



US Biochar Initiative Newsletter May 2023

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Markets, Policy, and Practice

by Tom Miles, Executive Director



Your engagement is key to growing the biochar industry! We invite biochar producers, suppliers, and professionals to join USBI in market development and outreach in key sectors. Help facilitate demonstrations on farms and in industry, participate in conferences, and develop our relations with industry leaders and associations. Contribute to the development of products, markets, and products standards. USBI will soon have a new **Program Director** to help coordinate market and technical support. One of the first tasks will be to update our 2021 survey of laboratories which has helped us guide producers in biochar analysis.

Getting a USBI Directory listing will allow us to help you develop business connections and build biochar markets and awareness! We highlight markets and applications in our newsletters and social media and respond to dozens of calls each month from biochar producers and consumers. Don't miss out on the benefits of a [directory listing](#).

Best Management Practices Workshop - USBI is helping to conduct this special workshop to promote the use of biochar and improve agriculture and the environment in the Chesapeake Bay. [USBI factsheets on manure management, compost, soil media, stormwater, and carbon markets](#) are tools that producers can use to develop customers. We also encourage you to join us at the June 22-23 [International Biochar Initiative Field Days](#) in New York and ask for the new agricultural factsheet to be released at the event.

Biochar producers compare strategies and applications, successes and failures, at conferences like the recent **Center for Watershed Protection** national conference in San Diego, California, where we learned about recent experience with biochar in stormwater and manure management of poultry, dairy and cattle manure. We also heard producers describe new techniques dairies are using to control odor and solids in lagoons, reduce costs, and deliver more nutrients to fields with fewer operations.

USBI is helping to launch the NRCS Code 336 Soil Carbon Amendment by assisting development of the [Biochar Atlas](#) as well as a farm demo in Utah so that we can help others learn how to take advantage of this new practice/protocol. The biochar being used in the demo was produced by a carbonizer funded by the USFS through the Wood Innovation Program. USBI also assists some USDA funded Climate Smart Commodity projects to demonstrate biochar use to build markets.

What Policies Does USBI Support? We support the **Biochar Research Policy Project** of the National Center for Appropriate Technology to fund long term research on the benefits of using biochar for soil health and carbon sequestration. This three-year effort has resulted in proposed legislation. USBI also supports the emerging [US Biochar Coalition](#) which aims to promote biochar in upcoming legislation.

Measuring Mobile Equipment Carbon Intensity - USBI is working to measure the carbon intensity of mobile equipment to promote their use and benefit from Carbon Dioxide Removal markets. Emissions from mobile carbonizers are being tested in USFS demonstrations like the Charpalooza, the USBI [Biochar in the Woods](#) initiative, and the Biomass Utilization Working Group of the Oregon Department of Environmental Quality.

Save the Date on February 12-15 in Sacramento, California for 2024 **North American Biochar Conference 2024**.

Thanks to the US Endowment for Forestry and Communities for their support and guidance and for the US Forest Service's assistance in helping to stimulate markets and technology to use forest and agricultural residues and develop tools for a new **Green Carbon Economy**.

BIOCHAR EVENTS CALENDAR

May 25-26 Chesapeake Bay Program's (CBP) Scientific and Technical Advisory Committee (STAC) Workshop (in-person and virtual options) Hershey, PA Using Carbon to Achieve Chesapeake Bay (and Watershed) Water Quality Goals and Climate Resiliency - Learn how to integrate biochar practices into Chesapeake Bay protocols that are informed by current research. [Register here.](#)

May 27 Concrete + CDR: The 4 Corners Carbon Coalition's 1st Awardee Showcase (free 8 - 11pm EDT webinar) - Learn more about each of the "anchor projects" that were selected for nearly 400K in grant funding and how you can get involved in a diverse set of multiplier campaigns in support of these projects. All welcome to attend and ask questions! [Register here.](#)

