

Consortium Development for Nutrient Sequestration During Industrial Waste Treatment Using Bioreactor and Its Application as a Biofertiliser for Development of Crop Productivity

Amit Kumar Gupta, Prashant Bajpai, Sonali Pardhiya

Indian Agricultural. Research Institute, Pusa Campus New Delhi-110012

Abstract Climate change is the result of global warming which is direct consequential fallout of the greenhouse effect and pollutant released by different sources. The increased level of waste water produces gases causes warming of the earth's surface. Due to the climate change there are alternative cycles of food and drought. Most of the developing countries like India are solely depend upon Technologies and Industries for their development. In industries, people are mainly concentrating on the products. Along with products, by-products are also coming out in which they are called as waste in some processes. The treatment of waste is one of the important steps in the processing because the wastes are draining out into the environment. There are many chemical methods are available which leads to the adverse side effect to the environment. This paved the way for the step up of bioremediation. Bioremediation is the treatment of industrial waste by using micro organism. For example industrial waste contains a huge amount of sulphur which is reduced by using sulphate reducing bacteria. Also waste water contains a huge amount of nitrate and phosphate which carries a lot of nutritional characters to the plants. This large amount of nitrate and phosphate in waste water lead to eutrophication that is formation of algal layer leads to the depletion of oxygen. Some microbes are capable in accumulation of nitrate and phosphate. Such microbes are used as a biofertilizers for plants. These microbes should be incorporated on the soil which enhances the Plant Growth Promoting and Regulating Factors.