



## Agronomic and Environmental Uses of Biochar

July 17, 2015

2:30 pm (eastern), 1:30 pm (central), 12:30 pm (mountain), 11:30 am (pacific)

Biochar is a charcoal-like material generated during the pyrolysis of biomass. The high carbon (C) content of biochar and its recalcitrant nature has led to much interest in using biochar to sequester C from the atmosphere by incorporating it into soils. Additional benefits to incorporating biochar into soils include reduction of emissions of greenhouse gases; improving soil physical and chemical properties; increased water retention; increased crop yields; and increased soil retention of nutrients, heavy metals, pesticides, and microbial pathogens. In this 2-part webcast, we will provide a general overview of the history of biochar use, how biochar is produced, and give examples of how biochar is being used for agronomic and environmental purposes. *An application for continuing education credit for Certified Crop Advisors (CCAs) and members of the American Registry of Professional Animal Scientists (ARPAS) has been submitted.*



**Kurt Spokas** is a research soil scientist with the United States Department of Agriculture – Agricultural Research Service (USDA-ARS) in St. Paul, MN. Kurt received his PhD in soil science from the University of Minnesota. He also holds a graduate adjunct professor appointment in the Department of Soil, Water and Climate and the Water Resources Center at the University of Minnesota. Kurt's main research areas are: 1) impacts of management practices (particularly fungicides and biochar additions) on the cycling of carbon, nitrogen, and other greenhouse gases and 2) development of agricultural practices to improve overall water quality. Phone: (612) 626-2834; Email: [Kurt.Spokas@ars.usda.gov](mailto:Kurt.Spokas@ars.usda.gov)

**Mike McGolden** is the Founder and President of Coaltec Energy, Inc. Mike graduated from the Colorado School of Mines, and operated coal mines in the U.S., Australia and the U.K. for more than 20 years. Beginning in 2000, Mike designed, patented and deployed several large-scale biomass gasifiers. The current gasifier processes more than 48 tons of manure or other biomass feedstock per day, producing more than 10 tons of consistently high quality biochar per day. While the company is based on a technology platform, much of the work done by Coaltec over the years has been working with potential customers to develop viable economic solutions to their problems. Mike feels strongly that the gasification process must not only operate smoothly, but equally as important, it must provide an economic return on investment. Phone: (812) 455-4568; Email: [Mike@CoaltecEnergy.com](mailto:Mike@CoaltecEnergy.com)



**Jason Streubel** is the Senior Advisor of Science and Agriculture for Convoy of Hope and an Associate Professor of Biology at Evangel University both located in Springfield, MO. Jason received his PhD in Soil Science (Fertility focus) from Washington State University. He also holds a graduate faculty appointment at Washington State and Missouri State Universities. Jason's main area of expertise is global soil fertility and extension while researching applied methods of soil improvement including biochar. Jason spends 1/3 of his year working in East Africa, Haiti, and Central America. Phone: (417) 823-8998; Email: [jstreubel@convoyofhope.org](mailto:jstreubel@convoyofhope.org)

### How Do I Participate?

On the day of the webcast, go to [www.extension.org/58813](http://www.extension.org/58813) to download the speaker's power point presentations and connect to the virtual meeting room. First time viewers should also follow the steps at: [www.extension.org/8924](http://www.extension.org/8924).

### For More Information

- \* How biochar works in soil - <http://www.biochar-journal.org/en/ct/32-How-biochar-works-in-soil>
- \* Biochar: The science behind the hype - [http://www.youtube.com/watch?v=XQxthabe\\_OU](http://www.youtube.com/watch?v=XQxthabe_OU)
- \* The 55 uses of biochar - <http://www.biochar-journal.org/en/ct/2-The-55-uses-of-biochar>
- \* The International Biochar Initiative - <http://www.biochar-international.org/>
- \* Coaltec Energy - <http://www.coaltecenergy.com/>