June 5 Conservation Practice Standard Soil Carbon Amendment: State and National Level Discussion, (free 10 am EST webinar) hosted by Natural Resources Conservation Service [Register here.](#)

June 9 2023 Forest Products Society International Conference June 6-8 Morgantown, WV Leading industry experts will promote discussion on the state of forest products research, education, and innovations. [Register here.](#)

June 19-30 IBI Biochar Academy Led by IBI Board Chair Kathleen Draper and other upstate NY biochar experts and practitioners as well as world-renowned experts from around the globe, this two week, in-person program will provide a unique opportunity to quickly connect with and contribute to scaling the biochar industry. The event has sold out but stay tuned for the availability of recorded sessions.

June 22- 23 Biochar Field Days Canandaigua, NY 8 am- 5pm EDT, Expert presentations will range from biochars for different agricultural applications to national biochar and climate initiatives and include a biochar production demo. (affiliated with the IBI Biochar Academy) [New Yorkers register here.](#) [All others register here.](#)

June 27-28 2023 InfoAg Conference St. Louis, MO This event addresses the challenges of retail agronomists - precision ag, environmental stewardship, sustainability, and product innovation. [Register here.](#)

July 7-9 American Society of Agricultural and Biological Engineers Omaha, NE - a forum for professional development - expanding your awareness of current industry trends and innovations in design and technology; more than 1,000 technical and poster presentations. [Register here.](#)

August 29 - 31 StormCom, Dallas, TX - the stormwater industry's premier event connecting stormwater managers, erosion control specialists, and engineers from around North America for idea-sharing and networking. [Register here.](#)

February 12-15 2024 North American Biochar, Sacramento, California - Join leading industry experts to discuss the latest biochar science, application methods, material trends, government programs, and economic drivers building green biochar jobs!

Stay tuned for registration information, sponsor opportunities, exhibitor rates, lodging options, and much more.

[Interested in sponsorship or an exhibit?](#)



SCROLL DOWN TO SEE MORE NEED-TO-KNOW BIOCHAR NEWS!

■ USBI Program Director job opportunity

■ USBI at CharPalooza in Tooele, Utah

■ Biochar Newlinks

■ Meet Oregon Biochar Solutions

■ USBI Learning Center - Biochar in Water Quality Management

CharPalooza, Tooele, Utah

by John Webster, USBI Communications Director

“As overwhelming as it may seem right now, ...advances [using biochar] are giving us "a handle on the problem of hazardous fuels...and showing incredible promise,” assures Darren McAvoy of Utah State University Forestry Extension.

At least 100 participants at last month's USBI Biochar In The Woods Project demo experienced the promise of small, low-tech and mid-tech mobile carbonizers firsthand. The USBI demo was made possible by a collaboration between the U.S. Forest Service, Utah State University Forestry Extension, the Utah Biomass Resources Group, Wilson Biochar Associates, and AirBurners Inc.

Three systems were demoed - the CharBoss mobile carbonizer by Air Burners Inc., and both the Big Box Biochar and Wilson Biochar Associates Ring of Fire portable flame-cap processes. Even in challenging weather conditions, all systems performed perfectly.

These novel approaches utilize open flame cap processes that address problematic biomass in a way that keep smoke and particulate pollution to a minimum while creating our favorite high-carbon material at the same time. **In forestry applications**, biochar can be added to the environment to benefit the soil and ecosystems



- all while reducing fire risks. **In compost operations and organics recycling**, materials can be converted to biochar to fortify compost and reduce the volume of excess biomass.

Many thanks to the Utah State University Forestry Group for their excellent video - [watch here](#).

Your state solid waste management department may not know about biochar and wood ash from mobile carbonizers. USBI has helped these agencies learn about biochar's beneficial uses.



Big Box Biochar system - Courtesy of Salt Lake Tribune



CharBoss by AirBurners Inc. in action

Sponsorship Opportunities - Biochar In the Woods

USBI is offering sponsorship opportunities for the Biochar In the Woods monthly webinar series and discussion forum.

