Surveillance of Chloramphenicol, Oxytetracycline and Oxolinic acid Contamination in Natural Aquatic Animals around Songkhla Lake from 2006-2008

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Abstract

Surveillance of anti-microbial drugs contamination in natural aquatic animals from 28 species including 720, 624 and 576 samples of shrimp, crap, and fish respectively around Songkhla Lake was investigated from September 2005 to October 2008. The samples were collected from 12 sites of natural resources located in the high aquaculture and sea ranching activities areas. The chloramphenicol were determined by Enzyme – Linked Immunosorbance Assay (ELISA) method while the High performance Liquid Chromatography (HPLC) method was employed to determine oxytetracycline and oxolinic acid. It was found that the contamination of chloramphenicol and oxytetracycline in all sample were not over the standard value of 0.3 ng/g for chloramphenicol and 0.2 μg/g for oxytetracycline and there was no contamination of oxolinic acid found in all samples. From the surveillance data although there were some contamination of chloramphenicol and oxytetracycline residues in samples in range of 0.025-0.3 ng/g for chloramphenicol and 0.01- 0.1μg/g for oxytetracycline, the percentage of both antibiotics residues were decreased from 2.78 to 0.64 and 0.17 for chloramphenicol and from 16.11 to 11.06 and 1.56 for oxytetracycline in 2006, 2007 and 2008 respectively. These shown the trend of anti-microbial drug residues contamination in natural aquatic animals around Songkhla Lake were reduced.

Keywords: Chloramphenicol, Oxytetracycline, Oxolinic acid, Songkhla Lake

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