

which are metal-tolerant and/or hyperaccumulators. Great mining enterprises were developed in this area in order to extract nickel from soils for industrialization, and this activity is economically very important to the country. Although the mining activity has great economic importance it also produces an enormous environmental degradation problem. The genetic study of native metal-tolerant plants and/or hyperaccumulators from the Goiás region leads to the understanding of their metal tolerance or hyperaccumulation process in order to establish mining areas with phytoremediation and/or phytoextraction strategies. In this work, seven different nickel-hyperaccumulating native plants were studied. The RNA was extracted and cDNA fragments for enzymes such as serine acetyl transferase (SAT), glutathione reductase and glutathione-S-transferase, which are related to the tolerance/ hyperaccumulation process in *Thlaspi* model plants, were amplified by RT-PCR using degenerated primers. The results show that at least in the *Oxalis pyreneae* plant one SAT gene is expressed. This gene may be transferred to non-metal tolerant plants to be used in phytoremediation or phytoextraction strategies.

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140 - SCREENING OF *LACTOBACILLUS* PRODUCERS OF LACTIC ACID BY FERMENTATION OF XYLOSE

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Lactic acid is a product of great importance with many applications in chemical, pharmaceutical and food industries. This product and its derivatives can be obtained by chemical synthesis or fermentation process using lactic acid bacteria. Lactic acid bacteria comprise several genera of microorganisms, among them *Lactobacillus*, which are capable of fermenting carbohydrates by different metabolic pathways producing only lactic acid (homofermentation) or various metabolites such as lactic acid, ethanol, CO₂ and others (heterofermentation). Studies report that *Lactobacillus* is capable of fermenting xylose with significant lactic acid production. The objective this work was selecting strains of lactic acid bacteria capable of converting xylose to lactic acid. One hundred strains of lactic bacteria of the genus *Lactobacillus*, from the Collection of Microorganisms of Interest from Agroindustry Tropical from Embrapa Agroindústria Tropical were studied. Microorganisms were cultured in medium (pH 5.0) containing sodium acetate (1g/L); MgSO₄·6H₂O (0.2g/L); MnSO₄·4H₂O (0.01 g/L); FeSO₄·7H₂O (0.01 g/L), NaCl (0.01 g/L), yeast extract (5 g/L), peptone (5g/L) and xylose or glucose (2 g/L) as carbon source. Sixty seven bacteria able to utilize xylose as single carbon source were selected. Then, these microorganisms were cultured in medium containing xylose as carbon source under shaking (50 rpm) at 35 °C for 16 hours. After growth, the consumption of xylose was determined by the formation of reducing sugar, DNS, with spectrophotometer (Varian, model Cary 50) at 540 nm and lactic acid production was quantified by HPLC (Varian Pro Star model 355). The consumption of xylose ranged from 785.90 to 2386.14 g/L and lactic acid production, between 0.13 and 1.73 g/L. The results were evaluated by Tukey test with 5% significance level, which allowed the choice of seven isolates, which will be used in later stages of this work, due they have a higher production of lactic acid.

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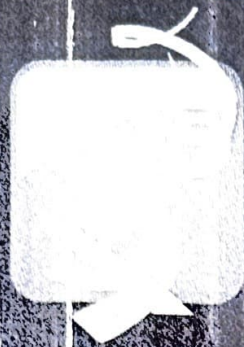
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