

SOUVENIR

National Seminar

**"CHALLENGES IN ENVIRONMENTAL SCIENCE
AND TECHNOLOGY FOR 21ST CENTURY",**

June 10 - 11, 2000



*Mother Earth
"Time to Act"
To Save*



Organised By

**DEPARTMENT OF ENVIRONMENTAL ENGINEERING
SRI JAYACHAMARAJENDRA COLLEGE OF ENGINEERING**

Mysore - 570 006

In Association with

KARNATAKA STATE POLLUTION CONTROL BOARD

Bangalore

TECHNICAL SESSION VI - ENVIRONMENTAL BIOTECHNOLOGY

TIME : 10:15 a.m. - 11:30 a.m.

CHAIRPERSON : Manja K.S., DFRL, Mysore.

RAPPORTEUR : Suneeth Kumar S.M., NIE, Mysore.

INVITED PAPER :

1. ***Microbial Degradation of Pesticide Residues for cleaner Environment***
Manonmani H.K. & Kunhi A.M., CFTRI, Mysore.

YOUNG FORUM :

1. ***Conversion of Coconut Coir pith to Bio - fertilizer by the Solid State Fermentation***
Riaz Maniyar and Raghavendra Ashok, KREC, Surathkal.
2. ***Biotechnological Approaches for Heavy Metal Removal***
Girijamma A.R., Keerthi D'Souza, Malini M. and Shambavi K.M., SJCE, Mysore.
3. ***Use of Micro-algae in Pollution Abatement***
Ann Jacob and Anurita, SJCE, Mysore.
4. ***Microbial Biosorbents: Meeting Challenges of Heavy Metal Pollution in Aqueous Solutions***
Nirmala E. and Geetha B.R., SIT, Tumkur.

CONTRIBUTED PAPER :

1. ***Biofilming in Water Distribution Network and their Engineering Aspects*** Srinivasa P.C., Keshava N., Gowda T.P.H. and Mahesh S., CFTRI & SJCE, Mysore.

Microbial Degradation of Pesticide Residues for a Cleaner Environment

Manonmani H.K. and Kunhi A.A.M.
Central Food Technological Research Institute, Mysore

ABSTRACT

Pesticides contribute considerably to environmental pollution and in turn to human health problems. Of the different classes of pesticides, organochlorine compounds are highly recalcitrant and hence persist in the environment for long periods leading to their accumulation and entry into the food chain. Microorganisms are endowed with ability to degrade/transform various chemical pollutants and hence can play a pivotal role in the development of bioremediation technologies. They are potentially cost effective and safer. Microorganisms have been shown to be capable of degrading major organochlorine pesticides such as HCH, DDT, endosulfan, 2,4,5,-T, etc., partially or completely by a few laboratories in India including CFTRI, Mysore. Potent microbial consortia able to degrade different isomers of HCH and bacterial strains degrading DDT have been isolated in our laboratory. Laboratory studies and preliminary trials in soil have indicated the suitability of their application in bioremediation technologies. Data on these and from other groups and on similar work on other pesticides will be presented.

Key words: Organochlorine pesticides, recalcitrance, microorganisms, bioremediation.