



June 2011 News from the International Biochar Initiative

29 June 2011

Website Upgrade in Progress

As you probably noticed over the past month, IBI is upgrading our website. We have a new design as well as a refreshed home page layout with rotating content and we look forward to launching our upgraded member database and business directory in the next month. Additionally, we are adding content to support increased innovation and information sharing among technology developers and users through an Open Source Technology page (<http://www.biochar-international.org/technology/opensource>) with links to open source biochar resources and information on alternatives to patents. IBI Project Development Director **Kelpie Wilson** will be adding more information to this page, so please contact her if you have work you would like to share.



In addition to other website upgrades, thanks to the invaluable legal advice from Darrell A. Fruth and Joseph A. Ponzi at Pierce, McLendon, Humphrey & Leonard, L.L.P. (<http://www.brookspierce.com>), with the assistance of their summer associate Jim Russell, IBI has a new website Terms of Use page and a Privacy Policy page which we encourage you to review at: <http://www.biochar-international.org/privacy-policy> and <http://www.biochar-international.org/terms-of-use>.

IBI Welcomes New Staff Lourdes Haro and Josh Laufer

Lourdes Haro joined IBI in June 2011 in the new Member Services Coordinator position to focus on member outreach and database management. Lourdes received her Bachelor of Arts degree in International Area Studies and Rhetoric from the University of California at Berkeley. She has studied and conducted research for sustainable development projects in Ecuador and in her native Mexico. She has worked abroad as translator, travel writer, and instructor (in Spanish). She resides in the San Francisco Bay Area and for the last 15 years, has worked for a number of reputable non-profit organizations, including the last 8 years as a project manager for Kaiser Permanente.

Josh Laufer is working as an intern for IBI through the summer. In this role, he is researching and writing a white paper detailing existing biochar field studies and those in the pipeline. Josh is a rising senior Environmental Studies Major at Oberlin College (United States) and hopes to pursue a career that analyzes and promotes political, diplomatic, and technologic options to

prevent conflict arising from the interrelated issues of climate change, natural resource shortages, and food security. He is looking to work as a member of a think tank, or as a researcher and professor at an academic institution dedicated to these issues.

Kelpie Wilson has a new role at IBI as the IBI Project Development Director. She will focus on the characterization and standards work in the near term and will work with developing new projects around the world as time allows. Unfortunately, current funding levels are not enough to support full time hours for IBI staff.

Biochar Characterization Standards Are Essential to the Success of the Biochar Industry

By: Debbie Reed, IBI Executive Director

The IBI Mission. The International Biochar Initiative (IBI) is a non-profit organization whose mission is to promote the development of biochar systems that follow Cradle to Cradle sustainability guidelines. In pursuit of this IBI supports the generation, review and dissemination of credible information on all aspects of biochar; and the development of sustainability guidelines that can be used to monitor and evaluate biochar projects and systems against these guidelines. IBI's success is built on the collective engagement, knowledge, goodwill, and spirit of the global biochar community, and progress in the field of biochar is dependent on the continued collaboration and engagement of this vibrant community.

Why is IBI Pursuing Standards for Biochar? IBI's vision is to help attain the commercial viability of sustainable biochar production and utilization at all scales, to enhance the global soil resource and to help combat climate change. It has become increasingly clear to me in the 5 years that I have been with IBI that, before the industry can succeed in these efforts, we must define and be able to succinctly communicate what biochar is, as well as what it is not. To do this, we must establish standards and tests to confirm that a product intended for sale or use as biochar is, indeed, biochar. This is complicated by the fact that biochar is not just one singular material with a narrow set of characteristics or uses; rather, biochar is a spectrum of materials with a range of potential characteristics and uses that are dependent on multiple factors, including feedstock selection and preparation, processing parameters (temperature, time, presence or absence of oxygen, pressure, etc), and use of any post-treatments.

