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Production and Characterization of Humic Acid and Its Influence On Earthworms

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This study focuses on lignite, a youthful coal variant rich in humic acid, which serves as an environmentally friendly adsorbent for heavy metals. The challenge lies in the strong affiliation between heavy metals and humic acid, a consequence of humic acid's attraction to heavy metals due to multiple functional groups present. Our investigation employs varying concentrations of humic acid—0.1%, 0.25%, 0.5%, 0.75%, and 1% to examine its impact on earthworms within humic acid-associated soil. We assess parameters such as mortality, length, weight, and heavy metal content. Results indicate that earthworms treated with humic acid exhibit notable growth compared to untreated counterparts, underscoring the potential of humic acid. Statistical analysis, carried out using SPSS, verifies the significance of these findings. This research contributes to understanding the role of humic acid in managing heavy metal presence and its influence on earthworms. By utilizing humic acid as an eco-friendly solution, this study underscores its potential for addressing heavy metal contamination while promoting soil health.

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