

February 2008

## **Extension Solutions for Homes and Gardens**

by Paul J. Pugliese

### **“Firewood Buying and Burning Tips”**

Safe and energy efficient home heating fires begin with the right kind of firewood, according to University of Georgia experts. If you're in the market for firewood, keep in mind that when firewood is first cut, it contains a good bit of water. One fresh-cut cord (128 cubic feet) of oak may have enough water to fill five and a half 55-gallon drums! When the wood is first cut, water makes up 40 to 50 percent of its weight. In a wood-burning stove or fireplace, fresh-cut firewood would have to dry out before it would burn. Boiling off all that water is not very efficient and steals a lot of heat away from the house!

If you didn't prepare your wood for the winter, UGA experts recommend buying “seasoned” wood from a vendor. Seasoned wood means the wood has dried to a level that will allow it to burn easily and give up a high proportion of its heat value. Well-seasoned firewood will have dried to a point that is less than 20 percent of its weight in water. Normally with Georgia temperatures, firewood that is split, stacked, and covered can sufficiently air dry and become “seasoned” in 3-4 months. In this time period, moisture content will have dropped in the wood where it will burn without putting a lot of residue up in the chimney or the stovepipe.

Burning fresh cut wood, or green wood, can leave buildup on your chimney and flu. The high moisture content of green wood is going to allow a lot of the creosote in wood to go up in smoke and form residues on flues, chimneys, and stovepipes. Over time, a build-up of creosote could start a chimney or flu fire.

The sticky, gum-like resins in pine firewood have given some people the impression that it causes more creosote residues to build-up than hardwood. Research has found this is not true. The buildup on fireplace or wood heater walls, chimneys, and flue pipes seems more a result of burning wood at relatively low temperatures. Burning poorly seasoned wood favors creosote buildup, because evaporating water cools the burning process.

When wood is heated, some of its chemical makeup is first changed to a gas and later ignited if the fire is hot enough. If the fire's not hot enough, these chemicals become part of the smoke. And if they contact a surface cool enough, they'll condense back to a liquid or a solid there. Over time, this layer of creosote becomes thick enough that a hot fire will ignite it in place, causing a chimney fire.

Filling a wood stove at night and closing the damper to reduce airflow can keep a fire burning all night with no more wood, but it also is likely to form more creosote. Avoid using low damper settings for extended times.

Burning small amounts of seasoned wood at high temperatures is one solution to the problem, but doing that by hand makes for busy and sleepless nights. An alternative solution is automatic-fed wood-pellet stoves. Always run a wood stove or fireplace within the manufacturer's recommended temperature limits. Too low a temperature increases creosote build-up, and too high a temperature may eventually cause damage to the chimney and result in a chimney fire. Add only enough wood

to keep the fire at the desired temperature. And remember, dry well-seasoned wood is important for an efficient heat source as well as safety.

Regular chimney inspections and cleanings are also key to preventing creosote build-up. Check the chimney closely for creosote or have a professional chimney sweep do it for you. You can locate a certified professional chimney sweep online at [www.csia.org](http://www.csia.org). It is recommended that you inspect as often as twice a month during the heating season. Your chimney cleaning schedule will depend on how frequently your stove or fireplace is used and how it is operated.

*Paul Pugliese is the Agriculture & Natural Resources Extension Agent for Cherokee County Cooperative Extension, a partnership of The University of Georgia, The U.S. Department of Agriculture, and Cherokee County. (770) 479-0418. For more information, go to our website at [www.ugaextension.com/chokeee](http://www.ugaextension.com/chokeee)*