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A Soil Quality Index to Evaluate the Vermicompost Amendments Effects on Soil Properites

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ABSTRACT

The aims of this work were 1) to evaluate the changes in soil properties with the application of different amounts of vermicompost (10 and 20 Mg?ha⁻¹), and 2) to construct a soil quality index that allows the evaluation of changes in the most sensitive soil parameters. The study was carried out in a cattle field of General Alvear, Buenos Aires, Argentina. Vermicompost application showed a positive effect on most of the chemical and biological soil properties evaluated, especially with the higher dose (20 Mg?ha⁻¹). There were slight but significant increases in electrical conductivity and soil pH with the higher dose of vermicompost. Physical soil properties were not affected by the vermicompost amendment. The SQI showed a significant increase of soil quality with the vermicompost dose of 20 Mg?ha⁻¹, especially by enhancing the biochemical and biological properties.

KEYWORDS

Organic Amendments, Soil Physical Properties, Soil Biochemical Properties, Soil Biological Properties, Soil Quality Indicators

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