



A.V.V.M. Sri Pushpam College (Autonomous)

Poondi– 613 503, Thanjavur-Dt, Tamilnadu

(Affiliated to Bharathidasan University, Tiruchirappalli – 620 024)

**3.7.1 Number of Collaborative activities per year
for research/ faculty exchange/ student
exchange/ internship/ on –the-job training/
project work**

Collaborating Agency:

**Dr. R. Senthil Kumar Associate Professor, Dept. of Microbiology,
PG Extension Centre, Bharathidasan University, Tiruchirapalli**



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Dr. R. SENTHIL KUMAR
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Bharathidasan University
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Date: 02.06.2016.

LINKAGE
For the year 2016-2017

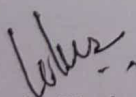
Between

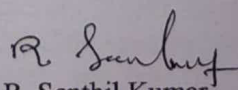
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|--|---|---|
| 1. Dr. K. Kanimozhi,
Associate Professor
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A. V. V. M Sri Pushpam College
(Autonomous), Poondi – 613 503. | & | 2. Dr. R. Senthil Kumar
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Perambalur-621107, India |
|--|---|---|

Considering the significance of the noble cause for the student community, we have come forward to collaborate with each other to exchange research knowledge, expertise, laboratory and library facilities to the process of scientific research and education in the field of Biological science. The parties (mentioned above as 1. & 2.) have had preliminary discussion in this matter and have ascertained areas of broad consensus. The parties now therefore agreed to enter in writing these avenues of consensus, under a flexible linkage, and this project aims to fill the gap between knowledge demand and subject expertise related to the mentioned field.

Joint Responsibilities

- Sharing of laboratory facilities, library resources, database etc.,
- Joint Publication of research articles, books, magazines, bulletins etc.,
- Jointly organizing conferences, seminars, symposia and workshops.
- Submitting joint proposals for research funding from agencies like UGC, CSIR, DST and TNSCST.
- Patenting Microbes, Plants patents Procedure, Product development and Novel equipments in Biological sciences (Indian and Foreign Patenting).


Dr. K. Kanimozhi


Dr. R. Senthil Kumar

Original Research Article

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Biodegradation of Pesticide using Fungi Isolated from Paddy Fields of Thanjavur District, India

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ABSTRACT

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Pesticide use raises a number of environmental concerns. Over 98% of sprayed insecticides and 95% of herbicides reach a destination other than their target species, including non-target species, air, water and soil. Although they improve the quality and yield of the agricultural product but do have certain serious effect on the environment. This study focuses on development of a method to reduce the environmental burden of the pesticide by way of biodegradation. In the present study, totally twenty two fungal isolates were screened. The isolates from agricultural soils were identified as filamentous fungi belonging to the phyla Ascomycota (7 genera), Deuteromycota (2) and Zygomycota (1). Out of twenty two isolates, only two isolates were highly degrade the pesticide (chlorpyrifos) and form high level of biomass by *Aspergillus fumigatus* (93.6, 93.3%) and *A. niger* (82.2, 77.4%) respectively.

Introduction

The pesticides belong to a category of chemicals used worldwide as herbicides, insecticides, fungicides, rodenticides, molluscicides, nematocides, and plant growth regulators in order to control weeds, pests and diseases in crops as well as for health care of humans and animals. The positive aspect of application of pesticides renders enhanced crop/food productivity and drastic reduction of vector-borne diseases (Damalas, 2009 and Agrawal *et al.*, 2010).

As a result of human activities, currently a large number of pollutants and waste are

eliminated to the environment. Worldwide, more than one billion pounds of toxins are released into the air and water. Approximately 6×10^6 chemical compounds have been produced; annually 1,000 new products are synthesized and between 60,000 and 95,000 chemicals are commercially used (Shukla *et al.*, 2010).

Worldwide approximately 9,000 species of insects and mites; 50,000 species of plant pathogens, and 8,000 species of weeds damage crops. Different pests such as insects and plants causing losses estimated