



US Biochar Initiative Newsletter

June 2023

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Right Source, Right Place, Right Rate, Right Time

by Tom Miles, Executive Director

Right Source, Right Place, Right Rate, Right Time are the recommendations for the effective use of biochar from experts who created the latest USBI factsheet, "[Biochar Guidelines for Agriculture Applications](#)." The factsheet answers the practical questions about biochar application that we receive daily and emphasizes the importance of post processing, including charging, inoculating, or blending. Application equipment and methods are also described including broadcasting, liquid injection, fertigation and top dressing, trenching, drill or banding, and no-till. Techniques are illustrated with case studies and abundant references.



Soon to come will be a companion publication, "Beyond Application: Learning More About Biochar", which will describe technical and financial assistance, fertilization and liming values, biochar permanence or persistence in soil (carbon sequestration) and typical barriers to adoption of biochar by farmers. It will describe biochar analysis and how to interpret results. These and other factsheets are available on the [USBI website](#).

USBI factsheets are made possible thanks to support from the US Forest Service (USFS) in collaboration with the Nebraska Forest Service, US Biochar Initiative, Dovetail Partners, USDA Agricultural Research Service, Cornell University Extension, the American Farmland Trust, biochar users, and industry experts. They are intended for use in education and outreach to promote biochar use. Your suggestions and comments are welcome! **In August, look for a month-long series of webinars** and live chats also designed to promote using biochar to improve soil health hosted by American Farmland Trust and collaborators.

USBI Information Campaign Drives Market Development and More

Factsheets, webinars, workshops, and conferences are part of our campaign to develop markets, standards, and supporting information that meet industry needs as expressed in a recent convening of biochar producers and hosted by the US Endowment for Forestry and Communities. USBI promotes biochar in key markets, enables product development and demonstrations in landscaping, turf and trees, retail gardening, agriculture, and storm water.

Check Out [USBI's Stewardship Practice 336 Information Hub](#)

Get the latest updates on the USDA's Natural Resource Conservation Service (NRCS) Soil Carbon Amendment Conservation Stewardship Practice 336 cost share program. USBI will continue to promote Code 336 through webinars, publications and demonstrations by NRCS personnel.

Converting Urban Wood Waste to Biochar Workshop in Hong Kong

USBI and IBI conducted a biochar workshop at an annual Solid Waste 2023 Conference in Hong Kong where urban wood waste is being converted to biochar alongside food waste composting in an EcoPark. Carbonizing equipment supplied by Earth Systems, Australia will convert 60 metric tons/day of urban wood to biochar. The biochar will be co-composted with digestate from an adjacent food waste digester.

Congratulations to Kelpie Wilson of Wilson Biochar Associates and the Quivira Coalition who have just published "[Biochar in the Southwest: Using New Mexico Practices and Regulations as a Model](#)" (89 pages). With a place-based biochar focus, the workbook provides instructions for making biochar in flame cap kilns and conservation burns, including the Big Box Kiln. Kelpie hosts USBI's "[Biochar in the Woods](#)" forum and monthly meeting and explores methods for making biochar in the woods, including demos like the "Charpalooza" last month in Utah.

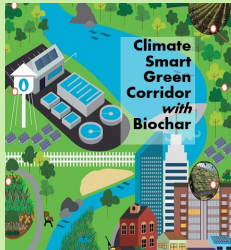
USBI Helps Assess Carbon Footprint of Air Curtain Incinerators

USBI is assisting USFS and Oregon Department of Environmental Quality (ODEQ) assess the carbon footprint of biochar-producing air curtain incinerators. ODEQ tested emissions from the Air Burners Inc.

BurnBoss with a custom sampling apparatus. Results will be used to help develop permits for mobile devices.

North American Biochar Conference 2024 - Save the Date February 12-15!

USBI is the Right Source. You are in the Right Place at the Right Time! Let's make biochar markets grow at the Right Rate. We expect to launch registrations and call for abstracts in July. Watch for updates on our social media channels.