What is the essence of biochar? Given the wide range of characteristics and impacts of biochar materials, it is vital that, as an industry, we can identify and describe the essence of biochar—those essential characteristics that make it biochar—and that we can then link these characteristics to its beneficial attributes. Through this process of identification and attribution, we can establish the assurances upon which markets can be built, and a successful and viable industry can thrive. Short of that, we will remain challenged to define biochar and to describe its attributes and explain them scientifically or to create the necessary assurances to build markets that will make the industry commercially viable.

Click here to read the remainder of this letter:

http://www.biochar-international.org/standards_are_essential.

The third version of the standards draft and all other updates are available at:

<http://www.biochar-international.org/characterizationstandard>. We welcome all comments and suggestions from the biochar community as we proceed with development of these critical standards.

Profile: A partnership between form and function: Proyecto Estufa Finca uses local materials to build elegant and sustainable biochar stoves in Costa Rica

Proyecto Estufa Finca (The Farm Stove) project began in September 2009 when Costa Rican coffee grower Arturo Segura, owner of Sol Colibrí Organic Coffee, encountered SeaChar (the Seattle biochar group) co-founder Art Donnelly promoting biochar and his biochar producing gasifier cook-stove technology at an organic harvest fair in Seattle, WA, United States. In this chance convergence of people and ideas, Art saw an opportunity to implement his simple and elegant technology in the real world and Arturo saw a solution to a problem—every year in Costa Rica, approximately 150,000 migrant workers and their families come from Nicaragua and Panama to pick coffee. They live in tin-roof shacks, generally without electricity or running water, cooking over open wood fires—a notorious source of upper respiratory health problems and driver of habitat destruction from overharvesting wood. The related respiratory disease is one of the leading causes of death in children under ten in this population. Arturo is a member of La Alianza, an organic coffee grower's cooperative, and he invited Art to bring his stoves to Costa Rica to help improve living conditions for the families that he and other members of the cooperative employ during the harvest season. Laboratory testing conducted at the Aprovecho Research Center (<http://www.aprovecho.org>) has shown these stoves burn with 91% lower emissions of particulate matter than a base-line open fire.



In January of 2010, Art traveled to Santa Maria de Dota, Costa Rica as a guest of Arturo and the members of La Alianza. Occurring during the height of the coffee harvest, this was the perfect opportunity to conduct a feasibility assessment for the introduction of biochar producing TLUD (top lit up-draft) stoves to this population.

Click here for the remainder of this story:
<http://www.biochar-international.org/profile/EstufaFinca>

Photo: The project organizers are heartened to see the obvious signs of daily use at most of the households; they are told repeatedly: "it cooks faster, makes less smoke and uses less wood". Courtesy of Art Donnelly.

Biochar Briefs - News Roundup for June 2011

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

Time lapse photography is documenting plant growth on old mine tailings rehabilitated with biochar and other treatments in Colorado, US. **The project is headed by IBI member Morgan Williams**, executive director of the Flux Farm Foundation.

REFERTIL is a three million Euro project financed by the European Union under the Seventh Framework Programme that will develop an advanced and comprehensive treatment of organic waste that includes biochar. The project is funded for four years and involves business and academic partners in ten countries, including the Hungarian company Terra Humana, **headed by IBI member Edward Someus**.

Interra Energy has won 3rd prize in the 5th Annual San Diego Business Plan Competition for a biochar production system that makes “renewable natural gas”. Interra was also awarded \$2,000 cash for winning the Clean Track Division of the competition. Interra is **headed by IBI member Thomas Del Monte**.

A winery waste biochar project is in the planning stages in New South Wales, Australia. Murrumbidgee Irrigation and Tarac Technologies are investigating the feasibility of turning winery waste into heat, electricity and biochar. A decision is expected in November.

Public funding of \$150,000 will help support a biochar/biomass recovery project at Lakehead University in Canada. LU is partnering with Ontario Power Generation and AbitibiBowater to study possible applications for biochar left over after using forest biomass to create energy.

