

**1983-2002 : The 20-year development of the King scallop (*Pecten maximus*) sea-farming industry in the bay of Brest (France) :historical record, results, prospect.**

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**The initial context.** The very cold winter 1962-63 has decimated the King scallop (*Pecten maximus*) natural stock in the bay of Brest (France) where the annual production decreased from 2500 metric tons to lower than 100 mt. First experiments of spat collecting were carried out 10 years later (1972) with a view to a restocking programme. But after another period of 10 years, results remained low, and first seeding experiments had to be done with imported spat from Scotland (1980) or Ireland (1982).

**1983 : The creation of an original industry.** Faced with the poor results of natural collecting in the wild, the industry (fishermen, scientists and politics) turned to hatchery technique to produce spat, and set-up a new production plan (1983), which has gradually increased the scallop stock :

- spat production from hatchery (250 000 post-larvae in 1983 ; 20 million in 2000) ;
- intermediate culture in deep-sea cages (30% of survival) ;
- seedings of one-year juveniles (30 mm), either in the fishing areas, either in restricted areas closed for 3 years (30% of survival) ;
- fishing at 2-3 years (on fishing areas) or 3-4 years (on restricted areas) by the fishing fleet.

The setting and the development of this industry was sustained by grants from both the French state and the region of Brittany as much for infrastructures (hatchery in "Le Tinduff" near Brest ; platform and equipment for the intermediate culture) as for research support. The programme initially aimed to create a significant breeding stock. But the restocking impact of this stock could not be clearly demonstrated ; therefore, in 1989, the juveniles production, technically unchanged, turned to a sea-ranching programme aiming to support the stock (2<sup>nd</sup> contract with the French state and the region of Brittany), with recaptures by the fishing fleet (20 mt /year at the beginning). In 1993, the programme became of an European interest with an European grant (as a pilot project) and an European concerted action of research on scallop seedings.

At the end of these two programmes (1996), the technique was considered to be controlled and was no longer helped by financial grants or by research studies. Since this date, the industry has been only supported by the self-financing of the Brest fishermen (70 licenses x 4500 €).

**Results.** Nowadays, the hatchery produces 20 million post-larvae /year and a new increasing of the Tinduff hatchery has been planed. Scallop production of the bay is over 300 mt, and 2 fished scallops (with a seeding ring on the shelves) out of 3 come from seedings (*figure 1*).

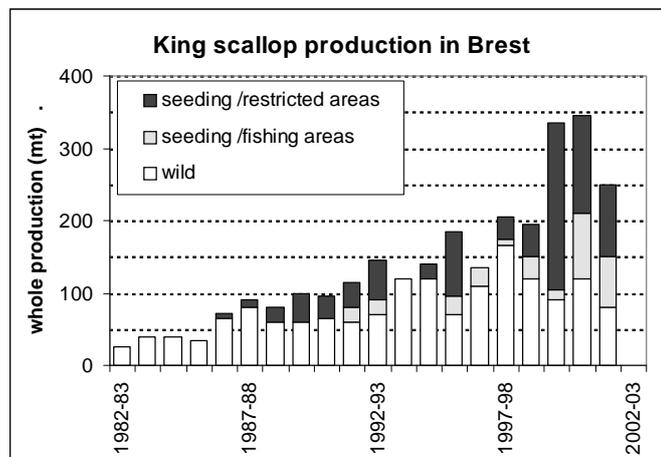


Figure 1. King scallop production in the bay of Brest (data : Fishery Comm. Finistère Nord).

The technique can be improved (reliability of larval rearings, survival rate of post-larvae when transferred to the sea, etc). In spite of its success, the industry remains economically fragile, depending on production hazards at each stage of production, such as biological risks, overdensities, delays in the production schedule with impact on the farm equipment turn-over.

Moreover, the evaluation of the industry has to take into account more than the only scallop production : by assisting the scallop beds management, the sea-farming industry has probably increased the natural stock itself (low fishing pressure or restocking effect ?) ; it has involved fishermen in a middle term project and on the whole bay of Brest ; it has conformed the local market prices (spreading out of landings, size and quality of scallops).

This success of recaptures in the bay of Brest has also aroused a new interest for this type of production and management in the other scallop beds of Brittany and West of France.

**Prospects.** With a production of 20 million post-larvae /year, The Tinduff hatchery has reached a level which allows a significant additional production (250 mt) in the bay of Brest, but this cannot support the whole development of the same technique in the other scallop fishing areas. Another hatchery is to be planed requiring a public financement at the beginning, then a self-financing by selling post-larvae or juvenile scallops. This would induce a first segmentation of the industry (spat market), necessary for its development, in order to reduce investment costs of each project and delays of their first financial incomings.

Later on, a second segmentation (juvenile market) could happen involving semi-skilled spat ongrowers (fishermen or oysterfarmers), because a number of sites and tools (large boats, barges) may be suitable for the intermediate culture. It may be usefull too to get spat complements from Scottish or Irish spat collectors, but only complements, because the industry will need, more than ever, reliability and regularity in its juveniles supply.

At last, the various local seeding experiments will need a technical support for each of them. In this way, the 20-year know-how of the Brest industry turnes to be an undeniable advantage.

**Key-words.** King scallop, *Pecten maximus*, hatchery, seeding, fishing management, France.