

# An Answer to Slash



*Craig Thomas finds one answer to chipping slash that was once inaccessible*

**By Roy Anderson**

In 1909, the State of Montana passed its first comprehensive laws dealing with forestry issues. Language empowered the State Board of Land Commissioners to require any person cutting timber on state lands, “to pile the brush and slashing, and dispose of the same in such manner as to prevent forest fires.” Although the law has been modified several times since then, one thing has remained unchanged — loggers and landowners have been asking themselves ‘how do I efficiently deal with logging slash?’

Some simply pile and burn it. Others lop and scatter it. For Craig Thomas — forester, logger, and co-owner of Cky-Ber Enterprises, along with his wife Lynnet — the answer on many logging jobs has been to chip the slash and then sell it as hog fuel. Hog fuel is burned at co-generation plants to create electricity and steam heat.

Thomas, like many others, has discovered that the process of producing hog fuel is loaded with inefficiencies.

For example, the most productive method for converting logging slash to chips is to use a 300-650 horsepower track or trailer-mounted industrial grinder. The catch is that good production from a grinder comes only when it doesn’t have to be moved repeatedly between piles of slash. In the mountains of Western Montana, not many log landings are big enough to produce slash piles large enough to justify the use of a grinder. Another problem is that people have traditionally hauled hog fuel in chip vans, which is great for maximizing payload, but the vans are built for highway use, not the steep, curvy logging roads common in Western Montana. As a result, many log landings, and thus slash piles, are inaccessible to chip vans.

## A Solution

After years of dealing with these problems, Thomas kept thinking there

**Peterbilt truck being loaded with a container, which when filled can weigh between 11 and 14 tons.**

**Craig Thomas and his crew inspect a roll-on roll-off container used to transport hog fuel.**



Forest Service, and the Smurfit-Stone Container Corporation. The study's objective was to compare efficiencies of various slash processing and transporting methods. ([www.mtcdc.org](http://www.mtcdc.org))

A conclusion reached in the study was that in some situations, roll-on-roll-off containers could significantly reduce the cost of transporting hog fuel. Based on his 43 years of woods experience and his first-hand knowledge of the study, Thomas decided to seize what he recognized as a business opportunity. "If I can get a chip van into a landing, I'll use that, but a lot of times I can't, and that's where I think these containers will work well," says Thomas.

### Patented Containers

This past summer, Thomas fabricated four roll-on-roll-off containers. Two are 20 feet long and two are 24 feet long. The 20-footers can hold 44 cubic yards of material and the 24-footers hold 58 cubic yards. A unique design feature of the containers is that each container becomes slightly wider from bottom to top, and slightly wider from front to back. Because of that geometry, one container can slide inside another, much the same way Dixie cups slide together. Thus, two empty containers can be stacked together and then hauled to a new destination in one trip instead of two. In addition to the containers, Thomas outfitted a Stellar hydraulic hooklift loader on a Peterbilt 379 conventional tractor with drop axle.

### Test Run

Thomas's first chance to use the new equipment was on the 440-acre Hayes Creek Fuel Reduction Project, in the Darby Ranger District of the Bitterroot

National Forest. Pyramid Mountain Lumber of Seeley Lake, Mont., purchased the project's timber rights. The deal included using the logging slash and submerchantable trees to supply the nearby Darby School with chips to feed a recently installed wood-fired boiler that heats the school's buildings. According to Gordy Sanders, resource manager at Pyramid, "From the very beginning of the project, the idea was to try and provide chips for Darby's boiler."

Pyramid subcontracted the handling of the Hayes Creek project's log-

ging slash to Thomas's Cky-Ber Enterprises, who in turn subcontracted with C&F Forest Products which is owned by Ed Cheff of Missoula, Mont. On the day we visited, Cheff had two men, a 250 Komatsu excavator, and an 800 horsepower Morbark whole tree chipper busy chipping slash into containers. The containers were shuttled from the landing to the Darby school with the hooklift-equipped Peterbilt.

Dan Scott, Thomas's driver, was able to drop an empty container on the landing, then load a full container onto



the Peterbilt in about two minutes. He then took off on a 9 mile round trip that included weighing when empty and full, dumping the chips at the school, and attaching and removing tire chains. He was averaging just over an hour per load. The chipper was able to fill a container slightly faster than that, so Thomas had three containers on the job site. Scott says, "It works great. The only problem is the loaded containers are a little top-heavy, but I just take it slow on the way out."

Each load weighed between 11 and 14 tons.

### **New Improvements & Possible Options**

Thomas describes the containers and hooklift truck as a work in progress. For example, during a trial run with the first container that



**Chips being dumped at the school, will be used to fuel the wood-fiber boiler.**

Thomas fabricated, the sides bulged slightly when it was fully loaded. The bulging caused the pins holding the rear doors to bind, which in turn prevented the doors from opening smoothly. Thomas quickly fixed that problem by reinforcing the sides of the containers. Another improvement that Thomas foresees is adding a trailer.

grinder will be brought in to make hog fuel. He thinks private landowners will find value in the service, because it means they won't have to deal with the hassle of burning slash piles.

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## **Fuels for Schools**

The wood-fired boiler at the Darby school was installed in 2003 as a pilot project of the federally-funded Fuels for Schools program. Administered by the U.S. Forest Service, The Montana Department of Natural Resources, and The Bitterroot Resource and Conservation District, the program provides grant funds to assist schools and other public buildings in paying for the upfront investment in a wood-fired boiler — a cost which can approach one million dollars.

In Montana, 16 facility locations have been assessed for feasibility in the Fuels for Schools program, and nine projects have been funded. Once all of the funded projects are operational, they will consume a total of roughly 10,000 tons of woody biomass annually. This compares to the 350,000 to 400,000 tons that the state's largest woody biomass consumer, Smurfit-Stone Container Corporation of Frenchtown, Mont., purchases each year to generate electricity, heat, and process steam at their paper mill.

The advantage of the program is that it saves the schools money on energy costs. The Darby School, which has had the wood-fired system in place for several years, estimates they saved about \$60,000 in 2004/2005. That figure is based on the difference between buying 775 tons of wood chips at \$34.32 per ton for a total of \$26,600, and the estimated \$88,800 (48,000 gallons @ \$1.85/gallon) they would have spent using the old fuel-oil system.

For more information visit: [www.fuelsforschools.org](http://www.fuelsforschools.org)