



TECHNICAL ASSISTANCE TO BUILD FOOD SAFETY  
CAPACITY  
FOR THE FISHERIES SECTOR



CARIFORUM

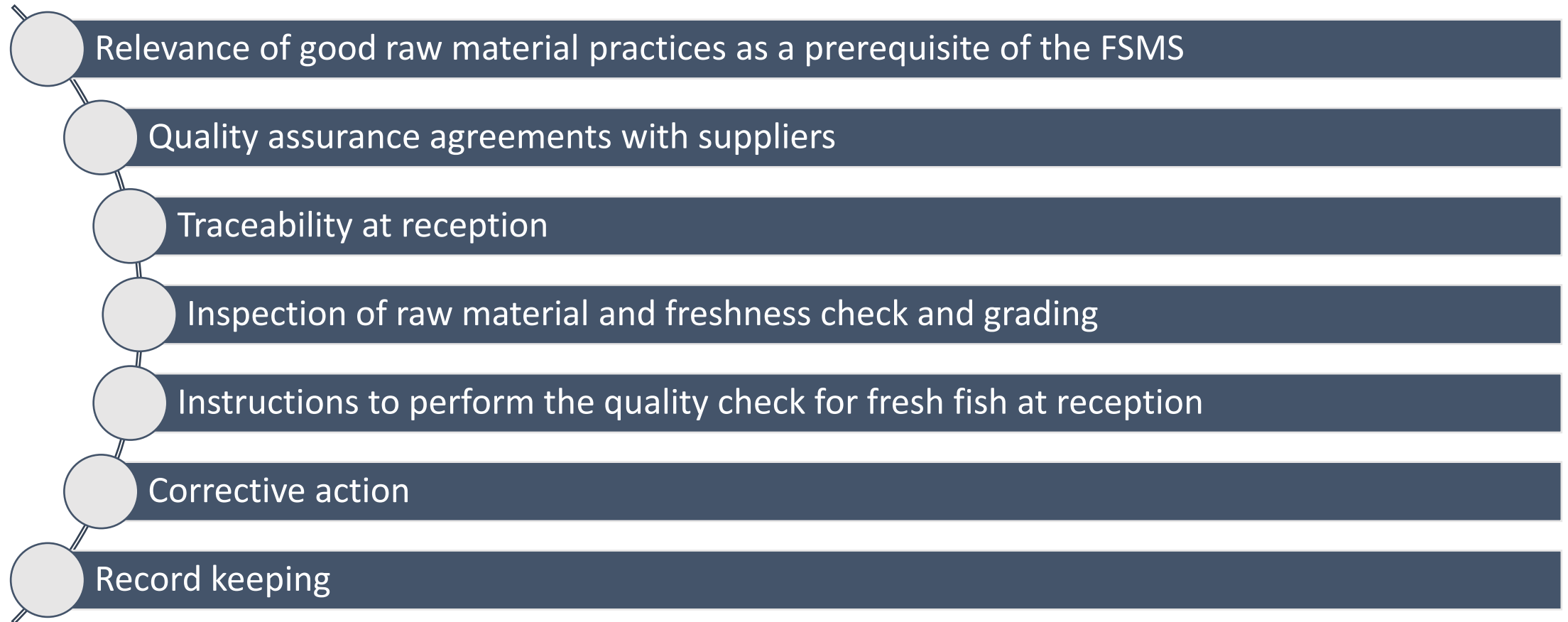
# TIBU IMPEX

## Module 2

### **Good Raw Material Quality Procedures**

**Prepared by Megapesca Lda**

# Outline

- 
- Relevance of good raw material practices as a prerequisite of the FSMS
  - Quality assurance agreements with suppliers
  - Traceability at reception
  - Inspection of raw material and freshness check and grading
  - Instructions to perform the quality check for fresh fish at reception
  - Corrective action
  - Record keeping



GOOD RAW MATERIAL PRACTICES

# Supplier quality assurance agreement – key points for inclusion

Harvest and post-harvest operations are carried out in such a way that minimizes contamination and deterioration

Fish contact surfaces and equipment shall be kept clean and will be sanitised after each use.

