

The use of biofertilizer and goat manure in melon culture in the São Francisco River valley: I - effects on the soil

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It was evaluated the influence of a liquid biofertilizer, which was elaborated by organic fruit farmers of the São Francisco River valley (goat manure, cameroon grass, cow blood, ashes, EM4, sugarcane syrup and water), in presence or absence of goat manure, on the characteristics of two soil types cultivated with melon: Vertissolo and Argissolo Acinzentado. An experiment was realized for each soil, using pots of 3.5 dm³, in protected nurseries, with two plants per pot. The experimental design was a complete random blocks in factorial arrangement 3 x 2, with four repetitions. The treatments were by biofertilizer or conventional fertilization (urea, triple super phosphate and potassium chloride) and or absence of fertilizer, combined with the presence or absence of manure. The quantity of biofertilizer was calculated considering the absorption of N for the melon culture during the first 35 days of the cycle. The treatments influenced the studied soils in varying manners. In Argissolo the biofertilizer, with or without manure, increased CE, total bases, and values of K and Na, whereas conventional fertilization increased the P values. A significant interaction among the analyzed factors on pH, CTC and Ca values were observed in Argissolo. In Vertissolo no significant interaction was observed. The biofertilizer increased the P values in a similar fashion as the conventional fertilization and it also increased CE and the values of K and Na, while the Ca and pH showed to be significantly smaller. Significant decreases were observed for P and Mg values when manure was applied.