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FIREWOOD

By Robbo Holleran

It's that time of year again. Phones are ringing and firewood trees are falling. Splitters and processors are humming and wood is being cut, split, and delivered all over the region.

I started a firewood operation over 30 years ago by buying log loads and selling split wood. We bucked and handled the wood by hand, splitting with a small hydraulic splitter. Then we worked in the woods with a draft horse, finally moving up to a 4WD Kubota tractor to do forest improvement work. We ate a lot of peanut butter, but it builds character.

My father loves to relate this story. We had an underpowered, overloaded farm truck that looked like something from the old "Teed Stories" comic strip. It would hold 3 cords if it was stacked into the truck. Yes, we stacked every load back then. We called it "advertising." One new customer had ordered 6 cords, and we brought the first load. He promptly handed me a check for the full 6 cords, and I promised to bring the second load the next week. He looked shocked. "The last 6-cord load I bought came in a truck just like this!"

I know the satisfaction of cutting my own trees, and having a full shed. A visitor from New York City criticized the "mess in my yard." A pile of logs, partially cut and split, and the woodshed half-full looked like an industrial site to him. I pointed out that, here, the active process of work was valued for character, and the full woodshed was a symbol of wealth. Like a big black Cadillac.

Firewood as a by-product

Seldom are good quality hardwood trees cut before their prime for fuel. It is just not valuable enough. Sawlogs can be worth a hundred times what firewood is worth to the landowner, and 10 times as much to the logger. In the normal course of forest management, harvesting good lumber trees produces quite a bit of tree tops suitable for firewood and pulp. And thinning to grow better lumber trees produces a high proportion of these stems. So, firewood is merely a by-product of logging and forest management.

Having markets for this lower-quality wood is essential to forest management. Pulp mills, pallet mills, pellet mills, firewood, and burning chips for energy provide an outlet for the trees and portions of trees that are not good enough for regular lumber. This allows us to take the weeds out of the garden. In every state, growth exceeds harvest, so there is plenty of opportunity for us to improve our "energy independence" with firewood or chip fuel. This type of harvesting is good for forest health, wildlife, landowners, and the local economy. When people are objecting to some new facility that will use low-grade wood, they have no idea that this is critical for forest improvement.

Firewood producers are straight-out, if they can get the logs. Demand for pulp is reasonable, so loggers have a few options with their low-grade wood. This affects the price for firewood logs, and split wood.

What is a cord?

What is a cord of wood? 128 cubic feet of stacked wood, including bark and air. In the old days, wood was often handled in 4-foot lengths. This was the length that a man could handle without equipment. Pulp or firewood would be cut and piled in the woods, and the piles would be 4 feet high. The big butt pieces would be on the ground and the smaller pieces stacked on top, about as high as you could easily toss the pieces with a pulp hook. A 4-foot stick would be used to measure the lengths and the height of the pile and two sticks in length would make a cord, 4 feet x 4 feet x 8 feet. The wood would be hand-stacked onto a sled and dragged out of the woods by horses, and later a crawler tractor. When I was in college in Maine in the late '70s, I cut and hand-stacked many cords like this, to be hauled by a horse, though it was the end of that era.

Today, pulp and firewood are still sold by the cord. Most pulpwood is handled by the ton, and then converted to cords by a factor. For example, green hardwood is about 5,200 pounds per cord, depending on the species.

Just to keep things confusing, there is something called a face-cord. This would be 4 feet by 8 feet by whatever the length is. So, a 24-inch face-cord would be a half cord, and a 16-inch face-cord is a third of a cord. Today, most firewood is loosely thrown, not stacked, into the truck. So, it needs to be about 160 cubic feet to make a full cord. Most firewood dealers have a good idea of what it takes to make a cord in their trucks. But if you buy a cord of wood, and it comes in a regular pickup truck without sideboards, just laugh.

Selecting trees for firewood

There will be conflicting philosophy in selecting trees: Do you cut the tree that makes the very best firewood or grow the best trees for lumber and value, take what is left over for fuel? I vote for the latter. A cord of cut, split wood is worth about $200. A cord of quality hardwood logs (without the extra sawing and splitting) can be worth two to ten times that. We report, you decide. We are spoiled to have some of the best hardwood in the world here in the Northeast. Most of the world is satisfied to burn softwood, poplar, or whatever. So, we shouldn't moan about soft maple or white birch.

We often hear discussions about the quality of different species for firewood. I have looked at a few websites and found some misleading information, as usual. Just to keep the record straight, if we think of beech, hard maple, and yellow birch (all about the same) as 100%, then cherry, ash, red maple and white birch are all about 85%. Poplar, basswood, butternut, and hemlock are about 60%, with the other softwoods at about 55%. If you can get some hickory, white oak, locust, or ironwood, that tops the chart at 115% of the heat value of hard maple.

Rather than simply heading into your woodlot to find some firewood, it is far better to understand your long-range goals. Other articles in the magazine direct you to forest management planning and specific silvicultural options to grow or regenerate your forest. So, make sure that your firewood operation fits into your "big picture." Are you thinning an immature section to grow the best trees? That is a good choice for firewood. Will you regenerate a section of good mature sawlogs? This might be better left until the whole job can be done well. Have you done a commercial harvest, and there are still some "weed trees" remaining? Good choice. Steep or wet ground that is impractical for commercial logging? Skip it. Close to the house on

moderate slopes with emphasis on aesthetics? This would be a great choice for plucking your firewood.

