CHAPTER 3, STANDARD 3

GENERAL FRESH & FROZEN FINFISH PRODUCT STANDARD

1. INTRODUCTION

This general standard for packaged fresh and frozen finfish derives its authority from the Fish Inspection Regulations. It defines minimum acceptability of fresh and frozen fish for taint, decomposition, unwholesomeness and other requirements, other than weight, as defined in the Fish Inspection Act and Regulations and describes methods for determining that acceptability.

2. SCOPE

This standard applies to packaged fresh and frozen whole or dressed fish and fillets excluding those species covered by the Fresh and Frozen Groundfish Block and Fillet Standard or any other specific fresh or frozen product standard.

Fresh and frozen fish shall be prepared from sound, wholesome raw material processed using good manufacturing practices.

Documents used to determine good manufacturing practice and compliance include:

1) Recommended International Code of Practice - General Principles of Food Hygiene, CAC/RCP 1-1969 Rev. 1.

2) Codex Alimentarius Sampling Plans for Prepackaged Foods (AQL 6.5) CAC/RM 42-1969.

3) Recommended International Code of Practice for Fresh Fish, CAC/RCP 9-1976.

4) Recommended International Code of Practice for Frozen Fish, CAC/RCP 16-1978.

5) Code of Practice - General Principles of Food Hygiene for Use by the Food Industry in Canada, Health Protection Branch, Health and Welfare Canada, 1983.

3. NOMENCLATURE

The name of the product shall be that recognized in common usage in Canada and in accordance with the Fish Inspection Regulations and any requirements of the applicable Codex Alimentarius Recommended International Standard.

4. FORMS OF PRODUCT PRESENTATION

4.1 Fresh and frozen finfish may be presented as uneviscerated, eviscerated, fillets or blocks with or without skin, scales or bones, as appropriate to the style of pack.

4.2 Fresh and frozen finfish may also be presented as minced fish blocks.

4.3 Any other presentation of the product may be permitted provided that it:

a) is sufficiently distinctive from the forms of presentation set out in 4.1 and 4.2; and

b) meets all other Canadian regulatory requirements; and

c) is adequately described on the label and in accordance with all regulatory labelling requirements.

5. SAMPLING

The sampling and tolerance plans at the front of this manual shall be used to determine the acceptability of the lot. The sampling plans dictate the minimum sample size to be taken. If necessary, in the opinion of the inspector, more than the minimum sample size specified may be taken.

5.1 Sampling of lots for the sensory examination of the product shall be in accordance with the FAO/WHO Codex Alimentarius Sampling Plan for Prepackaged Foods (AQL 6.5) (CAC/RM 42-1969) except that a lower acceptance number for decomposition shall be used as indicated in the sampling tables.

The tables specify the minimum number of sample units to be used for the following types of inspections:

a) Level I - Sensory examination of all products subject to inspection other than lots which are subject to reinspection.

b) Level II - Sensory examination of all products which are under reinspection.

5.2 Size of Sample Unit

The sample unit shall consist of a container of fish and the contents thereof.

In the case of large containers (sample unit sizes of 10 kg or greater) of bulk **packaged** fresh or individually frozen whole or dressed fish or fresh or individually frozen fillets, the individual fish or fillet can be considered the sample unit for the purpose of collecting samples for examination.

6. DESCRIPTION OF DEFECTS

6.1 Taint

A unit will be considered tainted when more than 10% of the declared weight is affected by any of the following conditions:

a) Rancid
Odour characterized by the distinct or persistent odour of oxidized oil; or

Flavour characterized by that of oxidized oil which leaves a distinct bitter aftertaste.

b) Abnormal
Distinct and persistent uncharacteristic odours or flavours such as burnt or acrid, metallic, associated with feed or strong iodoform and not defined as rancid or decomposed.

6.2 Decomposition

A unit will be considered decomposed when more than 10% of the declared weight is affected by any of the following conditions:

a) Odour or flavour
Persistent, distinct and uncharacteristic odour or flavour including but not limited to the following:

ammonia, bilge, faecal, fruity, hydrogen sulphide, musty, putrid, saltfish-like, sour, sour milk-like, vegetable, and yeasty.

b) Discolouration
Fish showing abnormal discolouration of the flesh, such as green or

black as associated with decomposition.

c) Texture
Textural breakdown of the flesh associated with decomposition which is characterized by muscle structure which is very tough or dry, or muscle structure which is mushy, or in the case of whole or dressed fish, perforated bellies or broken bellies or belly walls, caused by enzymatic action.

6.3 A sample unit shall be classified as defective when more than 10% of the declared weight of the sample unit is affected by any combination of tainted or decomposed conditions.

