December 2014 News from the International Biochar Initiative

IBI Year in Review

As IBI's Executive Director, I recently shared some highlights from 2014 in a letter to our members. At the top of our list of achievements in 2014, I highlighted the continued advancement of the first-ever *IBI Biochar Certification Program*, built upon the biochar material requirements of the *IBI Biochar Standards*. Both programs provide critical formative steps towards product certainty necessary to develop a robust biochar industry. The programs enable everyone from researchers to producers to consumers to articulate and identify what biochar is, and as importantly, what it is not. The *IBI Biochar Certification Program* allows biochar producers to pass rigorous testing requirements to show that their biochar products meet exacting standards, and to then carry an *IBI Certified™ biochar seal*, which verifies product safety and use as a soil amendment. The *IBI Certified™ biochar seal* provides important product differentiation for producers and consumers, and is an important marketing tool for the nascent biochar industry.

Additionally, IBI can chalk up the following accomplishments during 2014, due in no small part to the unwavering support and contributions of the Packard Foundation, our members, staff, and Advisory Committee members:

- Based on feedback from our stakeholders, expert panels, and to reflect new research, we proposed policy revisions to the *IBI Biochar Standards* which were voted on by our membership and passed overwhelmingly. The revisions addressed: 1) testing requirements for weathered biochar; 2) timing of testing for post-processed biochar; 3) provisions for high carbon biomass ash; and 4) biochar sampling procedures, and were published in Version 2.0 of the *IBI Biochar Standards* in October.
- Spain Biochar Course: IBI and course co-developers delivered a training course titled, "*Biochar for Environmental Sustainability and Economic Development*" hosted by the University of Santiago de Compostela, Spain. The objective of the course was to provide an in-depth understanding of biochar for the target audience of government officials, policy makers, financiers, and entrepreneurs in the European region. IBI collaborated with biochar researchers and engineers from Massey University, New Zealand; Fraunhofer Institute for Environmental, Safety, and Energy Technology UMSICHT, Germany; and the Spanish National Research Council to design and present the course. Nearly 40 participants from 13 countries attended.

  Topics presented over the two and a half day course included 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. IBI intends to deliver and/or adapt this intensive training course for future training opportunities in order to facilitate best-science updates on biochar and to promote the uptake of biochar production and use as well as proactive public policies in support of biochar production and utilization systems.
- *IBI Webinar Series*: These webinars allow IBI to connect IBI members to leaders in the biochar field, from business professionals to producers and academics, who present cutting-edge information, research, and updates to our IBI membership. Participants have the opportunity to

interact with presenters by submitting questions before or during the webinar for live responses, as time permits. This year, IBI has moderated webinars by Dr. Steven McGreevy of the Research Institute for Humanity and Nature, Kyoto, Japan; Dr. Johannes Lehmann of Cornell University, USA, and Chairman of the IBI Board of Directors; Dr. Isabel Lima of the US Department of Agriculture Agricultural Research Service; and Art Donnelly, Estufa Finca Project Director and co-founder of Seachar (Seattle Biochar Working Group).

- Global Biochar Support: Our staff and Board of Directors have continued to engage in many other related efforts on behalf of the global biochar community, including organizing and presenting at regional, national, and international biochar conferences, continuing to spread the word on biochar and IBI, and increasing our communications and outreach through materials development, our website, our 57-affiliated regional biochar groups, and our monthly newsletter.
- Biochar Promotion: IBI developed relationships with multiple biochar-related regulatory agencies to ensure they have an understanding of biochar and its relevance in their areas of regulation, and to promote support of biochar within their respective organizations. We thank these organizations for their willingness to work with us, including: the Association of American Plant Food Control Officials (AAPFCO); Organic Materials Review Institute (OMRI); European Biochar Certificate (EBC); United States Department of Agriculture National Organics Program (USDA NOP); and the United States Composting Council.
- Global Biochar Progress Tracking: IBI continued to track and report progress in all aspects of the biochar field, including science and technology, policy, market, and project development, and media coverage of biochar through our newsletter and website.

January IBI Webinar Series Event: Andreas Hornung of Fraunhofer UMSICHT Presents, "Combined Production of Biochar and Power"

Have you wondered how to get more favorable economics around biochar production? For our January webinar event, IBI enthusiastically welcomes Fraunhofer Institute for Environmental, Safety, and Energy Technology (UMSICHT) leader Dr. Andreas Hornung to address this hot topic. Dr. Hornung will give a presentation titled, *Combined Production of Biochar and Power*, detailing how today, biochar is usually produced as a single product and therefore—especially if derived from wood—can be expensive. With the reaction system of Fraunhofer UMSICHT, it is possible to produce biochar from agricultural residues as well as digestate from biogas units, combined with the production of heat and power. Under European economic conditions, this system is lowering the cost of biochar to almost 100 Euro/t of biochar. The financial return on investment is usually coming from savings for power and heat. The systems can be scaled between 30 – 3000 kg/hour. Please join us as Dr. Hornung further explains some possible economic solutions to the financial challenges of biochar production.

