Interaction between phosphate and humic substances from different composts in soil cultivate with sweet cane

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The aim of this work was to determine the contribution of the humic substances from different composts on remaining-P in sweet cane crop. The following wastes were used to obtain five composts: sweet cane bagasse (SCB), ashes of sweet cane bagasse (ASCB), poultry manure (PM), filter cake (FC) and castor oil plant residue (*Ricinus communis*, L.). (MR). The mixtures were as follows: a) SCB+ASCB+PM; b) SCB+ASCB+PM + mineral fertilisers NPK; c) SCB+ASCB+PM + serpentinite and micaxisto powdered rocks; d) SCB+FC; e) SCB+MR. Treatments consisted in five doses (0, 10, 20, 40 e 80 t/ha) of each compost and an additional treatment with mineral fertilization, applied in soil cultivated with sweet cane (*Saccharum officinarum* L.). These treatments were distributed in randomised blocks with three replicates. Sampling of soil was performed after the application of the treatments and 150 days after the planting and the aerial part of plant was sampled at the end of the experiment. The following analysis were performed: 1) in the soil, C and N in the humic and fulvic acids fractions and remaining-P; 2) in the plant, wet and dry biomass and total phosphorus. Increasing doses of compost caused an increase in remaining-P in the soil that declined along the cultivation period. The intensity of this decrease were different for each treatment. This reduction can be attributed to the effect of specific characteristics of the humic and fulvic acids of the composts, as it shows from the C/N ratios of these fractions.

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