

EXTENSION CALENDAR

All programs and events will be held at the Lancaster Extension Education Center unless otherwise noted.

January

3	4-H Council Meeting	7 p.m.
5	Community & FCE Leader Training Lesson "Dietary Guidelines for Americans 2005 and MyPyramid"	1 p.m.
8	4-H Teen Council Meeting	3-5 p.m.
9	4-H Horse VIPS Meeting, Lancaster Event Center	7 p.m.
10	4-H Horse Knowledge Club Meeting	7 p.m.
10	Pet Pals Workshop	6:45 p.m.
12	Acreage Insights: Rural Living Clinic "Wildlife Enhancement"	7-9 p.m.
12	4-H Rabbit VIPS Meeting, Lancaster Event Center	7 p.m.
13	4-H/FFA Beef Weigh-In, Lancaster Event Center	5:30-7:30 p.m.
13	Extension Board Meeting	8 a.m.
14	Private Pesticide Applicator Certification	8:30-11:30 a.m.
17	4-H Lock-In Registrations Due to Extension Office	
20-21	5th & 6th Grade 4-H Lock-In	8 p.m.-8 a.m.
24	4-H Horse Knowledge Club Meeting	7 p.m.
25	4-H Horse Stampede Entries Due to Extension Office	
26	4-H Trap Shooting Meeting	7 p.m.
23	Crop Protection Clinic	9 a.m.-4 p.m.
26	Community & FCE Leader Training Lesson "Embracing Entrepreneurship: New Economic Power for Your Community"	1 p.m.
30	Family & Community Education (FCE) Council Meeting	1 p.m.

Burning Wood

continued from page 4

firewood?

From the table, a cord of 20 percent moisture Oak firewood (3,920 pounds) burned in a 50 percent efficient stove, provides the same useful heat as 1,769 kWh of electricity (average for the heating season) to power an air source heat pump. (See table footnote 2).

If electricity were \$0.08 per kWh, the equivalent cost of a cord of Oak would be 1,769 x \$0.08 = \$141. If a pickup load

contains one-third of a cord (1,306 pounds), this is equivalent to \$47 per pickup load.

However, if the wood stove is used only when the outside air temperature is lower than the breakeven temperature and the heat pump system is relying on the resistance heater to provide heat to the home, a cord of Oak is equivalent to 4,423 kWh of electricity. At \$0.08 per kWh, the equivalent price for a cord of Oak is \$354. If a pickup load contains one-third of a cord (1,306 pounds), this is equivalent to \$118 per pickup load.

Backup Heat Source

A final point of discussion is in order. Beyond the purely economical considerations, wood heat can be seen as a reliable backup in times of power outages. Modern heat pumps and forced air gas or fuel-fired furnaces all require electricity to run the fan to distribute the heat. A wood stove will heat at least part of a home and can be seen as insurance to keep the family warm and safe when the power is out during a blizzard or other disaster.

Table 1. The quantity of various fuels equaling the useful energy content of one cord of wood when the efficiency of the heating device is considered.

Wood species one cord 50% efficient stove - lb/cord at 20% moisture.	Corn Stove 70% efficient 15% moisture lbs - bushels	Fuel oil ¹ 75% efficient (gallons)	LP gas ¹ 85% efficient (gallons)	Nat Gas ¹ 85% efficient (100 cu-ft)	Resistance Electric heater 100% efficient (kWh)	Air Source ² Heat Pump 250% efficient (kWh)
Osage Orange - 4,380 lb	3,441 - 61.4	160	216	198	4,942	1,977
Oak - 3,920 lb	3,080 - 55.0	144	193	177	4,423	1,769
Honey Locust - 3,540 lb	2,781 - 49.7	130	175	160	3,994	1,598
Ash - 3,440 lb	2,703 - 48.3	127	170	156	3,882	1,553
Elm - 2,900 lb	2,279 - 40.7	107	143	131	3,272	1,309
Cedar - 2,680 lb	2,106 - 37.6	98	132	122	3,024	1,210
Pine - 2,600 lb	2,043 - 36.5	95	128	119	2,994	1,198
Cottonwood - 2,280 lb	1,791 - 32.0	83	112	103	2,573	1,029

¹ The efficiency estimates for fossil fuel furnaces are for conventional systems that don't use a standing pilot light for ignition. Some newer systems using pulse technology and outside air for combustion can be as high as 95 percent efficient.

² Over the course of the heating season, air source heat pumps will transfer more energy from the outside air to the house than the kilowatts of electricity consumed by the heat pump. The higher the outside air temperature, the less electrical energy required to extract a BTU of heat from the air. The breakeven air temperature, (the temperature when a heat pump uses as much energy as resistance heaters for the same heat output), varies with make and model but is usually between 15 F and 20 F. Air source heat pumps use an electrical resistance heating element or conventionally fired furnace as a source of back-up heat when air temperatures drop below the point where the heat pump is less efficient than resistance heaters in providing heat to the home.

4-H Strategic Plan Survey Share Your Opinion!

Nebraska 4-H is in the process of developing goals for the next five years. Please give your feedback about what's important to you by filling out an online survey. Lancaster County 4-H'ers are encouraged to share their input at <http://4h.unl.edu>. The survey takes about 10 minutes to complete.



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EXPLORING



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