Num.6-2016 | Abstract English Version

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Characterisation in vitro of new probiotic strains isolated from native ecological niches of Ecuador

Ecuador, a country known by its biodiversity, is importing probiotic products for their use in the food and pharmaceutical industry. The new challenge is to identify new native probiotic strains, to explore their functional properties in order to obtain new products with valuable biotecnological potential. The oral consumption of probiotic microorganisms produces a protective effect in the intestinal flora, however, researchers have found beside the nutrients, other varieties of characteristics in the food. Taking into account the importance of probiotics in the world, as well as that in Ecuador there is any study regarding the presence of lactic acid bacteria in native microbiota, in this study, were isolated, identified and evaluated the possible probiotic characteristics and the antagonistic properties in vitro of the bacteria of the lactic acid (20 strains) in native niches from the subtropical jungle in Ecuador through methods of basic microbiology, biochemistry and molecular biology.

Phytoremediation; an alternative for sanitation and conservation of water resources.

Nowadays the aquatic ecosystems are vulnerable to the contamination of water resources; this process is the result of the demographic growing and the industrialization which has provoked the deteriorative state of them. The adequate treatment of these resources guarantees that the natural characteristics of the water are held. Nevertheless, there are not many treatments friendly with the environment. At present technology has enabled to develop processes that value the sustainability of the ecosystem, the landscape and the environmental impact. From these techniques the phytoremediation is emphasized, where the plants, through root absorption and symbiotic relations with microorganisms, cooperate in capitation processes, transport and in the removal of contaminants. *Eichhornia crassipes*, *Lemna minor*, *Schoenoplectus californicus* and *Typha latifolia* are species broadly used in artificial wetlands due to their capabilities of absorption and contaminant removal. Many projects have been brought up looking forward to recover water bodies in the region to improve the life quality of the population. One of this projects is being developed at Yahuarcocha lake, where is intended to implement technologies in wetlands of *Thypa latifolia* in the zones which are most exposed to contamination, verifying the removal capability of heavy metals from wastewaters, both the individuals of this specie, as the microorganisms related to their microhabitat.

UTN on the Antarctic Continent

The Antarctic constitutes one of cleanest places on Earth which nowadays is bounded to researching purposes. Ecuador has a summer-only station in Greenwich Island on the Antarctic Peninsula, at this place a diverse type of research are performed, thanks to a cooperation agreement between the “Universidad Técnica del Norte” (UTN) and the “Insituto Nacional Antartico Ecuatoriano” (INAE). Each year an Ecuadorian expedition is performed, and during the years 2012 and 2013 UTN took part in them, and this has allowed the expedition to obtain samples of soil, rocks, and flora species such as mosses and lichens, which are now at the Environmental Research Laboratories (LABINAM) of the university, where teachers and students are performing research projects, enhancing the UTN Antarctic program.

There is nothing more natural than a transgenic

This article represents a criticview of the organisms (GMO),

the organic and natural products and their relationship with thegenetic phenomenon called horizontalgene transfer (HGT). In brief, practically all the current species in the world have been “contaminated” with foreign DNA (by HGT). On the other hand, modern techniques of genetic manipulation produce in the last few decades transgenic products. In essence, the transgenic products represent a particular case of HGT directed by genetic engineers. Following this argument, we always have been eating transgenic products with the only difference that now we are able to choose which gene we want to transfer to our food. The next time that you eat an organic apple think that it could be transgenic too!