FAO TCP/RER/3301(D)

Sustainable Development of the Aquaculture Sector from a Postharvest Perspective with a Focus on Quality, Traceability and Safety

Traceability practices in aquaculture and fish processing industry. Case studies from EU

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Legal basis of traceability (1)

The European Union has mandatory traceability requirements for all food and feed, including seafood. The requirements on mandatory traceability found in Regulation (EC) n°178/2002 and require all producers of food and feed:

1. Be able to identify their suppliers and customers (one up, one down) and convey this information to the Competent Authority on demand;

1. Have a system to withdraw/recall unsafe products;

2. Provide customers with necessary information to access the risk; and

3. Inform the competent authorities of unsafe food.

Legal basis of traceability (2)

The points to note here are, that the Regulation (EC) n°178/2002 :

-Does not regulate the methods to ensure the ability to identify suppliers and customers of the food operators;

-Does not obligate internal traceability

-Does not fix the time limit in which the operators have to store traceability information for conveying to the competent authority in case of need.

Legal basis of traceability (3)

In order to fulfil the above responsibilities, food/feed business operators have 2 derivative responsibilities:

- To put in place a system and procedures, which ensure their responsibility on demand by the competent authority.

- To facilitate traceability, by adequately labelling or identifying their products in accordance with the provisions on labelling:

Thus, labelling and identification of products are needed for the implementation of traceability.

Common business practice

The EU importer has to be able to identify its immediate previous supplier (the last third country company) and make sure that the imported product complies with other relevant requirements in the EU food law (e.g., food standards, labeling standards, country of origin standards etc.).

Some EU food business operators request trading partners to meet the traceability requirements and even go beyond the "one up-one down" principle.

This is a common business practice for some business operators and not a requirement established by the EU regulation.

Furthermore, EU importers are encouraging third country suppliers to set up a bar coding system used for internal EU purposes, such as GS1 (EAN-UCC).

Definition of traceability

In the fields of animal health and food safety, there are several legal definitions and different terms for traceability, such as:

-the ability to trace the history, application or location of an entity by means of recorded Identification (ISO standard 9000:2000)

-the ability to follow the movement of a food through specified stage(s) of production, processing and distribution (CAC 27th Session Report 2004)

-the ability to trace and follow a food, feed, food-producing animal or substance intended to be or expected to be incorporated into a food or feed through all stages of production, processing or distribution (EU Law. Regulation No 2002/178 - Article 3. 15)

- the creation and maintenance of records needed to determine the immediate previous sources and the immediate subsequent recipients of food, (i.e., one up, one down) (USA Law. Bioterrorism Act 2002 - Section 306)

Traceability

In simple terms, it means having the ability to answer **5 key questions** about inputs, production, and outputs:

1. Where did it come from?
2. How did it get here?
3. What did we do with it?
4. Where did it go?
5. How did it get there?

✓All the info must be RECORDED,

✓The documents must be COLLECTED

✓ Info must be TRANSMITTED to the buyers

✓ You must be made AVAILABLE to the OFFICIAL INSPECTORS

Traceability

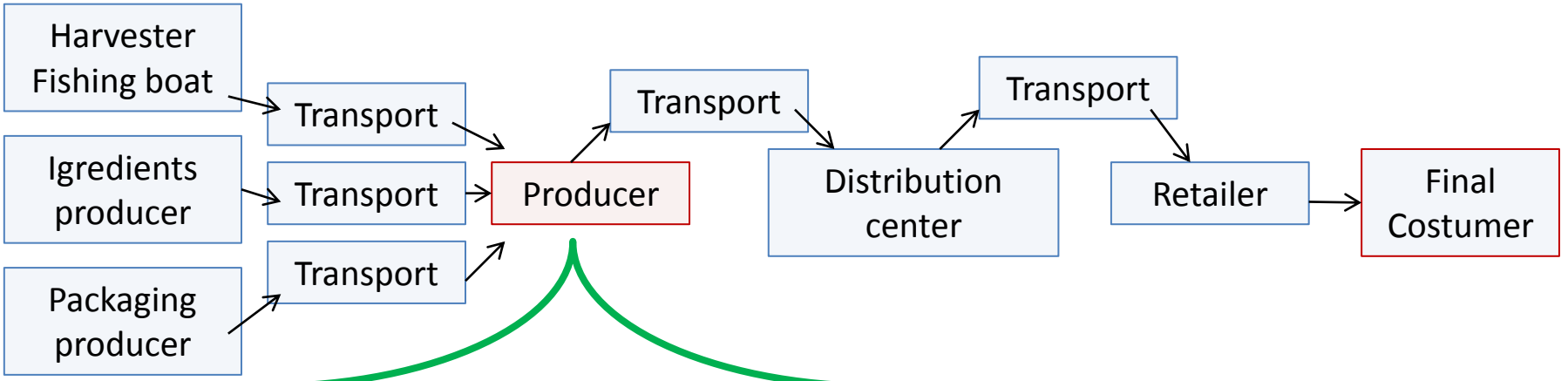
Based on the above practices,
two categories of traceability are identified:

