

Effect of compounds on microbiota and yield in two soils

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ABSTRACT

Soybean planting in Itapetininga and Itapeva represents 30% of the state of São Paulo. There are regions where corn and soybean crop rotations are used, stimulating greater biological diversity and chemical quality (conservation technology). The productivity of an area is known to depend on chemical, biological, physical and climatic factors. The aim of this work was to evaluate the effect of the use of organic compounds (OC) taken from healthy soybean plants, in plants cultivated in high and low yield soils. The experiment was carried out in a greenhouse under a completely randomized design with three replicates, in a 5 x 2 factorial scheme, in which four organic compounds were applied to the seeds: OCA, OCB, OCC, OCD. An untreated control (C) was used, and two soil types with different soybean yields: high (ItaA) and low (ItaB). The soil ItaA contained higher doses of O.M., P⁺, K²⁺ and Mn²⁺, compared to the soil ItaB. In the flowering phase of the plants, the soil was collected near the rhizosphere, where there was an increase in microbial activity by fluorescein diacetate dosage of ItaA soil after the use of OCC compost, and urease with OCB in ItaB soil. The combination of organic compounds and microorganisms probably activated the microbiota of the ItaB soil, where there was a reduction in the activity of soy peroxidase for all treatments compared to the control, and an increase in the yield of soy by the OCB, OCC and OCD treatments.

Key words: soybean, extracts, soil enzymes, plant enzymes.

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