October 2020

## USBI UPDATE – TOM MILES, EXECUTIVE DIRECTOR

Welcome to our second monthly USBI 2020 Newsletter. It has been an active month. USBI appreciates the many calls and emails that we get requesting information about biochar sources, markets, and uses. They help us develop policy and information strategies such as the new Learning Center and Directory. Take our **survey** and tell us what information you need.

USBI helped produce a lively "**Scaling Biochar Forum**" hosted by the Sonoma Biochar Initiative this month. The online forum included informative and inspiring talks such as demonstrations of effective uses of biochar with compost in vineyards and plans to use biochar with regenerative agriculture to improve the quality and value of lands. Talks also focused on biochars as coproducts of technologies from harvesting prawns to making jet fuels from manures, and a new effort to develop methodologies to value biochars for carbon sequestration and in major carbon markets.

Also presented were strategies and methods to improve urban and rural markets and uses, collaborative strategies for research and development, and practical proposals for scaling the industry. The presentations were recorded and we will publish the link when it is available.

We all benefit from international exchanges. USBI and International Biochar Initiative will join members of the **International Biomass Torrefaction Council** (IBTC) this month to discuss the synergies of torrefaction and carbonization.

In early December, USBI will team with Eastern Biochar to host a **National Biochar Week**. The online program will present a series of short discussions each day on key aspects of biochar production and use. The December 7-11 agenda will soon appear at **nationalbiochar week.org**. Submit a presentation abstract or "Quick Pitch" idea. Thanks to **Ecotone Inc.** for being our first sponsor for the event.

USBI assisted the US Forest Service Wood Innovation Program and **Air Burners Inc** to demonstrate the **Charboss**, a mobile carbonizer in development under a Cooperative Research and Development Agreement. The prototype machine was used at two sites: to carbonize gorse (Ulex europaeus) an invasive species at Bandon Dunes Resort on

the Oregon coast; and to carbonize slash from treatments to remove hazardous fuels to prevent wildfires in the Umatilla National Forest. The prototype, which is based on the air curtain burner, passed emission and operation tests. The next step will be to improve carbon recovery.

USBI also assisted University California Davis to submit recommendations for **Best Management Practices** for biochar to the California Department of Food and Agriculture Healthy Soils Program.

Natural Resource Conservation Service (NRCS) technical committees in eleven states have adopted the new **Soil Carbon Amendment Interim Practice (808)** which will provide cost-share for farmers who use biochar, or biochar and compost, to increase soil carbon. While USBI was not successful in our proposal to demonstrate the practice on 100 farms across the country, we still intend to work with the NRCS Soil Health Program, state soil health programs, and other agencies to demonstrate the practice on a few farms. We thank the many biochar suppliers and farmers who expressed interest in participating in that project.

## **Why I Support USBI** by Oregon Forester Don Morrison

***What were the early benefits of being involved with USBI?***
My first exposure to USBI was at the Corvallis, Oregon conference where I met new people from all over the world! I'm a small-town guy so that really made an impression.

***Why do you believe it's important to support USBI?***
USBI provides access to the literature and people who share a common interest in biochar.

For example, at a conference, I met an Australian forester from Tasmania who was making biochar from twig and grape residue at a neighboring vineyard and selling it to garden shops. As a forester myself, I wondered, "Why aren't people in the US doing this?". USBI also gave me an opportunity to co-present with Kelpie Wilson (USBI Outreach and Education Chair) and together explore strategies to reduce fuel and produce biochar at scale.

***Why is financial support important?***
We need agricultural trials and to learn from them so we can expand the market for biochar.

DONATE NOW


## THERE'S STILL TIME TO TAKE THE LEARNER SURVEY and win a free directory listing!

Thanks to everyone who took our Biochar Learner Survey last month. We've received some great ideas but we want to hear more! So bring it on and help make our Learning Center the best in the industry!

## NEW BIOCHAR LEARNING CENTER (BLC)

Kelpie Wilson, USBI Outreach and Education Committee Chair

This month, we continue to expand the Biochar Learning Center database on the **USBI website** bringing you the most useful and interesting articles, websites, videos and other current resources.

