Bivalve Harvesting and Production in Portugal

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Portuguese attraction for the exploitation of bivalves

Fig. 1 Portuguese seafood.

- Bivalves are highly appreciated by consumers (**Fig. 1**).
- Portugal has one of the world highest *per capita* consumption of seafood products (58,5 kg/person/year);
- Long tradition of artisanal cultivation;
- Simple and readily adaptable techniques;
- Feeding costs are not implied;
- Requires minimum husbandry;
- Temperature tolerance of bivalves (5-35ºC).

Harvesting and production areas

Exploitation activities are aimed at obtaining large quantities of safe and high-quality products for human consumption (**Fig. 2**).

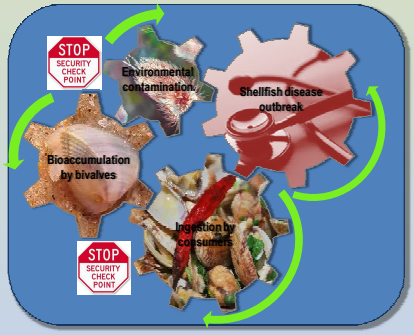

Fig. 2 Ensuring safe bivalves for consumption.

- The classification of exploitation areas (**Table 1**) according to their risk in relation to food safety, allows the some anticipation on the microbiological quality of shellfish caught in those areas.
- Classification has implications on the type of treatment that shellfish must be submitted prior to marketing, thereby helping to reduce risks related to public health.

Table 1 Microbiological criteria for the classification of harvesting and production areas.

Category	MPN of E. coli/100g FIL	Treatment required
A	≤230	Direct human consumption.
B	]230; 4 600]	Depuration or relaying, to meet category A
C	]4 600; 46 000]	Protracted relaying with further depuration or cooking by an approved method.
		Prohibited.

- The monitoring of shellfish exploitation areas is essential and it demands a well designed sampling program and the clear definition of the production zones (**Fig. 3**).

Fig. 3 Portuguese exploitation zones of bivalves (L- Coastal zone; E- Estuarine zone).

State of the exploitation of the bivalve molluscs

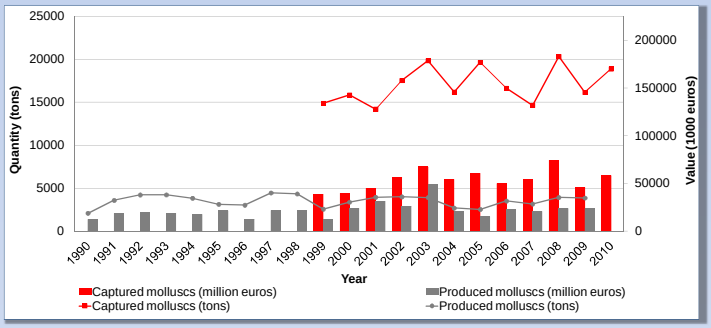

Fig. 4 Portuguese harvesting and production development of mollusciculture in the last decade.
Data related to the harvesting of molluscs before 1999 are not available.

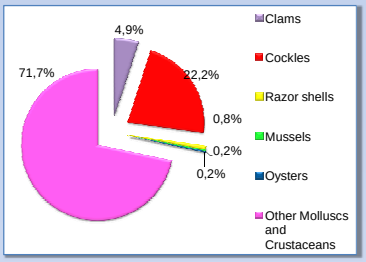

Fig. 5 Portuguese bivalves harvested in 2009.

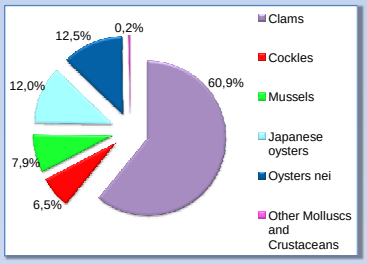

Fig. 6 Portuguese bivalves produced in 2009 (nei - not elsewhere included).

- The profits related to the exploitation of molluscs are largely dependent on wild captures of bivalves.
- The latest data indicates a profit of 57 858 million euros (22.7% of the profit from capture in 2010) and 23 695 million euros (53.5% of the profit from aquaculture in 2009) related to harvesting and production, respectively.
- Clams, cockles, oysters and mussels are among the main exploited species.

Strategies for a sustainable increase in the exploitation of the bivalve molluscs

- training fishers and fishfarmers;
- transference of technology among the sector;
- organization of the sector;
- competitiveness of prices;
- monitoring the products and the productive process;
- improving the knowledge and characterization (in a spacio-temporal scale) of favorable areas along the Portuguese coast;
- sanitary certification of breeding areas;
- development of certified products and quality labels;
- acquisition or assignment of coastal areas suitable for production;
- establishment of marketing strategies appealing to the benefits of seafood and its subsequent quality;
- diversification of products (other bivalve species and different presentations of the traditional products);

Conclusion

Despite the favorable natural conditions of the Portuguese territory for the effective development of bivalve exploitation, they have not been fully used for the improvement of mollusc bivalve harvesting and production processes.

There is considerable potential for expansion of the bivalve exploitation sector and industry in Portugal.

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