"Climate Smart Resilient Green Corridor with Biochar" Poster

In late May and June, USBI organized a biochar workshop in Pennsylvania with the Chesapeake Bay Program Scientific and Technology Advisory Committee. Dominique Lueckenhoff, Ecochar™ Environmental Solutions, shared her "Climate Smart Resilient Green Corridor with Biochar" graphic which illustrates many ways to use biochar to protect the environment. [Get your high-res poster file with a portion of proceeds donated to USBI.](#) [Download the free handout PDF here.](#)

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

THIS WEEK'S SNAPSHOTS FROM IBI ACADEMY AND FIELD DAYS hosted by International Biochar Initiative June 19 - 30!



GETTING
ENERGIZED
ABOUT
BIOCHAR!

2023 Academy attendees are immersed in presentations, workshops, and demonstrations in upstate New York this week and next. Energizing workshops like this are critical to promoting biochar's adoption and implementation Tune in to our social media channels for more updates!

[IBI LinkedIn](#) [USBI LinkedIn](#) [USBI Instagram](#) [USBI Twitter](#)

BIOCHAR EVENTS CALENDAR

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.](#)

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

Oct 4-6 WEFTEC (Water Environment Federation), Chicago - Learn from experts about the latest trends, and latest technology and trends [Register here.](#)

Oct 29 - Nov 1 ASA-CSSA-SSSA (American Society of Agronomy (ASA), Crop Science Society of America (CSSA) and Soil Science Society of America (SSSA)), St. Louis, MO - offers technical presentations, hands-on workshops, networking events, award ceremonies, and field tours. [More information](#) here.

Oct 30 - Nov 1 Processing Technologies for the Forest & Biobased Products Industries Conference, St. Simons Island, Georgia - attracts technical managers, product and process engineers and academics and features the latest research and advancements [Register here.](#)

Nov 7- 8 National Carbon Capture Conference, Des Moines, IO - designed specifically for companies and organizations advancing technologies and policies that support the removal of carbon dioxide. Topics range from tax policy and permitting to new technologies and creating carbon value. [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!

Watch July newsletter 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!

■ EU Biochar Summit, Helsingborg, Sweden

■ Sponsorship Opportunities

■ New Biochar Guidelines for Agriculture Applications Fact Sheet - USBI Learning Center

■ Biochar Newslinks

■ Making Biochar from Dairy Manure Digestate to Manage Waste Streams

OUTREACH & EDUCATION

EU Biochar Summit, Helsingborg, Sweden

by John Webster, USBI Communications Director

The inaugural conference of the [EU Biochar Summit](#) was held last week at the Sea U conference center in Helsingborg, Sweden. The event was a collaboration between European Biochar Industry - EBI, Nordic Biochar Network and the City of Helsingborg.

The 400 attendees and five biochar associations from across Europe had a chance to [exchange ideas](#) and build vital industry relationships.

Day 1 workshops were held at the NSR Biochar



Competence Centre in Helsingborg (also called RecoPark). Workshops focused on municipal-scale biochar production, business models, landfill remediation practices, and research and development.

The Study Visit on Day 4 provided multiple systems on display by VOW ASA, Pyreg GmbH, Biomacon, and a converted wood boiler producing high quality biochar.

One of the Summit's major themes was that biochar production can be an integral part of green waste management, remediation strategies, and viable replacement of fossil fuels for services such as district heating and crop drying.

When used for these purposes, biochar was not the primary product. Focus on heat production and utilization along with energy capture were front and center. Workshops and presentations showed how biochar production in Europe can show pathways to success when products from the entire value chain are monetized.

With just under two dozen primary stage presentations and 40+ side track sessions,

attendees had ample opportunity to gain technical understanding from top biochar experts across Europe.

Particularly interesting sessions were presented on the biochar portion of the IPCC report. Other compelling topics included "Biochar As Underdog CDR (Carbon Dioxide Removal)" by IBI's Claudia Kamann, "Breaking Up with Biochar" (focusing on energy utilization) by Syncraft CEO Marcel Huber, and then a novel biochar permanence presentation by a leading geologist that will likely make waves for months to come.

