





 **Current Issue**


 **Browse Issues**

 **Search**



 **About this Journal**

 **Instruction to Authors**

 **Online Submission**

 **Subscription**

 **Contact Us**



 **RSS Feed**

Acta Medica Iranica

2009;47(4) : 207-211

STUDY OF BACTERIAL RESISTANCE TO ORGANOPHOSPHOROUS PESTICIDES IN IRAN

A. Nazarian M. Mousawi

Abstract:

The broadness application of organophosphorus compounds has abounded the number of its polluted areas. Bioremediation has widely focused on insitu bacterial degradation of organophosphorus residues in the world. Therefore, in this research six numbers of samples from two different sources, soil and water randomly were isolated using different organophosphorus pesticides containing mineral solution without supplementation. More than 100 isolated strains were selected according to their simultaneous optimal growth on mineral medium with organophosphorus and Mac Conkey,s agar. More than 50 percent of them were lost above resistance. The resistant strains were identified by two methods, the biochemical convention and API 20E procedure with positive agreement. The identified strains belonged to Pseudomonas and Flavobacterium species. The maximum tolerant concentrations of different organophosphorus pesticides by these resistant strains were 2.5, 4 and 8 g/L of guthion, methyl parathion and Dimethoate, respectively. The resistance to these pesticides due to organ phosphorous degrading plasmids had the ability to express hydrolytic enzymes. Resistant bacteria lost these plasmids by acridin orange and could translocate to sensitive strains. Thus, certain environmental bacteria could be used as protection tools against antinerve agents.

Keywords:

Bacterial resistance . organophosphorous pestisides . antinerve agents

TUMS ID: 2373

Full Text HTML  Full Text PDF  48 kB

top ▲

[Home](#) - [About](#) - [Contact Us](#)

TUMS E. Journals 2004-2009
Central Library & Documents Center
Tehran University of Medical Sciences

Best view with Internet Explorer 6 or Later at 1024*768 Resolutions