Supplementary Materials- description.

1. Supplementary Material Word file.

The document contains information about a field trial in which two types of biochar at different doses were used to produce soybeans. Additionally, the Word document presents examples from the scientific literature that discuss what conditions must be met for the use of biochar in commercial agriculture to be viable, as well as examples of studies that provided a cost-benefit analysis of biochar (CBA). The results of the statistical analysis of the effectiveness of biochar use are presented in graphical form in the further part of the document.

2. Supplementary Material Table S3, Excel file.

This file contains the result of a comprehensive literature review (scientific papers published up to January 2021) on the impact of biochar use on ecosystem services in soybean production (e.g., impacts on yield, soil fertility, carbon sequestration, etc.). The purpose of this literature review was to identify a scientific gap in the use of biochar in soybean production, especially regarding carbon sequestration.

3. Supplementary Material Table S4, Excel file

This file contains comprehensive calculations for the economic analysis (cost-benefit analysis) of the following: biochar yield (two types of biochar) in different doses (for 40, 60 and 80 Mg / ha); comparison of revenues and costs of using conventional fertilizer with biochar in soybean production; optimal price and payback period for the use of biochar and cost-benefit analysis of carbon sequestration in soybean production.