

Effective Utilization of Oyster Processing Byproduct

○Min-Jie Cao, Ling Weng, Yan Wang, Meng-Ya Ji, Qian Zhang

College of Ocean Food and Biological Engineering, Jimei University, Xiamen, 361021, China)

China is the major oyster production country in the world, with a production of 5.82 million tons in 2021. Shell is the major byproduct during oyster processing which occupies nearly 70% of the whole weight. Discarded oyster shell caused serious environmental problems and thus effective utilization of oyster shell is essential.

On the other hand, because of excessive application of chemical fertilizers and acid rain, soil acidification in China is quite serious, especially in southern east provinces. Acidified soil will cause low production and low quality of the agricultural products and impede sustainable development. Calcinated oyster shell mainly contains CaO, CaCO₃ as well as other metal ions and can be utilized as soil conditioner to neutralize acidified soil. We have applied this soil conditioner to more than 60 crops in 20 different counties in Fujian province. The results showed that application of oyster shell soil conditioner could significantly neutralize soil acidification, increase the content of soil organic matter and exchangeable calcium, and effectively improve the yield and quality of the crops while no side effect was observed.