-The external traceability: the system that ensures the links management and the data communication between the steps of the production chain. This is the minimum traceability the industry must maintain.

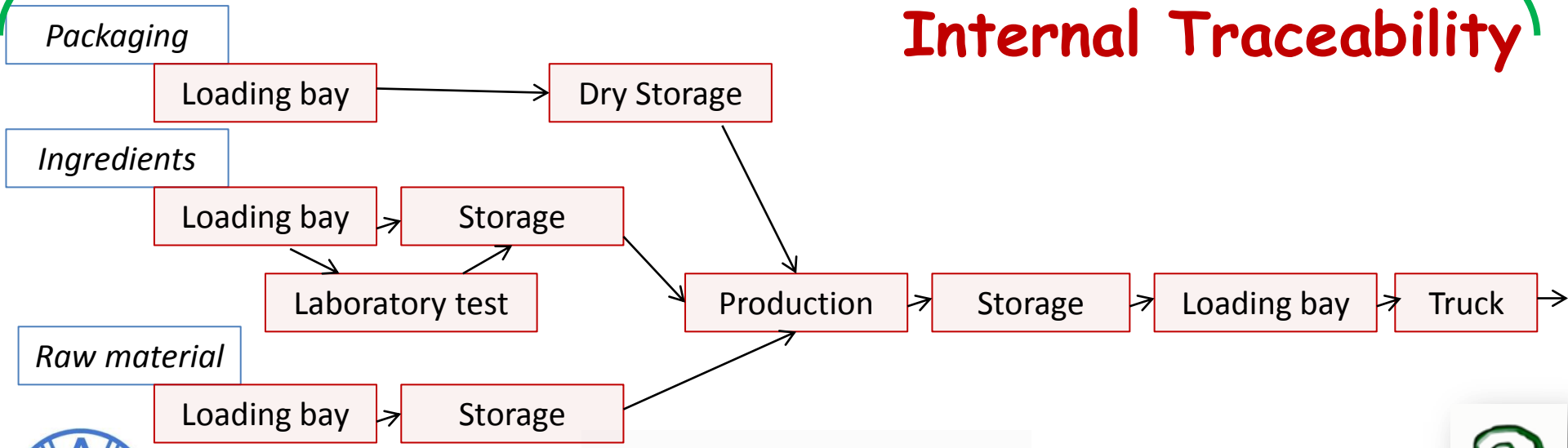
-The internal traceability: the system that ensures the links management and data communication of every unit of raw materials and ingredients during the processing at each step, until the final products.

The external traceability is mandatory according to the current legislation, while the internal traceability is the factor assuring the accuracy of the external traceability.

