November 2010 News from the International Biochar Initiative

23 November 2010

Changes at IBI Announced!

As part of a new strategic plan that we are currently crafting, IBI would like to announce some changes to better meet the needs of the biochar community. IBI is restructuring its staffing and extension programs, and has recently expanded the IBI Board of Directors.

IBI Welcomes New Members to the Board of Directors

IBI would like to welcome the following new Board Members who have agreed to join our Board of Directors:
--Marta Camps, Massey University, New Zealand
--Thomas Harttung, BlackCarbon A/S and GreenCarbon A/S, Denmark
--Guy Reinaud, Pro-Natura International, France
--Saran Sohi, University of Edinburgh, United Kingdom

The new members will join our existing Board of Directors, which includes:
--Johannes, Lehmann, Chairman of the Board, Cornell University, United States
--Stephen Joseph, Vice-Chairman of the Board, University of New South Wales, Australia
--Ellen Baum, Board Treasurer, Clean Air Task Force, United States
--David Wayne, Retired, Formally of Shell Research, United Kingdom
--Shinogi Yoshiyuki, Kyushu University, Japan

We welcome the expansion to the Board of Directors and look forward to the new skills and expertise that these members will bring to help us continue to grow and adapt to meet the growing and diverse set of needs for the global biochar community. To read more about IBI board members, please see: http://www.biochar-international.org/board/advisorycommittee.

IBI Extension Services

IBI will continue to provide high-quality extension and consulting services for biochar projects and the global biochar community through a slate of qualified consultants who will operate under contract to IBI. As of the end of the 2010 calendar year, IBI will no longer maintain extension directors on staff, however. We would like to heartily thank IBI Agricultural Extension Director Julie Major and IBI Technology Extension Director Jane Lynch for their service to IBI and the global biochar community as IBI staff Extension Directors. As of January 1, 2011, these services will be made available to the biochar community on a case-by-case basis as requested. To inquire about consulting services or to set up a contract for consulting services for agriculture or biochar production through the IBI, please contact Thayer Tomlinson at IBI at info@biochar-international.org

IBI side event at UNFCCC COP16 in Cancun, Mexico

Once again, IBI will have a presence at the upcoming United Nations Framework Convention on Climate Change (UNFCCC) meeting as we work to continue to highlight the potential role of sustainable biochar systems in combating climate change and benefiting the health and productivity of the world's soils. IBI's Executive Director Debbie Reed will be joined by leading biochar experts in a side event on biochar (see below for further details), and will also be participating on behalf of IBI at Agriculture and Rural Development Day, on Saturday, December 4, 2010 in Cancun (see link for further information: http://www.agriculturedayorg/).

Side event Information:
IBI UNFCCC COP16 Side Event: Biochar's mitigation potential for global agricultural systems and soil benefits: crediting approaches

Date: Friday, December 3, 2010
Time: 20:15-21:45 (8:15-9:45 pm local time)
Room: Cacao (seating capacity of 300 persons)
Venue: Cancun Messe

Panelists:
Debbie Reed, Executive Director, International Biochar Initiative
Johannes Lehmann, College of Agriculture and Life Sciences, Cornell University
Thea Whitman, College of Agriculture and Life Sciences, Cornell University

Debbie Reed (International Biochar Initiative) will discuss how biochar may be credited under different crediting mechanisms, and present a proposal for a robust methodology for quantification of biochar emission reductions and the development of stringent evaluation guidelines to enable crediting of biochar systems. Johannes Lehmann (Cornell University) will propose tools to measure biochar stability, review the role that soil improvement plays for soil biochar sequestration, and provide recent evidence from field experiments. Thea Whitman (Cornell University) will present a detailed study of how the introduction of a biochar-producing cook stove into a small farm household in western Kenya would impact carbon stocks and flows within the system. Field data, system dynamics modeling and sensitivity analyses are used to investigate effects on soil organic carbon, crop growth, and stove GHG emissions.