Sponsor levels start at only \$500 per month.

This program supports forestry professionals, ecologists, and fire service professionals. Your support will help us bring this program to a wider audience.

Contact john@biochar-us.org for information.



Host:
Kelpie Wilson

Biochar In The Woods
Sponsor Opportunity
Be part of the solution!

Info: john@biochar-us.org
biochar-us.org/donate-usbi

MAKING BIOCHAR AFFORDABLE FOR FARMERS

Meet Oregon Biochar Solutions (OBS)

Oregon Biochar Solutions (OBS) has been manufacturing ultra-pure biochar for over 30 years.

Q Tell us about how OBS' collaboration with Elite Environmental works to find biochar solutions that address specific problems that farmers are experiencing.

Strahl Elite works to find customers and markets based on the research we have done with our biochar. They have experience with large farms and the issues that they are facing, and help farmers find a solution that works for their budget. They also handle the before/after soil testing to ensure that the biochar is working as



Karl Strahl,
Chief Operating Officer

intended. OBS provides the biochar that meets Elite's specifications.

Q What common issues are you treating with biochar?

Strahl Common issues that we treat with biochar include hydrophobic soils, lagoon odors and other issues and nutrient leaching from composting and soils. We also offer a number of products that farmers regularly use that can be either partially or completely replaced with biochar.

Q Many biochar producers claim that farmers can't afford the volume of biochar that would produce the best results. Is there an alternative approach?

Strahl Our approach is to get biochar into the fields at whatever level the farmer can afford. Small amounts added yearly can add up over time and the biochar pays for itself by replacing other products or fixes issues that save the farmers money or time. In some cases, the use of biochar significantly reduces the farmers fertilizer bill.

Q How do these applications support key water quality practices?

Strahl It's much less expensive to treat the problems at their source. Biochar used to amend soils in both agricultural or urban environments have higher infiltration rates which decrease runoff and erosion. It also helps keeps nutrients in the soil - preventing them from leaching into waterways. This has a direct benefit to farmers as it can decrease their fertilizer and water bills.



Using biochar to prevent nutrient leaching from soils cost less than treatments for restoring water quality.



BIOCHAR NEWSLINKS

► [Colorado Hay Fields Get Biochar Injection](#) Colorado State University is working with a local farmer to test the water holding performance of biochar in a hayfield. Using a golf course aerator, researchers will inject biochar eight inches below the surface. The biochar-treated field will get half the normal amount of

water to test whether biochar can really hold water.

The Dryject aerator will apply biochar under the surface. Photo by Dan West/The Daily Sentinel



➤ **Biochar Concrete Sucks It Up** Washington State University researchers developed a carbon-negative concrete formula by infusing cement with biochar. This concrete reaches strength comparable to regular cement while absorbing up to 23% of its weight in CO₂ from the air.



➤ **Nebraska Researchers Conduct Largest Biochar Field Trial in the State** A University of Nebraska–Lincoln research team will combine biochar and biosolids to help maximize the benefits of both. More than 64 tons of biochar was applied using a manure spreader and disc tiller — techniques familiar to many Nebraska producers.

⏪ Using a manure spreader, biochar is applied to 16 acres of northeast Lincoln farmland during University of Nebraska–Lincoln research trials in April.

➤ **Wakefield Biochar Begins Blockchain Tracking** This month Wakefield Biochar started using blockchain to track inbound wood waste shipments from timber mills that are used to create biochar, using the ForesTrust blockchain, a consortium solution launched by the U.S. Endowment for Forestry and Communities. Blockchain is a distributed database or ledger shared among computer network nodes.

➤ **Canadian Business Collaboration to Convert Wood Waste to Renewable Natural Gas Moves Forward** CHAR Technologies Ltd. and the First Nations co-operative, Lake Nipigon Forest Management, Inc. are framing a partnership to develop, build, own and operate the facility.

