



JOINT FAO/WHO FOOD STANDARDS PROGRAMME
CODEX COMMITTEE ON FISH AND FISHERY PRODUCTS
Thirty-second Session
Bali, Indonesia
1 – 5 October 2012

DRAFT STANDARD FOR SMOKED FISH, SMOKE-FLAVOURED FISH AND SMOKE-DRIED FISH
SECTION 4 FOOD ADDITIVES

(At Step 6 of the Procedure)

Prepared by the Electronic Working Group led by the United States of America and the European Union

Governments and interested international organizations are invited to submit comments on the attached Draft Section 4 Food Additives (*see Appendix I*) and should do so in writing in conformity with the Uniform Procedure for the Elaboration of Codex Standards and Related Texts (*see Procedural Manual of the Codex Alimentarius Commission*) to: the Secretariat, Codex Alimentarius Commission, Joint WHO/FAO Food Standards Programme, FAO, Viale delle Terme di Caracalla, 00153 Rome, Italy, by email codex@fao.org with a copy to Codex Contact Point, Norwegian Food Control Authority, P.O. Box 8187 Dep. 0034 Oslo, Norway, Email: ccffp@mattilsynet.no by **31 August 2012**.

BACKGROUND

In preparation for the 32nd Session of the CCFFP, the European Union and the United States of America co-chaired the EWG on Food Additive Provisions in Standards for Fish and Fishery Products. Nineteen countries and 3 organizations expressed interest in participating in the EWG¹.

The primary mandate for the working group was to develop proposed food additive provisions for the Draft Standard for Smoked Fish, Smoke-Flavoured Fish and Smoke-Dried Fish, currently at Step 7 and waiting the completion of the food additive section. The EWG chairs consulted with the smoked fish industry, government and academic authorities, and the Codex General Standard for Food Additives, and drafted a proposal for food additive provisions that was sent to EWG participants June 15, 2012, with comments due July 15, 2012. Comments were received from five member countries/organization (European Union, France, Poland, South Africa, United Kingdom, and United States), and one observer (International Food Additives Council). The EWG would like to thank these participants for their help.

The Proposed Smoked Fish Additive Provisions were revised in response to the comments. The Revised Proposed Smoked Fish Additive Provisions are contained in Appendix 1 of this report. The comments received are summarized below with the revision made and/or recommendations.

¹ Members of EWG: Antigua and Barbuda, Argentina, Australia, Equator, Egypt, European Union, France, Germany, Hungary, Ireland, Japan, Mauritius, Moldova, New Zealand, Norway, Poland, South Africa, Spain, Thailand, United Kingdom, United States of America, CEFIC, IFAC, FAO.

General comments

1. Two members commented that the proposed provisions should include technological justifications for each additive selected as agreed to at the In-Session Working Group on Food Additives (CCFFP/31 CRD 30 – Tromsø 2011).

Recommendation: Consider if more work is needed to improve the technological justifications for the food additive provisions.

2. One member suggested that the additive provisions should be separated into three sections for each of the smoked fish products in the Draft Standard (smoked, smoke-flavoured and smoke dried) because the technological needs and justifications are different for each product.

Revision/Recommendation: The proposed provisions were separated by food type accordingly. We assumed that 'smoked-dried fish' was intended to cover the traditional product and required no additives. We received little information on food additives used in smoke-flavoured fish. We recommend considering if further work is needed on additive needs for smoke-flavoured fish.

3. One member suggested that the term 'GMP' needs an explanatory note such as, *GMP means that no maximum numerical level is specified and substances shall be used in accordance with good manufacturing practice, at a level not higher than is necessary to achieve the intended purpose, provided the consumer is not misled.*

Revision: The explanatory paragraph in the Heading of the Proposed Provisions was revised to explain the term GMP.

Acidity Regulators and Antioxidants

4. One member commented that the Codex Committee on Food Additives (CCFA) Working Group on the General Standard (March 2012) recommended that the technological justification for acidity regulators should be evaluated on a case by case basis for food category 09.2.5 (smoked fish) because these additives can be used for other functions, including preservation, colour retention, water retention, and flavour enhancement, which could mislead the customer (e.g., carbonates E500 to E504, erythorbate acid, sodium erythorbate).

Revision: The general references to GSFA Table 3 for 'acidity regulators' and 'antioxidants' was replaced with the specific additives reported to be used by smoked fish processors. Acidity regulators included: acetic acid, glacial, citric acid and sodium lactate. Antioxidants included: sodium ascorbate, sodium erythorbate, and sodium lactate. Sodium erythorbate, which was specifically mentioned in the above comment, was put in brackets pending further review and discussion.

