GRAY BIOTECHNOLOGY

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Abstract. The importance of biotechnology to the world can not be overemphasized; its emergence has helped improve the quality of people's lives for about 10,000 years. The field itself encompasses a lot of areas such as medical, industrial, waste treatment, agricultural and environmental technology. The gray biotechnology is dedicated to environmental applications and focused on the maintenance of biodiversity and remotion of pollutants.

Biotechnology presents the integration of natural and engineering sciences, which allows fully to realize the opportunities of living organisms or their derivatives to create and modify products or processes, as our knowledge and capability in biotechnology increases, so do the potential benefits. Gray (environmental) biotechnology covers the direct applications on the environment. They can be divided in two groups of uses:

Biodiversity is the variety of different forms of life on earth, it includes different plants, animals, microorganisms, the genes they contain and the ecosystem they form. Biodiversity also includes the genetic differences between each species. Chromosomes, genes and DNA determine the uniqueness of each individual and each species. Biodiversity can include the maintenance by genetic analysis of populations or species part of ecosystems, as well as their comparison and cataloguing. It also includes cloning techniques for species preservation and the utilization of genome storage technologies.

Contaminants disposal or bioremediation includes the use of microorganisms and vegetable species to clean polluted places by the isolation and the elimination of different substances like hydrocarbon or heavy metals. Bioremediation can be defined as the use of biological organisms to solve an environmental problem such as contaminated soil or groundwater. Bioremediation as a natural process is therefore perceived as an acceptable waste treatment process for contaminated material such as soil. It can save life web and prohibit the passage of dangerous and risky contaminants from an ecosystem to another.

Conclusion: Biodiversity affects key ecosystem processes in terrestrial ecosystems such as biomass production, nutrient and water cycling, soil formation and retention however, bioremediation is a means of cleaning up contaminated environments by exploiting the diverse metabolic abilities of microorganisms to convert contaminants to harmless products by mineralization, generation of carbon (IV) oxide and water, or by conversion into microbial biomass.