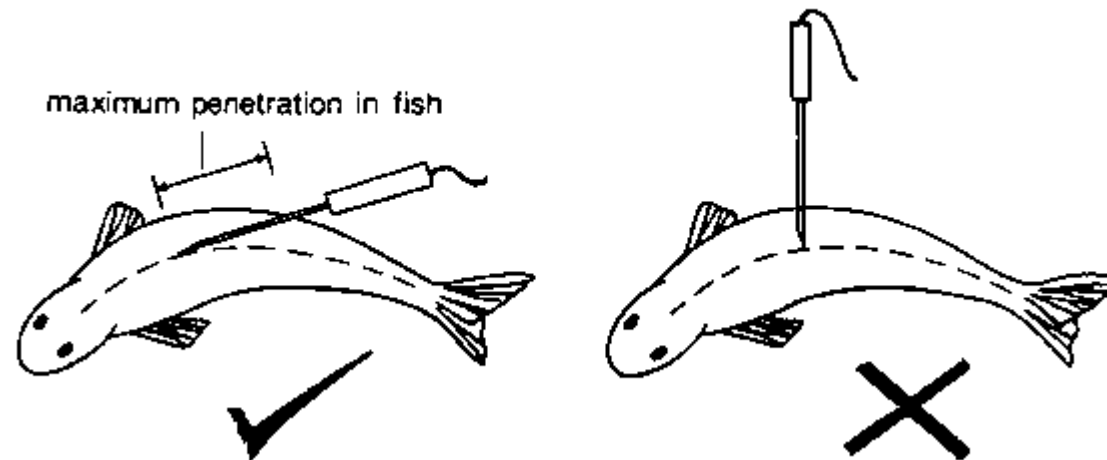
All fish will be held on ice from the moment of capture.  
Histamine related species will be delivered at a temperature that does not exceed 4°C



# Quality check and record for fresh fish at reception

- Note the date, time, supplier or boat name, species, batch weight and name of the controller.
- Assess % of fish in contact with ice (all = 100%, no ice = 0%)
- Select 3 fish (from top, middle and bottom of the container).
- Measure the temperature of the fish by putting the thermometer stick in the back of the fish for at least one minute (allow record of temperature to stabilise).

INSERTION OF THERMOMETER IN FISH



# Sensory evaluation of fish quality at reception

- Check a sample of fish using sensory evaluation according to the grading system
- Allocate a grade to the entire batch (if all the same).
- If differences in quality are apparent within the batch, separate all the fish into the different grades and weigh each part
- Whilst doing this, check for the presence of parasites on the skin.
- During gutting, check for parasites (worms) in the belly cavity. During filleting check for parasites in the flesh.
- Record all results on the form

# Sensory evaluation of fish quality at reception

Grade fish in each batch (species/supplier/delivery) received according to freshness grade (using sensory evaluation):

- Check the appearance of the skin, eyes and the gills
- Smell the odour of the skin and the gills
- If possible, check the colour inside the belly (of the belly flap) and meat alongside the back
- Feel with the fingers the consistence of the meat of the whole fish and along the back
- Compare to top quality fresh fish



# FRESHNESS GRADES

- In order to be placed in grade E, A, B or Unfit (C) the fish should possess specific characteristics.
- The descriptive terms are meant to be guides and not all the characteristics described will necessarily occur together in every species
- Staff receiving fish should be aware of the differences in freshness grades in each species considered.
- E.g. for training, intentionally allow samples of each species to spoil on ice until unfit) and adjust the following tables.