External Traceability



Internal Traceability

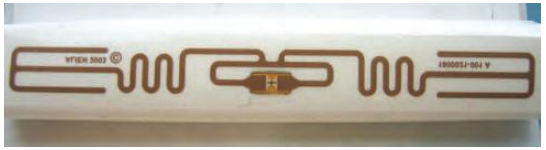


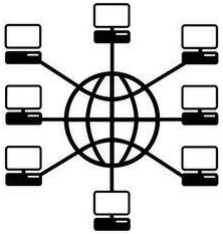
Traceability

EXAMPLES of TRACEABILITY SYSTEMS

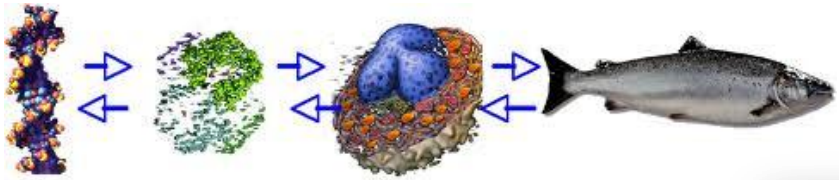
There are a number of different systems that can be used for traceability within an organisation or throughout a supply chain, each having advantages and disadvantages.

- Paper based
- Computer Based
- Bar Code





- Radio Frequency Identification
- DNA
- Biometrics



	PAPER-BASED TRACEABILITY SYSTEMS	ELECTRONIC TRACEABILITY SYSTEMS
Advantages	Based on existing quality assurance/stock control documentation systems. Inexpensive to implement. Flexible in terms of the processing systems to which it can be applied. Data input is easy and precise	Data input can be made automatically. Easy to link additional information, e.g. temperature. Real-time availability of information. Records and reports can be made quickly and adapted to the situation. Easy transmittance of information to other links in the supply chain.
Disadvantages	Manually intensive. Reliant on correct procedural operations. Trace-back of information is timeconsuming and difficult. Records are not easily reviewed.	Expensive equipment. Paper bar codes are easily damaged in moist and harsh production environments. RFID technology is not yet so widespread, and reading rates are not yet 100%.

	BAR CODES	RFID
Advantages	Inexpensive to implement and use. Widely used and tested technology. Data can be read even if the bar code cannot be scanned.	Several tags can be read simultaneously It can withstand harsh environments.
Disadvantages	Have to be in line of sight when scanned. Are easily damaged by wet and moist environment.	It is more expensive than bar codes. The technology is still new and not

TRACEABILITY OF FISH GUIDELINES

Application of EAN•UCC Standards in implementing EU legislation and business requirements regarding consumer information and traceability

The "full chain traceability" is most effective when all links in the chain have the same principles and use the same (or at least compatible) tools.

In 2002, an EU-funded concerted action initiative called "TraceFish" (www.tracefish.org) produced three consensus based standards for the recording and exchange of traceability information in the seafood chains.

The Traceability of Fish Guidelines were developed together with EAN Member Organisations, the TraceFish project and the national working groups.

