June 2015 News from the International Biochar Initiative

Register for the Online Biochar Training Course from IBI

Are you interested in gaining more in-depth knowledge on biochar and biochar systems? IBI recently launched an online course, *Biochar Training for Environmental Sustainability and Economic Development,* which provides participants an intensive training series on all aspects of biochar, presented by leading biochar experts. Participants have the opportunity to learn about best-science updates on biochar to promote the uptake of biochar production and use, and actions necessary to overcome the barriers to commercialization of the biochar industry. Participants will study biochar production technologies; physicochemical properties; standards, classification and certification; biochar effects when used as a soil amendment; biochar carbon persistence in soils, carbon accounting and climate change; and commercialization of the biochar industry.

The course contains 19 separate lessons—each with a subject overview, a recorded audio/video presentation lasting 30 – 45 minutes (some lessons contain more than one video), and quizzes to test comprehension and retention. There is also an optional introductory presentation on the basics of biochar and the IBI so that all participants start the course with a common understanding of both. Course materials are presented in a user-friendly online format and participants can access the course at their convenience over ten weeks and will receive a certificate of completion at the conclusion of the course.

Course materials are based on presentations from the June 2014 in-person biochar training course titled, "*Biochar for Environmental Sustainability and Economic Development*" hosted by the University of Santiago de Compostela, Spain, and developed and presented by IBI and collaborators.

For more information on member and non-member pricing and registration, please see www.biochar-international.org/online_course.

IBI Launches the Online *IBI Biochar Classification Tool*

In order to better understand how a specific biochar may function when incorporated as a soil amendment, IBI has developed an online tool that allows producers and other stakeholders to classify their biochar materials based on a set of physicochemical properties. The *IBI Biochar Classification Tool*—derived from the paper *A Biochar Classification System and Associated Test Methods*[1]—classifies four biochar properties: 1) carbon storage value, 2) fertilizer value (Phosphorous, Potassium, Sulfur, and Magnesium only), 3) liming value, and 4) particle size distribution. In addition, the tool provides the fertilizer grade for six plant nutrients (Nitrogen (N), Phosphorous (P), Potassium (K), Sulfur (S), Calcium (Ca), and Magnesium (Mg)). The tool is useful for anyone who is interested in classifying their biochar to a fertilizer grade system.

To classify a biochar with the tool, users must have laboratory-measured values of: hydrogen to organic carbon ratio (H/C_{org}) and organic carbon concentrations (C_{org}); plant-available levels of P, K, S, and Mg; calcium carbonate equivalent (% Calcium carbonate ($CaCO_3$)-eq); and particle size distribution.

To develop a fertilizer grade using the tool, users must have laboratory-measured values of total and plant-available levels of N, P, K, S, Ca, and Mg.

[1]Camps Arbestain M, J.E. Amonette, B. Singh, T. Wang, H-P. Schmidt. 2015. *A Biochar Classification System and Associated Test Methods*. In: Biochar for Environmental Management - Science and Technology, 2nd edition J. Lehmann and S. Joseph (eds.). Routledge, New York.

July *IBI Webinar Series*: Dr. Annette Cowie presents *Bringing biochar to the carbon market: the role of science*

Our July 2015 *IBI Webinar Series* event will feature Dr. Annette Cowie of NSW Department of Primary Industries, Australia. In a webinar titled *Bringing biochar to the carbon market: the role of science,* Dr. Cowie will discuss the hurdles that must be overcome for biochar projects to enter carbon markets, and the role that science plays in supporting the development of methodologies for calculating credits. She will describe the generic requirements of carbon markets, and the challenges and prospects for biochar projects in meeting these requirements. Dr. Cowie is currently working on the development of a methodology for quantifying the climate change benefits of biochar from poultry litter, for application in emissions reduction projects under Australia's Emissions Reduction Fund. Please click here to register now for the webinar, scheduled for Wednesday, July 15, 2015 7:00 PM - 8:00 PM EDT (United States).

The June *IBI Webinar Series* event featured Josh Kearns, Director of Science for Aqueous Solutions, presenting *Low-cost water treatment using biochar*. Mr. Kearns highlighted that although microbial pathogens typically represent the most immediate threat to human health, a wide variety of toxic organic chemicals—such as pesticides, pharmaceutical residues, industrial wastes, manufacturing additives, fuel compounds, and disinfection by-products—impact drinking water sources worldwide. In many rural, remote, and developing community circumstances, treatment using biochar adsorbent is an affordable and locally available option for the control of organic chemical contaminants. Mr. Kearns discussed "low-tech" adsorbent biochar production from various feedstocks using small-scale devices such as gasifier cookstoves and drum ovens. He also reviewed guidelines for integrating biochar adsorption in small, multi-barrier treatment systems that address biological and chemical concerns for water quality.

