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CARBON STORAGE DYNAMICS IN SUGARCANE, PASTURES, EUCALYPTUS, COFFEE AND CITRUS IN THE MOGI GUAÇU AND PARDO WATERSHEDS, SOUTHERN BRAZIL

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In the context of climatic changes, the observation of land use change scenarios is important to inform land use policies and also to evaluate the contribution of fitomass in carbon storage. However, information about the importance and potential for carbon sequestration by agrosystems is still scarce. Thus, assessments such as those proposed by this research are important for the scientific progress in this area. This study presents the evaluation of carbon storage dynamics in sugarcane, pastures, eucalyptus, coffee and citrus agroecosystems. The land use change and occupation was based on satellite images interpretation in the Mogi Guaçu and Pardo watershed of São Paulo state, southern Brazil and carried in two different times: 1988 and 2016. The results revealed that the sugarcane is on average capable of accumulating nine times more carbon in $t \cdot ha^{-1} \cdot yr^{-1}$ than other agrosystems. Sugarcane, pastures, eucalyptus, coffee and citrus has a potential to store 107.2; 11.7; 11.1; 10.3; 8.5 $t \text{ CO}_2 \text{ ha}^{-1} \cdot yr^{-1}$ into biomass respectively. The expansion of the cultivated area with sugarcane, with efficient accumulation of CO_2 for area unit and time possibilited to remove of the atmosphere 128.7 million t. CO_2 in twenty six years. The results obtained can be relevant for the generation of environmental indicators and producing positive impacts on the environmental valuation of the production agrosystems.

Keywords: agrosystems, environmental valuation, fitomass, land use change.

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