6.4 Unwholesome

a) Critical Foreign Material
A lot will be considered defective when any of the following conditions are found:

the presence of any material which has not been derived from fish and which poses a threat to human health (such as glass, etc.); or

distinct and persistent odour or flavour of any material which has not been derived from fish and which poses a threat to human health (such as solvents, fuel oil, etc.).

b) Foreign Material
A unit will be considered defective when the following condition is found:

the presence of readily detectable material which has not been derived from fish but does not pose a threat to human health (such as insect pieces, sand, etc.).

c) Other Defects
A unit will be considered defective when any of the following conditions are found:

1) **Dehydration (Freezer burn)**
More than 10% of the declared weight of the fish or fillets in the unit are affected by dehydration affecting more than 10% of their surface area.

2) **Parasites**
Only nematodes or copepod parasites having capsular diameter of greater than 3 mm or, if not encapsulated, a length of greater than 10 mm will be considered in determining whether the lot is acceptable with respect to parasites. For packs of 1 kg and

greater, the presence of 2 or more parasites per kg of sample unit will result in rejection of the sample. For packs of less than 1 kg, the presence of parasites at a rate of infestation greater than an average of 1 parasite per kg of total sample will result in rejection of the sample. For example, a sample consisting of 13 units of 500g each would be rejected if 7 or more parasites were found.

The following parasite occurrences will result in the sample unit being classified as **defective:**

Pack Size	Reject Parasite Level
1 kg	Use average as described above
5 lb	3
10 lb	5
15 lb	7
16.5 lb	8
18.5 lb	9
20 lb	10
50 lb	23

3) **Bones (Boneless packs only)**
One bone ≥ 1 mm in diameter or ≥ 10 mm in length per kg fish.

4) **Undesireable Parts**
Each incidence of viscera.

7. EXAMINATION METHODS

7.1 Complete net weight determination, according to defined procedures (deglaze as required).

7.2 Examine the frozen fish for the presence of dehydration by measuring those areas which can only be removed with a knife or other sharp instrument. Measure the total surface area of the fish or fillet, and determine the percentage affected using the following formula:

$$\frac{\text{area affected}}{\text{total surface area}} \times 100 = \% \text{ affected by dehydration}$$

7.3 Thaw as necessary. The fresh or defrosted fish or fillets in the entire unit are examined individually for the presence of foreign matter, undesirable parts, nematodes and copepods, and other parasites with defined tolerances. Parasite examination for nematodes and copepods will be non-destructive, that is the fish are not filleted or the skin removed from fillets to assist in parasite detection. The parasites are removed and the total number of incidents counted to determine sample unit

compliance.

7.4 Each entire sample unit of fresh or defrosted fillets is examined in its entirety for odour, colour and texture. In the case of a reinspection, where an inspector is unable to make a decision on acceptance or rejection of a unit without evaluating flavour, the portion of the unit requiring confirmation of odour/flavour may be cooked using a boil-in-bag or similar procedure, or by oven heating or microwaving in a closed container, until the protein at the centre of the fish has coagulated. (Depending on the method chosen and the equipment available, cooking times may vary. For example, a 500 g thawed sample unit should require a cooking time of 3-4 minutes at a microwave power of 700 watts; the unit should be turned once during this procedure to ensure even heating.).

Let cool slightly, then assess odour, flavour and texture of cooked unit. Calculate percentage of unacceptable fish in the unit.

7.5 In the case of whole or dressed fish, the entire sample unit is to be examined in its presented form, using the criteria outlined in Section 5, for the determination of taint, decomposition and unwholesomeness. A thorough examination is to be made of the belly walls for evidence of perforated or broken bellies caused by enzymatic action of the stomach content (autolysis). Should there be evidence of perforated or broken belly walls or other signs of decomposition then the entire unit is further examined for flesh odours by tearing or making a cut across the back of the neck such that the exposed surface flesh can be evaluated for decomposition or taint.

Where no broken or perforated bellies are encountered, a minimum of at least 10% of the declared weight of each unit, or a minimum of 10 fish, whichever is greater, will be further examined for flesh odours by tearing or making a cut across the back of the neck.

7.6 Record defects on the appropriate worksheet.

8. CLASSIFICATION OF "DEFECTIVES"

A sample unit shall be classified as "defective" when it fails the defects for decomposition, tainted, or unwholesome conditions as described in section 6, or when more than 10% by declared weight of the sample unit is affected by any combination of tainted or decomposed conditions.

9. LOT ACCEPTANCE

A lot will be considered unacceptable when:

a) any single instance of critical foreign matter occurs; or

b) the total number of sample units found defective for taint, decomposition or unwholesomeness, individually or in combination, exceeds the acceptance number for the sample size designated in the sampling plans; or

c) the total number of sample units found defective for decomposition exceeds the acceptance number shown in parentheses for the sample size designated in the sampling plans.