PL Energy, LLC of Des Moines (United States) received \$2 million from the Iowa Power Fund to install a demonstration-scale on-farm poultry litter gasification system that will produce electricity, heat for poultry barns, biochar and ammonia fertilizer. PL Energy will leverage \$3 million in matching funds for a total project cost of \$5 million.

Under the leadership of IBI member **Dr. Robert Brown**, researchers at Iowa State (United States) are combining thermal technologies like pyrolysis with biological technologies like fermentation to produce energy and co-products such as biochar.

An article about IBI member **Art Donnelly** begins: “It was his journey to find a deeper purpose in life that led a Seattle artist to craft perhaps his most important piece of work ever: a life-saving cook stove. Art Donnelly would say they are his greatest work of art, although he would never take all the credit.”

Biochar stove project developer **Eric Reynolds** was profiled in the New York Times. Reynolds is working with World Stove to deploy biochar cookstoves in Rwanda.

Widely used in nursery pots in UK, peat is unsustainable, and the government is trying to phase it out. **IBI member Craig Sams and his company, Carbon Gold**, offer their biochar product as an effective peat substitute.

Middle school students in Puducherry, India won first place for their biochar project in a science competition and received a 300 Euro prize.

For the second year in a row, the biochar team at Heritage High School in Vancouver, Washington (United States) won a prize in the Imagine Tomorrow competition – they took first place and won \$5000.

Researchers at Baylor University in Texas, US have found that wetting biochar before applying it to soil is better for earthworms than applying it dry. The researchers also found that biochar did not affect earthworm reproduction.

IBI member and worm farmer Wayne Wadworth held a worm and biochar “wheelie bin” workshop at the Lismore Community Garden in Lismore, Australia. Lunch for participants was prepared using biochar woodgas cookers.

Byron Shire in New South Wales, Australia is the site of a proposed “eco park” that will include a power station that produces biochar integrated with gardens and solar power.

IBI member and vintner Randall Graham is developing new techniques using biochar to produce fine wines at the Bonny Doon Vineyard in Santa Cruz, California.

Sustainability of Biochar Systems in Developing Countries

Dr. N. Sai Bhaskar Reddy

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Although the term “biochar” is a recent adoption, biochar is a very well known substance; it has been part of some of the best practices in traditional agriculture in different parts of the world. Farmers have used it for many purposes including soil fertility management. Recently it has attained greater importance because of ongoing scientific research and discoveries. Biochar is identified as one of the means for adaptation and mitigation for climate change.

In Andhra Pradesh, India, my project "[Good Stoves and Biochar Communities](#)" is developing new open source technologies for biochar production from crop residue and other waste biomass, and exploring methods of biochar application for improving fertility of soil and addressing carbon sequestration. We are specifically addressing the needs of the poorest farmers, to explore how biochar can help improve their livelihoods. In this article I would like to share some important lessons we have learned as a result of our experimentation, and make some recommendations for better progress.

First, biochar should not be viewed as a specialized product for soil amendment alone. As "[Biocharculture](#)" the scope of biochar is manifold. The broad areas of biochar use include soil management, livestock, biomass energy, water purification, green habitats, sanitation, health, etc. The value of biochar increases due to its reuse integrating with the above aspects where, for example, biochar used in sanitation is then re-used as a fertilizer.

There is a need for mass awareness of biochar, including the pros and cons, among various stakeholders. The main challenges are the availability of sustainable sources of biomass and the accessibility of efficient biomass-to-biochar conversion technologies.

To read the remainder of this article, please see: http://www.biochar-international.org/Sustainability_Biochar_Systems_DevelopingCountries

Opportunities in Biochar

Opportunities in Biochar showcases announcements for the public to apply for funding, jobs, publications, conferences, etc. These announcements are also posted on the IBI website in two places: [Biochar Updates](#) and the [Member Bulletin Board](#).