Fish Supply Chain Models

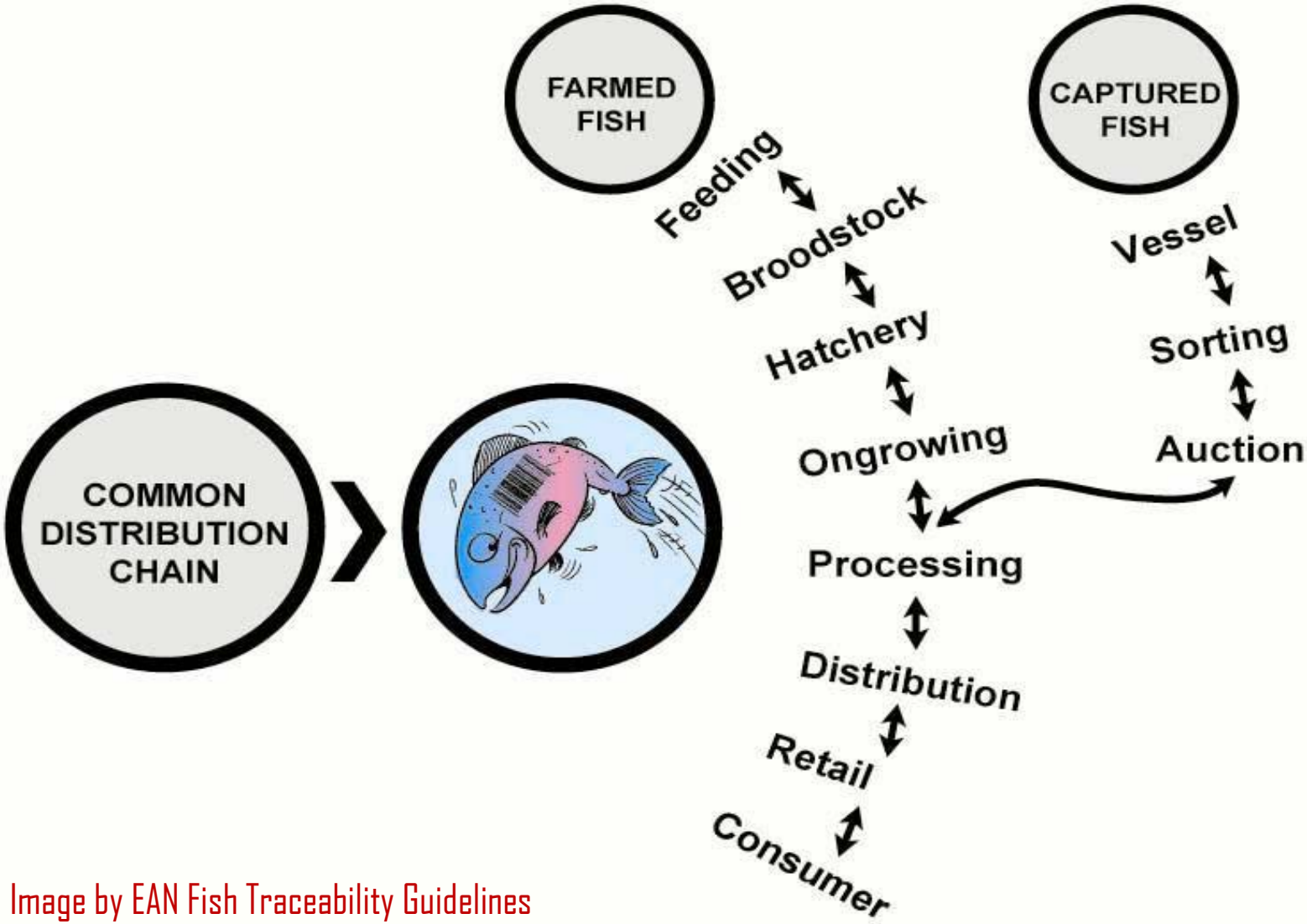


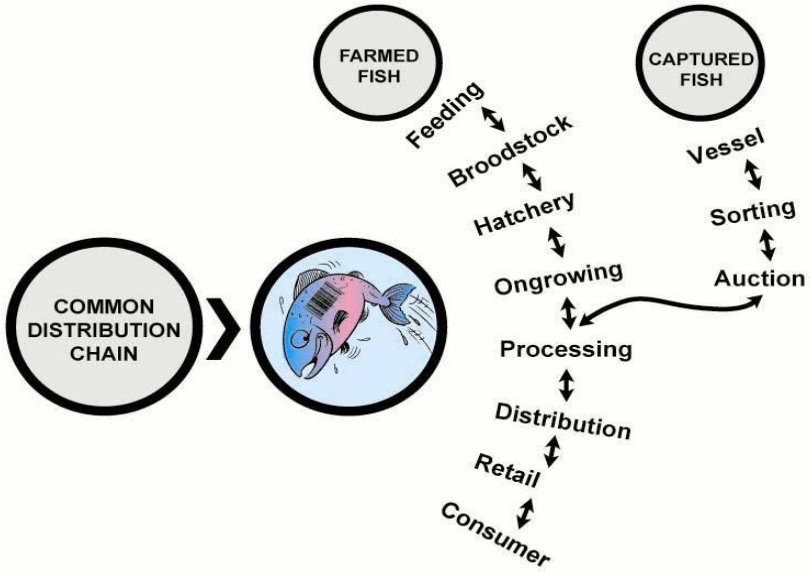
Image by EAN Fish Traceability Guidelines

FARMED FISH

It is possible to control and document each step of the process.

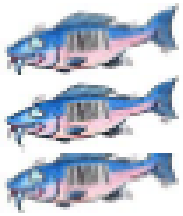
Traceability is possible from all the way back to the parents of the fish and to the eggs they produced.

In addition data on the food used and any medication applied during the growing process is available.