USBI sees participation in conferences as not-to-be-missed opportunities for raising awareness of USBI as a key player in the biochar industry with many resources to offer. At this Summit, it was exciting to learn of attendees' great interest in our upcoming 2024 North America Biochar Conference in Sacramento, CA, USA next February!

There is a new era of deeper collaboration on the near-term horizon as our diverse groups of organizations find common ground and pathways to standardize our global biochar industry.

We look forward to great things to come!



USBI Vice Chair Chuck Hegberg presenting on the Chesapeake Bay Project



RecoPark - Helsingborg's Biochar Competence Center - Production & Demos

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.

A graphic for "Biochar In The Woods Sponsor Opportunity". It features a collage of images showing people working with biochar, including a large metal barrel filled with biochar and a person using a wheelbarrow. The text includes "USBI", "Host: Kelpie Wilson", "Biochar In The Woods Sponsor Opportunity", "Be part of the solution!", and contact information: "Info: john@biochar-us.org" and "biochar-us.org/donate-usbi".

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.

'HEARD OF BIOCHAR, BUT NOT SURE IF IT'S RIGHT FOR YOUR FARM?

[Check Out the New USBI Biochar Application Guide for Crop Farmers!](#)

Special thanks to USBI Board Members Deborah Aller and Kristin Trippe, Matt Delaney (Invert, Inc.'s Carbon Forestry Chief), and Kim Slezak (University of Nebraska (UNL)/Nebraska Forest Service) for donating their time to produce this free, fantastic, and easy-to-read publication!



Farmers know that healthy soils are critical for farm profitability and sustainability. Biochar provides an opportunity to improve numerous soil properties while reducing nutrient losses and sequestering carbon.

Q Who is the intended audience for the USBI "Biochar Guidelines for Agriculture Applications" factsheet?

Trippe/Aller The factsheet is intended for farmers, technical service providers, crop consultants, and other stakeholders looking for practical insights into applying biochar in a variety of production environments. It's a high-level overview of the core

[Download this free, 4-page how-to reference](#) which provides practical insights for sourcing and applying biochar to annual and perennial crops.

principles behind using biochar in agriculture. A second factsheet, "Beyond Application: Learning More about Biochar", will provide further details and is scheduled to appear in the next USBI newsletter!

Q What concerns might biochar address in agriculture?

Trippe/Aller Numerous studies support that biochar can alleviate certain on-farm resource concerns such as soil compaction, water retention, nutrient use efficiency (NUE), soil organic matter levels, and fertility constraints like low soil pH (acidic soils). However, impacts vary and it's the interaction of the soil type, cropping system, management practices, environmental and climate conditions, and biochar properties that determine biochars' impact on a given farm.

Q How does applying biochar compare to the four Rs of nutrient stewardship?

Trippe/Aller A similar approach can be used for applying biochar. By choosing the **R**ight source, **R**ight place, **R**ight rate, and **R**ight time when applying biochar, a farmer encourages the greatest potential for a positive impact on their soil and crops.

It's best if farmers work closely with their trusted technical service provider, extension agent, or crop consultant to select a biochar and application rate that fits within their management practices and farming goals. [Decision support tools](#) are available on the USDA website to assist farmers with making biochar selections.

Q What are some of the key factors in deciding whether to apply biochar on your farm?

Trippe/Aller Some key factors include: (1) Using information about your soil (Using soil maps are a good start but make sure to conduct a soil test as well.) and your crop to identify the resource concern (2) Identifying the most appropriate type of biochar to address the identified resource concern; and (3) Selecting the application rate that achieves both the desired outcomes and is economically feasible.

Q Does the factsheet provide any case studies?

Trippe/Aller Yes, the factsheet features three case studies of farms using and/or producing biochar - the Gady Family Farm, a >300-acre operation in Rockford, WA, which grows mostly grass seed and small grains on fine silty textured soils, Siembra Farm, a 15-acre farm located outside of Gainseville, FL looking to build soil health, and Shamrock Christmas Tree Farm, a 20-acre operation growing Douglas Fir Christmas Trees on the east end of Long Island that has sandy soils and low soil organic matter.

