



SECOND YEAR INSIGHTS FROM THE GREAT PLAINS BIOCHAR INITIATIVE

BIOCHAR AND BIOENERGY

2019





NEBRASKA FOREST SERVICE

Enriching lives by protecting, restoring and utilizing Nebraska's tree and forest resources



GREAT PLAINS BIOCHAR INITIATIVE



- Public-private partnerships
 - Nebraska Forest Service
 - Kansas Forest Service
 - High Plains Biochar
 - Wilson Biochar Associates
- Goal is to improve biochar* awareness and market development in the Great Plains

* Wood Based Biochar

THE APPROACH



- Education and outreach
 - Speaking engagements
 - Workshops
 - Publications
- Financial assistance
 - Production
 - Market development
- Strategic planning
- USFS Wood Innovations Grant

GPBI VIDEO



- Results and project based video
- Highlight real users of biochar
- Show the range of production methods and uses
- Storytelling

HOW WE RESPOND

WHAT WE KNOW

WHAT WE KNOW • HEAR FROM SCIENTISTS • ABOUT THE INITIATIVE

Based on the evidence, about 97% of climate experts have concluded that human-caused climate change is happening. What We Know helps us understand the science behind the realities, risks and response to the climate challenge.

WHAT WE KNOW

THE REALITY, RISKS, AND RESPONSE TO CLIMATE CHANGE

The overwhelming evidence of human-caused climate change documents both current impacts with significant costs and extraordinary future risks to society and natural systems. The scientific community has convened conferences, published reports, spoken out at forums and proclaimed, through statements by virtually every national scientific academy and relevant major scientific organization — including the American Association for the Advancement of Science (AAAS) — that climate change puts the well-being of people of all nations at risk.

Surveys show that many Americans think climate change is still a topic of significant scientific disagreement.^[1] Thus, it is important and increasingly urgent for the public to know there is now a high degree of agreement among climate scientists that human-caused climate change is real. Moreover, while the public is becoming aware that climate change is increasing the likelihood of certain local disasters, many people do not yet understand that there is a small, but real chance of abrupt, unpredictable and potentially irreversible changes with highly damaging impacts on people in the United States and around the world.

It is not the purpose of this paper to explain why this disconnect between scientific knowledge and public perception has occurred. Nor are we seeking to provide yet another extensive review of the scientific evidence for climate change. Instead, we present key messages for every American about climate

About the Initiative

Understanding science is our work. Our consensus is that climate change is happening and the risks are real. Learn more about AAAS and the What We Know initiative.

[Learn More >](#)

