

TITLE: MICROBIAL BIOMASS OF SOIL SUBMITTED TO POTASSIUM DOSES

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ABSTRACT:

Soil microbial biomass is an analysis that measures the amount of microorganisms present in the soil, bacteria and fungi are the most frequent. The objective of this work was to verify the interference of potassium chloride in the microbial biomass of the soil cultivated with soybean. The experiment was conducted under field conditions at the Brumado farm, located in the municipality of Salto Grande - SP (22 ° 51'42.2 "S 49 ° 59'17.3" W, at altitude 399m). The doses of potassium chloride were distributed in coverage 55 days after the date of sowing of the soybean. The treatments consisted of the addition of 0; 25; 50; 75 and 100 kilograms of K₂O per hectare using potassium chloride (60% K₂O) as the source. The plots consisted of four blocks of 6 meters wide by 40 meters long for each plot, totaling 240 square meters. The soil was collected at 120 days after installation, at three points of each plot, at 0-10 cm depth, homogenized for the biological analyzes, sent to the soil microbiology laboratory at Unoeste, for the determination of the carbon and nitrogen present in the biomass through the fumigation-extraction method. Data were submitted to analysis of variance and comparison between means using regression. The use of potassium chloride provided a quadratic behavior in relation to the applied doses to the soil, providing increases of the carbon and nitrogen contents present in the microbial biomass of the soils up to 50 kilos of K₂O, as the dosage used was increased. carbon and nitrogen contents were reduced. This factor results to the content of salts present in this fertilizer, causing significant reductions in the soil microbial population, affecting all the biological community present in the soil. We can conclude that doses greater than 50 kilos of k₂O per hectare reduced the microbial biomass of the soil.

Key words: Microbial carbon, microbial nitrogen, microbial community, potassium chloride, fertilization.