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Oyster aquaculture production: growth rate and water quality

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The estuarine waters and the Portuguese weather have good conditions for oyster production. In the Portuguese estuaries, it is possible to grow the 3 main oyster species: *Crassostrea angulata*, *Crassostrea gigas* triploide and *Ostrea edulis*. Few scientific information about the oyster growth, mortality and quality of the final product are reported for aquaculture production in the Sado river. The relationship between the water quality and the oyster growth need to be better studied to optimize the production and increase the economic activity in the region. In this work, it was studied the growth rate of the oyster *C. gigas* triploide in earth tank and using floating bags in the aquaculture. The production occurred in extensive mode with renewable of water according to the tide height for 12 months. The water quality, the oyster mass, the biometric oyster parameters, and the mortality was measured every month. The results show that the oysters growth from 7g to 63g in 7 months (June - December) with an average condition index of 20-25 during the period, never the less it was also possible to observe some mortality until the final product get to the market. It is important to study continuously the growth rate and monitoring the water quality to ensure a high quality of the final product with the lowest economical losses during the production period. It is important to define the best periods to start growing the oyster, the periods with less mortality and apply the correspondent production techniques to maximize the final production.

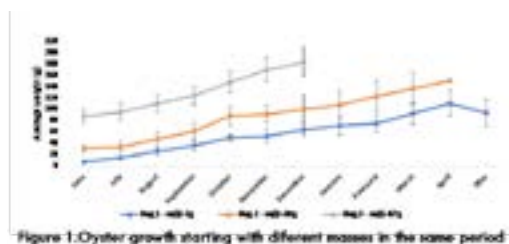


Figure 1: Oyster growth starting with different masses in the same period

Recent Publications:

1. Casas, S, Walton, W., Chaplin, G., Rikard, S., Supan, J, La Peyre, J (2017) Performance of oysters selected for dermo resistance compared to wild oysters in northern Gulf of Mexico estuaries. *Aquacult Environ Interact.* 9:169-180.
2. Raya, N E, Lia, J, Kangasa, PC, Terlizzi, DE (2015) Water quality upstream and downstream of a commercial oyster aquaculture facility in Chesapeake Bay, USA. *Aquacultural Engineering* 68:35-42.
3. Jiang, T, Feiyu Chen, F, Yu, Z, Lu, L, Wang Z, (2016) Size-dependent depletion and community disturbance of phytoplankton under intensive oyster mariculture based on HPLC pigment analysis in Daya Bay, South China Sea. *Environmental Pollution* 219:804-814.
4. Forrest, BM, Keeley, NB, Hopkins, GA, Webb, SC, Clement, DM (2009) Bivalve aquaculture in estuaries: Review and synthesis of oyster cultivation effects. *Aquaculture* 298:1-15.
5. Ibrahim, R, Jamil, AA, Hasan, SMZ, Arshad, AM, Zakaria, Z (2017) Enhancing Growth and Yield of Grey Oyster Mushroom (*Pleurotus sajorcaju*) Using Different Acoustic Sound Treatments. *MATEC Web of Conferences* 97, 01054: 1-9.

Biography

Ricardo M Salgado has his expertise in Environment Engineering, Biotechnology, and Aquaculture Production. He is an Assistant Professor and Researcher on CINEA and LAQV/REQUIMTE. His research is on water and wastewater treatment, aquaculture production and water monitoring. He is responsible for a research project OSTRQUAL which intends to map the economic activities in the Sado and Mira River and to study the oyster production growth and reproduction by establishing the relationship with the water quality.

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