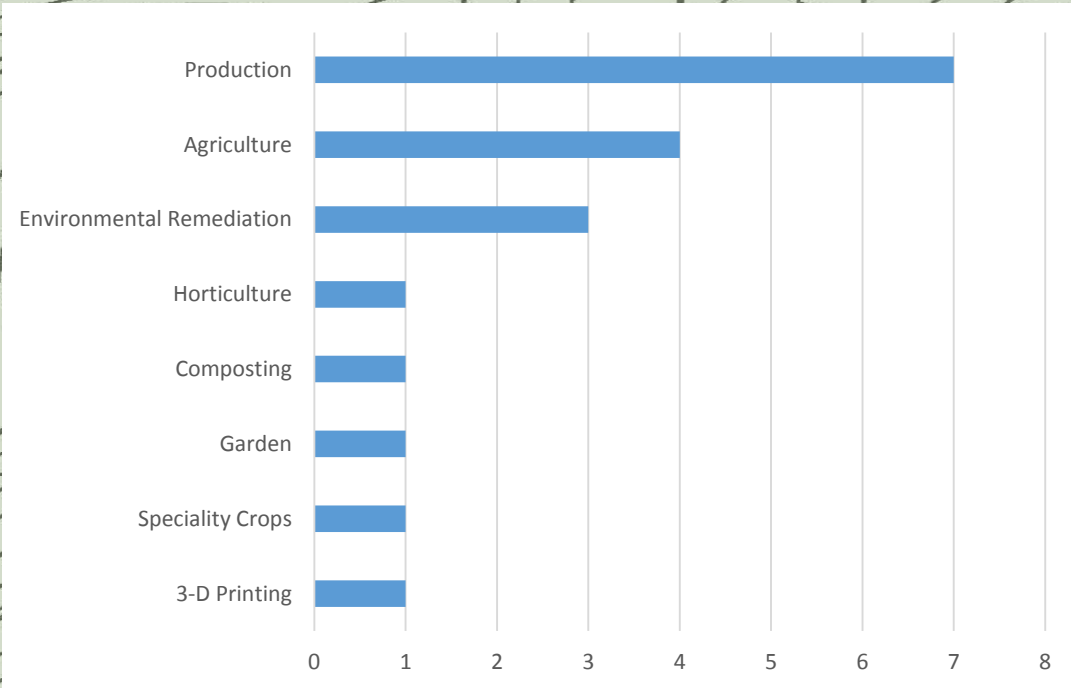
Hear the Stories

Consensus Sense

The AAAS "What We Know" Initiative

- American Association for the Advancement of Science (AAAS)
- Goal: highlight how communities respond to climate change at local, state, and regional levels
- Science-based responses and activities
- Great Plains Biochar Initiative is a community spotlight

FINANCIAL ASSISTANCE



- Up to \$5,000 available per project
- \$80,000 total awarded
- 19 project funded
- Use this to inform our next steps



BIOCHAR COOPERATIVE



- Exploration phase of forming a biochar cooperative
- Working with the Nebraska Cooperative Development Center
- Initial meeting with biochar producers and potential producers



BIOCHAR COOPERATIVE

- Identified areas of opportunity
 - Biochar service provider network
 - Livestock and poultry operations
 - Product testing
 - Selling product to a bulk buyer
- Continue to build a biochar community in Nebraska

GPBI II

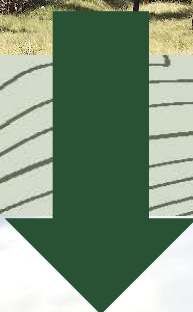


- USFS Wood Innovations Grant
- Supply and demand for biochar as a cattle feed additive
- Preliminary work showed ~10% methane reduction with <1% biochar supplement
- Hear the full presentation Wednesday at 9:05AM in the Cherokee Park Room
 - Biochar supplementation in growing and finishing cattle diets

IMPACTS



- Nebraska has >6.5 million cattle
- Each animal consumes ~25 lbs feed/day
- Woody biomass to biochar conversion is 3:1
- A 0.8% inclusion rate requires ~ ½ million dry tons of wood for market saturation (in Nebraska)
 - ~17,000 log trucks/yr
 - ~85 mmbf/yr
- Biochar sales upwards of \$1.5 million
 - \$2,500/ton for biochar



GPBI II

- Characterize biochars based on existing industry standards
- Determine the effects of feeding biochar on cattle performance and methane emissions
 - UNL Animal Science
- Assess economics of biochar production systems using Nebraska feedstocks
 - Delaney Forestry Service
- Share the results!

THE FUTURE OF THE GPBI

Join the Great Plains Biochar Initiative

Stay up-to-date and engaged in biochar discussions occurring within the Great Plains region. There is no cost to join. Simply go to <https://info.unl.edu/newsletters>, complete the online form and select "Wood Products" to join our growing directory of biochar enthusiasts. What can you expect from joining?



1 WORKSHOPS
Outreach and education continues to serve as the cornerstone for creating excitement and fostering innovation for biochar in the Great Plains. GPBI workshops are hosted to provide a variety of unique learning opportunities for attendees, while demonstrating the utilization of biochar within a variety of disciplines; agriculture, livestock, forestry, grassland management, soil improvement and water quality.

