

[Print this page](#)**MINOR RESEARCH PROJECT REPORT SUBMITTED TO UNIVERSITY GRANTS COMMISSION**

by
Dr. SHIRLY ANNIE OOMMEN
ASSOCIATE PROFESSOR
DEPARTMENT OF ZOOLOGY, ST.THOMAS COLLEGE,
KOZHENCHERRY, PATHANAMTHITTA

“BIOREMEDIATION OF PESTICIDES IN SOIL USING SELECTED BACTERIAL SPECIES”

UGC APPROVAL No: MRP(S) 982/10-11/- KLMG 022/UGC- SWRO
dtd 22-Dec-10

ABSTRACT**CHARACTERISATION OF PESTICIDE RESISTANT BACTERIA FROM
THE AGRICULTURAL FIELDS OF KOZHENCHERRY TALUK, SOUTH INDIA**

SHIRLY ANNIE OOMMEN *AND SUNU
Department of Zoology,
St. Thomas college,
Kozhencherry,
Pathanamthitta District-689641. Kerala, India

Abstract

Soil samples from four different vegetable crop fields such as Spinach, Tapioca, Pea plant and Corm were analysed for total heterotrophic bacteria (THB) as well as pesticide resistant bacterial population. The THB population varied between 5.1×10^4 cfu/g to 1.7×10^4 cfu/g in different cultivating soil. The THB load was high in the soil samples from Spinach cultivated area and low in the soil samples from Tapioca cultivated area. THB population was analysed at monthly intervals allthrough the cultivation period. The pesticide resistant bacterial (PRB) population in the soil samples from different sites were estimated by using mineral medium supplemented with pesticide as the only carbon source. Pesticide resistant population was considerably less when compared to the THB. The pesticide resistant population varied between 0.7×10^3 and 3.8×10^3 cfu / gm. Most of the heterotrophic bacteria were able to resist the pesticide at different concentration and the THB population reduced considerably at 1% concentration of the pesticide. Characterisation of the microflora revealed that the Bacillus was the predominant genera in the four fields selected. Pesticide resistant bacteria were also found to be dominant by Bacillus. The above results revealed that some bacterial species isolated from the study can be used for the bioremediation of the pesticide contaminated soil in this area.

KEY WORDS: Soil microflora, Pesticide contamination , Bioremediation

