade and we do not support its inclusion.

The information on "Evaluation of flavour and odour" is already covered in the Standard and is not needed.

The "determination of grade" for breaded shrimp is useful for determining simpler defect definitions for breaded shrimp. Creating a commodity standard for breaded shrimp is a consideration.

Specific comment

Comment: Starting recommended revisions:

APPENDIX IX

OPTIONAL ~~FINAL PRODUCT REQUIREMENTS~~ – **QUALITY ASSESSMENT TERMINOLOGY FOR** SHRIMPS & PRAWNS

Objectionable ~~T~~**t**exture: Excessively tough or rubbery, has marked tendency to form a fibrous mass in the mouth, or is very dry or very mushy.

Objectionable ~~B~~black spot~~s~~ **on shell**: ~~The shell and/or meat of the shrimps or prawns should be absent of black spots that affect the appearance.~~ **Aggregate areas of non-penetrating surface black spot on the shell that is equal to or greater than the area of the smallest segment.**

Objectionable black spot on meat: Areas of visible black spot on the meat or that penetrate the flesh of the meat.

Rationale: Texture and black spot are essential quality factors. Black spot on the meat is different from black spot on the shell.

Appendix XI – Canned Fish

General comment

This section contains several essential quality factor definitions that should be retained without limits in the COP, or with limits in the applicable commodity standard.

It should be considered if the minimum percentage fish in the can (1.a) is an important quality parameter for standardized canned fish.

The United States can support continued work on essential quality factors for canned products.