3 PROJECT ASSISTANCE
Project assistance can include phone and email consultations, site visits, and referrals to subject matter experts. We can also help to identify appropriate funding opportunities for your project. Projects we've worked on to date include:

- DIY biochar production,
- row and specialty crop production using biochar,
- biochar use in urban landscapes,
- incorporation of biochar into animal production,
- and much more.

5 INFORMATIONAL RESOURCES
The Great Plains Biochar Initiative is constantly developing new informational resources to meet the needs of stakeholders and provide up-to-date information of new product developments and uses. If there is a topic you'd like to see us cover, please let us know. If we haven't developed the information you're looking for, we will find it for you. We will also work to coordinate short, web-based discussions or trainings related to biochar topics, research, applications or opportunities for collaboration.

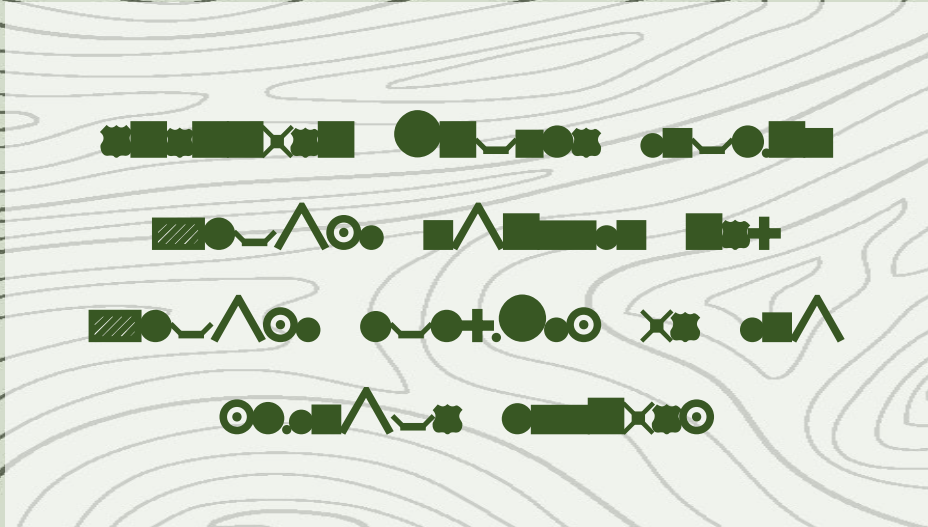
2 CHAR DAYS
Char days are informal, open house-style events. The Great Plains Biochar Initiative has an Oregon kiln for biochar production and char day hosts and attendees are encouraged to bring or provide their own kilns or styles of making biochar. If you or a group are interested in hosting an informal gathering of biochar enthusiasts, the Great Plains Biochar Initiative can help with promotion and provide content for attendees.

4 SPEAKING ENGAGEMENTS
Is your organization interested in learning more about biochar? Staff are available to speak at your upcoming event! Presentations can be adjusted to the interest of your group – interested in organic farming? We'll discuss the benefits of biochar in soils. Is water quality an issue? Learn how biochar can act as a filter for common pollutants. We are available to travel to your event or can identify a local subject matter expert for you.

6 SOCIAL NETWORKING
We provide opportunities for social networking on and off line. We hope to connect you with other biochar enthusiasts in the region. Learn from others and let others learn from you! We will share upcoming events (local, regional, and national), new publications, and funding opportunities. You can find us on Facebook by searching for "Great Plains Biochar Initiative" or sign up for our email list.

GPBI aims to improve biochar awareness and market development in the Great Plains.

- A biochar network for the Great Plains
- Development of case studies based on grant projects
- Sharing informational resources



- Development of resilient ecosystems and economies essential in the face of climate change
- June 16-18, 2020 in Wichita, KS
- Topics to include:
 - Climate change history and projections
 - Forest products including biochar & wood energy
 - Carbon sequestration through forest management practices
 - Climate justice
 - Carbon markets



QUESTIONS?

