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RESEARCH REPORTS

Sustainable Aquaculture for a Secure Future

Title: Relevance analysis of organic pollutants parameters in ponds of *Litopenaeus vannamei* culturing.

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Organic contents in fourteen ponds of a *Litopenaeus vannamei* culturing farm in Fengxian District of Shanghai were investigated during two aquaculture cycles from April to September in 2009. Total organic carbon (TOC), Chemical oxygen demand (CODMn), and Biological oxygen demand (BOD5) were analyzed respectively. The results showed that BOD5 were (8.62 ± 3.08) mg/L and (10.47 ± 3.87) mg/L in the two cycles of April to July and July to September respectively, CODMn were (13.09 ± 3.98) mg/L and (16.16 ± 6.07) mg/L, while TOC were (17.60 ± 5.91) mg/L and (20.32 ± 6.07) mg/L. TOC/CODMn were 1.35 ± 0.22 and 1.32 ± 0.30 , and TOC/BOD5 were 2.10 ± 0.44 and 2.08 ± 0.63 , while BOD5/CODMn were 0.66 ± 0.13 and 0.65 ± 0.11 . Significant relationships lied among the three water quality parameters. Linear regression equations and related coefficients were as follows. In cycle 1: $BOD5 = 0.4174TOC + 1.2777$, $r = 0.8022$. $CODMn = 0.5616TOC + 3.2091$, $r = 0.8342$. $BOD5 = 0.6264CODMn + 0.4209$, $r = 0.8106$. In cycle 2: $BOD5 = 0.4764TOC + 0.7902$, $r = 0.7480$. $CODMn = 0.7941TOC + 0.0237$, $r = 0.7962$. $BOD5 = 0.568CODMn + 1.2912$, $r = 0.8920$. The results showed that the equations established among TOC, COD and BOD5 could be used to calculate the other two parameters if anyone of them had been measured so that further comparison with some water quality standards or correlated researches could be carried out, which would benefit water quality management and healthy culturing of *L.vannamei*.

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