Carriers

5. Two members commented that it is not necessary to list 'carriers' (maltodextrin) in additive provisions because they are not considered a food additive.

Revision: 'Maltodextrin', used to add smoke flavours, was placed in brackets pending further confirmation for removal.

Colours

6. Two members asked for technological justifications for some of the colours, including brilliant blue, tartrazine, and allura red AC.

No action taken/Recommendation: These three colours are used by some smoked fish processors. We recommend considering further review of their technological justification.

7. One member noted that sunset yellow has an EFSA recommended reduction in ADI. One member noted that all the colours listed in the Proposed Provisions are permitted in the EU for use in smoked fish at a maximum level of 100 mg/kg, singly or in combination, and that the proposed level for allura red (300 mg/kg) is higher than permitted in the EU.

No action taken: Note that CCFFP should consider non-safety factors when proposing a higher or lower level than adopted in the GSFA for safety. Non-safety factors would include, for example, the minimum

level required to achieve the technological purpose without affecting the standardized quality, or causing consumer deception.

8. One member noted that allura red AC has an EFSA notice indicating it is carcinogenic in dogs and cats. One member noted that after June 2013, sunset yellow, brilliant blue and allura red will no longer be permitted in the EU; only tartrazine will be permitted.

No action taken: Safety of food additives adopted into the GSFA for food category 09.2.5 has already been agreed under Codex procedure. CCFFP can include or exclude specific additives for standardized foods based on technological need, quality, consumer expectations, etc.

9. Four members requested the addition of annatto extracts, bixin-based. One member indicated a maximum level of 25 mg/kg, while another member noted that the level should be 10 mg/kg. One member submitted the following technological justification for inclusion of annatto extracts:

Historically smoking was used as a preservation method for fish. Fish was held for many hours in a smoke filled environment and after that process the fish could be stored for long periods. The process itself imparted a smoky flavour and brown colour to the fish. Although these two attributes could be considered a by-product of the preservation process, over time the consumer came to like this as characterizing the smoked fish product.

With the advent of canning, refrigeration and freezing, which more closely retained the natural attributes of fresh fish the need for smoking as a preservative fell away. Nevertheless the consumer liking for the taste and appearance of smoked fish products remained and today these products are still popular internationally.

Over time the fish smoking process has changed. The smoke flavour that was imparted to the product by many hours of smoking, is now achieved by holding the fish for just a few hours in a smoky environment (or alternatively by treating the fish with a smoke flavour). However this process does not achieve the “traditional” brown colour of the flesh found in smoked fish. To attain this brown colour, for many years a colourant has been added to smoked fish products. Originally this was achieved by using mixtures of azo dyes such as Brown FK. In more recent years this has been replaced by annatto, a natural colourant.

There are some smoked fish products which are produced without the addition of colourant and are marketed as “uncoloured smoked fish”. However, in many countries the product with a colourant is the most popular and remains the international “norm”.

Therefore the continued use of annatto as a colourant in fish products is requested, in order to maintain what the consumer has come to accept in the marketplace.

Revision: Annatto extracts, bixin-based (INS 160b (i)) was added to the Draft Provisions. The lesser of the two maximum levels suggested (10 mg/kg) was used, assuming that it was adequate to achieve the technological purpose.

10. One member asked that ‘caramel 1’ be added because it is used by industry and listed in Table 3 of the GSFA. Another member indicated that ‘caramel 1’ should be excluded because it is presumed to be used in spice seasoning blend which has not been specifically allowed in the Draft Smoked Fish Standard; however, if spice seasoning blends are allowed in the Standard then ‘caramel 1’ should be permitted in the seasoning blend.

Revision/Recommendation: Caramel 1 – plain caramel (INS 150a) was added to the Draft Provisions in brackets. We recommend reviewing the intent of the Standard regarding other ingredients including seasonings.

Preservatives

11. One member questioned the technological justification for preservatives (including acidity regulators) in products already treated with a preservation process (salting, smoking, and drying). Another member indicated that there was no technological justification for the use of sorbates and benzoates in modified atmosphere packaged fish products.

Revision: The provisions for sorbates and benzoates were placed in brackets pending further information and discussion.