The real key for selecting trees for firewood will be the stem quality. Rough, bumpy, or crooked trees will never be much good for sawlogs. They might be tougher to split, but firewood is probably their best use. This may include some good dense wood like beech, oak, or maple. It is also a good idea to harvest trees that show signs of decay or other diseases. Sometimes this is obvious, sometimes subtle. But once you select the best trees to grow in your forest, and then harvest a few trees whose crowns are crowding your "crop trees," they will have the room they need to be healthy and grow. It does bother me when someone advertises wood as "all rock maple and oak." This is probably from forest high-grading: "Cut the best and leave the rest." It always makes me feel good to burn beech. This is great firewood, and was probably cut to make room for maple or oak trees to grow.

Dead and fallen trees are another category with mixed opinions. Of course, dead trees might make great firewood, but there is a limited time to salvage them. Especially if the bark is flaking off, they may be partially dry. But they can be very hazardous to fell, with dead limbs breaking off as the tree starts to move. A limb the size of a baseball bat, falling from 40 feet up, will hit you like a baseball bat! Also, dead trees might be already decaying, losing much of their heat value. Standing dead "snags" also provide important wildlife habitat for birds, bats, and other creatures. Fallen trees, unless they are recent, are often already decaying. They can have hidden tensions that make dangerous work of cutting them. Most woodlots have an excess of live-standing, low-quality trees, and these will be a better use of your efforts.

Firewood processors as a business opportunity.

There are still a few guys making some extra bucks cutting cordwood with a chain saw and small splitter, but most of today's firewood is produced with mechanical firewood processors. These are amazing systems of conveyors with a mechanical saw and splitter that cuts and splits without the back-breaking effort. In some cases, the wood is processed from the comfort of an enclosed cab, and never touched by human hands. This magazine has excellent articles on the various types available, from small-scale to large industrial types. For a logging contractor with a million dollars of equipment, a mid-sized processor is a good way to add value to low-quality hardwood, and it creates work for times when the regular logging crew can't operate, like wet weather. And for an active woodlot owner with a vision for forest improvement, a processor is a labor-saving device to add tremendous value to your low-quality stems.

Some processors are fussy about the quality of logs that get handled. The industrial processors are simply more productive with straight logs in a certain diameter range. From a business perspective, "quality firewood" logs will reduce the cost and increase the profit. Matching the processor to the wood you have available is an important step. Perhaps smaller and crooked logs can be sold as "homeowner firewood," which is a normal sort on most logging jobs. But we still should be thinking of firewood as a "waste product" from the forest.

Personal wood

Here is the safety disclaimer. Nobody belongs in the woods with a chain saw unless you have had some safety training and proper equipment. I recommend Game of Logging training (at least two levels) for anyone using a saw, even occasionally. You should have a safety helmet with ear and eye protection and chain saw-rated safety pants, along with steel-toe boots. I wear this gear almost every time I start up a saw. Your first stitch, a few visits to the chiropractor or most minor injuries will cost more than a cord of wood.

Another suggestion for safety's sake is to get help

with the more dangerous parts. Hire a logger to fell larger or dangerous trees. These guys are experts, insured (check that!) and have all the right gear. Especially during mud season, or wet summer weather, they might be available for a daily rate with just a saw and no machinery. And these guys can lay down enough wood in one day for you to clean up for the next month. I used to do this for some of my clients, and it was fun.

If you are cutting your own wood from your woodlot, there are many aspects of satisfaction. First of all, you love to do it. You are selecting and releasing your crop trees, maintaining your trails, and enjoying your days in the woods. This is great exercise, if you work smart and safe. And the satisfaction of providing for yourself is un-measurable. Also, it does not have to make economic sense. The real benefit is the satisfaction of doing it, and improving the land. The crop trees might not be "ready" until the next generation.

Additionally, harvesting your own wood often makes perfect economic sense, especially if you have your own equipment for other uses, like a tractor or ATV. And a key factor is trucking costs. Commercial firewood is often trucked twice: once from the forest to the processor site, and again as split wood delivered to your place. Each trip costs about $40 per cord, or more. So, you have an $80 competitive advantage per cord to use your own wood. This is compensation for the higher costs of small-scale work, like using smaller trees, smaller equipment, and the careful work you do on your own land.

Another trick I use is to split lighter woods fine, and dense woods coarsely. When you are grabbing a big "night" chunk, it will be a denser wood. And when you just need a few small sticks for a quick fire, it will be the lighter wood. Filling the woodstove with your own wood on a cold winter day gives a similar satisfaction to providing a meal of local fish or game with vegetables from your own garden. A cord of good hardwood equals about 140 gallons of heating oil, so at $200 per cord, wood is quite a bargain. I suppose that is the good news of high oil prices.

You just can't beat the comfort and self-reliance of wood heat. ■

Robbo Holleran is a private consulting forester helping landowners meet their goals in Vermont and adjacent areas. His work has him outdoors about 150 days each year, plus play time. He is one of the authors of the new Silvicultural Guide for Northern Hardwoods.