Upstream market: Feeding, Broodstock, Hatchery, Ongrowing,
Downstream market: Slaughtering, Processing & wholesale and Retail

FARMED FISH
Upstream market

Feeding	Broodstock	Hatchery	Ongrowing
			
Bags & pallets	Box	Well boats & tanks	Well boats & tanks
EAN•UCC SYMBOL: UCC/EAN 128	EAN•UCC SYMBOL: UCC/EAN 128	EAN•UCC SYMBOL: UCC/EAN 128	EAN•UCC SYMBOL: UCC/EAN 128
Required traceability information			
UCC/EAN-128:	**UCC/EAN-128:**	**UCC/EAN-128:**	**UCC/EAN-128:**
AI 01 GTIN. AI 10 Batch no AI 3100 Net wght*	AI 01 GTIN. AI 10 Batch no AI 30 Number* AI 3150 Litres*	AI 01 GTIN. AI 10 Batch no AI 30 Number*	AI 01 GTIN. AI 10 Batch no AI 3100 Net weight*
Optional AI 11 Prod. date AI 412 Supplier id. AI 414 Plant id.	Optional AI 412 Supplier id. AI 414 Farm id.	Optional AI 412 Supplier id. AI 414 Hatchery id.	Otional AI 412 Supplier id. AI 414 Farm id.
Human read.	**Human read.**	**Human read.**	**Human read.**
Feeding type Batch number Feed ingredients GMO etc.	Scientific name Commercial name Production method Production area etc..	Scientific name Commercial name Production method Production area etc.	Scientific name Commercial name Production method Production area etc.

Feeding manufacturer

The fish food manufacturer delivers food to broodstock, hatchery and ongrowing fish farms. The food is packed in bags on pallets, big bags or is delivered in bulk. Labels using UCC/EAN-128 on bags, big bags and pallets are already implemented by some food manufacturers.

MANDATORY

Data	UCC/ EAN-128	Comments
- GTIN	AI 01	HR
- Fish feed type		HR
- Batch number, internal allocated by the company	AI 10	HR
- Net weight*	AI 3100	HR

OPTIONAL

Data	UCC/ EAN-128	Comments
- Production date	AI 11	HR
- GLN of Supplier	AI 412	HR
- GLN of Plant	AI 414	HR
- Feed ingredients		HR
- GMO (yes / no)		HR