Biochar Characterization Standards Development: Working Groups Formed

IBI had an overwhelming response to the request for participants in the Biochar Characterization working groups. Although we envisioned a single working group of 10 – 15 members, given the over 80 submissions received, we have chosen to split the work into two working groups to allow more people to participate and to accommodate issues around time zones. Working group #1 will include members from North America, South America and Africa while working group #2 will include members from Asia, Europe, Australia and New Zealand. We will make sure that the learning in one group transfers to the other to continually improve and bring in new perspectives. The working groups will be joined into a single discussion on at least one occasion before the work of the groups is concluded, on an as-necessary basis as defined by the working group leaders. To see the working group members, click here: http://www.biochar-international.org/characterizationstandard

The working groups will create draft standards that will be posted on the IBI website at http://www.biochar-international.org/characterizationstandard. These drafts will be open for comment at any time, with comments forwarded to the working group for consideration. There

will also be a formal comment period (45 days) and balloting process prior to final approval. Please feel free to contact us with any questions on the process.

IBI Membership Program

The end of 2010 is fast approaching and IBI would like to thank our members who have joined in the last year—especially our sustaining and charter members. We launched our individual membership program in July 2009 with a US $60 general membership fee and special rates for students and for sustaining members. Within one year our paid membership has grown to more than 400 members from 34 countries. Member dollars have supported a number of core activities in the past year including the IBI 2010 Conference in Rio de Janeiro Brazil; extension work to draft numerous documents and technical publications; website and database updates; outreach to our biochar community; and domestic and international policy work. In the next year, IBI plans to focus our work on supporting biochar project implementation; working to support the development and implementation of biochar systems that are commercially viable and ecologically sustainable, and that cover the entire span of production to utilization.

We will be sending special membership appeals in the next month and hope you will continue to support your organization's work to showcase biochar's potential as one of the "wedges" that offer a solution to the climate crisis.

If you have not yet joined IBI, please click here.

If you are currently a member and would like to renew your membership, please click here.

Profile: Developing an Eco-Fertilizer Based on Biochar in Chile

The region of the Araucanía in Chile produces more than 60% of the country's cereal crops, 90% of the country's legumes and, in the past, about 90% of the industrial oil crops. Crop yield is an important factor for the development of the agricultural industry and farmers often invest extra revenues in logistics and process optimization. Any reuse of agricultural and forestry waste biomass can add value to the process—thus, researchers are investigating the production of biochar from this waste.

A project being carried out by the Scientific and Technological Bioresource Nucleus and the Department of Chemical Engineering of Universidad de La Frontera in Temuco, Chile, is looking to determine the best operational conditions for the development of controlled-release nitrogen fertilizers using biochar as a basis and studying the main effects of variables and interactions involved in the process. Nitrogen is highlighted in the studies due to the increasingly excessive application of nitrogen fertilizers over the past few decades in Chilean agriculture—currently, an average of 60 kg ha-1 of nitrogen per year is applied to arable soils.

To read the remainder of this story, please see: http://www.biochar-international.org/profile/chile.

Photo: Operating the batch pyrolysis unit, courtesy of Claudio Toro

Biochar Briefs - News Roundup for November 2010

Ecosystem Marketplace has a very informative series of reports on the International Conference on Agriculture, Food Security and Climate Change that took place earlier this month in the Hague. Many topics and initiatives of relevance to biochar were discussed at this meeting. In particular, see the report, Betting on the Farm: Can Soil Carbon Cut Emissions and Improve the World's Farmlands? An IBI representative from a biochar project in Costa Rica was also present at the conference.

Cool Planet Biofuels gets capital infusion. GE Energy Financial Services and North Bridge Venture Partners will invest $8 million in Cool Planet Biofuels, a California (United States) company developing a biofuel production process coupled with the production of biochar.

WorldStove, LLC announces that it has received carbon offset certification for its integrated Five Step Program and the LuciaStove.

"*Biochar stoves could fight climate change****"*** is the headline of an informative CNN article that features a photo of a Top-Lit Updraft (TLUD) stove from biochar stove developer Paul Anderson.

Swiss farmer Hans-Peter Schmidt and his organic Mythopia Vineyard are profiled in the German publication Taz. "Butterflies are indicators of biodiversity" Schmidt observes. Butterflies seem to like the diverse environment Schmidt has built in his vineyard with the help of biochar. Schmidt has partnered with Palaterra GmbH to build a new pyrolysis unit on his farm that will produce 500 cubic meters of biochar annually.

Ghana's Soil Research Institute is developing biochar projects to reduce dependence on imported fertilizer and is currently inviting bids to build biochar production units for 10 districts in the country.

The New Zealand government announced an award of $159,000 to investigate the use of pyrolysis technology to make biochar for recycling projects near Wellington.