	Freshness category			
	Extra	A	B	Rejeted
Skin	Bright, iridescent, highly reflective; colours lively, no discolouration	Pigmentation bright, colours evident but not lustrous	Pigmentation in the process of becoming discoloured and dull	Dull pigmentation, loss of colours, bleached
Skin mucus	Aqueous, transparent	Slightly cloudy	Milky	Yellowish grey, opaque mucus
Eye	Convex (bulging); black, bright pupil; transparent cornea	Convex and slightly sunken; black dull pupil; slightly opalescent cornea	Flat; opalescent cornea; opaque pupil	Concave in the centre; grey pupil; milky cornea
Gills	Bright colour; no mucus	Less coloured; transparent mucus	Brown/grey becoming discoloured; thick, opaque mucus	Yellowish; milky mucus
Peritoneum (in gutted fish)	Smooth; bright; difficult to detach from flesh	Slightly dull; can be detached from flesh	Bleached; comes away easily from flesh	Does not stick
Smell of gills and abdominal cavity — whitefish	Seaweedy	No smell of seaweed; neutral smell	Fermented; slightly sour	Sour
Flesh	Firm and elastic; springy, smooth surface, scales firmly attached	Firm and elastic; smooth surface, scales firmly attached	Slightly soft (flaccid), less elastic; waxy (velvety) and dull surface, some loose scales.	Soft (flaccid); scales easily detached from skin, surface rather wrinkled

## TIBU IMPEX - Raw Material Reception Record Sheet

Date Code			
Time of reception			
Name of supplier			
Supplier code			

**Instructions:**

- One sheet for each supplier for each delivery
- Use continuation sheet if necessary

Variable	Species 1	Species 2	Species 3	Species 4	Species 5
Common name					
Species code					
Grade breakdown (kg)					
E					
A					
B					
Rejected					
Total quantity received (kg)					
Temperature (3 readings)					
Ice contact with fish (%)					
Cleanliness of containers					
TIBU IMPEX Batch Code No.	<b>2910tr21S15</b>				
Observations (supplier batch codes, cleanliness/ foreign matter, physical damage, parasites)					
Checked by:					

# Supplier identification

	Name	Address	Telephone	Supplier code
Supplier 1				01
Supplier 2				02
Supplier 3				03
Etc				etc

# Species identification

Species code	Latin Name	Trade name	Product form
01	<i>Scomber scombrus</i>	Mackerel	Frozen W/G
02	<i>Scomberomorus cavalla</i>	King Fish	Frozen W/G
03	<i>Caranx hippos</i>	Cavalli	Frozen W/G
04	<i>Lutjanus purpureus</i>	Red Snapper	Frozen W/G
05	<i>Macrodon ancylodon</i>	Bangamary /king weakfish	Frozen W/G; Fillet; Pan ready
05	<i>Ephinephelus flavolimbatus</i>	Grouper/Jew Fish	Frozen W/G
06	<i>Makaira nigricans</i>	Marlin	Frozen steak
07	<i>Colossoma macropomum</i>	Tambaqui	Frozen W/G
08	<i>Brachyplatystoma spp.</i>	Snook BB	Frozen W/G
08	<i>Batrachoides surinamensis</i>	Catfish	Frozen W/G
09	<i>Sciades parkeri</i>	Gillbaker	Frozen W/G
10	<i>Carcharhinus limbatus</i>	Shark	Frozen steak
11	<i>Xiphopenaeus kroyeri</i>	Seabob	Frozen Peeled
12	<i>Penaeus spp.</i>	Prawn	Frozen Peeled

# Date codes

Day no	Date
001	01 Jan
002	02 Jan
003	03 Jan
004	Etc
005	
006	
007	
008	
etc	
....	....
364	30 Dec
365	31 Dec

Year	Code
2021	1
2022	2
2023	3
2024	4
2025	5
Etc	

Thus a date code of 2953 will correspond to day no.295 (= 22 October) in the year 2023.

Day numbers can be obtained quickly from:

<https://www.calendar-365.co.uk/day-numbers/2021.html>

Note that leap years codes will increase up to 366.



