

A Simple screening of Oxytetracycline residues in fish by Microbiological method

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Abstract

Aquaculture is one of the emerging food sectors in the world. This provide high quality food product, which helps in economic welfare and it also gives employment to the skilled labors. Due to intensification in aquaculture, the occurrence of disease was more. To control and treat the disease in aquaculture field, farmers used antibiotics in improper manner. This leads to the accumulation of antibiotic residues in fish, which makes them resistant to that particular antibiotic. It was later transformed to other animals and human beings, which also makes them resistant to that antibiotic. Hence there is a need to monitor the presence of antibiotic residues in fish. In this study, microbiological methods have been used for screening antibiotic residues in fish. For microbial screening, *Bacillus subtilis* were used as an indicator microorganism. Totally 16 samples of catla muscle, 44 samples of catla kidney and 140 samples of catla liver were screened for oxytetracycline residues. As a result, 5 samples of muscle, 12 samples of kidney and 22 samples of liver were positive for oxytetracycline residues. This study explains that microbial screening has a unique advantage of economical and a simple method that can be used for screening antibiotic residues in fish.

Conclusion:

A study was undertaken to assess catla (*Catla catla*) and samples for the spectrum of antibiotic residues. The versatility of the techniques specifically microbial screening was evaluated.

A total number of 200 catla samples were collected and analysed for the presence of antimicrobial residues by microbial screening. From total 200 samples, 39 were positive which was below 20%. This was a simple method that can only be used for screening the presence or absence of antibiotic residues in fish. For further quantification, analytical techniques can be used such as HPTLC, HPLC, FTIR, GC-MS etc.,

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