Q Is there any financial assistance for applying biochar?

Trippe/Aller Financial assistance for qualifying farmers and ranchers may be available from the USDA-NRCS (CSP, EQIP and RCPP programs). More information on this topic will be available in the next factsheet, "Beyond Application: Learning More About Biochar" and will be available next month.

About Guideline Factsheets

Factsheets are part of a suite of biochar materials created through a USBI partnership with UNL and made possible by a US Forest

Other Useful USBI Fact Sheets posted on our USBI Learning Center

1. [Plant Survival](#)

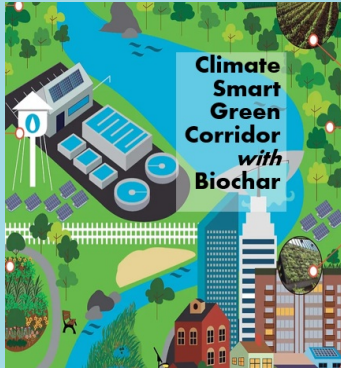
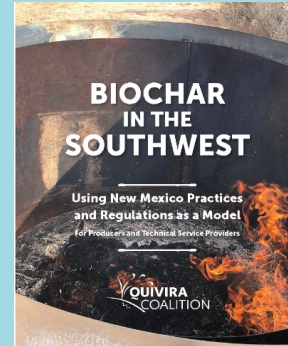
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2. [Compost Benefits](#)
3. [Manure Management](#)
4. [Stormwater Management](#)
5. [Carbon Markets](#)

Free Biochar In the Southwest Workbook by the Quivira Coalition Now Available!

After nearly a year of work, the Quivira Coalition's free, 89-page [Biochar In The Southwest workbook](#) is now ready for prime time! The online publication offers practices on New Mexico lands as a model for making and using biochar in a relatively hot, dry, and windy environment. It includes best practices for making place-based biochar using flame cap kilns and conservation burns, including the Big Box Biochar, Ring of Fire, UBET, and KonTiki Kiln processes.



A Picture's Worth a Thousand Words

Thanks to [Dominique Lueckenhoff](#) of Ecochar™ Environmental Solutions for making this eye-catching Climate Smart Green Corridor with Biochar poster (24" X 36"). The aspirational poster shows how innovative and efficient technologies and practices come together in a climate-smart resilient green corridor to drive job creation, improve water and soil resources, and enhance community and economic value. It's available now! [Order yours here](#) - only \$5!

Ecochar produces EcoChar-E, a product specifically used to treat environmental pollutants. A percentage of poster sales will be donated to the [US Biochar Initiative](#).



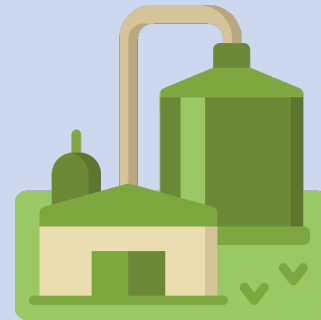
SPOTLIGHT

[Making Biochar from Dairy Manure Digestate to Manage Waste Streams](#)

Converting dairy manure digestate to biochar is an innovative way to deal with waste stream material while **retaining nutrients** and protecting the local environment and **waterways from leaching and run-off concerns**.

Soil Carbon Innovations (SCI) recently conducted a large-scale production test utilizing spent anaerobic **dairy manure digestate as biochar feedstock**. Working with Arkansas-based **Montrose Environmental** and Iowa-based **Arti**, an international biochar producer, SCI gathered valuable emissions data while optimizing the physical characteristics of the biochar for soil health and carbon dioxide removal.

SCI is currently developing its first large scale biochar production facility in the US Midwest. It expects to start production in the first half of 2024 and is excited to provide biochar to local producers for use as a soil health amend-



biochar to local producers for use as a soil health amendment. Removing carbon from the atmosphere and storing it into soils durably is a great benefit in the fight against climate change.

Contact Trip Bates or Dustin Hancock at support@soilcarboninnovations.com

- 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.

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Only \$25

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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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