Researchers at the United States Department of Agriculture (USDA) Appalachian Farming Systems Research Center in Beaver, West Virginia (United States) are developing designer soils for remediation purposes that include biochar as one ingredient.

Biochar researcher, business owner, and organic gardener Josiah Hunt is featured in an article on biochar in the Dec-Jan Issue of Organic Gardening Magazine.

Jerry Whitfield of BioEnergy Systems LLC, will discuss a biochar generating process under development that can use any and all kinds of biomass from premium-grade sawdust to animal manure, at the upcoming Pacific West Biomass Conference & Trade Show in Seattle (United States), Jan. 10 – 12.

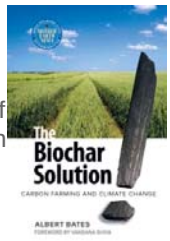
We update the website daily with new articles on biochar. For more information, please see: http://www.biochar-international.org/newsbriefs

New IBI Publications: Adding Biochar to Soils

IBI is pleased to announce the availability of new biochar publications in our series of technical bulletins and guidelines. *The Guidelines on Practical Aspects of Biochar Application to Field Soil in Various Soil Management Systems* provides an overview of current biochar knowledge pertinent to its application to soil, and gives ideas for using biochar in a variety of soil management systems. In addition to this 23 page technical guide, IBI produced *A Simple Guide to Testing Biochar in Soils* which contains basic information on how to perform initial

tests to see how soils (and plants in those soils) may react to the addition of biochar. This guide is available in both English and in Spanish. To read these and all other IBI publications, please see:
http://www.biochar-international.org/publications/IBI.

New Biochar Books Released



The Biochar Solution: Carbon Farming and Climate Change, by Albert Bates, New Society Publishers, October 2010. Combining practical techniques for the production and use of biochar with an overview of the development and future of carbon farming, The Biochar Solution describes how a new agricultural revolution can reduce net greenhouse gas emissions to below zero while increasing world food reserves and creating energy from biomass wastes. Order direct from the publisher at http://www.newsociety.com/bookid/4078.

The Biochar Revolution: Transforming Agriculture and Environment, ed. Paul Taylor, is now available for purchase online. A friendly, informative, inspiring and break-through reference guide for anyone interested in biochar or concerned about environmental issues. The book has contributions from 18 biochar experts and authors. See the IBI review in the August 2010 IBI Newsletter. Order the book online at
http://biochar-books.com/The_Biochar_Revolution.

Upcoming Calendar Highlights

29 November – 10 December – United Nations Climate Change Conference, COP 16; Location: Cancun, Mexico; More information: http://unfccc.int/2860.php; IBI Side Event Friday, December 3, 2010, at 20:15-21:45, in Cancun Messe, Cacao Room.

2 – 3 December – Biomass Renewable Energy Conference; Location: Miami, FL (USA); More information: http://www.biochar-international.org/node/2031

3 – 5 December – 25th Annual Sustainable Agriculture Conference, including 2 biochar-specific sessions; Location: Winston-Salem, NC (USA); More information: http://www.carolinafarmstewards.org/sac10.shtml

4 December – Agriculture and Rural Development Day, at COP 16; Location: Cancun Mexico; More information: http://www.agriculturedday.org

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

Regional Biochar Group Updates

To read more on regional and national biochar groups, please see IBI's website at: www.biochar-international.org/network/communities. This month features updates from the China Agricultural University Biochar Group (CAU-BG); the New Zealand Biochar Network; Biochar Québec (Canada); and the Pioneer Valley Biochar Initiative (PVBI), United States.

China Agricultural University Biochar Group (CAU-BG)
CAU-BG recently hosted a "Biochar Action in China" 10-10-10 event on October 10, 2010 at the China Agricultural University, Beijing. The event featured biochar posters, pictures, and small gifts and highlighted 350.org, biochar, and biochar in China. CAU students encouraged more than 300 people to sign a 5-meter long scroll with logos of 350.org, 10-10-10, and event slogan on it. For more information about this event, please see: http://www.biochar-

international.org/Biochar10.10.10Reports.

Photo: The group standing in front of the China Agricultural University to highlight the 10-10-10 event and build strength for biochar in China. Courtesy of CAU-BG.

