

## **Selection breeding program of Nan'ao Golden Scallop *Chlamys nobilis* with higher nutritional values and less susceptible to stress**

### **ABSTRACT**

The Nan'ao Golden Scallop discussed in this paper is a new breed of noble scallop, *Chlamys nobilis*, produced by four generations of genetic breeding selections and two generations of culture demonstrations. Performed for the first time at Shantou University, the genetic breeding program was motivated by the need to reduce vulnerability and improve the adaptive capacity of noble scallops to the dynamic environment. This paper reviews the scientific evidences on aquaculture advantages of Nan'ao Golden Scallop, and identifies gaps in knowledge that require further research. From the analysis of published data, it is obvious that Nan'ao Golden Scallop is more nutritious and less susceptible to stress than common brown scallops. The high TCC of Nan'ao Golden Scallop up-regulate the expression of various immune related genes under stressful conditions. Since molluscs do not possess specific immunity, the information in this paper is very useful for improving the aquaculture performance of molluscs by selective breeding techniques.