

## Impact of Syngenetic Elements on the Physico-Chemical Properties of Lignocellulosic Biochar

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**Abstract :** The growing demand for organic products in the market promotes their use in various fields. One of such products is biochar. Among the innovative environmental applications, biochar has the potential as an adsorbent for retaining contaminants in environmental engineering and agrotechnical systems. Artificial modification of biochar can improve its adsorption capacity. However, indirect/natural change of biochar composition (e.g., contaminated biomass) based on syngenetic elements provides prospects for new applications of biochar as well as decreases the modification costs. Natural lignocellulosic and biochar composition variations would lead to a new field of application of biochar and reduce resources for biochar modifications. The aim of this study was to determine the influence of syngenetic elements of biochar's feedstock on the physicochemical properties of lignocellulosic biochar. Syngenetic elements (e.g., Zn, Cu, Ni, Pb, Mg) and other intrinsic properties (e.g., lignin, COHN, moisture, ash) of indifferent types of lignocellulosic feedstock on the physicochemical characteristics of biochar are discussed.

**Keywords :** adsorption, lignocellulosic biochar, instrinsic properties, syngenetic elements

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