

efficient than before, the thermostat is much easier to regulate; fuel does not have to be added to the fire as frequently. A great deal less fuel needs to be consumed over a period of years. Increasingly, wood offers more of a benefit than it did at one time. As is repeatedly mentioned, oil is becoming very expensive which provides another incentive to return to the use of wood fuel. In St. Lawrence County, approximately 3/4 of all the residential housing units use oil heat. A great number of industrial and commercial applications use oil. The price of oil has been rising very dramatically in the past year and it is difficult to project exactly where it will go in the future. Therefore, wood becomes a more competitive fuel as the other alternatives become increasingly expensive.

One way of gauging just how important the use of wood is in the County is by considering the amount of wood fuel that has been cut from St. Lawrence County forest land. Basically, the EEC offers for bid each year different plots of State land. For a significant period of time there has been little interest in acquiring the State's wood. But as soon as the oil prices began to escalate, the interest in wood fuel as a substitute in St. Lawrence County began to escalate also. Now we're cutting about 2,000 cords of wood a year. It's about 5% of the total amount of wood which is used in the County for residential application. That's about 7% of what's grown every year which indicates that people are increasingly aware that other fuels are running out.

One of the problems in a residential application of wood fuel is the danger of a chimney fire. St. Lawrence County Planning Board has suggested that a County governmental agency or at least town governmental agencies assume the responsibility of checking each chimney installation, create a chimney-fire code and ensure that once a chimney is installed, it will do its job safely without fire hazards. As wood has been used decreasingly, people have been making some mistakes with its use which has often led to tragedy. It is certainly something that has to be mentioned but something that can be rectified. We're hoping that very shortly, the County will be moving in a positive direction but we certainly hope that until that happens, anyone who does wish to use wood or is currently using it, will be very careful and very meticulous with its use.

Controlling Creosote: A Key To Safe Woodstove Use by Wayne Cordwell

In this era of high oil and natural gas prices many people of St. Lawrence County have undertaken their own alternate energy source - wood energy. Wood fuel appears to be one of the most economical alternate energy sources for our immediate needs. Demand for woodstoves in many areas has reached a point where some dealers and manufacturers have been unable to meet it. Estimates of new stove sales this year in the United States exceed 100,000 units. Several factors should be considered when purchasing a wood stove. One very important aspect of using wood for heat is the creosote problem. Creosote is a black, foul-smelling liquid, is the product of incomplete combustion of wood and low stack temperature (below 250°F.). Several wood stove manufacturers recommend a flue temperature in the 300 to 400 degree range. Above 400°, too much heat is being wasted.

Green wood compounds the creosote problem. Excessive moisture in wood not only causes incomplete combustion but also makes it difficult to maintain an adequate stack temperature, resulting in the formation of creosote on the chimney lining. If chimneys are left in this "dirty" condition and creosote becomes kindled, a chimney fire results.

Most chimney fires occur during the onset of an extreme cold spell. This is why. During early fall when stoves are burning slowly because little heat is required, creosote accumulates in the chimney. Once a real cold snap arrives, more heat is required from the wood stove and stack temperature rises, causing creosote to ignite. A chimney fire results. Chimney fires can be avoided by frequent cleaning and inspection of the chimney, but reducing the amount of creosote formation is also an important factor.

Controlling Creosote

The amount of creosote deposited in the chimney and pipes is dependent on the amount of moisture in the flue gases, the temperature of the stack, the rate at which wood is burned, the amount of draft in the stack, and how completely the combustible elements in the flue gases have been burned in the combustion chamber.

Most problems with creosote are due to green wood, poor chimneys with low draft and cold walls and too slow a rate of burning when little heat is required during the spring and fall months. Moisture in the flue gases may be controlled by:

- using properly seasoned firewood;
- mixing small pieces (preferably slab wood) with every full load;
- never using only large pieces of wood during mild weather when combustion is relatively slow.

The stack temperature may be controlled by:

- connecting the woodstove to the chimney with a short length of pipe;
- if a long length of pipe is necessary insulating it so that it cools as little as possible before reaching the chimney;
- using an insulated chimney.

The amount of draft in the stack may be controlled by:

- having as few bends as possible;
- insuring adequate chimney height;
- preventing air leaks in the chimney (use tile liner);
- eliminating internal obstructions in the chimney.

Removing creosote and other methods of preventing creosote accumulations:

- when a pipe and chimney are badly plugged, the only practical way of cleaning is to disassemble the pipe and clean both it and the chimney by scraping;
- increase draft to the stove very carefully. This will increase the stack temperature and cause any creosote to dry. In the process of drying, the creosote shrinks and the scale will fall from the inner walls of the pipe. A light tap on the pipe is also helpful. If a small amount of chimney sweep is thrown over the glowing charcoal bed, it will aid in eliminating any creosote;
- if possible, use tee instead of elbows. The use of a tee serves as a clean out point as well as an inspection port;
- invert stove pipe so that the upper pipe fits inside the lower pipe. Many manufacturers suggest this in their literature. This not only reduced air leaks but also allows any creosote in the liquid state to run into the stove to be burned off or into a "clean out pocket".

Following these suggestions can result in the use of wood fuel as a safe, and economical source of heat.

The Author, Wayne Cordwell, is interested in forming a wood energy interest group in St. Lawrence County. Interested persons can contact Cordwell at RD 2, Baker Rd., Potsdam, N.Y. 13676. (phone 322-5619). He's a good person to talk to before you put in your woodstove.

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