

**Seasonal variation of total carotenoids content in the tissues of male and female golden noble scallops *Chlamys nobilis***

**ABSTRACT**

The noble scallop *Chlamys nobilis* is an economically important edible marine bivalve that has been cultivated in the Southern Sea of China since the 1980s. Noble scallops, particularly the golden scallops, are rich in carotenoids, are of interest for their potential beneficial uses in human healthcare, food processing and pharmaceuticals. However, very little is known about the seasonal variation of total carotenoids content (TCC) in the golden scallops. Therefore, present study was conducted to determine the seasonal variation of TCC in the tissues of male and female of golden scallops. The results of present study revealed that the TCC in adductor, mantle and gonads of golden scallops were ranged from 16.79 to 138.86 µg/ g, 92.86 to 312.98 µg/ g, and 71.5 to 750.0 µg/ g, respectively. Generally, the gonads of golden scallops contain the highest TCC, followed by the mantle and adductor. In comparison of male and female scallops, TCC in the same tissue (except for gonad) was not statistically significant. However, female gonads contain much higher TCC than male gonads. The temporal variation of the TCC in golden scallops showed the highest in March to April and the lowest in October. The findings of current study can be very useful for scallop farmers and industry to determine the best harvest time to obtain the highest quality of golden scallops with high TCC.