12. One member asked that sodium nitrite be added at a maximum level of 200 mg/kg because it is used as a secondary barrier for control of *Clostridium botulinum* growth and toxin formation in smoked fish packaged in reduced oxygen, and allows a slight reduction in salt content. Another member does not support this proposal because the Draft Standard itself provides for sufficient measures to control botulinum toxin formation (part 6.5 and table in Annex 2). Moreover, addition of sodium nitrate would be problematic from a safety point of view as regards the formation of carcinogen nitrosamines. In foods, nitrosamines are produced from nitrites and secondary amines. It is well recognized that fish may contain high levels of secondary amines and therefore there is a high potential of nitrosamine formation.

Revision: The proposed provision for sodium nitrite was added in brackets pending further discussion.

13. An observer group asked that nisin be considered for use in smoked fish as a control for *Listeria monocytogenes*. Another member pointed out that the JECFA acceptable daily intake (ADI) for nisin is in question, and recommended that the request be disregarded.

No action taken: We note that the ability for nisin to prevent the growth of *Listeria monocytogenes* in smoked fish should be established.

Phosphates

14. An observer group recommended adding a provision for phosphates in smoked fish (food category 09.2.5) because the CCFA had considered phosphates for marinated fish (food category 09.3.1). A member pointed out that the CCFA decided to discontinue the work on phosphates in food category 09.2.5 (REP 12/FA).

No action taken/Recommendation: Smoking is designed to remove water and lower water activity. Use of phosphate solutions would require consideration of 'added water' provisions in the Standard. We recommend clarifying the intent of the standard regarding other ingredients, including added water (See comment #10).

Appendix I

4. FOOD ADDITIVES

Only the specific additives listed below may be used in products covered by this standard in order to achieve a technological purpose within the functional class specified. 'GMP' means that no maximum level is specified and the substances shall be used in accordance with good manufacturing practice. All additives must be used at a level not higher than is necessary to achieve the approved technological purpose, provided the consumer is not misled.

Smoked Fish			
Functional Class	INS Number	Additive Name	Maximum Level in Product
<u>Acidity Regulator</u>			
	260	Acetic acid, glacial	GMP
	330	Citric acid	GMP
	325	Sodium lactate	GMP
<u>Antioxidant</u>			
	301	Sodium ascorbate	GMP
	[316]	[Sodium erythorbate]	[GMP]
	325	Sodium lactate	GMP
<u>Colour</u>			
	129	Allura Red AC	300 mg/kg
	160b (i)	Annatto extracts, bixin-based	10 mg/kg
	133	Brilliant Blue FCF	100 mg/kg
	[150a]	[Caramel 1 – plain caramel]	[GMP]
	110	Sunset yellow FCF	100 mg/kg
	102	Tartrazine	100 mg/kg
<u>Preservative</u> (for reduced oxygen packaged products only)			
	[250]	[Sodium nitrite]	[200 mg/kg]
[All Sorbates listed in the GSFA for food category 9.2.4.1]			[2,000 mg/kg as sorbic acid]
[All Benzoates listed in the GSFA for food category 9.2.5]			[200 mg/kg as benzoic acid]

Smoke-Flavored Fish			
<u>Acidity Regulator</u>			
	260	Acetic acid, glacial	GMP
	330	Citric acid	GMP
	325	Sodium lactate	GMP
<u>Antioxidant</u>			
	301	Sodium ascorbate	GMP
	316	Sodium erythorbate	GMP
	325	Sodium lactate	GMP
<u>[Carrier]</u>			
	[1400]	[Maltodextrin]	[GMP]
<u>Colour</u>			
	129	Allura Red AC	300 mg/kg
	160b (i)	Annatto extracts, bixin-based	10 mg/kg
	133	Brilliant Blue FCF	100 mg/kg
	[150a]	[Caramel 1 – plain caramel]	[GMP]
	110	Sunset yellow FCF	100 mg/kg
	102	Tartrazine	100 mg/kg
<u>Emulsifier</u>			
	433	Polyoxyethylene (20) sorbitan monooleate	1,000 mg/kg
<u>Preservative (for reduced oxygen packaged products only)</u>			
	[250]	[Sodium nitrite]	[200 mg/kg]
[All Sorbates listed in the GSFA for food category 9.2.4.1]			[2,000 mg/kg as sorbic acid]
[All Benzoates listed in the GSFA for food category 9.2.5]			[200 mg/kg as benzoic acid]

Smoke-Dried Fish: No Additives are permitted in smoke-dried fish

Note: The food additive provisions listed in this section are justified based on technological and fair trade application for products covered by this standard. The additive provisions listed in the General Standard for Food Additives (GSFA) for food category 09.2.5 may differ pending endorsement and incorporation of the provisions for products within the scope of this commodity standard into the GSFA.