

# Smoke into Biochar

## Safe Burn Practices for Recovering Biochar for Use in Soil and Compost

### Biochar

Have you heard about the benefits of Biochar? Biochar is charcoal that you can add to soil or compost. It helps retain moisture and nutrients and it promotes beneficial microbes in soil. Biochar can be expensive to buy, but if you have burn piles, you can make your own biochar and have a cleaner, safer fire as well.

***There are five requirements you need to follow if you want to make biochar in your burn pile. These principles will also ensure that your fire is as smoke-free as possible:***

1. Use only dry wood
2. Burn small brush separately from thicker logs (greater than 4" in diameter)
3. Make small piles that are loose with good airflow and no dirt. A good pile size is four to six feet in diameter and four to six feet tall
4. Light the piles on the top
5. Have a water hose nearby so you can quench the fire and save the charcoal

**YOU CAN KEEP SMOKE OUT OF THE ATMOSPHERE  
THE CARBON THAT WOULD HAVE GONE UP IN SMOKE STAYS IN THE BIOCHAR!**



Small brush burns quickly when dry. You need to consolidate it as it burns down and put it out with water before it burns to ash. Three brush piles this size made one cubic yard of biochar. Biochar sells for between \$200 - \$400 a cubic yard.

## Basic Procedure for Making Biochar in Burn Piles

1. Separate small brush and branches from larger wood. Recover pieces above 4" for use as firewood or burn in a separate pile. Make piles that are 4-6 feet in diameter and 4-6 feet tall.
2. Allow the wood to dry before burning.
  - Up to 2 inches in diameter: dry 30 days
  - 2—6 inches in diameter: dry 60 days
3. If rain threatens to wet your piles before you can burn them, cover them with a tarp.
4. Get your burn permit and make sure it is not too windy to burn. Follow all safety rules for pile location and clearing around the pile.
5. Safety First - Have your water source ready and live before you light the pile. Have rakes, shovels, leather gloves and other safety equipment on hand. Dress properly.
6. Before lighting, place a one-foot thick layer of densely-packed, very dry, very small kindling on top of the pile.
7. Light on top with a match or with a propane torch. A propane torch makes it easy.
8. Your pile will burn slowly at first, but soon the entire pile will be blazing. You will find that the top-down method of burning is much faster than other methods.
9. Be careful around the flames. They will put out a lot of heat. But the flames will burn up all the smoke, so your burn pile is clean and won't annoy your neighbors with smoke.
10. As the flames die down, use a rake to push unburned material to the center of the pile.
11. When the pile has collapsed into a bed of glowing coals, put it out with water.
12. Make sure the coals are completely out by spreading them thin to cool and adding more water as needed.
13. When it is stone cold and completely out (best to wait several days) add your biochar to a compost pile. You can also use it in chicken coops and animal barns to absorb odors while the biochar gets charged with nutrients for your soil.



This procedure can work with bigger material as well, even hard to burn material like old lumber and bigger logs. The logs in the picture are between 3 and 6 inches thick. Just make sure there is air space between the pieces, the material is dry, and there is no dirt. Light it on top, and put it out with water. *(Note: all the smoke in the third picture comes from one branch that is sticking up out of the hot zone.) Keep everything in the hot part of the fire and you will not see smoke.)*



**For More Information about Biochar:**

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