IBI members can view this and all prior IBI Webinar Series presentations by logging into the IBI member's site at https://ibi.memberclicks.net/login. If you are not an IBI member and would like to join in order to view presentations, please click here.

For more information on IBI's Webinar Series, please see: http://www.biochar-international.org/webinar_series.

Biochar Briefs: News Roundup for June

We update the website weekly with new articles on biochar. For more information, please see: http://www.biochar-international.org/newsbriefs.

Australia

Temple Bruer Winery at Langhorne Creek in South Australia hopes to become Australia's first organic and carbon neutral winery by using biochar made from Arundo Donax, a plant that has long been considered a weed. Winery manager Barrie Williams said "One hectare can produce 45 tonnes of dry matter in a single growing season". They are mixing the biochar with compost prior to incorporation into soils and are hoping that the biochar addition not only improves crop yield, but also decreases irrigation.

Senegal
Farmer Alioune Diatta has been growing onions in the sandy dry soils of northern Senegal for the last 20 years. His soils are nutrient poor and have water holding constraints, and to be able to produce his crops, Mr. Diatta uses biochar as a supplement. He initially heard about biochar in 2011 and then began spreading it on the worst parts of his land. “After I put on the biochar, I had a good harvest,” he said.

Opportunities in Biochar

- Propose a special session for the upcoming Asia Pacific Biochar Conference 2016; for more information, see http://www.biochar.co.kr/
- Take advantage of a free subscription to Biomass Magazine. More information is available at http://www.biochar-international.org/node/5537.
- Download the open access biochar book: *Biochar Culture*, by Dr Sai Bhaskar Reddy Nakka. The text highlights the use of biochar in communities and its potential for increased sustainable agriculture in smaller scale farmsteads and homes, focusing on work in India. The book can be accessed at http://www.biocharculture.com.
- Job postings in biochar (as well as research/educational opportunities) can be accessed at http://www.biochar-international.org/network/jobs.
- Looking for potential grant funding? Check out the Terra Viva Grants Directory which develops and manages information about grants for agriculture, energy, environment, and natural resources in the world's developing countries at http://www.terravivagrants.org/Home.

Upcoming Calendar Events

- June 24 – 27: Biochar: a sustainable solution for agriculture and environment at BiocharEXPO 2015. Location: Milan, Italy. For more information: http://www.biochar-international.org/node/5950
- July 5 – 10: Soil interfaces for sustainable development (with colloquium on Biochar in Agriculture and Environment). Location: McGill University, Montreal, Quebec, Canada. For more information: http://www.biochar-international.org/node/6250
- July 16 - 17: The Gasifier and Biochar Workshop. Location: Maysville, MO, USA. For more information: http://www.biochar-international.org/node/6897
- July 17: Livestock and Poultry Environmental (LPE) Learning Center: Educational Webcast Series. For more information: http://www.biochar-international.org/node/6945
- July 27 – 31: Stove Camp 2015. Location: Aprovecho Campus, OR, US. For more information: http://www.biochar-international.org/node/6745
- Aug 18 – 20: The 4th China International Biomass Energy Exhibition 2015. Location: Guangzhou, China. For more information: http://www.biochar-international.org/node/6654
- September 20 – 24: 5th International Symposium on Soil Organic Matter (SOM) 2015. Location: Göttingen, Germany. For more information: http://www.biochar-international.org/node/5246
- September 28 – 30: Joint International Biochar Symposium 2015. Location: Geisenheim, Germany. For more information: http://www.biochar-international.org/node/6886
- November 15 – 18: 2015 American Society of Agronomy meeting (includes 5 biochar sessions). Location: Minneapolis, MN, USA. For more information: http://www.biochar-international.org/node/6553

See the IBI Calendar page for more events. To add an event to the calendar, send the information to info@biochar-international.org.

Recently Published Biochar Research

IBI tracks all published research on biochar and includes it in our online bibliography. The following articles were added in the last month. Please visit the website bibliography for more information on any of these articles. Due to copyright infringement laws, we cannot provide full copies of articles unless we have permission from the publisher. If you have published work that is not included, please email us.

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