A COMPARATIVE STUDY OF CARPET SHELL CLAM *Ruditapes decussatus* GROWTH PERFORMANCE IN TUNISIA (OUED MALTINE) AND IN PORTUGAL (RIA FORMOSA)

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The bivalve aquaculture in Portugal is greatly supported by carpet-shell clam (*Ruditapes decussatus*) culture in Ria Formosa lagoon (South Portugal), representing 92% of the national aquaculture production. In Tunisia, this species is abundant in Gabès gulf and Tunis strait and represents an important role in fishery. This clam has been more valuable and more appreciated by consumers than the Japanese clam, *Ruditapes philippinarum* (interdict in Portugal). Given the socio-economic importance of this species for the two countries, the carpet-shell growth performance in clam-rearing zones was evaluated and compared in Tunisia and Portugal aiming to propose the Portuguese rearing management model to Tunisia. The seeds obtained from natural banks were planted at a density of 350 g.m⁻² in oued Maltine (Tunisia) from March 1999 to June 2000 and in Ria Formosa lagoon (Portugal) from May 1999 to May 2000. Due to the difficulty in finding smaller individuals in Tunisia the experiments were carried out with different initial length and weight clams for each country (21.85±2.53 mm length and 2.19±0.74 g weight in Portugal and 29.6±2.1 mm length and 5.7±1.2 g weights in Tunisia). During this period, biological parameters (growth, biochemical composition, condition index and survival) and environmental parameters (sea-water temperature, salinity and chlorophyll *a*) were recorded.

The results show that the biomass was constant in oued Maltine site and had triplicated at the final of the experimental period in Ria Formosa. This difference seems to be essentially due to the different initial length of juveniles and to the phytoplankton richness of the Portuguese lagoon system. 57% and 71% of survival were obtained in Tunisia and Portugal, respectively. The mortality observed in the two countries may be related with the high temperature in summer months. Despite the constant biomass observed in Tunisia experiment, the technique used is economically lucrative in this country, since the >35mm clams are three times more expensive than the smaller ones. No significant condition index, and biochemical composition (except for proteins) differences were found between the two countries' clams.

In conclusion, this study confirms that Ria Formosa lagoon is a suitable site for carpet shell clam production and oued Maltine has potentiality for this activity. In this way it is possible to adapt the Portuguese rearing management model to Tunisia.

Variation of length clams in Portugal and Tunisia, during the experimental period.

Variation of weight clams in Portugal and Tunisia, during the experimental period.