

Furthermore, the challenges to protect and provide sufficient areas of open soils and vegetation in the urban development process are subject of discussion for the situation of those two cities that are located in one of the warmest regions of Germany that faces intensive urban development due to population growth and land use conversions.

Keywords: Ecosystem Services, Urban Planning

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(6887 - 1873) Molecular identification of ectomycorrhizal fungi occurring in pecan orchards in Rio Grande do Sul / Brazil

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The culture of *Carya illinoensis* (Wangenh.) K. Koch was introduced in Brazil at the beginning of the last century, and became commercially important after the 1960s, mainly in the southern region of the country. The pecan is proven to be an ectomycorrhizal symbiont, forming several mutualistic associations with mycorrhizal fungi. The main objective of this study was to identify the fungal isolates from commercial pecan plantations in the State of Rio Grande do Sul. For this purpose, the basidiomas were collected, which were photographed and described macroscopically still fresh and subsequently dehydrated to Microscopic analysis, according to traditional methodology in Mycology. Part of the isolated material was conserved in 2% CTAB (cetyltrimethylammonium chloride) at -20 ° C until DNA extraction, amplification and sequencing, using the ntDNA region primers ITS1 and ITS4 (ITS1-5.8S-ITS2). The extraction was performed by DNeasy® Plant Mini Kit (Qiagen). In order to detect the presence or absence of DNA in the sample, the electrophoresis of the PCR products in 1% agarose gel was performed. After the amplification, the presence of bands was verified by the electrophoresis of the PCR products in 1.5% agarose gel. For the purification of PCR products, KitGenElute PCR clean-up (Sigma, Saint Louis, USA) was used. After sequencing, Sequenced fragments were analyzed using the Staden Package 2.0.0b program for obtaining consensus sequences. After this, the consent sequences were deposited in the GenBank and a comparative search by means of BLASTn was performed. For the identification of fungus, all the sequences were aligned. The phylogenetic relationship of the specimens was reconstructed based on analyses of the ITS region, with the analysis of Maximum Likelihood (ML) in a total of 1000 replications for all reconstructions. The model of nucleotide substitution General Time Reversible model was estimated as the best model to solve the data, performed with Gamma distributed with Invariable sites and parameters for partial exemption (95%). The following potentially ectomycorrhizal fungi were identified: *Astraeus* sp., *Hymenogaster* sp., *Inocybe* sp., *Pisolithus arhizus*, *Russula* sp., *Scleroderma bovista* and *Scleroderma* spp. From these results, it is possible to continue with research aiming at the next stages of identification and phylogenetic analysis.

Keywords: symbionts, mycorrhizal, *Carya illinoensis*

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(7847 - 1891) Monitoring soil management to assess ecosystem services provision in Atlantic Forest, Rio de Janeiro

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Monitoring soil management to assess ecosystem services provision in Atlantic Forest, Rio de Janeiro. Joyce M. G. Monteiro¹, Azeneth E. Schuler¹, Rachel B. Prado¹, Elaine C. C. Fidalgo¹, Ana P. Turetta¹, Alba L. Martins¹, Aline P. de Oliveira¹, Guilherme K. Donagemma¹ Embrapa Soils, Rua Jardim Botânico, 1024. Jardim Botânico Rio de Janeiro, RJ

Brazil, 22460-000 Soil conservation management includes practices that help to preserve the quality of soil, water and biodiversity, promoting sustainable agriculture and ecosystem services supply. In Rio de Janeiro state, Brazil, in the region of Atlantic Forest biome, some agriculture conservation practices have been reported as capable to provide soil ecosystem services (ES) and also to increase productivity and rural income. The monitoring of the conservation practices and related ecosystem processes is essential to understand and evaluate their impacts on ecosystem services provision, as well as to subsidize conservation policies and programs. This study highlights aspects to be considered in monitoring based on a review of researches on conservation management practices in the state such as minimal tillage, crop rotation, agroforestry systems, rotational grazing and fallow. A key point concerning the monitoring of agroecosystems and their potential to provide ES is to define indicators to evaluate the impact of soil management on ecosystem services. The selection of indicators to link agroecosystems and soil ES provision requires identifying key features that represent the compositional, structural, and functional components of the system important for ecosystem services provision. The monitoring must deal with the complex dynamics of land management and ES provision in order to quantify and model them connected to ecological and soil processes in multiple spatial and temporal scales. We found that major challenges of monitoring are related to the needs of: (i) multidisciplinary studies to understand how land management affects soil ES considering the set of biotic and abiotic parameters involved, (ii) a suitable approach to analyze these parameters together, and (iii) participatory monitoring skills to promote the exchange of local stakeholders' knowledge on the ecosystems and the impacts of land management on ES. The efforts to overcome these main challenges are mandatory in order to build gathered solutions to the communities' needs concerning to the agricultural management potential to provide soil ES.

Keywords: soil ecosystem services assessment, soil conservation practices, participatory approach and multidisciplinary criteria

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(8633 - 1370) Overview of methods to assess the impacts of management practices on ecosystem services to control erosion and soil loss in Latin America.

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The land use and land cover dynamic, as well as soil and water management in agriculture can influence the amount of nutrients and sediments leached by erosion processes, jeopardizing the provision of the ecosystem services. This work aimed to identify the state of the art of methods applied in Latin America to assess management practices impacts on ecosystem services to control erosion and soil loss. For that, a bibliographic survey was done and data base was carried out, containing information on indicators and models currently used. 85 indexed articles were selected from 3.018 in the Scopus and Web of Science database (1990 to 2016). The keywords applied were: Erosion Control, Landscape, Methods, Land Use, Land Cover, Monitoring, Ecosystem Services, Indicators, Sedimentation and Latin America. The most used indicators in these studies were soil erodibility, rainfall erosion, precipitation, turbidity and flow. Among the models, there was a greater application of the USLE (30.6%), RUSLE (9.35%), MUSLE (8.5%), and SWAT (5.1%) to measure the rates of erosive potential and sediment generation (63%) under management practices. Few (6%) applied methods integrated indicators to evaluate the landscape. 75% of the studies were developed in agricultural areas. Most of them were developed in Brazil (65%), followed by Chile (5%), Costa Rica/Argentina (2.5%) and others (27.5%). This study concludes that the applied methods are similar and need to be addressed, taking into account landscape ecology, multiple scales and the provision of ecosystem