Firewood Facts

Guide G-102

Revised by Ursula R. Smedly[1]

Cooperative Extension Service • College of Agricultural, Consumer and Environmental Sciences

Wood was humanity's first fuel source. Using wood for fuel declined in most developed countries as more convenient fuels were developed. However, recent price increases in gas, alternative fuels, and electricity have generated a renewed interest in wood as an energy source for home heating and cooking (Figure 1).

This fact sheet answers some of the most frequently asked questions about wood.

Question: How is firewood sold?

Answer: Firewood has historically been sold by a unit known as a cord. The cord is a measure of the volume of a stack of wood (length × width x height) and is equal to 128 cubic feet. Since most firewood today is cut in 2-foot pieces to accommodate stoves and fireplaces, a cord is usually thought of as a rectangular stack of 2-foot pieces 4 feet high and 16 feet long, yielding 128 cubic feet (2 × 4 × 16 = 128).

Around large towns where apartment dwellers might have a fireplace but no place to store a cord of wood, firewood can be purchased on a weight basis for a few pieces at a time. This is usually for the convenience of the buyer, and the price per pound is usually slightly higher than if it had been bought as a cord.

Question: Is there any legal protection for individuals wishing to purchase firewood?

Answer: The New Mexico Department of Agriculture (NMDA) Weights and Measures Division regulates the sale of wood by vendors. Vendors must comply with New Mexico State Law, Chapter 57-17-1 through 19, NMSA, 1978 Compilation. The associated regulation (NMAC 21.16.4.9.K) states, "Fuelwood: Shall be advertised, offered for sale, and sold only by the cord or fractional part of a cord, except it may be sold by weight if the seller declares the price per unit of weight and the equivalent price per cord. The provisions of this method of sale shall not apply to fuelwood sold in packaged form in bundles of less than one hundred (100) pounds."

Figure 1. **Wood can be burned for heat, cooking, or aesthetic enjoyment.** Photo by Ursula R. Smedly.

Any unspecified quantity or amount of firewood, advertised or sold, is prohibited. For example, one cannot place an ad in the paper or advertise selling a "truckload" of wood (Figure 2). When selling more than 100 lb of firewood, the vendor must provide the cord equivalent, such as 1/4 or 1/2 cord or other fractions of a cord. If a vendor chooses to sell firewood by weight, they must provide the total amount of wood in pounds, price per pound, and the equivalent price per cord.

When delivering firewood, an invoice must accompany each load. The invoice must include the name and address of the buyer and seller, delivery date, quantity delivered, a description of the commodity delivered, and the total price. Any firewood or kindling sold in small bundles or packages must be labeled with net content as a weight or measure, the

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***Figure 2*. A "truckload" of firewood.** Photo by Ursula R. Smedly.

name and address of the distributer, as well as a word or phrase to describe the product. Examples of labels can be found online at http://www.nmda.nmsu.edu/wp-content/uploads/2012/04/Regulations-on-Sale-of-Fuelwood-SCS-E-1-2012.pdf. It is the responsibility of both the seller and the buyer to know and follow the appropriate regulations.

Question: Where do I get wood?

Answer: Wood is generally obtained two ways. Wood brokers/vendors are the most common source. They are people who seasonally advertise in the newspapers just before cold weather starts in an area or at local stores or parking lots. Normally, they quote a price for wood cut into 2-foot lengths and delivered to your house. They may quote an additional $10 to $15 per cord if they are expected to stack the wood since this is more time-consuming than dumping a load of wood in your driveway. A word of caution is in order here: If you choose the cheaper route of having the wood delivered but not stacked, you have no immediate way of knowing if you have received a full cord. Be sure you know how to get in touch with your supplier at a later date in case you did not get a full cord. This is rarely a problem with resident brokers/vendors, but it does happen in some transient operations.

Another way to obtain wood in many areas of New Mexico is to cut your own wood on nearby National Forests. The actual cost to you may be significantly less if you choose this method. Most of the cost of a cord of wood is the labor involved in cutting and hauling it, but the savings can still be considerable compared to buying from a vendor. National Forest Supervisor Offices, District Ranger Stations, and others designate certain cutting areas for "do-it-yourselfers" and issue permits to harvest firewood for minimal fees. You must obtain a permit from the Forest Service prior to cutting firewood. The Forest Service also requires you to use certain equipment, such as spark arresters on power saws, and they must approve your equipment before you are allowed to cut in the National Forests. Depending on your proximity to these areas, you may save a considerable amount per cord by being your own supplier. Be sure to fully understand your responsibilities that come with the purchase of a firewood permit and remember to visibly place the permit tag on the cut wood before leaving the forest.

Question: What kind of wood should I use?

Answer: The economic answer lies in your proximity to a source of firewood. Generally, you use wood that is available relatively close to your location because of hauling expense.

Hauling expenses aside, some wood burns better and cleaner than other wood. For instance, pine burns better than cottonwood, but if cottonwood is available locally and pine must be hauled several hundred miles, the price difference quickly overcomes the burning difference. In New Mexico, pine, oak, piñon, juniper, and mesquite are popular choices. Pecan wood is an excellent wood for fires if you live in the vicinity of a large orchard that does systematic pruning. In general, hardwoods are better for fires than softwoods.

Table 1 was developed by the U.S. Forest Products Laboratory and lists the relative rating of several different kinds of firewood. It gives an excellent overall picture of the merits of different species of wood.

Question: How should wood be prepared for use in a stove or fireplace?

Answer: Possibly the most important factor in preparing wood for use is seasoning it. It is best to use wood that has air dried for about six months or more rather than freshly cut or green wood. Since some woods are susceptible to fungi or rot while curing, stack green wood so air can circulate through the stack. Remember also that there is about 20% more heat value in seasoned wood than in freshly cut wood due to the lower moisture content.

Question: How do I properly store my wood?

Answer: Firewood should be stacked at least 30 feet from any structure and either stored in a shed or under a large tarp to protect the wood from moisture. People stack their firewood in a variety of ways. Most people store their wood in a pile (Figure 3) or stack, either on a purchased or handmade rack or between two end-posts. Traditionally, people laid wood

Table 1. Ratings for Firewood

Species	Relative Amount of Heat	Easy to Burn	Easy to Split	Does It Have Heavy Smoke?	Does It Pop or Throw Sparks?	General Rating & Remarks
Hardwoods						
Ash, red oak, white oak, beech, birch, hickory, hard maple, pecan, dogwood	high	yes	yes	no	no	excellent
Soft maple, cherry, walnut	medium	yes	yes	no	no	good
Elm, sycamore, gum	medium	medium	no	medium	no	fair
Mesquite	high	medium	no	medium	no	good
Aspen, basswood, cottonwood	low	yes	yes	medium	no	fair, but good
Chestnut, yellow poplar	low	yes	yes	medium	yes	poor kindling
Softwoods						
Southern yellow pine, Douglas-fir	high	yes	yes	yes	no	good, but smoky
Cypress, redwood	medium	medium	yes	medium	no	fair
White cedar, western red cedar, eastern red cedar, juniper, piñon	medium	yes	yes	medium	yes	good, but excellent kindling
Tamarack, larch	medium	yes	yes	medium	yes	fair
Spruce	low	yes	yes	medium	yes	poor

Source: Most of these ratings are from the U.S. Forest Products laboratory. The ratings for mesquite, piñon, and juniper were added in New Mexico.

in layers, one layer horizontally, the next perpendicular to the first row, and so on, stacking the pile about 12 layers high. Any higher than this and the stack will become unstable. Another method is the shaker-style, or round stack. This consists of laying wood around in a circular fashion, building a large, round, fairly stable stack. There are other ways of piling your wood, but these are the two most commonly used methods. Whatever method you chose, be sure to take care in laying the pieces in a balanced fashion to prevent the stack from falling over. Also, you may chose to lay a palette or some other barrier on the ground to protect the bottom pieces that otherwise might be susceptible to rot from moisture on the ground.

If the wood has been obtained from an area known to contain beetles, such as *Ips* spp. (engraver beetle) or other injurious insects, you should take measures to prevent the spread of these harmful insects to otherwise healthy trees on and around your property. Wood piles or stacks should be covered with clear plastic and the perimeter of the plastic buried beneath the soil surface. The wood should remain covered for a minimum of 60 days during the hottest part of the year (April to August in most of New Mexico). By properly tenting your firewood, you will create a super-heated environment that will essentially kill any insects that may reside within your wood. This is not a foolproof method to prevent transmission, but it has been shown to be an

Figure 3. **Loosely piled firewood.** Photo courtesy of Dan and Della Barrone.

effective management tool and one that you can easily implement.

Question: Which is the best way to burn wood, in a fireplace or a stove?

Answer: Generally speaking, stoves give off about three times the amount of usable heat as fireplaces do. There are several different types of wood stoves, such as the Franklin stove or the pot-bellied closed type. There are two distinct types of fireplaces: masonry and metal. Whether you chose a fireplace or a stove is up to you. Fireplaces and wood burning stoves should be cleaned regularly—at minimum once a year—in order to reduce the chance of a chimney fire. Chimney fires occur when the resins from the wood you have burned coat the lining of your fireplace or stovepipes. There are chimney "sweeps" in most communities, and you can find them by either looking in your phone directory or by calling your local County Extension Agent. This can be a very difficult job to do properly, so it is best to hire a professional.

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