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Montezuma County Tests Slash Removal Systems

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It sounds like a simple equation: Cut a few trees, thin some brush, and reduce your risk of wildfire. But something's missing from that formula: When you cut down the vegetation, what do you do with it?

Rural landowners can "lop and scatter" (basically, chop and spread) their smaller slash in areas a safe distance from their home. But that still leaves a lot of wood that might need to be hauled away, and counties are now struggling with the question of what to do with such material.

On June 5, Montezuma County officials and other interested onlookers saw a demonstration of two possible answers.

DDI Equipment of Grand Junction brought an air-curtain burner and a horizontal grinder to Southwest Colorado for a demonstration in Bayfield on June 4 and at the Montezuma County Landfill the next day. The two machines were utilized to reduce a hefty pile of slash and trees.

Each unit has its pros and cons, officials agreed.

The horizontal grinder takes brush and trees and grinds them into mulch. The air-curtain burner takes the same vegetation and burns it – but in a way that produces very little smoke.

"The advantage of the horizontal grinder is that you get a usable product in the end," commented James Dietrich, mapping specialist for the county, who helps with fuels-reduction planning. The mulch can be used as a soil amendment by farmers and gardeners, or by oil and gas companies for mitigation of drill sites.

But the grinder has several disadvantages. At \$250,000, it is expensive for rural counties. Its teeth must be replaced frequently, at \$800 a set. If something metal – such as a fence hinge or piece of rebar – gets into the grinder, the machine is damaged.

And, with all the potential slash that could be hauled to the landfill, the grinder might produce more mulch than locals could quickly use. "There's a risk of spontaneous combustion if you stockpile too much," Dietrich noted.

The air-curtain burner, on the other hand, disposes of slash neatly and efficiently, but produces only ash.

Made of ceramic and stainless steel, it can withstand temperatures up to 3,000 degrees. The burner is designed so that controlled high-velocity air across the upper portion of the combustion chamber traps unburned particles in the high-temperature zone and re-burns them.

The increased combustion time and turbulence result in a more complete burning of the clean wood waste.

"Air comes out from the manifold on the far side, runs out at an angle, hits the far wall, and comes down into the fire," said Gary Ford, vice president and COO of Air Burners, the Florida-based company that makes the burners. "As smoke is generated, it rolls back into the fire and burns again, because smoke is actually unburnt particles."

The air curtain forces oxygen down into the flames and agitates the fire so that it burns hot instead of smoldering, Ford said. Efficiency has been measured at 99 percent, he said.

A mid-size burner costs approximately \$65,000 and will operate for about \$3 an hour on diesel, he said. The panels will last at least eight years and the burner can be repaired almost indefinitely.

Air burners and horizontal grinders have long been used in the South and East to handle construction and demolition debris and to help clear woodlands for development, Ford said, but now are becoming widespread in the West for fire mitigation.

Montezuma County has yet to reach a decision on which machine to buy or whether to purchase either of them, said County Administrator Tom Weaver, but officials thought the air burner might prove an affordable and useful investment.

The county and the city of Cortez currently share a chipper, but it can handle only small material, not the volume of vegetation that might be produced if only a fraction of the area's dead piñons are brought to the landfill.

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