Registration is open now. The webinar will be held on **Thursday, January 15th at 12:00 pm Eastern Time**. Note: Please convert the 12:00 pm ET start time to your local time by using this time converter tool. You must be an IBI dues-paying member to participate in these special events. If you are not an IBI member and would like to join, please click here. A recording of the webinar will be available afterward, in the member's-only area of our website.

For more information on this webinar program, including links to prior presentations by Dr. Steven McGreevy (Research Institute for Humanity and Nature, Kyoto, Japan), Dr. Johannes Lehmann (Cornell University, USA), Dr. Isabel Lima (US Department of Agriculture), and Art Donnelly (Estufa Finca Project Director & Seachar), please see: http://www.biochar-international.org/webinar_series.

Karr Biochar Receives IBI Biochar Certification

IBI is pleased to announce that Karr Group of Companies, LLC has been approved for certification of its biochar in our *IBI Biochar Certification Program*. Karr can now utilize the *IBI Certified™ biochar seal* on its product, KGC Standard Biochar. To achieve certification, Karr met all of the conditions of the *IBI Biochar Certification Program*, including passing all of the physicochemical testing requirements specified by the *IBI Biochar Standards*—the foundation for IBI biochar certification.

IBI's biochar certification program—the first of its kind globally—is a voluntary, self-certifying program created and administered by IBI and fully accessible through an online portal. It enables biochar manufacturers to certify that their product meets industry-accepted standards and is safe and effective for use as a soil amendment. Phase 1 of the *IBI Biochar Certification Program* is being implemented with biochar manufacturers in the United States and Canada.

For further information on Karr Group of Companies, LLC please click here.

To view a list of IBI certified biochar manufacturers please click here.

Announcing the Launch of the IBI Industry Committee

In November, IBI hosted the inaugural virtual meeting of the newly formed IBI Industry Committee. The objective of the committee is to help IBI prioritize real-time information on challenges and impediments to the biochar industry in such areas as regulations, policies, and markets, at the local, national, and international levels. Additionally, the committee will collaborate with IBI and our stakeholders to assist in the development and coordination of solutions and resources to overcome these challenges and aid in the growth and development of a sustainable and commercially viable biochar industry.

The committee will meet on a bi-monthly basis and will develop ideas and a work plan over an 18-month time horizon. We would like to sincerely thank the committee members for their voluntary efforts and contributions; members include: Albert Bennett, ICM Inc, USA; Kathleen Draper, Ithaka Institute for Carbon Intelligence, USA; Don Harfield, Alberta Innovates, Canada; Stephen Joseph, University of New South Wales, Australia; Jonah Levine, The Biochar Company, USA; Simon Manley, Carbon Gold, UK; Tom Miles, TRM Consulting, USA; Fabian Stenzel, Fraunhofer UMSICHT, Germany; and Hailong Wang, Zhejiang A & F University, China.

New IBI Business Member: ArstaEco Pvt Ltd

A listing of all current IBI Business and Organization Members can be found on our website. For more information on membership opportunities and benefits, or to join, please see: http://www.biochar-international.org/join. Please note, Business and Organization descriptions are submitted by each individual entity, and are not developed or written by IBI.

ArstaEco Pvt Ltd is a technology company working on innovative methods of production and commercialization of biochar. Set in the heart of the coconut growing belt of Karnataka India, the company utilizes the abundant residues from this industry including coconut shell, husk, and frond to produce various grades of biochar for water treatment, soil application, and other uses. They deploy a modern stand-alone multi-feed continuous

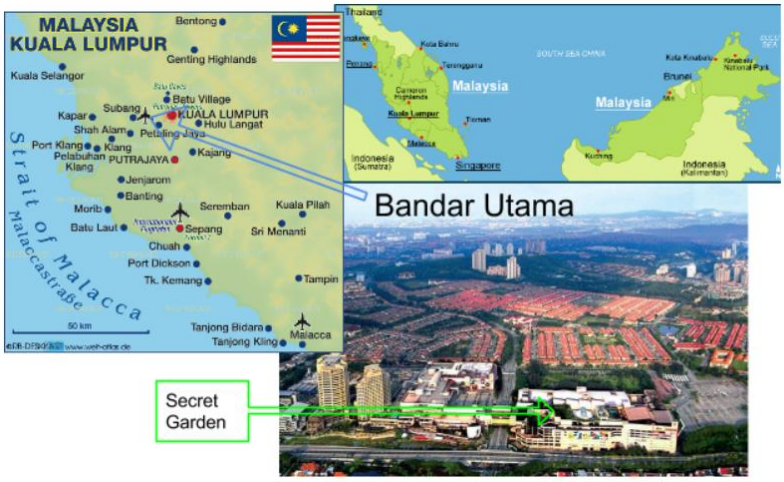
process reactor and the company is commissioning further units to produce biochar within India. ArstaEco targets an annual production capacity of 4500 tonnes of biochar by the end of 2015.

