

封闭循环海湾扇贝育苗系统水处理工艺与运行效果研究

Water treatment process and operation performance in a closed recirculating seawater nursery system for seed *Argopecten irradians*

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中文摘要:

为确定封闭循环海水育苗系统的水处理工艺流程, 了解各水处理单元的运行效果及育苗水体的水质状况, 建立了一套100 m³育苗水体的生产中试系统。以海湾扇贝为实验生物进行苗种循环水培育试验, 试验过程中跟踪监测各水处理单元进出水口处目标污染物的浓度, 并长期监测育苗池中各理化因子水质指标。监测结果说明生物滤池能有效去除氨氮、亚硝酸氮和COD, 同时各水处理单元联合对SS的去除率达80%。育苗池中氨氮、亚硝酸氮和COD的长期统计平均值分别为0.023、0.004和1.43 mg/L, 水质优良。这证明该系统水处理工艺可行, 能有效去除目标污染物。

英文摘要:

An experimental-scale closed recirculating seawater nursery system was constructed for the culture of breeding scallop and seed *Argopecten irradians*. To evaluate the feasibility of the water treatment process, water parameters in the nursery tank were monitored and operational effects of the water treatment facilities were evaluated during the experiment of nursery. The operation performance of the system revealed that the removal rate of SS by the water treatment facilities was 80% and the biofilter worked efficiently to maintain that the average concentrations of NH₄⁺-N, NO₂⁻-N and COD were 0.023 mg/L, 0.004 mg/L and 1.43 mg/L, respectively in the nursery tank. The results demonstrated that the water treatment process was feasible and the recirculating system could be successfully used for seed *Argopecten irradians* nursery.

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