New Zealand Biochar Network

On February 10 and 11, 2011, the New Zealand Biochar Network will host Biochar 2011 Workshop: Opportunities, Risks and Acceptance at Massey University, Palmerston North, New Zealand. The conference organizers are accepting contributions for presentations; the title is due December 15, 2010 and a one page abstract is due January 21, 2011. For more information on the workshop, to register, and to submit a contribution, please see: http://www.biochar.co.nz/index.html.

Additionally, the New Zealand Biochar Network has a new November 2010 newsletter available on its website (link above) with articles on recent biochar conferences in Brazil, China, and the United States.

Biochar Québec

Following our first biochar conference held on Sept. 2nd in St-François-Xavier-de-Brompton, and thanks to the generosity and skills of volunteer Tadatoshi Takahashi, slide shows and video footage of all presentations are now on our website and can be accessed at http://biocharquebec.org/events?locale=en.

Pioneer Valley Biochar Initiative (PVBI)

The group continues to interact with local farmers to develop small-scale devices to prepare biochar and engage in soil testing. PVBI received a grant to permit its purchase of a pyrolizer which can prepare biochar quantities adequate for agricultural testing, provide some heat for local buildings, and meet state air quality standards.

A group of PVBI members along with members of agriculturally related departments at the University of Massachusetts, Amherst are looking at possible future academic activities to include establishing an interdepartmental seminar series dealing with biochar and initiating webinars on biochar.

The PVBI group participated in the local celebration of World Climate Action Day on Oct. 10, 2010, coordinated by www.350.org. This involved hosting a table with biochar equipment and biochar samples. For more information, please see: http://pvbiochar.org.

Recently Published Biochar Research

IBI tracks all published research on biochar and includes it in our online bibliography: www.biochar-international.org/biblio. 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, 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 at: info@biochar-international.org.

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Brockhoff, Shane R., Nick E. Christians, Randy J. Killorn, Robert Horton, and Dedrick D. Davis, (2010). Physical and Mineral-Nutrition Properties of Sand-Based Turfgrass Root Zones Amended with Biochar. Crop Science Society of America, Volume 102, Number 6, 1627-1631.

Chen, R., M. Wilson, Y. K. Leong, P. Bryant, H. Yang, and D. K. Zhang, (2010). Preparation and rheology of biochar, lignite char and coal slurry fuels. Fuel, 11/2010.

Ding, Y., Liu, Y. X., Wu, W. X., Shi, D. Z., Yang, M., Zhong, Z. K., (2010). Evaluation of Biochar Effects on Nitrogen Retention and Leaching in Multi-Layered Soil Columns. Water Air and Soil Pollution 213, 47-55.

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Huang, W.H., Chen, B.L., (2010). Interaction mechanisms of organic contaminants with burned straw ash charcoal. Journal of Environmental Sciences-China 22, 1586-1594.

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Lee, James W., Michelle Kidder, Barbara R. Evans, Sok Won Paik, A. C. Buchanan, Charles T Garten, and Robert C. Brown, (2010). Characterization of Biochars Produced from Cornstovers for Soil Amendment. Environmental Science and Technology, Volume 44, 7970–7974.

Ro, K. S., Cantrell, K. B., Hunt, P. G., (2010). High-Temperature Pyrolysis of Blended Animal Manures for Producing Renewable Energy and Value-Added Biochar. Industrial & Engineering Chemistry Research 49, 10125-10131.

Schneider, M. P. W., Hilf, M., Vogt, U. F., Schmidt, M. W. I., (2010). The benzene polycarboxylic acid (BPCA) pattern of wood pyrolyzed between 200 degrees C and 1000 degrees C. Organic Geochemistry 41, 1082-1088.

Smith, Jeffrey L., Harold P. Collins, and Vanessa L. Bailey, (2010). The effect of young biochar on soil respiration. Soil Biology and Biochemistry, December 2010, Volume 42, Number 12, 2345-2347.

Whitman, Thea, Sebastian M. Scholz, and Johannes Lehmann, (2010). Biochar projects for mitigating climate change: an investigation of critical methodology issues for carbon accounting. Carbon Management, Volume 1, Number 1, 89-107.

Yu, Y., Wu, H. W., (2010). Bioslurry as a Fuel. 2. Life-Cycle Energy and Carbon Footprints of Bioslurry Fuels from Mallee Biomass in Western Australia. Energy & Fuels 24, 5660-5668.

Yuan, Jin-Hua, Xu Ren-Kou, and Zhang Hong, (2010). The forms of alkalis in the biochar produced from crop residues at different temperatures. BioResource Technology.