GOOD PRODUCT STORAGE PRACTICES

Store the products in such a way that contamination and deterioration of the products will be prevented

---

The storage of

- fishery products (raw materials and finished products)
- water
- Packing material
- Cleaned recipients, tote bins, baskets and equipment
- Chemicals

Should be organised in accordance with the requirements with respect to temperature, humidity, quality and safety of the products





# Procedure for storage of fresh fishery products

---

- The product to be stored is placed in insulated tote bins where adequate ice is added in a layered system (the temperature should be **4°C or below**)
- Fish products **are not stored with other products** which may contaminate them or affect their wholesomeness
- The temperature of any chilled storage rooms in which fish is held shall be recorded manually on a daily basis.
- For **non-histamine producing species**, should temperature deviate from the specified conditions, providing the products remain fit for human consumption, the fish should be re-iced to achieve the correct temperature.
- For **histamine producing species**, should temperature deviate from the specified conditions, providing that the time of exposure to elevated temperatures is less than 2 hours, the fish should be re-iced to achieve the correct temperature. If the exposure is greater than 2 hours the product may be processed and frozen, but not distributed, until tested and confirmed to be safe, in accordance with the HACCP plan.



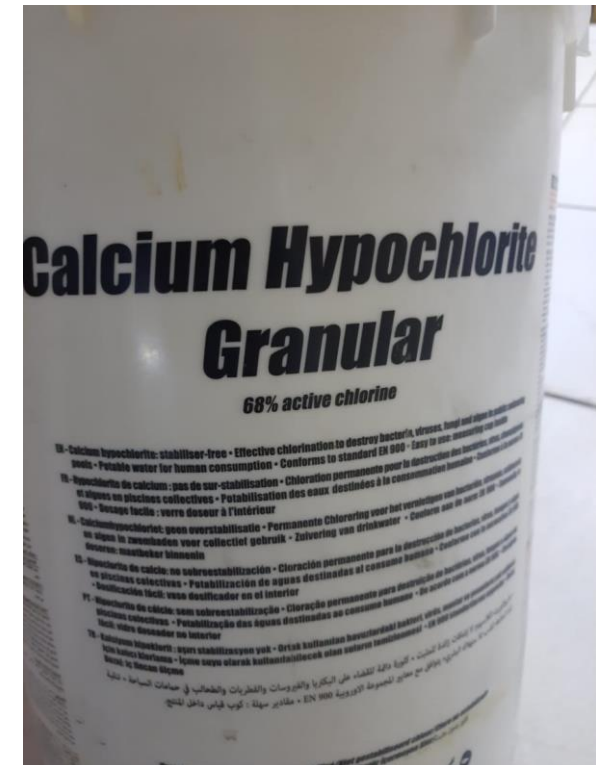
# Procedure for storage of frozen fishery products

- After processing and freezing, frozen packed fish is held **at -18°C or below**.
- Fish is stacked on pallets and in such a way to **avoid contact** with the floor and walls of the container.
- Space is left between stacks of packed fish to allow for **circulation of air**. Dunnage may be used to ensure adequate spacing to allow for circulation of air.
- The temperature of cold storage rooms/containers in which fish is held shall be recorded manually



# Storage of Chemical materials

- Cleaning and disinfecting agents are **stored in a separate locked facility** and are **suitably labelled** with warning about their toxicity and use.
- Chemicals are only used for the prescribed purpose as stated on the labels and handled only by authorized personnel.







## Storage of packaging materials

- Upon arrival at the establishment packaging materials are taken to its designated storage area.
- They are placed on pallets away from the walls and covered to prevent them from becoming contaminated.
- The storage room is closed, well ventilated and pest-proofed as well as dust-free.

## DOCUMENTATION RELATED WITH STORAGE INCLUDE THE FOLLOWING:

- raw material reception record
- temperature monitoring records
  - Inventory records





Any questions?

