B033

The Product of Biosurfactants According to Microbial Medium.

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Chemical surfactant is used in a lot of industrial fields However, this chemical surfactant has a problem called the second pollution environmentally. Biodegradable surfactant became presentation as an alternative, but hardly spends it by a high unit cost

This study is the culture medium optimization that can mass-produce surfactant producing microoaganism (*C. bombicola sp., S. chungbukensis sp , S yanoikuyae sp*) in a low unit cost. A progress process of study, compare with biosurfactant of the optimum culture medium state after culturing a microbe under various condition after that in a molasses culture medium. Measured growth curve in cultivation in a comparative way and observed it and sampling did this culture medium, and sampling did suspention after centrifugal disconnection and measured CMC and HLB Value. It is experiment to have recognized possibility of produced biosurfactant in the molasses culture medium that a unit cost is low by this measurement Biosurfactant was generated in molasses by this experiment results and followed frill, and it was different, and microbe growth and a product generation speed were known

B034

Development of Nested PCR Procedure for the Detection of *Clostridium botulinum* Toxin Types A, B, E, and F in Soil Samples

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The presence of *C botulinum* spores in soil is one of a potential source of human botulism Our goal was to develop a specific PCR procedure for detecting *C. botulinum* types A, B, E, and F, which are associated with human botulism, all together in soil samples A newly developed nested PCR consisted of two steps of amplification The first step was performed with a set of primers (BT-F, BT-R) that include common region of type A, B, E and F neurotoxin genes The amplicon of first step was used as template for the second amplification with internal sets of primers specific for four toxin types (BT-AR, BT-BR, BT-ER and BT-FR) The specificity of this assay was verified by evaluating with gemomic DNA from 11 genera of 14 strains, concluding that the PCR assays could detect *C botulinum* specifically Ability to detect *C botulinum* from marine sediment was confirmed by spiking spores of four types into soil sample These results suggest that newly developed nested PCR procedure can be applicable to determine a prevalence of *C botulinum* types A, B, E, and F in soil environments

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B035

Effect on of *Mer* Gene by Cell Density in *Pesudomonase spp*

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The heavy metals most frequently found in polluted environments by many bacteria was survival The effects of these metals on bacterial growth and protein synthesis were existence and bacterial diversity on polluted environments were existence Mercury of these metals is toxic metal on living cells. Diversity of Mercury resistance genes on some mines and one of *Pesudomonase spp* On relationship of cell density and mer genes were studies. Diversity of mer genes on mines was similar to area of polluted environments Mer gene expression effect on cell density of *Pesudomonase spp*

B036

Influence of Elevated CO_2 on the Community Structure of Denitrifiers and Methangens in Wetland Soil Investigated with Terminal Restriction Fragment Length Polymorphism (T-RFLP)

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To investigate the effect of elevated CO_2 on the community structure of denitrifiers and methanogens in wetland soils, the genetic heterogeneity of the nitrite reductase gene (*nirS*) and methyl-coenzyme M reductase gene (*mcr*) was analyzed by using terminal restriction fragment length polymorphism (T-RFLP) analysis Seven species of wetland plants have been continuously exposed to ambient and elevated to CO_2 at twice-ambient concentration (740ppm) for 110 days in growth chambers *nirS* gene and *mcr* gene fragments could be amplified from all analyzed soil samples PCR products were purified and digested with restriction enzymes such as HhaI, HaeIII, and MspI The result showed that different genetic structures were observed between each samples treated with various conditions The effect of CO_2 treatment was increase, decrease or nothing in the diversity of bacterial species Overall, the data in this study showed that the response of denitrifying and methane-producing community in the wetland soil to elevated CO_2 might be impacted by another environmental factor such as nutrient and vegetation type

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