### New Resources for October

**Big Box Biochar** - In this video, learn how Utah State University Forestry Extension is making big box biochar in the Intermountain West. By using low-value waste wood, they are reducing fuels on the landscape and improving forest health using a simple, low-tech flame cap kiln. Learning level - Beginner.

**Biochar in Horticulture** This 104-page publication from the Australian government is a comprehensive guideline to using biochar in various crop production systems. Based on field trials and case studies, it includes considerable background information about biochar and its interaction in soils. It also includes a large set of partial budget analyses of the costs and benefits of using biochar in crop production. Reading through these budget analyses will give users a good idea of how to construct budgets for using biochar in their own cropping systems. Learning level – Multiple.

**Biochar Dairy Trial and Farm Health Benefits** This short video is another great Australian resource that takes you to a 250 Jersey Cow - herd on the Fleurieu Peninsula of South Australia for a look at how feeding cows biochar increases milk production and better pasture growth. Learning level - Beginner

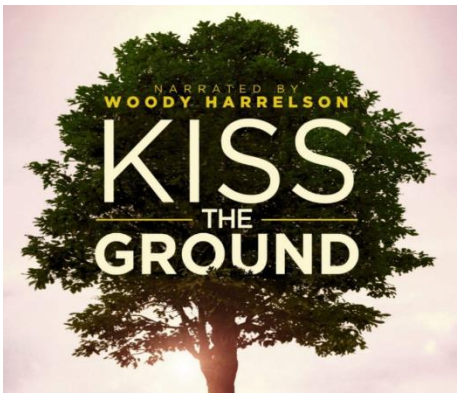
**The Potential for Biochar to Enhance Sustainability the Dairy Industry** is a state-of-knowledge report published by Ithaka Institute and Cornell University that summarizes peer-reviewed literature on the use of biochar in dairy operations. The report includes information about using biochar for bedding material, as a feed additive, a manure management strategy, and a means to address environmental issues related to dairy manure. A survey of existing demonstrations of biochar use on dairies is included. Learning level: Intermediate.

## *MEET BIOCHAR PRACTITIONER*

### DONNA PION, GREEN STATE BIOCHAR

Each month we will interview biochar practitioners from North America to hear about their challenges and successes with biochar. This month we feature Donna Pion, general manager of Vermont's Green State Biochar.

**Find out how Donna's team reduces phosphorous levels by 90%.**




## MOVIE REVIEW

Dari Biswanath, Ph.D.
Sihi Debjani, Ph.D.

*Kiss the Ground* is the best film we've ever seen in our lifetime - the BEST documentary film on mother earth, science, and soil. There is no escaping that we are facing a horrible climate change scenario and being forced to tackle many uncontrollable natural disasters like hurricanes, flooding, and drought.

This film has already shaken a huge number of global audiences because it talks about us, our daily life, our human family, and the many generations to come. *Kiss the Ground* sounds a blaring alarm - unless we stop treating soil as dirt, we could suffer life-threatening food deficiencies. The key messages? We must respect the dirt (soil) because its health is what makes life possible. Building healthy soil will DRAW-DOWN carbon from our atmosphere, is a key tool for combating climate change, and will help regenerate our land back to health.

The director and cast did a really awesome job of capturing real pictures of climate change and showing how adopting re- generative agricultural practices can help change the scenario and make mother earth happy again. *Kiss the Ground* summons every people (people from any age, sex, culture, religions, or political belief) to become healthy soil advocates. It's time that everyone on the planet – no matter where we live or what we do - realizes that a vital solution to climate change is right under our feet.