Working with rural farm clusters, ArstaEco educates farmers in crop yield enhancement, improved irrigation, waste management, and decentralized power generation to improve living standards. They also collaborate with key universities to explore new uses for biochar and welcome research enquiries. More information can be found at http://www.arstaeco.com.

Profile: Bandar Utama—a history of biochar application in Malaysia

By Trevor Richards, SE Asia Biochar Interest Group

Although the term biochar is relatively new, charcoal has been added to soils for millennia through natural processes (forest and grass fires) and by human hand. There is a long history of charcoal addition to soils by humans throughout the world—this story highlights the modern use of biochar in Malaysia (known as *tanah hitam*).



Bandar Utama is a small suburb located about 15km to the west of central Kuala Lumpur. Until 1991, the land now known as Bandar Utama consisted of plantation estates with fewer than 100 people living in the area. In the early 1990s, development began under the See Hoy Chan Holdings Group and today, Bandar Utama is a vibrant, rapidly growing township with a population of about 200,000. A focal point in Bandar Utama is the 1 Utama shopping complex which opened in 1995 and has nearly 500,000 m2 floor space. It also boasts its own 'rainforest' that grows up through all six levels at the SE corner of the shopping complex, and has the largest rooftop garden in South East Asia, known as 'The Secret Garden'.

Experimentation with biochar in Bandar Utama began in a small forest nursery in 2002 following the engagement of Dr Francis Ng as a consultant in 2000. To read the remainder of this article, please see http://www.biochar-international.org/profile_Malaysia.

Biochar Briefs: News Roundup for December

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

Germany
The Bund National Association of Lower Saxony recently launched a project to highlight the benefits of *terra preta* to the general public. They have partnered with groups in five counties to create demonstration plots in public vegetable gardens. The trials divide each garden into thirds and use *terra preta* on one third, compost on the second, and add nothing to the soil for the final third. Visitors can easily see which vegetables grow best with each amendment type.

New Zealand
Wood products are New Zealand's third largest export. In addition to new forestry products coming out of

the industry, a New Zealand-based company, CarbonScape, believes biochar has the potential to make the industry more profitable and sustainable. They are commercializing biochar production units and working with the forestry industry to create co-production opportunities for biochar production with heat.

United States
Kurt Spokas, a soil scientist with the United States Department of Agriculture, believes that farmers can mitigate climate change while improving the health of fields using biochar. In addition to highlighting some of the uncertainties around different biochars' reactions in different soils, Spokas highlights the current economic barrier to wider scale application on farmland. "Analogous to new prescriptions drugs," Spokas says, "the costs for biochar are very high due to these initial efforts into producing [it]."

Opportunities in Biochar

- Support research on biochar and nitrogen through the Spanish Scientific Council by Crowdfunding. More information is available at: http://www.biochar-international.org/node/5730
- Submit an abstract to the biochar session, "Future challenges in biochar research at European Geosciences Union (EGU) General Assembly" in Vienna, Austria. The abstract submission deadline is **January 7, 2015**. More information is available at: http://www.biochar-international.org/node/5514.
- Take advantage of a free subscription to Biomass Magazine. More information is available at: http://www.biochar-international.org/node/5537.
- Download a new open access biochar book: *Biochar Culture*, by Sai Bhaskar N Reddy. 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

- December 20 – 21: Biochar learning camp at Biochar Industries. Location: Kunghur, NSW, Australia. For more information: http://www.biochar-international.org/node/5777
- February 25 – 26: 2015 Ecological Landscaping Association (ELA) Conference. Location: Springfield, MA, USA. For more information: http://www.biochar-international.org/node/5518
- March 7 – 14: George Mason University Permaculture Design Certification Course. Location: VA, USA. For more information: http://www.biochar-international.org/node/5561
- March 16 – 18: Climate Smart Agriculture 2015 Global Science Conference. Location: Le Corum, Montpellier, France. For more information: http://www.biochar-international.org/node/5354
- April 12 – 17: European Geosciences Union (EGU) General Assembly; Biochar Session: Future challenges in biochar research. Location: Vienna, Austria. For more information: http://www.biochar-international.org/node/5513
- April 16 – 21: 3rd International Biochar Training Course. Location: Nanjing, China. For more information: http://www.biochar-international.org/China_training_2015
- April 20 – 22: International Biomass Conference and Expo. Location: Minneapolis, MN, USA. For more information: http://www.biochar-international.org/node/5536
- April 20 – 24: III International Symposium on Organic Matter Management and Compost Use in Horticulture. Location: Murcia, Spain. For more information: http://www.biochar-international.org/node/5389

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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