# HATCHERY BROODSTOCK CONDITIONING OF THE OYSTER *Crassostrea gigas* (Thunberg, 1793) IN SOUTH OF BRAZIL

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## INTRODUCTION

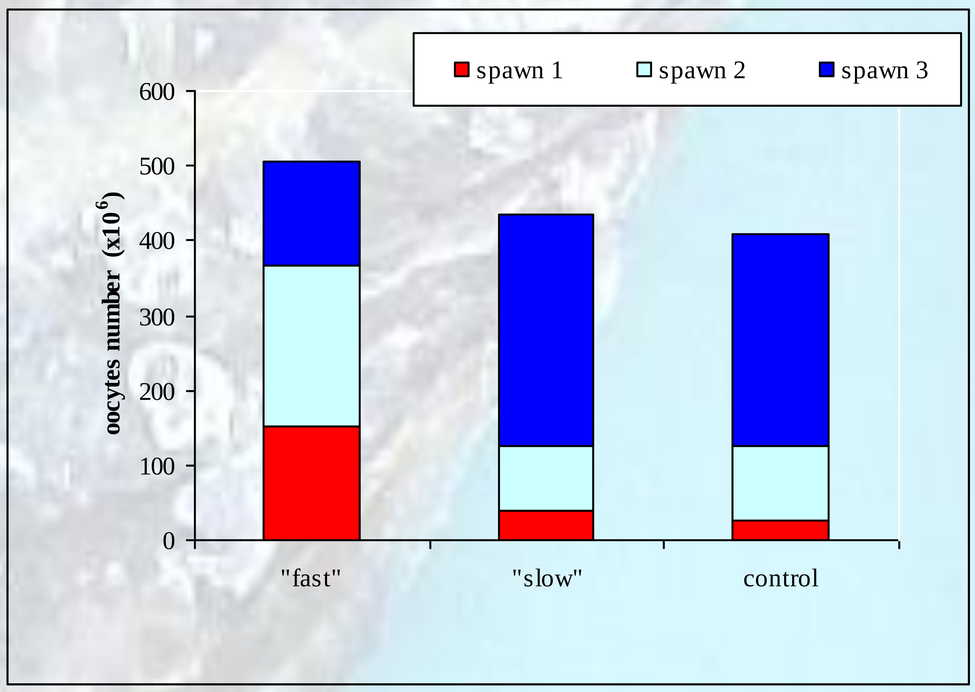
The development of oyster culture in Santa Catarina State and the consequent increase of seeds demand has been the major challenge for LCMM in recent years. To increase and develop the production of Pacific Oyster seeds the laboratory needs to solve problems related to adequate production of seeds within the period of major demand by the oyster producers. To supply this market with oyster seeds, mature broodstock is needed in the winter and in the summer. In the South of Brazil the natural maturation of the broodstock occurs during late spring; therefore techniques of artificial maturation must be refined. The main target of this project is to reduce the period of conditioning (gametogenesis) in the laboratory.

## MATERIALS AND METHODS

*Crassostrea gigas* broodstock was cultured at the LCMM culture area in Sambaqui Marine Farm and brought to the lab with glycogen reserve. They were submitted to two treatments as regards temperature. In the "fast" treatment the temperature was increased one degree centigrade every three days, and in the "slow" treatment it was increased one degree centigrade every seven days. The temperatures were elevated from 18$^0$C to 23$^0$C in both cases. The daily feeding in the laboratory tanks consisted of a mixed diet of microalgae at a concentration of 10 to 20 x 10$^9$ cells per oyster. A control group was maintained at Sambaqui Marine Farm until each spawning time. The broodstock in the laboratory and the field control group were submitted to three spawning times; at the end of 36 (spawn 1), 50 (spawn 2) and 62 (spawn 3) days of conditioning.

## RESULTS AND DISCUSSION

The number of total oocytes obtained in each spawning in the different treatments are presented in the picture. When estimating each spawning separately, in spawning 1, the number of oocytes obtained in the "fast" was greater than in the "slow" and the control with 152, 39 and 25 millions of oocytes, respectively. In spawning 2, the number of oocytes was greater in the "fast" treatment. In spawning 3, the broodstock under the "slow" treatment and the control displayed a larger number of oocytes. The numbers indicate that the fast treatment presents better results in a shorter period. This reduces time of maturation, which also reduces production costs, allowing laboratories to manage and supply sufficient production of seeds during the periods required by the market.




Oocytes quantities of *C.gigas* in each spawn (spawn 1, spawn 2 and spawn 3) in fast and slow hatchery conditioning and in field control conditions

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