

the Typic Haplustands. ^{13}C -NMR spectra of the HA revealed high contents of COOH groups in Typic Haplustands and aromatics groups in Typic Melanudands; COOH and OH-alcoholic groups contents in Forest are more highly; The IR specter confirmed the differences between the systems evaluated. E4/E6 values indicated differences in molecular condensation of both Andisols for AH (<4.4 and 5.3-6.9). Hydrophobicity indexes were high in all systems and higher in Forest soils (2.22 and 1.91), confirming this characteristic.

Keywords: Andisols, Humic substances, ^{13}C -NMR; E4/E6, Fractionation

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(2706 - 1379) Decomposition of Eucalyptus leaves in dystrophic soil in phytophysiognomy of the Cerrado

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In Brazil Eucalyptus is a species with rapid development, but for being an exotic species has little knowledge about its use in the recovery of degraded areas, such as the impact on the balance of edaphic processes. The use of exotic species in the recovery of degraded areas has gained greater visibility after the last modifications occurred in the Forest Code in 2012, by Law 12.651. The restoration of permanent preservation areas and legal reserve, both consolidated, with the planting of exotic species interspersed with native species, where the area reconciled with exotic species cannot exceed fifty percent (50%) of the total area to be recovered. This study aims to analyze the speed of eucalyptus leaf decomposition in a commercial stand, and in a Cerrado Típico area, so as to be able to tell if there is a significant difference in leaf decomposition. The study was carried out at the Fazenda Água Limpa (FAL), which belongs to the University of Brasília, located in the Federal District (15 ° 56'-15 59 'S and 47 ° 55'-47 58' WGr.). The planting of the hybrid *Eucalyptus grandis* x *Eucalyptus urophylla* has 49 months old, planted in 3x2m spacing. At stand, the soil was classified as Red-Yellow Latosol (Oxisol). The soil of the Cerrado Típico was Red Latosol (Oxisol), both areas have dystrophic soils. In each area, 15 litter bags with 20 cm² and 20 g of eucalyptus leaves were randomly placed. The litter bags were rescued after 30 and 60 days of exposure in the field. The results obtained showed a difference in the decomposition with both 30 days and 60 days. At 30 days leaf decomposition in the Cerrado Típico was faster (3.37g) than the eucalyptus stand (1.86g) (p <0.05). The same was observed in the collection with 60 days where the Closed Typical area has a decomposition of 5.97g, and in the eucalyptus area, the decomposition was 4.64g (p <0.05). This difference in decomposition may occur due to soil water content, quantity and quality of microfauna and chemical attributes in general. The results demonstrated that a Cerrado dystrophic soil is able to assimilate more quickly the vegetal organic material of exotic origin. In areas to be recovered this capacity can accelerate carbon and nutrients entering the soil, thus improving its physical and chemical properties.

Keywords: litter bags, Oxisol, exotic species, consolidated legal reserve

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(7237 - 3141) Determination of Oil in Contaminated Soil by Low-Field Nuclear Magnetic Resonance (NMR)

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Anthropic contamination of soils by oil is an recent issue, which had the

XIX century as the begin of oil exploration, and has grown exceptionally ever since. This activity has the potential to be very problematic in its impacts, causing high local degradation. These impacts can affect a large population, such as being a drastic damage to the environment, due to the possibility of acting as central nervous system depressants and presenting chronic toxicity, as well as reaching the groundwater and contaminating it with benzene, toluene, ethylbenzene and xylenes, which are components of oil. For this reason, the management of this product requires the adoption of a high standard of socio-environmental responsibility, once the components of this oil take hundreds of years to be decomposed in nature, being an imminent danger. Several techniques for the recovery of these degraded areas were developed, but one of the most prominent would be phytoremediation, an effective technique for the minimization of these pollutants in the environment, which utilizes plant species. And then, the monitoring of contaminated area and under remediation is necessary. However, the available analytical methods are very expensive, time consuming and usually require dangerous reagents (e.g. GC-MS). Therefore, the present work proposes a new methodology for the quantification of oil in soil using low field Nuclear Magnetic Resonance (NMR). The use of low-field NMR has proved to be very efficient, since it is a low-cost technique, presents rapid quantification measures, and performs measurements in the intact soil, without any preparation. Therefore, preliminary studies were carried out and a calibration curve of the oil in dry soil, from 0.2 till 30% of oil (w/w) was performed, obtaining an excellent model with coefficient of determination (R^2) of 0.9996.

Keywords: Contamination; Oil; Petroleum; low field Nuclear Magnetic Resonance; Relaxometry

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(6822 - 3090) Determination of the parameters: Organic Matter, Density and pH of the soil in areas of plant suppression in the Municipality of Altamira-Pará-Brazil

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The anthropic use of the soil, brings varied changes on the attributes, be they chemical and / or physical. Among the attributes of soil assessments, organic matter and pH, have been suggested as key indicators in soil quality, influencing soil performance and functions. Due to the intense exploitation of natural resources caused by urbanization, vegetation suppression, among other mitigating factors, the Forest region of the municipality of Altamira in the state of Pará has suffered a significant environmental crisis due to the implementation of Collective Urban Resettlement due to the construction of the Hydroelectric Power Plant Belo Monte. In 2015, an area of secondary vegetation located near the banks of the Xingu River was suppressed for the construction of an indigenous resettlement, leading to the stacking of wood, with the area known as a storage yard. The objective of this work was to determine soil physicochemical parameters in areas subject to vegetation suppression (T1) and storage yard (T2) in comparison to secondary vegetation (T3) in the city of Altamira-Pa. The study area is located 8 km from the city of Altamira, in the west of the State of Pará, at an altitude of 111 meters above sea level. The soil samples were collected from January to March 2017 in three treatments, and the physical-chemical parameters evaluated were: density, pH and organic matter. According to the values of the density amplitude that corresponds to the soil type (clayey, it ranges from 1.00 g/cm³ to 1.25 g/cm³, sandy from 1.25 g/cm³ to 1.40 g/cm³), the average density in the area of vegetation suppression and secondary vegetation were 1.13 g/cm³ and 1.04 g/cm³ respectively, the storage yard presented the average