

CharBoss | Machine Turns Waste-wood Into Climate-friendly Product

FEBRUARY, 2023

CharBoss is a mobile machine that converts waste-wood products like lumber into biochar, a nutrient-rich product that can be used for soil restoration.

The Flathead National Forest released the following information:

Forest management activities create valuable wood products like lumber but can also generate woody residues with little or no economic value. This waste material is generally burned or hauled away. The USDA Forest Service and a private company, Air Burner Inc., teamed up to help find a solution to this problem. CharBoss is a mobile machine that converts waste-wood products into biochar, a nutrient-rich product that can be used for soil restoration or to enhance agricultural land.

[Debbie Page-Dumroese](#) is a researcher with the USDA Forest Service Rocky Mountain Research Station who helped develop and patent the technology and is a leading expert in the use of biochar. She shared her excitement in the latest developments, “The ability to process woody residues on-site reduces open burning or the need to transport materials off-site, so there is less smoke and air pollution. Even better, we can create this terrific product that can be used to restore damaged soil.”

The CharBoss made its initial debut in Bandon, Oregon in the fall of 2020 by tackling Gorse, an invasive woody shrub, and demonstrating how this technology can be used to also improve wildlife habitat. The CharBoss team [recorded the demonstration and it is available online](#).

Seeing an opportunity to make improvements the team re-engineered the CharBoss to be more efficient and increase its production volume. The updated CharBoss has been transported from Florida to Idaho and will be arriving in the Flathead Valley in early February. The Flathead National Forest, Rocky Mountain Research Station, and the Montana DNRC, with help from the heavy equipment program at Flathead Valley Community College, will host a demonstration for interested land managers, partners, and the public. The event is scheduled to take place at the Lake Five timber sale near Coram, MT Thursday, February 16, 2023. This time it will be utilizing slash created by forest thinning and fuels reduction to produce “black gold” otherwise known as biochar.

[Science](#) suggests that biochar can increase seedling quality and enhance degraded soils with its rich carbon content and moisture retention properties. Land managers can use the CharBoss to create biochar on-site without worrying about the logistics of off-site production and transportation. Mobile processing can also help rural economies by providing local materials and jobs for forest restoration.

Jim Archuleta is a Forest Service regional biomass coordinator who helped pioneer the innovation of CharBoss. He talks about its potential for mitigating climate change, by reducing unnecessary smoke and emissions and returning carbon to soils and vegetation at larger landscape scales, “Making biochar production part and parcel of normal Forest Service activities is the best way to make the seismic changes needed to help adapt to our changing climate.”

You can learn more about the technology behind CharBoss [here](#). For more information on our local demonstration, click [here](#) or contact Ivy Gehling at (406) 758-5251 or ivy.gehling@usda.gov



The USDA Forest Service and Air Burner Inc. teamed up to turn waste-wood into a climate-friendly product. (Photo: Flathead National Forest Supervisor's Office). [Full Article here.](#)