Submit abstract for conference: The European Biochar Symposium 2011 will be held in Halle/Saale, Germany September 26 – 27th. **Abstracts in English are accepted through August 1, 2011** (with preference to early submissions). More information is available at: website: www.landw.uni-halle.de/biochar2011.

Submit abstract for conference: The Biochar Symposium at the EuroSoil 2012 Conference (Bari, Italy): will be held July 2 – 6, 2012. **Abstract deadline is Oct. 10, 2011**. More information is available at: <http://www.biochar-international.org/node/2623>.

New job opportunities and PhD postings are updated at: <http://www.biochar-international.org/network/jobs>

Upcoming Calendar Events

July 6 – 8: International Conference on Dryland ecosystem functioning and resilience: integrating biophysical assessment with socio-economic issues; Location Alghero, Italy; more information www.uniss.it/nrd/drylandsconference.

July 26 – 27: Biomass '11: Renewable Power, Fuels, and Chemicals Conference; Location Grand Forks, ND, United States; more information <http://www.undeerc.org/Biomass11>.

August 7 – 12: 2011 BEF Camp at NESFI (New England Small Farm Institute): Gasifier Stoves, Biochar, CHAB (Combined Heat and Biochar), and More...; Location Belchertown, Massachusetts, United States; more information <http://www.biochar-international.org/node/2594>

August 28 – September 1: 242nd ACS National Meeting and Exhibition (featuring session: Black Carbon and Biochar for Soil Fertility and Carbon Sequestration); Location Denver, CO, United States; more information <http://portal.acs.org>.

August 30 – September 1: Farm Progress 2011; Location Decatur IL, United States; more information <http://www.farmprogressshow.com/main.aspx>.

September 7 – 9: Global Soil Partnership (GSP) for Food Security and Climate Change Adaptation and Mitigation Launch; Location Rome, Italy; more information <http://www.biochar-international.org/node/2470>.

September 15 – 18: 2nd Asia-Pacific Biochar Conference (APBC2011); Location Kyoto, Japan. Register now: **early bird registration ends July 1st**; more information (and registration): <http://apbc2011.com>.

September 20 – 23: Biochar and New Green Agriculture in China; Location Nanjing, China; more information <http://www.biochar-international.org/node/2568>

September 26 – 27: European Biochar Symposium 201; Location Halle/Saale, Germany; more information <http://www.biochar-international.org/node/2468>

September 26 – 30: Stove and CHAB Camp (Combined Heat and Biochar); Location Zamorano University, Honduras; more information: <http://www.biochar-international.org/node/2205>

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 Warren Biochar (Australia), the Illinois Biochar Group (United States), and the Pioneer Valley Biochar Initiative (United States).

Warren Biochar

Warren Biochar is a new group that works in South West Australia's Tall Tree Country and consists of around 40 members who have a wide range of occupations and expectations around biochar including: forestry, sawmills, blue-gum plantations, organic fruit orchards, potato and vegetable growers, and beef farmers. For more information on the group's activities, please see: <http://www.biochar-international.org/warren>.

The Illinois Biochar Group (IBG)

The Illinois Biochar Group (IBG) met on June 9, 2011, at the Illinois Sustainable Technology Center on the campus of the University of Illinois at Urbana-Champaign. A brief summary of the meeting, power point presentations from several of the talks, and photos from the stove/gasifier demonstration are now archived on IBG's new website: www.biochar.illinois.edu.

The Pioneer Valley Biochar Initiative (PVBI)

Members of the PVBI had a presentation on biochar on the Springfield public TV station (WGBY) which is now available online at: <http://vimeo.com/24236192>. Additionally, the group had a visit from Jean Claude Bacle from Rimouski, Quebec who is a potential source of biochar and they are arranging a shipment of two tons of this product to the New England Small Farm Institute (NEFSI). PVBI is attempting to arrange characterization and analysis of this product and to initiate tests for agricultural activity. Additionally, PVBI is looking for more contacts in Canada to further interactions and cooperation. More information is available at: <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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