

# International Conference on **Aquaculture & Fisheries** July 20-22, 2015 Brisbane, Australia

## Pesticide residues in aquatic organisms: Fish and frog

**K S Tilak**

Acharya Nagarjuna University, India

The standard methods and guidelines prescribed by EPA for TLC and GLC procedures, the tissues of fish and frog viz. Gill, Muscle, Liver kidney, Brain and Tests (Frog only) were extracted, cleaned up and concentrated to less than one ml and are qualified and quantified. The qualified residues by their standard 'Rf values' and are repository at nano level. The residues are varied in different tissues of fish and also in different fish as well as in frog due to lipophilic nature. The latent residues are known to bio-accumulate via the food chain and reach human beings and the risk to the health of the people may be cautioned. The bio-concentrations will show an impact on reproductive impairment of the commercially important fishes and to higher carnivores especially to birds. The need to protect the fast declining population like frogs which are natural pest controllers from under exposure to insecticides cannot be ignored too a part from consumption of fish and frog. In disease management of aqua farming, the chemical treatment is contemplated and use of organophosphates like chlorpyrifos result to reach a level either acute or chronic and the fish are subjected to more stress, avoid feeding which is detrimental for their growth. An attempt has been made to study the effect of three mixed pesticides in ratios as 1:1:1 (Organochlorine-Endosulphate, Organophosphate-Dimethoate and a Synthetic pyrethroid cypermethrin). The results of the study revealed that prolonged exposure to sub-lethal concentration of mixture of pesticides ratios in the fish *Labeo rohita* leads to increased accumulation. The study also revealed that at sub-lethal concentrations of pesticide mixture lead to high residue concentrations. The uptake and persistence of endosulphan, dimethoate and cypermethrin varies according to the residues which is a prerequisite to observe any biochemical or histopathological change which are really the indices of toxicity. It is also confirmed that many of the bio chemical changes in the tissues resulting to do away from their normal functions and triggers of a cascade mechanism that reverberate.

### Biography

K S Tilak is a Doctorate from Andhra University, Waltair, AP, India and the former Dean of faculty of Natural Sciences, Chairman Board of Studies (PG) Zoology and Head of the Department of Zoology and Aquaculture. He has 40 years of research experience on 'pesticide toxicology' having guided 29 research students and published 72 research papers in international and national journals recipient of prestigious 'Archana Gold Medal' by Academy of Environmental Biology, Editor and Reviewer of reputed toxicity journals and also conducted international and national conference in Acharya Nagarjuna University, AP, India.

[profkstilak@gmail.com](mailto:profkstilak@gmail.com)

### Notes: