

NEWS RELEASE

November 22, 2010
For Immediate Release

Firewood Value

Wintertime is fast approaching, which means acquiring firewood and stoking the fire. The firewood market is fairly robust these days. Just open the newspaper and you'll see lots of firewood ads. My local paper today has six vendors selling firewood. This is an industry that provides part time work and extra cash for families this time of the year. As well, many landowners enjoy cutting firewood for their own use. It requires very little expense other than chainsaw, safety equipment, wedges, splitting maul, and a small pickup truck or trailer. The firewood market also provides landowners with a market for low grade wood if they don't want to use it themselves.

Burning firewood for heat is environmentally friendly and offers good value for money. Unlike coal, oil and gas, which are non-renewable fossil fuels that contribute greenhouse gas emissions, wood (if sustainably harvested) is a local and renewable energy resource. How does the consumer decide what firewood to buy and where to buy it? There are three main things to consider: price, quantity, and quality.

Firewood prices differ across regions and generally are higher in urban areas, more distant from the woods. Prices in my local central PA paper are all around \$150 per cord (a cord is defined below). Normally, these prices are for wood delivered to the house, but check to see if:

- there is an additional transportation cost,
- whether it is stacked or just dumped in a pile, and
- the wood is split and cut to length to fit your heating appliance.

What is a cord? Title 70 of the Pennsylvania Code says: "Wood used for fuel shall be sold by the cord of 128 cubic feet (4'x4'x8') or fraction thereof and shall be accompanied by a statement or invoice certifying the amount sold and presented to the buyer or his designee at the time of delivery or billing." Furthermore it says that "firewood may not be advertised or sold by the truck load, the pile, the piece or any other method other than by the cord or fraction thereof." A truckload can mean anything from a pickup (1/5 to 1/2 of a cord) to pulpwood truck (4 or more cords).

So how do you know you are getting a cord? You have to stack it. A 4'x4'x8' pile of wood has lots of "air" spaces between individual sticks. The solid wood volume will vary by the diameter and length of sticks in the stack. Generally there will be 80 to 100 cubic of wood. Haphazardly stacked wood will obviously have a lower wood to volume ratio than a tight and uniform stack. By insisting on having your wood neatly stacked, you get a better idea of whether it is a "true" cord.

Pennsylvania has high density hardwood species, which are among the best burning firewood available. Denser woods weigh up to 3 tons per cord, while the lighter woods have about 1.5 to

2.0 tons per cord. Beech, birch, some maples, hickory, and oak are among the most common species in Pennsylvania and also among the densest. Softwood has half the heating value of these hardwoods per unit volume; however, pound per pound they have more heat value. In the East, consumers prefer hardwood species for firewood because they offer more heat per volume and, when dry, are less likely to result in creosote build-up problems. Firewood is best for burning when it has 20% or less moisture content, which takes a year or more of drying under roof and off the ground. The moisture content for wood varies: green (wet) wood can have 50 to more than 100% moisture content (green (wet) wood can contain more weight in water than it does weight in wood, depending on the species), air seasoned wood is 20 to 25%, and wood for furniture is about 4 to 6%. Burning unseasoned wood wastes energy as the moisture has to be driven off before combustion can occur. Split wood dries out faster.

A word of caution on the wood you buy or move for you heating needs. Much of Pennsylvania is under quarantine for the emerald ash borer, which threatens our ash trees. Another insect, although not currently found in the state, is the Asian longhorned beetle. This insect, if it gets here, could cause major damage to many of our tree species. If you buy or collect your own firewood, don't move it outside of the local region. Burn it close to its source - doing this will help protect our forests.

How much money will burning wood save you? One way to measure this is to look at the equivalent prices per heating unit (or BTU) for alternative fuels. Using firewood at \$150 per cord, in equivalent heating units one would pay about \$1.20/gallon for heating oil or \$.90/therm for natural gas. As you know, current prices for oil and gas are higher than this. Heating oil is going for about \$3.00/gallon, while gas is over \$1/therm. Coal, however, is still the most cost efficient heating fuel with wood a close second.

In summary, before you buy firewood check that you are getting a cord worth of wood, make sure it is dry, is good quality hardwood cut to your needs, and is stacked upon delivery. It will make for a happier and warmer winter.

Written by: Michael Jacobson
Phone: 814-865-3994
Email: mgj2@psu.edu