

4th International Conference on
Plant Science and Agriculture

March 09, 2022 | Webinar

Bio char and wood distillate for a sustainable agriculture

Stefano Loppi, Riccardo Fedeli and Andrea Vannini

University of Siena, Italy

In agriculture, the use of natural products to replace synthetic fertilizers and pesticides will be fundamental, without however affecting the yield, but rather, if possible, increasing it, as expressly envisaged by the Farm to Fork Strategy of the European Union. We have several projects underway aimed at testing the application in agriculture of biochar and wood distillate, two by-products of the use of waste wood biomass for the production of electrical and thermal energy through pyrolysis, thus offering a formidable example of circular economy. These projects will assess the potential to reduce the use of synthetic chemicals in agriculture, while providing high yield, nutraceutical value and crop quality. Furthermore, both the positive impact on biodiversity and

the ecosystem, and the possible environmental side effects of ecotoxicological interest will be assessed.

In particular, biochar is tested with the aim of counteracting the effects of climate change, improving the characteristics of the soils and the productivity of agroecosystems, thanks to its ability to counteract salinity and promote water retention, as well as to remediate polluted soils and make them available to agriculture. Wood distillate is tested both as a biostimulant and as a biopesticide (inducer of endogenous resistance) in some of the main plants of agronomic interest grown in the Mediterranean.

e: stefano.loppi@unisi.it