



## Isolation and Characterization of Pesticide Degrading Cyanobacteria

Diana Pinty\*

Department of Biological Sciences, University of Calgary, Calgary, Alberta, Canada

### DESCRIPTION

Food production is the prime motive of all the countries. Since the world population is increasing day by day more pressure has built on the existing agricultural system to meet the increased food demand with better quality and quantity. An increase in food demand also increased the use of various agrochemicals. These chemical compounds like pesticides are using indiscriminately for the protection of crops and for increasing product quality. They are now used in higher quantities than in the past which has created the problem of pesticide pollution. Repeated use of these chemicals causes its environmental accumulation which will lead to contamination in various parts of the environment. The bioavailability and mobility of these chemicals in soil depend upon their absorption and desorption from soil particles. Pesticides are equally harmful to both the environment and living organisms.

Agricultural practices mainly aim to meet the food requirement of the growing population and to increase the product yield for making it available for exporting purposes and future needs. In developing countries, pesticides are widely used to increase the production of crops, vegetables and fruits to improve the economic status of the country. Fulfilling the agricultural demands, more powerful pesticides are being developed in very high quantities by manufacturers. As a result the pollution with the use of these chemicals also increases causing more and more problems in the environment. Pesticides are a major contributing factor for water pollution which may pose a risk to drinking water resources. The effect of pesticides in the environment depends upon their degree of exposure and their toxicity. Accumulation of pesticides in the food chain poses a serious threat to the human population. Various remediation methods are being developed to reduce the impact of these toxic

chemicals in the environment. Bioremediation methods involving the use of microorganisms or their enzyme represents a more promising solution as these methods remove pesticides without the generation of any toxic intermediates.

Pesticide usage has become an integral part of the modern agriculture system. These chemicals are applied in agricultural land, stored grain, flower gardens and also to destroy pests transmitting infectious diseases. These manmade organic compounds are considered xenobiotic compounds. Most of the compounds are resistant to biodegradation. The use of pesticides has increased the current status of agriculture. Pesticides protect the crops by preventing, repelling or destroying the attacking pest.

### CONCLUSION

More pesticides and chemical fertilizers were used during the time of the green revolution to increase the production of food grains which was needed to meet the demand for food needs of the human population. But indiscriminate use of these chemical causes a major public health issue. Different classes of pesticides are there like organochlorines, organophosphorus, carbamates, and pyrethroids. Organochlorine pesticides are characterized by their high persistent and toxic nature. Organophosphorus pesticides are less persistent compared to organochlorine pesticides but many of them have high mammalian toxicity. Pyrethroids have less persistence and less toxicity. They are broad-spectrum insecticides affecting a wide range of insects. Because of their broad-spectrum nature, they may also cause problems to beneficial insects. Carbamates are broad-spectrum toxicants and include insecticides, fungicides, acaricides, and nematicides. They are more persistent than organophosphorus pesticides and they differ in their mammalian toxicity.

**Correspondence to:** Diana Pinty, Department of Biological Sciences, University of Calgary, Calgary, Alberta, Canada, E-mail: pinty.d@gmail.com

**Received:** 04-Jul-2022, Manuscript No. JMBT-22-17877; **Editor assigned:** 07-Jul-2022, Pre QC No. JMBT-22-17877 (PQ); **Reviewed:** 22-Jul-2022, QC No JMBT-22-17877; **Revised:** 29-Jul-2022, Manuscript No. JMBT-22-17877 (R); **Published:** 08-Aug-2022, DOI: 10.35248/1948-5948.22.14.511.

**Citation:** Pinty D (2022) Isolation and Characterization of Pesticide Degrading Cyanobacteria. J Microb Biochem Technol. 14:511.

**Copyright:** © 2022 Pinty D. This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.