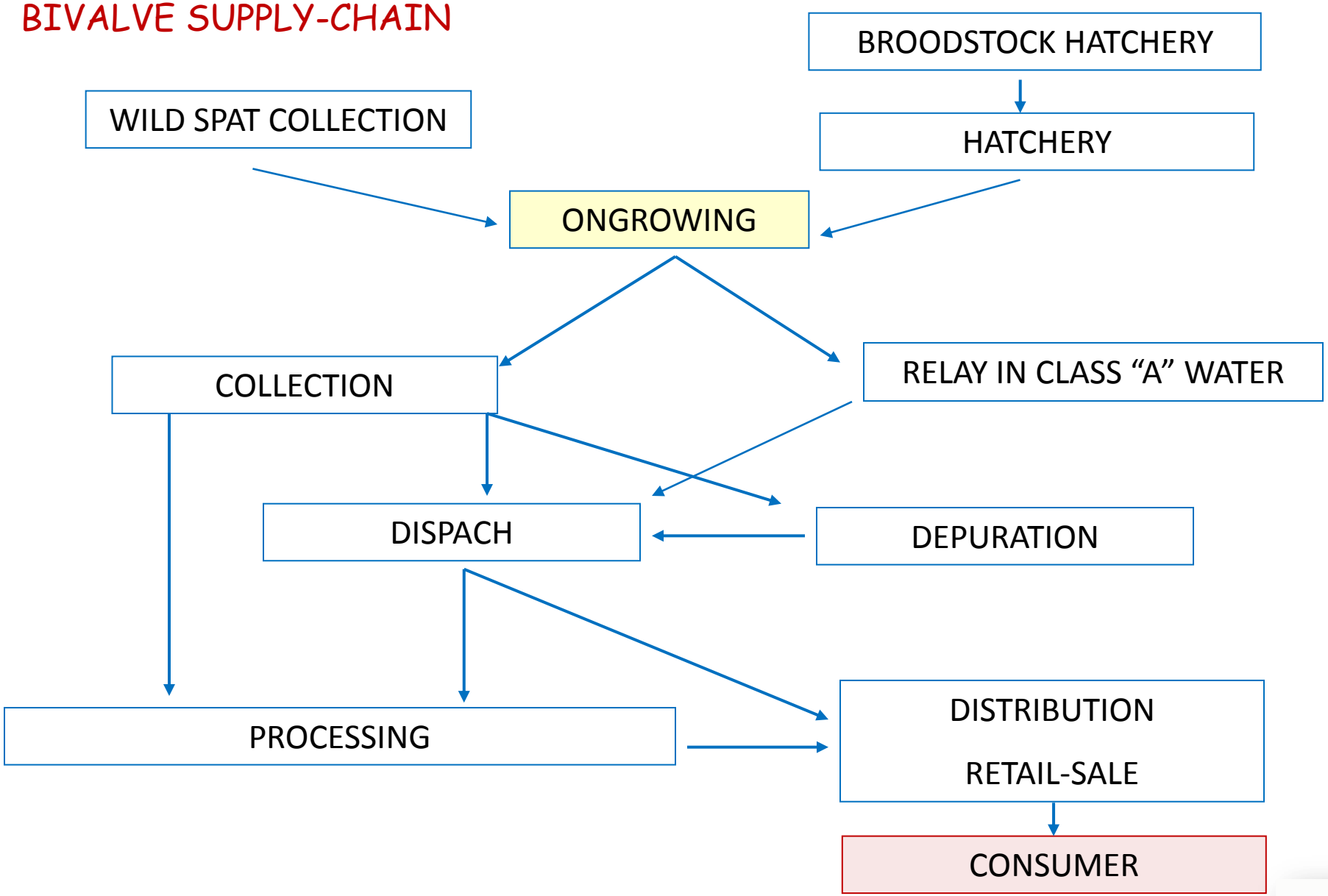
HR = Human readable

FARMED FISH

Downstream market

Slaughtering	Processing/ wholesale	Retail
		
Fishbox	**Fishbox**	**Consumer label**
EAN•UCC SYMBOL: UCC/EAN 128	**EAN•UCC SYMBOL: UCC/EAN 128**	**EAN•UCC SYMBOL: EAN-13**
Required traceability information		
UCC/EAN-128: AI 01 GTIN. AI 10 Batch no AI 3100 Net weight* Optional AI 11 Slaught. date AI 412 Supplier id. AI 414 Slaught id. **Human read.** Scientific name Commercial name Production method Production area Preservation etc.	**UCC/EAN-128:** AI 01 GTIN. AI 10 Batch no AI 3100 Net weight Optional AI 11 Slaught. date AI 13 Packaging date AI 15 Best before date AI 412 Supplier id. **Human read.** Scientific name Commercial name Production method Production area Preservation etc.	GTIN = Key to the article database during scanning at the point of sale 8 712345 678906 **Human read.** Commercial name Production method Production area Batch number Best before date Net weight Preservation etc.

BIVALVE SUPPLY-CHAIN



BIVALVE SUPPLY-CHAIN

Traceability is ensured by the Registration Documents.

The documents must be completed before the product leaves the landing.

hey were expected systems to withdraw/recall unsafe products involving producers, called to this responsibility by EC Regulation 178/2002.

When activating the tracing procedure, the Consortia Management Molluscs have an important role as reference points for individual companies, hardly able to cope with reminders of a certain size or crisis situations.

It revealed difficulties in applying the system, related to the communication time of the test results, with activation of unnecessary procedures for withdrawing.

