Amrut Sevabhavi Sanstha Parbhani

Late. Ku Durga K. Banmeru Science College, Lonar

Department of Chemistry 2018-19

"AVISHKAR-2018"

The Buldana District Level Students Research Competition **"AVISHKAR-2018"** was organized by Shri Shivaji Science & Arts College, Chikhli Dist. Buldana on 19th December 2018. From our college, **8 (eight) students** had participated along with **5 Research Projects.** The students are supervised by college teachers respected to their subject. The students have prepared the **Project Model & Poster** for effective presentation in completion as per the guidelines given in circular of AVISHKAR 2018. The students have successfully presented their projects in front judges of S. G.B. A. University, Amravati. The details of Research Projects, Participated Students & their Teacher supervisors are as follows:

Title of the Project: **Degradation of Remnants of Pesticides by Bio-Bed**
Participated Students: **Mr. Irfan Rannu Naurangabadi, B.Sc. III**
Name of the Guide/ Supervisor: **Prof. Kamlakar K. Wavhal, Prof. S. B. Borul, and Mr. Shivshankar More**
Asst. Professor in Chemistry, L. K. D. K. Banmeru Science College, Lonar.

Mr. Irfan R. Naurangabadi presenting project in Avishkar-18, Chikhli

AVISHKAR 2018

DEGRADATION OF PESTICIDE BY BIO-BED

Introduction-

India is a agricultural country most of the people depends on agricultural. Now a days Indian farmer facing big problem of soil pollution, water pollution decrease in crop yield and changes in aquatic ecosystem this is only due to excess use of chemical fertilizes and pesticide in agriculture . The remnants of pesticides or washing the utensil or sprayer of pesticide will polluted the particular area. To sustained this condition, there is need of degrade remnants of pesticides properly. Therefore, a new affordable technology is develop to degrade pesticides i.e. Bio-Bed. This concept is generally used in foreign countries like Canada, Japan, USA, Netherland, Finland etc. but it is new for the Indian farmers.

Methodology:

The Bio-Bed is simply made up by using a mixture of straw (Wheat or Rice), top soil, pit. Firstly, in the field at one corner a rectangular pit is dig out of size 4 x 4 x 2 ft. Fill the pit with soil (25%) firstly, then equally spread the bio-mixture of chopped straw (50%) equally on the soil and finally the pit soil (25%) cover the straw & on the top the grass layer is grown.

Working:

After spraying the pesticides on the crops, the utensil, sprayer, bottles of remnants pesticides are washed on this Bio-Bed. The top soil serve as source for Micro-organism in the system. The pit soil is included for its high water holding capacity & provides large organic matter surface area for absorption. Where as a straw serve as a Carbon source for lignin degrading micro-organism. The fungi Penicillium citrum, Aspergillus fumigatus, Trichoderma harzianum, Fusarium. Lentinula etc. degrades the remnants of pesticides. The Bacteria like Streptomyces, Stereum hirsutum for degradation of Atrazine; Trametes versicolor is degrade Phenoxides.

Result & Discussion: Bio-Bed is cost effective technique considered as an economic solution for pesticide disposal. The remnants o pesticide are properly disposed by the micro-organism developed in Bio-Bed. This Bio-Bed save the aquatic ecosystem, decrease soil pollution & it has low cost. Also, it has 7 to 8 yrs durability & it control & save the N2 fixing bacteria. After complete degradation the compost manure is produce which is used to increase soil fertility.

Posters flex Prepared by Irfan Naurangabadi for Presentation