The use of biofertilizer and goat manure in melon culture in the São Francisco River valley: II - nutrients of phytomass and vegetative performance

Núbia Cristina Santos de Carvalho, Tâmara Cláudia de Araújo Gomes, Reginaldo de Menezes, Maria Sonia Lopes da Silva, Deusalete de Sousa Freitas, Scheila Antunes Amorim, Marcus Vinícius Malheiros da Silva
Embrapa Semi-Árido, P.O. Box 23, 56302-970, Petrolina-PE, Brazil; tamara@cpatsa.embrapa.br
Financial Support: Embrapa and World Bank (Prodetab)

It was evaluated the influence of a liquid biofertilizer elaborated by organic fruit farmers of the São Francisco River valley (goat manure, cameroon grass, cow blood, ashes, EM4, sugarcane syrup, and water), associated or not with to goat manure on the nutrient values of the aerial phytomass and on initial development of melon. Two experiments were conducted, using pots of 3.5 dm^3, in protected nurseries (on Vertissolo and Argissolo Acinzentado) with experimental design of blocks with a factorial arrangement 3 x 2, with four repetitions. The treatments were combined biofertilizer or conventional fertilization or absence of fertilizer, with the presence or absence of goat manure. The quantity of biofertilizer was calculated considering the N absorption for the melon culture during the first 35 days of the cycle. Independently of goat manure effect, the melon phytomass on Argissolo presented higher values for K, Mg and Na with the biofertilizer, and higher values of P with conventional fertilization. The highest values of B and Cu and the lowest of N occurred with the presence of goat manure. On Vertissolo higher values of Ca and Mn occurred in presence of biofertilizer and lower values of N occurred in the presence of goat manure. A significant interaction occurred only for Mg. The dry weight of the aerial part and roots of the melon culture, as well as the volume of the roots, showed to be higher due to the biofertilizer, whereas on Argissolo conventional fertilization presented a greater effect.