



Making BioChar from a Standard Air Burners FireBox

PALM CITY, FL (May 1, 2019) Biochar is charcoal from wood burning that is used to improve soil conditions for growing crops and to foster forest health. That knowledge is not new but in an effort to improve harvests without the need for undesirable chemical fertilizers and pesticides, Biochar is getting a lot of worldwide attention in recent years. If you operate an Air Burners FireBox you too can make a fair amount of Biochar without much effort and add a profit line to your business. Biochar, as a porous carbon substance that retains water makes nutrients more available thereby strengthening plants in agriculture, gardening and woodlands. It is produced naturally by forest fires and agricultural field burning.

The process to produce Biochar is by pyrolysis; wood is burned in the absence of oxygen and what we have left is Biochar. This sounds like a simple process, but to produce large quantities of commercial Biochar economically and in an environmentally sound way has proven difficult. Air curtain burners were designed as a pollution control device to eliminate wood waste quickly in an environmentally acceptable way. As any combustion process leaves behind an ash residue, so does the FireBox. As the wood ashes collect in the bottom of the FireBox, some coals are insulated by the ash and starved of oxygen. If their further combustion is curtailed you have created Biochar.

Recently, the US Forest Service, keen on using Biochar in forests around the country, has recognized the simplicity of this and has teamed up with Air Burners to develop a way to optimize Biochar production in a FireBox, yet still eliminate large amounts of wood waste or forest slash at the same time. This is underway through a CRADA, a research and development agreement between the US Forest Service and Air Burners. A decisive factor for the Government was that the standard FireBox is already officially recognized as an environmentally sound way to burn or dispose of wood waste.

Some of Air Burners customers are already producing Biochar from their FireBoxes. With little effort they are both helping the environment and creating a secondary income from their machines. Here is a general outline of how you can produce Biochar from your Air Burners FireBox.



These are the 5 basic steps to making Biochar in your Air Burners FireBox:

- 1) At the end of each work day the ash and coals are raked out of the FireBox.
- 2) Air Burners ash rake is used to rake away the solids which may include some unburned wood separating them from the powdery light-colored ashes.
- 3) The solid coals and wood chunks are dowsed (quenched) with water from a hand-held hose.
- 4) Now the material is sized by using a simple $\frac{1}{2}$ " screen.
- 5) The Biochar that passes through the screen is taken to the Biochar storage pile.

And that is it. Some of our customers are making as much as 10-15 cubic yards per day, per machine. The Biochar can now be sold in bulk or bagged to local farmers, tree nurseries and home gardeners. The Biochar produced at this level can be sold for as much as \$120.00 per 1 cubic yard bag. As no special equipment or machinery is needed for the Biochar extraction, the only extra cost component is the extra time at the end of the normal work shift to complete the above steps.

Air Burners, Inc. is located in Palm City, Florida. For the past 21 years has been the world leader in the design and manufacturing of Air Curtain Burners and Biomass Energy systems. Air Burners and the US Forest Service are collaborating on a cooperative research and development agreement (CRADA) aimed at streamlining the biochar manufacturing process to aid in forest health. Visit our website at: www.AirBurners.com for more information.