Know the Facts about Firewood
by Bob Schultheis

Many people who buy cordwood for their home wood stoves admit they do not understand the transfer process. Some dealers talk in terms of a “rick,” a “rank” or a “pickup load.” Others mention a “face cord” and still others talk in terms of a cord or fractions of a cord. Sometimes the definitions vary from dealer to dealer and from locality to locality.

To keep the transactions honest and fair, here are answers to some of the common questions I get about buying and selling firewood.

Q: I understand there is a state law governing how firewood is bought and sold?
A: Yes, by state law, firewood must be sold by the cord or fraction of a cord. It must also be accompanied by a bill of sale in accordance with requirements of the Missouri Department of Agriculture’s Division of Weights and Measures. Rick, rank, face cord, truckload and pile are not legal units of measure for sale of firewood.

Q: How much is a cord of wood?
A: A cord of wood measures 4 feet high, 4 feet wide and 8 feet long, totaling 128 cubic feet. Any combination of these measurements is fine as long as they total 128 cubic feet when the wood is stacked in a compact manner.

Q: What’s the easiest way to measure a stack of wood?
A: A simple way is to measure the length, width and average height (all in inches) of the compactly-stacked pile of wood. Multiply these three figures together and divide the result by 220,000. The answer is the number of cords. Multiply this number by the dollar cost per cord to get the price the buyer should pay. For example, suppose the firewood is selling for $160 per cord and is cut in 16-inch lengths. When stacked, it measures an average of 48 inches high and is 168 inches long. So (168” long x 16” wide x 48” high) ÷ 220,000 = 0.59 cord. Then 0.59 cord x $160 per cord = $94.40 is the price to pay.

Q: Any other tips on getting a fair deal when buying firewood?
A: First, don’t pay for the wood until it has been stacked and measured by both the buyer and seller. Second, get a receipt with the seller’s name, address, phone number and vehicle license number, along with the price, amount and kind of wood purchased. Third, if a problem with the seller cannot be resolved, contact the Missouri Department of Agriculture’s Division of Weights and Measures at 573-751-5639.

We have two excellent guides on buying, selling and burning firewood. Ask for MU Guides G5452 (extension.missouri.edu/p/G5452), which gives details about the buying and selling process, and G5450 (extension.missouri.edu/p/g5450), which helps assess the heat content of various woods and their burning characteristics.

If you have questions on this topic or other energy concerns, you can reach me at the Webster County Extension Center in Marshfield by phone at 417-859-2044, by email at schultheisr@missouri.edu, or go to our website at extension.missouri.edu/webster.

What is This?
by Sarah Kenyon

[Image of a plant]
Many area farmers have been asking about this plant. This is Lindheimer’s Panic-grass, *Dichanthelium acuminatum* subspecies *lindheimeri*, also known as *Panicum acuminatum* var. *lindheimeri*. Common names for this grass include Linheimer’s panic-grass, panic grass, or tapered rosette grass.

It is a warm-season perennial grass that can be found in thin woods, moist meadows, and low prairies and is considered rare to common. Its range extends from south-central Canada to the midwestern and northeastern U.S. and it is also found in the western U.S.

*Dichanthelium* plants have two distinct flowering periods. The primary flowering heads are produced in June and early July. Secondary flowering heads are produced from July through September. The primary flowering heads usually have a lower seed set than the secondary ones, which have flowers that remain closed and are self-pollinated.

One of the main complaints for this plant is that it can form a dense mat and over shade more desirable forages. Control options for this plant are limited. One option is to spray with glyphosate (Roundup) which will kill everything, and then reestablish other forages. The second option is to reestablish forages and try to get those forage populations high enough so that they out-compete this weed. Since it is a warm-season grass this strategy may work best if other warm-season forages are used. This could include bermudagrass, crabgrass, millets, or native warm season grasses. For more information about forage planting rates see MU Guide 4652 Seeding Rates, Dates, and Depth for Common Missouri Forages [http://extension.missouri.edu/explorepdf/agguides/crops/g04652.pdf](http://extension.missouri.edu/explorepdf/agguides/crops/g04652.pdf) for contact Agronomy Specialist Sarah Kenyon at 417-967-4545 or KenyonS@missouri.edu

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**Douglas County Dairy Farm Switches to Solar**

by Ted Probert

There is a lot of discussion these days about the generation of environmentally friendly energy. One dairy farm family near Ava, Missouri recently moved beyond discussion and on to implementation with the installation of a solar energy system. Heinz and Vroni Buff are currently producing sufficient electrical energy to run their milk parlor as well as their home.

The components of the system include one hundred 26.5 watt solar panels and three electrical inverters. Its rated capacity is 26.5 KW. The panels are mounted on the south-facing slope of the Buffs’ hay shed. They produce DC electrical current that is converted to AC by the inverters which are mounted on the wall of the hay barn. The number of both panels and inverters required by a specific installation will be determined by the KW capacity needed by the operation. Power coming from the inverters is available for use on the farmstead.

While the generating system is rated at 26.5 KW the actual output fluctuates according to the intensity of sunlight. Less power is produced on cloudy days and production is nil at night. At times when electricity is produced in excess of demand, the surplus is fed back onto the grid and the amount going out is monitored by the power meter at the pole. This excess power nets the farm “credits” which can be redeemed when system production does not meet the demands of the farm.

One negative is that in the case of a power outage, the farmstead cannot use the solar generating system due to the possibility of putting electricity back on the grid and causing injury to repair linemen.

A question that comes up is can the farm sell power back to the grid? The answer is no, at least not for a feasible price. The means of remuneration for excess production is through the credit system mentioned above. For this reason it is important that installations be sized as closely as possible to generate all the power the farm requires but not to generate too much excess. According to representatives of Missouri Sun Solar, the company that installed the Buffs’ system, system maintenance is minimal. There are no moving parts to wear out, and all components have a long life expectancy. The panels are sturdily constructed and have proven to withstand considerable weather challenges including large hail. System warranties include: workmanship – 12 years, inverters – 10 to 25 years, panels – 25 years.

Obviously a major factor when considering a solar installation is its economic feasibility. The cost of this system, sized to run a home and a 100-cow dairy, was $80,000. A 30% federal tax credit reduced the cost to $56,242. Reasonable 12- or 20-year financing is available through the company. The Buffs’ monthly payment with 12-year financing at 2.99% is $471.09. That is about $100 more than they previously paid for their electric bill (at 11 cents/KWh). At the end of the 12-year financing period, electricity will be available essentially at no cost. In their promotional literature, Missouri Sun Solar predicts an annual 5% increase in electric rates. Any increases in rates would enhance the attractiveness of the system economically.