

SEATTLE BIOCHAR WORKING GROUP

What is Biochar

Biochar is a fine-grained, porous charcoal substance that, when used as a soil amendment, can remove carbon dioxide from the atmosphere. In the soil, biochar provides a habitat for soil organisms, but is not itself consumed by them, and most of the applied biochar can remain in the soil for several hundreds to thousands of years. The biochar does not in the long-term disturb the carbon-nitrogen balance, but holds and makes water and nutrients available to plants. When used as a soil amendment along with organic and inorganic fertilizers, biochar significantly improves soil tilth, productivity, and nutrient retention and availability to plants.

Bioenergy

The bioenergy produced during biochar production may be in the form of thermal energy, a synthesis gas, aka syngas, or a bio-oil. The syngas or bio-oil can be used to heat the pyrolysis unit for continued production, and surplus syngas or bio-oil can be used to provide additional energy for on-site uses, such as heat and electricity. Syngas is rich in hydrogen, methane and carbon monoxide and in addition to its use for heat or power, it can be converted to liquid fuels or industrial chemicals.

Biochar Production

Bioenergy and biochar can be co-produced from thermal treatment of biomass feedstocks. Biochar production processes can utilize most urban, agricultural or forestry biomass residues, including wood chips, corn stover, rice or peanut hulls, tree bark, paper mill sludge, animal manure, and municipal biosolids, for instance.

The carbon in the biomass feedstock is captured in the biochar and the bioenergy co-products. While it is technically infeasible to capture 100% of the biomass carbon, the optimal biochar production process can capture roughly half the biomass carbon in biochar and half as bioenergy.

Seachar.Org's Biostove Project

We are researching and building small biostoves. This extremely efficient biomass gasification technology produces clean heat and gas, while co-generating biochar. These tools will allow you to make biochar safely and sustainably. This same technology is a critically needed clean development mechanism for the half of the world's population still cooking on an open fire. The widespread adoption of these biostoves is key to realizing the carbon negative potential of biochar and combating deforestation, desertification and respiratory disease.

SeaChar.Org's Plot Testing Project

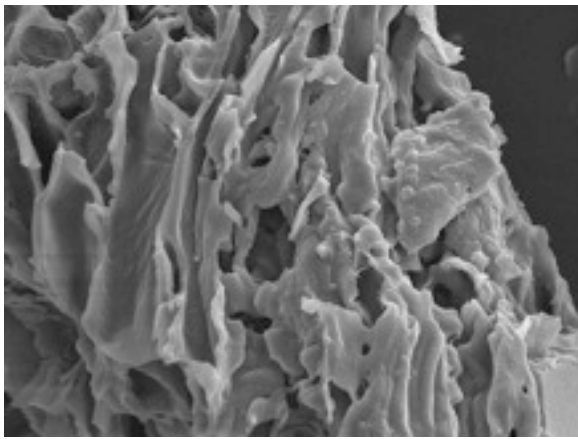
We will be field testing the potential of biochar to enhance soil tilth and productivity in the Pacific Northwest at our 12,000 sq foot site, hosted by South Seattle Community College. This exciting, 5 year, multi-partner experiment in citizen science is linked to a world-wide movement, through an International Biochar Initiative web based biochar/plot test database.

Seachar.Org's Educational Outreach Project

We are developing a series of presentations and workshops for community gardens, schools, and civic organizations on biochar and biochar technology. Our goal is to educate people about how they can sequester CO2 and build sustainable infrastructure for their communities.

Get Involved

SeaChar.Org is a Seattle based grass roots 501 (c)(3) nonprofit group. We are creatively and actively engaging the environmental challenges that we face. We need your positive energy: to tend our garden; design our experiments; build stoves and community. We can grow a better future.



The fractal aspect of softwood biochar (x1500 magnification).

Seachar's Mission

The carbon negative strategy known as Biochar is one potentially powerful tool for locking up substantial amounts of CO₂ while increasing the health and productivity of our soils and water ways.

We have come together as the Seattle Biochar Working Group to promote the use of Biochar as an important part of Seattle's response to the challenge of Global Climate Change. Through a campaign of education and community involvement we intend to research and implement a local pilot program to produce biochar from clean green waste. We plan to develop a market model for a material which can sequester CO₂ both locally and globally.

<http://seachar.org>

Getting in Touch

You can get additional information on upcoming events or register for our mailing list by emailing info@seachar.org. Please visit our webpage at <http://seachar.org>.

Additional Links/Information

www.youtube.com/user/Biochar

www.biochar-international.org

<http://www.biochar.org/joomla/>

www.biocharfund.org



It's time to get positive
about negative thinking...

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