cenusa bioenergy

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Recent Publications About Biochar

There is a lot of interest in biochar as a soil amendment and for its potential role in sequestering carbon to ameliorate the effects of climate change. CenUSA is evaluating biochar impacts on farm and garden crops production. Research is active and ongoing, and this list of recommended readings provides links to publications about different aspects of biochar production and use.

Please note that most of these links go to abstracts provided by professional journals; many of the full articles are only available to subscribers, or for a fee. You may be able to access these publications at your university or college library.

Contents

The Impact of Biochar on Plants

- Biederman, Lori A.; Harpole & W. Stanley. 2013. Biochar and its effects on plant productivity and nutrient cycling: a meta-analysis. GCB Bioenergy 5: 202-214. http://onlinelibrary.wiley.com/doi/10.1111/gcbb.12037/abstract.
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Figure 1. Master Gardener Biochar Trials – St. Paul, MN campus.
Photo: J. Weisenhorn.

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- Proceedings of the Sustainable Feedstocks for Advanced Biofuel Workshop. SWCS publisher.

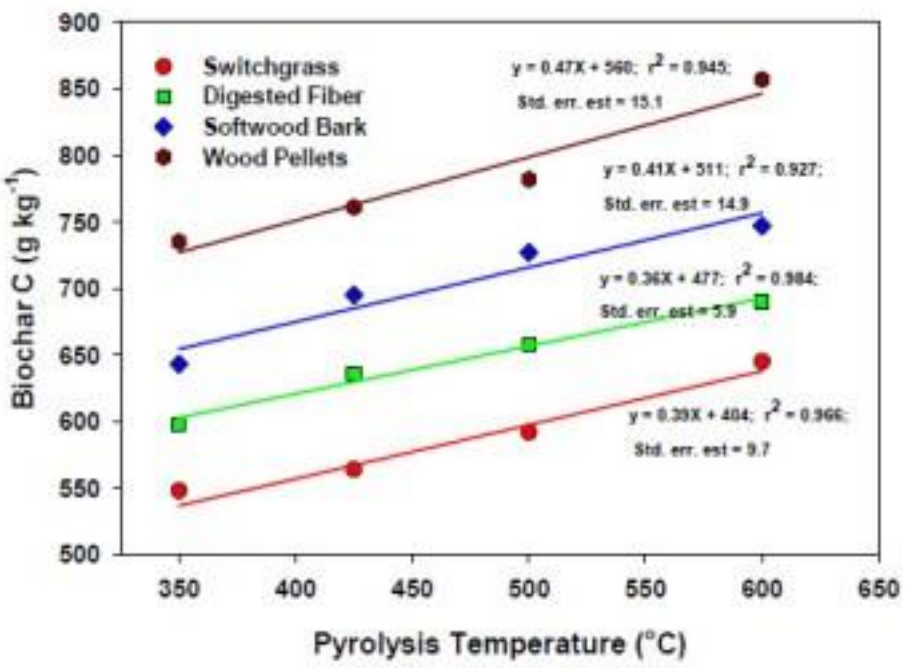

Figure 2. Relationship between pyrolysis temperature and the C concentration of the resulting biochar. Figure from Granatstein et al., 2009

- Douglas L. Karlen, and Dewayne Johnson (Eds.). Sustainable Alternative Fuel Feedstock Opportunities, Challenges and Roadmaps for Six U.S. Regions. Proceedings of the Sustainable Feedstocks for Advanced Biofuel Workshop. SWCS publisher.

Biochar Properties

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Figure 3. Biochar. Photo courtesy of the Bioeconomy Institute at Iowa State University

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Figure 4. Protoype mobile pyrolyzer. Photo: Akwesi Boateng, USDA ARS

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Additional Resources

CenUSA Project Resources - Research-based information on the opportunities and challenges in developing a sustainable system for the thermochemical production of biofuels from perennial grasses grown on land marginal for row crop production is available at http://www.cenusa.iastate.edu/

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