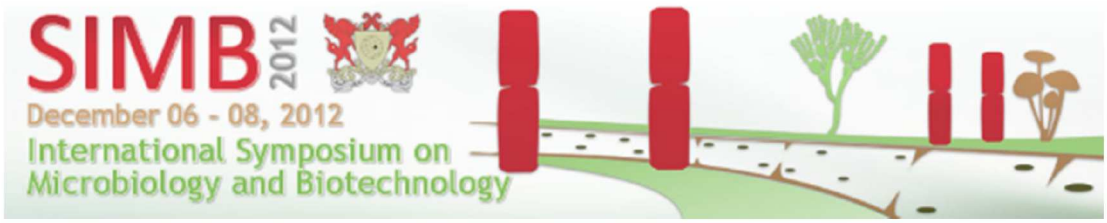

PHOSPHORUS IN SOIL MICROBIAL BIOMASS THE SAVANNA FERTILIZED PIG MANURE

PATRÍCIA GOMES SILVA[1]; MARRIEL, E.I.[2]; SANTOS, L.V.; SMITH, D.F.; ANDRADE, L.T. C.[3]

[1,2]Universidade Federal de Minas Gerais, Belo Horizonte, Minas Gerais, Brasil.
[2,3]Embrapa Milho e Sorgo, Sete Lagoas, Minas Gerais, Brasil.

In recent years the manure have been used as organic fertilizer to contain a series of essential nutrients for plant growth. For the need to meet adequately the effects of changes resulting from the use of manure as fertilizer in the soil, the aim of this study was to evaluate the phosphorus content of microbial biomass (PBM) as a bioindicator of soil quality. We collected soil samples from five, I - irrigated with pig manure, II-two areas of cerrado, IV - conventional chemical fertilizer and V upland pig manure at two different times at 60 and 90 days after germination, at three depths (from 0 to 0.15, 0.30 to 0.60 and 0.60 to 0.90 m). Samples of 1.5 g of soil were added to 50 mL vials and sprayed by steam chloroform (CH_3Cl) hermetically sealed in a desiccator for 24 hours at room temperature, kept in the dark. The phosphorus content in the microbial biomass in each sample was estimated by calculating the difference between the concentrations of phosphorus in the fumigated and non fumigated. The results were submitted to analysis of variance using the statistical program Sisvar. There was a higher content of PBM in shallow depths to the area irrigated with swine manure to other areas there was no significant effect on depths evaluated. There were no effects of sampling times for periods of 60 and 90 days. For the period of 60 days found a higher content of PBM in irrigated area with pig manure and lowest content was found in the area with the addition of chemical fertilizer, 0.09 to 0.02 mg kg-1 soil P respectively, at 90 days there was a higher content of PBM in the area with chemical fertilizer, 0.10 mg k-1 of P. These results indicated that fertilization with pig manure can stimulate soil microbial, which acts not only on the mineralization of organic P, but also pinning, forming a compartment labile soil P and may influence the amount of P adsorbed in the soil, since it is temporarily immobilized microbial biomass increasing the time of availability for absorption of P cultures.

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