➤ **Can Railroad Ties Be Pyrolyzed?** The U.S. Department of Transportation's Federal Railroad Administration is seeking information on the potential uses and options for disposing or repurposing used creosote-treated railroad ties (CRTTs), including processing via a pyrolysis process to create biochar. The agency is seeking information, public comments and feedback, including information about initiatives and pilot studies, on how CRTTs could be reused or repurposed as an alternative to landfilling, including information regarding the biochar process. RFA also said it is interested in potential uses for CRTT-sourced biochar building materials.



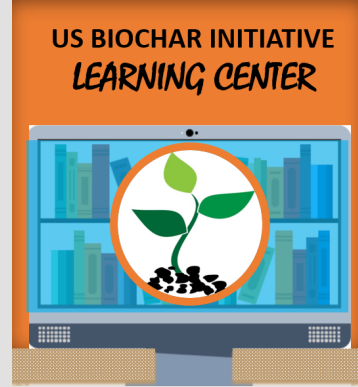
➤ **Biochar Made from Solid Dairy Manure Shows Promise for Removing N from Liquid Dairy Manure** *Scientific Reports* study shows great potential in converting the solid portion of separated dairy manure into biochar, with high sorption properties, that is able to remove N from the liquid portion of dairy manure.

➤ **An Overview - Integrating Biochar and Hydrochar Production from Digestate** Learn how synthesizing biochar and hydrochar from digestate can contribute to improving the AD process and make it cyclical. Digestate is the material remaining after anaerobic digestion (decomposition under low oxygen conditions) of a biodegradable feedstock.

➤ **Applying Digestate Biochar for Water Treatment in Advanced Oxidation Systems** This study explores the preparation, characterization, and performance of digestate-derived biochar.



Brandon Smith Ph.D.
Allied Soil Health



Coupling Biochar with NRCS Practices to Enhance and Maximize Water Quality Benefits

slides from March 2023 presentation by Allied Soil Health’s Brandon Smith Ph.D. in collaboration with USBI and the Center for Watershed Protection - Learn how biochar has been shown to be an effective soil management tool to promote water quality and how the NRCS 336 soil practice can be used to enhance other key water quality practices.

Has your state adopted code 808 or 336? [Search here](#). Click Section 4 → Practice Standards and Supporting Documents → Click Index for a PDF listing of adopted conservation practice standards.

- biochar suppliers
- equipment manufacturers
- researchers
- consultants
- organizations



Listings are more than just an ad - they include information about your sector, products, applications, technology, and scale of your operation.

DIRECTORY LISTING

Only \$25

Welcome to the USBI Directory! High Plains Biochar of Wyoming (biochar producer and equipment manufacture), Local Biochar of North Carolina (process equipment), and Restoration Fuels of Oregon, LLC (carbon credits) recently joined our group!

GET YOUR LISTING

----- promotional section -----

*Newsletter ads reach over 5000 readers per month!
Contact admin@biochar-us.org to become a sponsor.*

USBI PROGRAM DIRECTOR JOB OPPORTUNITY - USBI engages the scientific, agriculture, and biomass communities to use safe, stable, sustainable biochar through collaboration to learn, educate, inform, demonstrate, and develop markets, policy incentives, and quality standards. The Program Director will focus on the following areas - 1) Organizational Capacity Building 2) Markets and Standards 3) Technical Assistance 4) Education and Outreach 5) Special Initiatives 6) 5-year Strategic Planning and development of a 1–2-year Action Plan. [See details.](#)



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- Varieties of biochar



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STAY CONNECTED



Visit Biochar-us.org for more information.

USBI is supported in part by The United States Endowment for Forestry and Communities, Inc. The Endowment is a not-for-profit corporation that works collaboratively with partners in the public and private sectors to advance systemic, transformative, and sustainable change for the health and vitality of the nation's working forests and forest-reliant communities.

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