BIVALVE SUPPLY-CHAIN

The following are the minimum needed for tracking the arrival of the bivalve living in a wastewater treatment plant:

- Name, address and license number of the collector
- Date of collection
- Area of collection and health status (eg A, B or C in the EU)
- Species
- Quantity
- Lot number or batch

Furthermore, depurated bivalve must also have the following information:

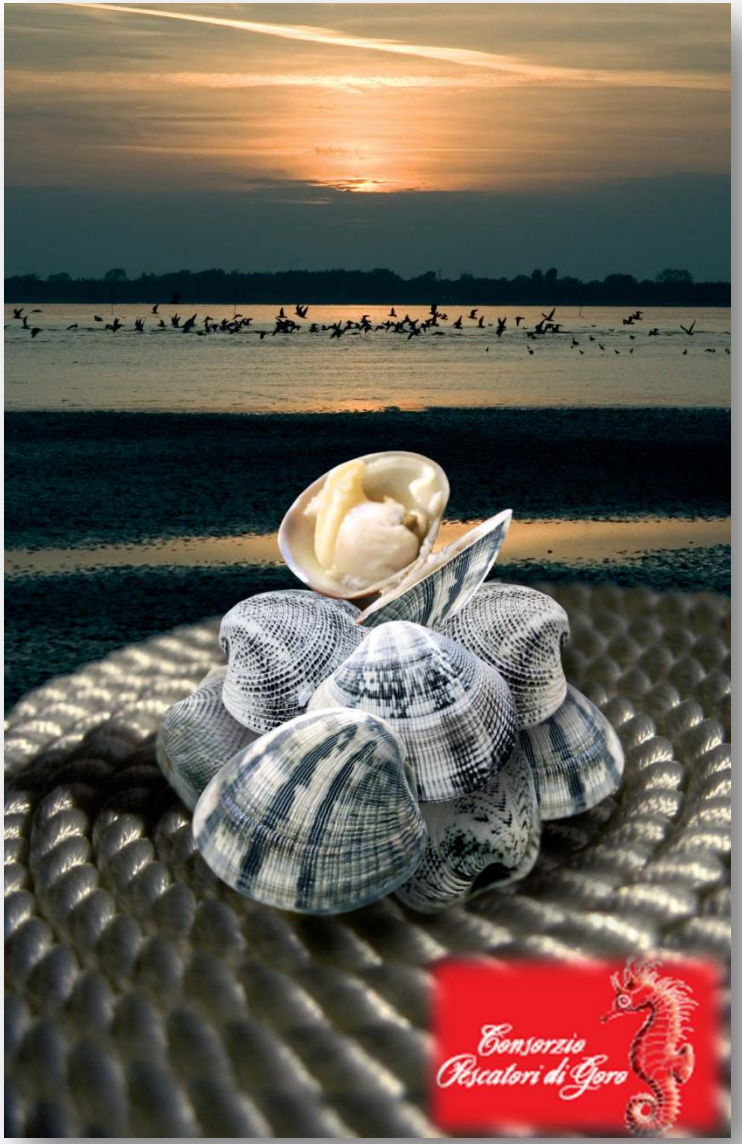
- Name, address and registration number of the purification
- Species and quantity of shellfish
- Date of treatment, the number of cycles or lot number
- Address of destination

Records of traceability must be kept for a minimum of 90 days (if consumed raw or live) and for 1 year if frozen or canned products.

The experience of Co.Pe.Go (consortium fishermen of Goro)

COPEGO has obtained the certification of the traceability system chain according to UNI 10939/2001 (now UNI EN ISO 22005/2008) in June 2006 for clams grown in Sacca di Goro.

The implementation of the existing tracking system has allowed the creation of a web sitewith an information system on the history and origin of each batch of product for consumer use.



The experience of Co.Pe.Go (consortium fishermen of Goro)

Associazione P.P e COPEGO

Breeding
Collection

COPEGO

- Transport
- Acceptance
- Assignment of batch
-Data Entry
-Depuration
-Packaging
- Sales

Consumer

The experience of Co.Pe.Go (consortium fishermen of Goro)

Consorzio Pescatori di Goro

Tuesday, 01 May 2012

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TRACCIABILITÀ DI FILIERA

Codice lotto: **Data lotto** (gg/mm/yyyy): / / Cerca

THE TRACEABILITY

Enter the lot code and the date to find out the traceability path

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WATER ANALYSIS

Transparency has always been one of our prerogatives. For this

Thanks ! Hvala!

8-10 may 2012

Eurofish
INTERNATIONAL ORGANISATION

Zadar, Croatia