



Isolation, Growth and Identification of chlorpyrifos degrading microorganisms from Agricultural soil

• Shreya Shikha • Soumya Shradha • Sandhya Kumari
• Sonal Suman

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Corresponding Author : Sonal Suman

Abstract : Pesticides are a large and varied group of substances that are specifically designed to kill organisms including of weeds, insects, and the indiscriminate use of pesticides in agricultural field resulted into contamination of soil environment leading to toxicity. The current method for removing such contaminants from the environment through biodegradation has been shown to be more effective than any other method that is biodegradation using native microorganisms for pesticides removal from the environment is quite attractive. Chlorpyrifos is a broad-spectrum, moderately

toxic pesticide that has been widely used in the prevention of agricultural pests. In the present study, we collected soil sample having history of chlorpyrifos from four different soil sample (Rice, wheat, maize and vegetable). Nine chlorpyrifos pesticide utilizing bacteria were isolated and identified through cultural and biochemical tests as strains of *Bacillus* sp, *Staphylococcus* sp. *Coccus* sps. Their growth in minimal salt medium supplemented with 200µg/ml and 250µg/ml of Chlorpyrifos was monitored at optical density 600nm. The result showed that *Staphylococcus* sp., *Streptococcus* sp. and *Bacillus* sp. had maximum growth at twelve days, while *Coccus* sp. Gram-ive *Bacillus* sp. shows highest growth upto four days of incubation at 200µg/ml and upto eight days of incubation at 250µg/ml of Chlorpyrifos. The results of this research indicated that the isolated bacteria can be used for bioremediation of Chlorpyrifos contaminated soil.

Shreya Shikha

B.Sc. III year, Industrial Microbiology (Hons.),
Session : 2014-2017, Patna Women's College,
Patna University, Patna, Bihar, India

Soumya Shradha

B.Sc. III year, Industrial Microbiology (Hons.),
Session : 2014-2017, Patna Women's College,
Patna University, Patna, Bihar, India

Sandhya Kumari

B.Sc. III year, Industrial Microbiology (Hons.),
Session : 2014-2017, Patna Women's College,
Patna University, Patna, Bihar, India

Sonal Suman

Asst. Prof., Deptt. of Industrial Microbiology,
Patna Women's College, Bailey Road,
Patna – 800 001, Bihar, India.
E-mail : sonal.micro89@gmail.com

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