## BIOCHAR EVENTS CALENDAR

**November 8-11 ASA (American Society of Agronomy), CSSA (Crop Science Society of America), SSSA (Soil Science Society of America) Virtual Annual Meetings**

**See Biochar-related Sessions**

## Meeting Contacts

*We welcome your suggestions for topics related to biochar research!*

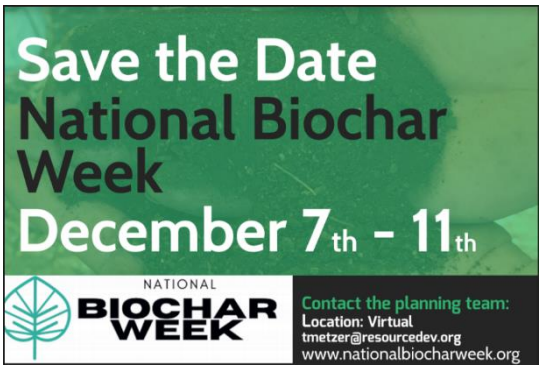
Dr. Dari Biswanth (b.dari@oregonstate.edu), Meeting Organizer and Community Leader

Dr. Wei Zheng (weizheng@illinois.edu), Moderator and Community Vice-Leader

**December 7- 11 National Biochar Week (NBW)**

11:00 a.m.- 2:00 p.m. EST each day (free)

The development of the biochar industry has the potential to be world-changing. NBW will focus on "Biochar in the Real World" and spotlight biochar uses, implementation, and markets.




**Click here for a tentative schedule, call for abstracts, and sponsorship info!**

## BIOCHAR NEWSLINKS

➤ **Biochar plays a key role in wildfire recovery** claims Retired California Fire Battalion Chief Ken Hale "Even as our weary firefighters finish the task of extinguishing two of the three largest wildfires in state history, it is time to prepare our communities, our lands, our soils and our habitats for recovery before the damages are compounded." Hale commends the work of Soil and Water Conservation Districts, including the Sierra and Fall River Resource Conservation Districts that are taking excess wood and converting it to biochar, a charcoal-like substance that both nourishes the soil and safely stores carbon

➤ In Oregon**, biochar is gaining support as a tool in fire prevention and forest resilience.** Ken Carloni, a forest ecologist and retired professor at Umpqua Community College, is making biochar from slash piles using mobile kilns and was recently featured by ag news site *Capital Press*. The project represents the first time the Conservation Stewardship Program under USDA Natural Resources Conservation Service has supported biochar production as a forest management tool on private land. Beyond the current project, Carloni wants to find ways to make biochar in a profitable way that creates jobs. Carbon credits are the key to making it work economically.

➤ Researchers at **Columbia University have launched the world's first database of carbon dioxide removal laws.** The database, which is publicly available at cdrlaw.org, provides an annotated bibliography of legal materials related to carbon dioxide removal and carbon sequestration and use. The site has 530 resources on legal issues related to carbon dioxide removal including such techniques as: direct air capture; enhanced weathering; afforestation/reforestation; bioenergy with carbon capture and storage; biochar; ocean and coastal carbon dioxide removal; ocean iron fertilization; and soil carbon sequestration.

➤ **Investors are listening.** Venture capital investors are increasingly seeking opportunities in climate tech. Early stage funding for climate tech companies has

climbed from $418m in 2013 to $16.1bn last year. Investors have backed all manner of green start-ups from battery storage to vertical farms to sharing economy platforms to biochar production to reducing methane emissions from cows.

➤ **Canadian researchers are using precise Synchroton measurements** to help answer the question, “How effective are different types of biochar for removing mercury?” Soil samples were drawn from floodplains along Virginia’s South River where mercury waste was disposed by a chemical plant in Waynesboro, VA between 1929 and 1950.

➤ **Building humus is the bottom line**. Coyote Hill Farm in Massachusetts is harvesting a bounty of apples and pears this time of year due, in part, to their use of premium biochar compost to build soil humus. This diverse organic vegetable farm and orchard also uses solar power to run their operations.

➤ **Biochar took a ride to the International Space Station** for studies on how low gravity soil aggregates! Cornell University researchers packed plastic vials filled with biochar-enhanced soil for the trip. This will be the first time that a soil ecosystem has left the confines of Earth and we study what it does,” says Johannes Lehmann, professor of soil science in the College of Agriculture and Life Sciences. This is a bit of a nerdy historic moment but I’m very excited about it.



**Visit Biochar-us.org for more information.**